

Coastal Resilience Funding and Financing Blueprint

Boston Green Ribbon Commission

12-2-25

Introduction

The City of Boston is extremely vulnerable to the impacts of sea level rise, storm surge, and tidal flooding. Thanks to the 2016 Climate Ready Boston report and the subsequent neighborhood plans, Boston is one of the few cities in the country that has created climate resilience plans for the city's entire 47-mile coastline. However, the scale of investment needed to realize these plans poses a significant challenge, threatening implementation progress - especially for segments of the waterfront slated for flood protection within the next two decades.

One of the key pillars of the Green Ribbon Commission's 2025-2030 Strategic Plan is to accelerate the equitable implementation of coastal resilience projects. To advance this work, we are launching a project that would include the development of a comprehensive blueprint to fund coastal resilience that draws on city, state, federal, and private sources.

Developing a strategy to pay for coastal resilience interventions is complicated. Coastal property owners are diverse and include the City of Boston, multiple state and federal agencies and a wide variety of private landowners, including several non-profit institutions. There are many different types of land use, building structures, and shoreline configurations. District-wide approaches will be essential to building a resilient waterfront. In addition, coastal protections provide value to the entire City, region and Commonwealth by protecting property, creating jobs and fostering community vibrancy. Developing a strategy, with a wide variety of stakeholders, about how to pay for the scale of investment necessary, and clarifying next steps and timelines to secure funds is essential for this work to move forward.

In the context of this diverse set of actors, this blueprint will illuminate the possibilities for scaling funding and financing strategies needed to protect the City of Boston. We estimate that total costs will range from \$4 billion to \$10 billion to complete construction of over 100 contiguous flood protection projects along the Boston waterfront. About half of these projects - Phase I - must be completed by 2040 to close off urgent flood pathways created by sea level rise; the remainder - Phase II - must be completed by 2070 to close off longer term flood pathways. The Boston Green Ribbon Commission (GRC) is looking for a holistic strategy that can be implemented quickly, that builds on the ResilientMass Finance Strategy, and can be integrated with potential U.S. Army Corps of Engineers funding over the longer term. Given the current uncertainty of federal partnership, it is all the more urgent that we develop a strategy to pay for the necessary protection of our shoreline.

Project Goals

- Compile and aggregate the costs and benefits (updated to 2026 numbers) of shoreline protection and resilience infrastructure projects that have been identified by the City of Boston and state agencies (including but not limited to BWSC, MBTA, MassDOT, MassPort, MWRA, DCR, and DEP) with a specific focus on avoided losses and the return on investment and value created for the regional economy.
- Clarify the gap in funding available to meet the need for shoreline protection and what resilience investments are possible with current funding.
- In collaboration with the GRC, conduct an engagement process with the goal of establishing a broad consensus among leaders in the business and civic communities on the need for prioritizing resilience investments and identifying the types of funding mechanisms that these groups would support.
- Develop a blueprint with specific recommendations for funding waterfront resilience projects in the City of Boston in two phases (near term and longer term) through a comprehensive array of city, state, federal, and private sources.

Scope of Services and Deliverables

The GRC is looking for a consultant team to develop a Funding and Financing Blueprint that delineates how to pay for necessary coastal resilience interventions in two phases over the next several decades.

Deliverables should:

1. Clarify the cost of coastal resilience

- Compile, aggregate, and update cost estimates (including operations and maintenance costs) to 2026, based on the cost analyses in the Climate Ready Boston neighborhood resilience plans, updates to those plans, additional projects from other public agencies, and inflation.
- Integrate lessons learned about cost estimating from projects that have already been completed or that are underway.
- Where appropriate, include a range of low and high estimates.
- Identify which projects have already been completed or underway and determine how to include those in the total for future cost-sharing purposes (e.g. USACE match).

2. Clarify and measure benefits at multiple scales (benefits to specific property owners, to the local neighborhood and to the region)

- Conduct an analysis of the return on resilience project investments over the short term and longer term time frames that includes a wide variety of benefits such as:
 - Avoided property losses
 - Avoided business disruption

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- Protection of public infrastructure and services
- Improved and expanded public access to the waterfront
- Protection and enhancement of market value
- Tax base preservation
- Creation of new business opportunities and expanded workforce/new jobs
- Access to insurance/more affordable insurance
- Neighborhood and housing preservation and stability
- Tourism preservation
- Historic preservation
- Avoided cost of emergency response
- Benefits to regional infrastructure including transportation and other regional services

Key questions include:

- *What is the overall cost-benefit ratio for these projects?*
- *What is the return on investment for these resilience projects?*
- *How is ROI measured? Over what time horizon?*
- *Given Boston's housing crisis, how do resilience investments impact availability and affordability of housing?*
- *Are there other affordability challenges that are addressed in some way through resilience investments?*
- *If we are only able to do the USACE recommendations for protection (and unable to find resources to pay for co-benefits like open space) how does that impact the value created?*

3. Quantify the funding gap

- Clarify which projects from Phase I and Phase II can be built with existing and foreseeable funding sources and revenue streams;
- Identify the gap that must be closed to deliver the remainder of projects over the next several decades/Build on work done to date:
 - Commonwealth of MA: Assess recommendations from ResilientMass statewide Financing Strategy and determine applicability to Boston and find ways to integrate the strategy developed by the Commonwealth into Boston's funding and financing strategy.
 - Nationwide: Review funding mechanisms employed by other coastal cities and states throughout the U.S. with resilience challenges analogous to Boston's, that have generated significant funding for climate resilience.

