

BIG LIFT #3

BUILDING A RESILIENT COASTLINE THROUGH IMPROVED GOVERNANCE

Boston needs to be part of a decision-making process to create a governance structure for managing the Massachusetts coastline.

Boston has 47 miles of coastline and has prepared a plan to address coastal resilience for all of it. The cost of implementing the city's coastline plans is between \$862.2 million and \$1.6 billion. It's a task complicated by the lack of a consistent funding stream and an effective and efficient governance structure. Further, because many coastal properties are privately owned, city government cannot drive resilience to the extent needed.

While Boston has billions of dollars in infrastructure and buildings to protect, resilience must prioritize people.

It matters that Mayor Wu is concentrating on East Boston; she has signaled that equity is at the forefront of decision-making. The dilemma is that East Boston and downtown are part of one coastline—we need to protect all of it at the same time.

Figure 20. Sample Boston Resilience Projects

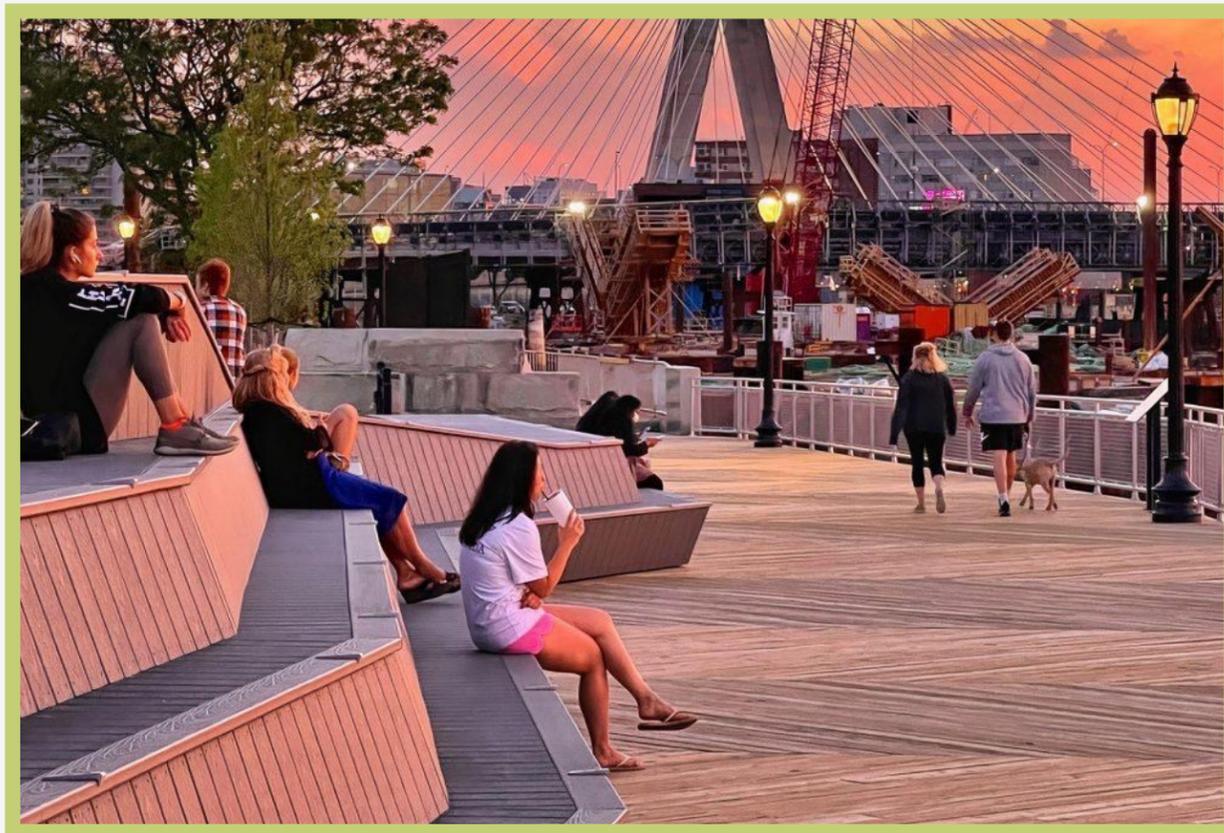


The City of Boston and several other private and nonprofit groups are focusing on nature-based solutions to protect the shoreline.

Nature-based solutions are adaptation measures designed to protect, restore, and manage ecological systems while providing economic, social, and ecological benefits.

Nature-based solutions, because they often extend from land into the water, require permitting by various state agencies. Those seeking permits are frustrated by the difficulty of obtaining the permits needed to advance their resilience projects.