Key Questions include:

- *What local, state, and federal funding sources can Boston draw on and what is the scale of investment that is achievable with these existing funding sources?*
- *How can funds be stacked to complete individual projects?*
- *What can be learned from other cities and states where resilience implementation is underway?*

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4. Engage stakeholders

- Take the results of the first three steps of analysis and prepare them for a broad audience including engaging visuals.
- Develop both an engagement strategy and a detailed implementation plan for a transparent city-wide conversation about the value of coastal resilience, the current gap in funding we need to close to reap these benefits, and the hard decisions that need to be made to protect the city. This strategy should include two main engagement phases:
 - The first should be focused after the first set of deliverables is complete (i.e. the benefits, cost, and funding gap analysis) with the goal of communicating the problem and getting feedback on potential solutions.
 - The second should come after the Blueprint is created with the goal of sharing back what we learned, how feedback from the first engagement phase was incorporated into the Blueprint and an invitation to join the broader coalition to implement the recommendations.
- This engagement strategy should:
 - Highlight the social, economic, and environmental value resilience provides across the City and region and showcase the systemic and interdependent nature of the necessary investments.
 - Bring in experts who are leading voices on how funding and financing decisions can advance equity.
 - Deploy the GRC climate decision-making simulation¹ to build consensus on the need for collective action.
 - Create easy to understand graphics and communications materials.
 - It should do this by:
 - Engaging the GRC's Coastal Resilience Working Group (which meets ~4x per year) and a CRWG Funding Strategy Subcommittee as a sounding board for the project and tap into other GRC member expertise across working groups.
 - Creating an Advisory Board with influential Bostonians (who are not necessarily climate experts) who can be advocates for advancing the report's final recommendations.
 - Connecting consistently with the Boston Waterfront Partners and Green New Deal Coalitions.
 - Connecting with community organizations that are not currently focused on climate change, labor unions, business associations, infrastructure and utility stakeholders, insurance industry, and civic leaders to get feedback on and build consensus on the need for coastal resilience investments and

¹ This simulation was created in partnership with Carri Hulet (CH Consulting) and John Macomber (HBS). The goal of the simulation is to spark conversations and deeper understanding about the value of collective action on resilience planning for an individual institution. It is played in four rounds, participants decide on the level of resilience investments they want to make in their building, roll dice and if certain numbers are rolled, a storm has hit our city and their property is damaged. In later rounds, participants have an option to invest in a Community Resilience Fund which lowers risk for everyone. It takes about 90 minutes to complete.

the types of funding and financing mechanisms that would be most impactful at the scale necessary.

Key questions to engage people on include:

- *Once gaps in the existing funding sources are identified and best practices from other cities are examined, how should we design new public funding programs?*
- *Should funding be re-allocated from other existing funding sources?*
- *Given the many crises we are currently dealing with, how can we find a path forward to fund resilience?*

5. Develop Financial Blueprint

- Develop recommendations for a holistic financial strategy that moves beyond a project-by-project approach for both Phase 1 (near term) and Phase 2 (longer term) projects. Identify specific sources and amounts of funding for each phase and the revenue streams needed to support them. Given the uncertainty of federal funding, the strategy should include both the assumption that USACE funding is secured and the possibility that no federal funds will be available.
- Additionally,
 - Apply relevant tools² to develop models for funding resilience needs in the five waterfront neighborhoods in Boston. These neighborhoods have a diverse mix of property owners so this should help evaluate the feasibility and applicability of recommendations for these neighborhoods.
 - Apply the financial strategy recommendations to a representative and diverse set of specific projects from the Climate Ready Boston planning processes to illustrate how the strategy would be applied.
 - Develop a decision making tool which is based on the priorities the City has already identified to help decision makers weigh investment decisions (including timing, benefits generated, how to leverage capital funds, cost sharing, ease of implementation, equity etc.)