The first park project to be designed under Boston's Climate Resilient Design Standards and Guidelines improved the resilience of the North End's Langone Park and Puopolo Playground by raising the Harborwalk along the edge of the park and integrating seating with flood barriers (referred to as a "seatwall") (photo below).



Making the city climate ready can make it more pleasant and enjoyable too. Boston Harborwalk. (Source: City of Boston)

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CHALLENGES

Boston's big lift for coastal resilience is to work with the governor, the state legislature, and key stakeholders to create a governance structure and a steady funding stream to protect the city's people and infrastructure from sea-level rise and storm surge. There are several options and several challenges.

Need for a Coordinating Agency: Jurisdictional Limits and Conflicting Interests

Some coastal property owners are creating their own resilience measures, but isolated solutions cannot protect the entire coastline. A coordinated solution is needed. Further, multiple jurisdictional authorities slow progress. Coastal Resilience Solutions for Dorchester illustrates how in the example of Joe Moakley Park, which is designed to give water a new pathway in the waterfront space connecting Dorchester and South Boston by combining land-use planning and nature-based solutions (image below). The redesign of the space has been an ongoing priority and project for the city since 2018. Building this resilient park will require collaboration and coordination among city, state, and federal officials. The proposed removal of Day Boulevard introduces other entities into the decision-making process that will create a prolonged approval process.

Joe Moakley Park Design. (Source: City of Boston)



Depending on the scope, coastal resilience projects need to acquire permits from the Massachusetts Department of Environmental Protection (MassDEP), which enforces the federal Wetlands Protection Act. Projects that discharge dredged or fill material into waters, including wetlands, must apply to the Army Corps of Engineers for permits. Charged with protecting natural systems, nature-based solutions that extend into the water can be denied even though they provide substantial coastal protection.

Overall, there is considerable confusion about which projects are reviewed by MassDEP, Chapter 91, the Clean Water Act, Massachusetts Office of Coastal Zone Management, or the Massachusetts Wetlands Protection Act. Many argue that water protection laws developed in the 1980s are out of date, creating conflict over protecting infrastructure and people on land and protecting water-based ecosystems and marine life.

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Complying with Existing Regulations: Conflicting Goals

Conflicting goals are evident in several proposed projects. Boston's plans for coastal protection in East Boston's Border Street are illustrative.⁵⁴ In 2017, the City released a vision for coastal resilience solutions for this area, including nature-based solutions with open areas, a waterfront plaza, floating green and grey interventions, and docks that would improve maritime connectivity.¹³⁹ While Boston is able to move ahead with some plans such as Lewis Mall, Carleton Wharf, and the Greenway entrance, others are on hold as they do not comply with regulatory restrictions on Designated Port Areas (DPAs), which were established in 1978 to protect coastal areas that support water-dependent industrial and commercial uses.¹⁴⁰

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Who Pays for Resilience Projects? Funding Gap

Cities do not have the resources to pay for all the needed coastal resilience projects. Moakley Park illustrates the problem. The City estimates the cost of the 60-acre park to be \$240 million. To date, the project has \$2.2 million in federal and state funds. The City must compete for additional funds that could take years to amass. This is just one of several examples of the resilience funding gap.



Need for more transparency: Misalignment of Goals

To the interested public in frontline communities, there is a lack of clarity on how resilience planning unfolds within the city. To various stakeholders, it isn't clear which departments of the City are responsible for implementing climate readiness measures. Planning seems to be the responsibility of the Environment Department, but it doesn't have the authority or the responsibility for implementing recommendations. Implementation is undertaken by other departments and organizations. The City has several tracking systems in place, including an online map tracker. Still, community members are calling for more accountability in explaining why benchmarks are not being met. In addition to the online progress tracker, community members would like more explanation from the City on why benchmarks are not being met.

Progress Assessment

The City has identified 70 priority projects to build resilience in all neighborhoods with an estimated cost of \$3 billion. These will need to be funded and permitted. Several stakeholder groups have offered proposals for streamlining the permitting and implementation of resilience projects. Various solutions and legislative fixes have been suggested. A stakeholder group comprising key actors will release a report in November 2022 detailing possible solutions.

Numerous options for a governing body are being promoted, including existing agencies such as the Massachusetts Water Resources Authority. Others call for creating a Massachusetts Coastal Defense Agency that would have engineering and finance expertise and even the power of eminent domain to protect the Commonwealth's coastline (Figure 21). Another option is to replicate the Resilience Authorities enabled by recent legislation in Maryland that can fund and implement coastal and stormwater infrastructure projects (detailed in Big Lift 4 "supplementary chapter). The governor needs to open a discussion with all stakeholders on what the governance structure should be and work with the legislature to act on it quickly.

Figure 21. **Proposed Governance Agency.**



Source: John Sullivan, BWSC

In January 2020, the BPDA requested that the Massachusetts Office of Coastal Zone Management de-designate four parcels of the East Boston DPA that are included in the Climate Ready Boston plan for the area.¹⁴¹ The BPDA argues that the DPAs make it impossible for the city to incorporate coastal resilience into development, but many argue that the problem really is that the city is forced to fund resilience by leveraging private development, and market-based development is not allowed in the DPAs.

While Mayor Wu supports removing the DPA designation, there is considerable opposition to doing so. Some groups argue that although water-dependent industrial uses have declined during the past 20 or 30 years, there may be need for deep water access for the offshore wind industry.

Equity concerns loom large as well. Some East Boston residents are concerned that de-designating the port areas will pave the way for expensive new housing developments that will add to ongoing gentrification and displacement.¹⁴² Although an industrial use on the East Boston waterfront may not be ideal, many residents see it as the only thing preventing them from being priced out of their neighborhood.

Boston has developed an online progress tracker for neighborhood plans.¹⁴³ This tool is important to keep residents informed of progress in their neighborhoods. Still, a more inclusive planning process is needed to resolve these issues.

Local options for filling the funding gap are limited. Proposition 2½ makes it difficult for municipalities to raise property tax rates. The state legislature has yet to act to raise multi-year funding for large infrastructure projects. So competitive funding pools are what is left.

⌋ The distribution of coastal resilience funds must move beyond competitive grants to prevent extraordinary inequity across differently resourced communities. Coastal resilience will have to be funded with a mix of public and private funds.

New federal funding streams will soon be available to support Boston in protecting its coastline. The 2021 American Rescue Plan Act (ARPA) included dedicated funding for states. Of the \$8.7 billion allocated for Massachusetts, \$5.3 billion is for the state government to allocate and \$3.4 billion for municipalities to allocate. The 2022 Inflation Reduction Act will invest \$47 billion to help communities prepare for extreme fires, floods, storms, and droughts caused by climate change³⁷ How much Massachusetts and Boston receive is yet to be determined, but it will be enough to jumpstart delayed projects.

The Commonwealth’s Municipal Vulnerability Preparedness Program provides small grants (\$15,000–\$430,00) to cities and towns. Grants of that size typically can cover planning, but not implementation. The current funding level and distribution structure is insufficient to address existing coastal resilience needs.

The Housing and Revenue Opportunities (Hero) Act has bipartisan support for increasing the current Deeds Excise Tax to create new revenue for affordable housing and climate resilience projects. The bill was first filed in 2019 by Governor Baker.¹⁴⁴ It was stalled in that session (191st). It was filed again in the most recent legislative session and sought to double the Deeds Excise Tax (from \$4.56 per \$1,000 to \$9.12 per \$1,000), using the additional \$300 million annual new revenue for affordable housing and climate resilience projects. The bill was not enacted but will be refiled in the upcoming session (193rd).

Boston has made a good start on protecting the coastline and projects are being implemented now. There are several viable options for resilience governance and funding. It should be a priority of the Wu administration and the new governor to act quickly on both. In the interim, the City must develop a better process for frontline communities to co-create the plans for making resilience equitable.

PRIORITY ACTIONS

Create statewide (or other) governance agency to coordinate and finance coastal resilience

Overview

Misalignment and conflicting goals argue for a state agency or resilience authority that considers the needs of the Commonwealth's entire coastline. The agency would need to have engineering, design, construction management, finance, contract administration, program management, and environmental planning expertise.

Responsible Parties:

- ▶ Governor
- ▶ State legislature, with input from relevant stakeholders

Progress Indicators

The governor meets with relevant stakeholders to discuss options for agency and makes recommendation to legislature.

Review existing neighborhood resilience plans to address equity concerns

Overview

Although the City has attempted to obtain community input, many groups in frontline communities are concerned that low-income areas are not adequately protected. The Wu administration focus on East Boston, reflected in the complementary plan released in August 2022, attempts to address this problem.

Responsible Parties:

- ▶ City of Boston
- ▶ Neighborhood organizations

Progress Indicators

Neighborhood representatives and the City are in agreement on resilience priorities.

Pass the HERO Act

Overview

The HERO Act has bipartisan support and would provide much-needed funding for both resilience and affordable housing.

Responsible Party:

- ▶ State legislature

Progress Indicators

Early take-up and passage in the 193rd session.

Parts of Boston that have seen less investment in the last hundred years may be particularly vulnerable to climate events.

East Boston. (Source: Denis Tangney Jr./iStock)