Key questions include:

- *What kinds of revenue streams are needed to support public financing?*
- *How can benefits and costs be shared fairly among waterfront and inland property owners?*
- *How can we ensure that investment benefits are distributed equitably?*
- *What funding tools and ownership structures are appropriate for capital projects vs. operations and maintenance?*
- *What would a non ad valorem methodology for assessing benefits look like? How can benefits be connected to assessments?*
- *What is the role of the private sector in funding projects along Boston's waterfront?*

² The ideas listed in the MA RFP included but are not limited to opt-in Resilience Authorities, the creation of a government trust fund for resilience, expansion of the scope of the Massachusetts Climate Bank to include resilience, relevant mechanisms for the new Coastal Resilience Districts and statewide climate resilience action, carbon credits (forests and blue carbon), pay-for-performance incentives, environmental impact bonds, low interest loan options, impact investing, expanded fees/assessments, market-based mechanisms, and other finance mechanisms.

6. **Develop governance recommendations** (including potential legislative changes or new authorities)
 - Review current resilience implementation governance systems (at the City and the State)
 - Identify the gaps that would make implementation of the Blueprint challenging
 - Provide recommendations based on ease of implementation and achieving desired outcomes.

Key questions include:

- *What are the governance needs to secure and implement successful funding strategies?*
 - *What can be done quickly with the current system?*
 - *What is possible with easy-to-enact changes?*
 - *What is only possible with much more effort and political will?*
- *What are the new and existing authorities necessary to implement required resilience investments?*
- *Are there places where we could insert coastal flood control language into state statutes that would allow for special assessment districts?*
- *What longer-term governance strategies would be helpful for implementing resilience projects? And if those strategies were enacted, how would they increase the likelihood of securing funding at the necessary scale and within the necessary timeframe?*
- *What data is necessary that we don't currently have access to?*
- *How do these recommendations connect to the ResilientCoasts plan and ResilientMass Finance strategy?*

Note: this entire project, and particularly the engagement efforts, will be done in close collaboration with the GRC. There are additional resources that can be leveraged to support this work:

- The GRC partners closely with Boston Harbor Now on the Coastal Resilience Working Group. Their staff can support in a variety of ways including logistical support for the CRWG and broader engagement strategy and bringing in additional expertise on the Harbor. The role of BHN can be discussed as part of the scoping process.
- The GRC has a contract with the Denterlein communications firm. They can support the project through media relations and strategic communications.
- Associate Director for Resilience, Rebecca Herst, will be managing this project and will play an active role in the engagement work.
- The GRC's partnership with the City of Boston is unique and they will be happy to provide additional data or information as needed.

Timeline

Short Term Deliverable: 3-6 months after contract is signed

- Develop a foundation for the project that builds on past work, quantifies the costs and benefits of shoreline protection and clarifies the funding gap.

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- Have an agreed upon strategy with the GRC for broader engagement with clear delineation of respective responsibilities for the consultant and the GRC.

Final Deliverable: 12-15 months after the contract is signed, depending on the final scope of work.

- Develop a Financial Blueprint for how to fund and finance coastal resilience needs in the City of Boston in two phases (number 5 above).
 - The blueprint should include a transparent framework for funding decisions that includes considerations such as project urgency, land ownership fairness/cost-sharing, equity/affordability and ease of implementation.
- Develop recommendations for any governance changes that are necessary to implement the Financial Blueprint (number 6 above).

Bidder Qualifications and Proposal Requirements

Proposal Requirements

Boston Green Ribbon Commission is seeking proposals from qualified individuals or teams with demonstrated experience addressing the process and outcomes described above. The applicant selected will be responsible for completing all project work products and final deliverables.

Applicants will incorporate GRC staff and member involvement and estimate expected levels of effort required for their participation.

Proposals must include a timeline and milestones of process and deliverables. The successful applicant will be responsible for scheduling and facilitating check-in meetings/calls including setting up an agenda in advance, sending meeting invites, and writing up and distributing meeting minutes.

Proposals must not exceed \$350,000.

Submission Details

Interested applicants should submit, via email, their completed proposal that includes the following information:

1. Name and contact information for any participating consultants.
2. A summary of the proposal not to exceed 2 pages.
3. Statement of qualifications.
4. Client list highlighting specific accomplishments and examples of relevant completed strategies and their impacts.
5. Clear description of proposed process, timeline and deliverables as described above. This scope of work should not exceed 10 pages.
6. Fee and budget broken down by task, including expenses.

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7. Current resumes and bios of the project team that will be working on the project.
8. Three relevant references of clients whose plans have been completed.

Please email proposals by January 16, 2025 to home@greenribboncommission.org. No calls or visits, please.

There will be an information session with GRC staff on Tuesday, December 16th from 12pm-1pm. RSVP for the Zoom link to azanta@greenribboncommission.org.

Proposal Evaluation Criteria

The GRC will evaluate all proposals based on the following criteria:

1. Overall proposal suitability: Proposals must be submitted by the requisite deadline of January 16th and meet the scope and needs included herein and be presented in a clear and organized manner.
2. Relevant Experience: Vendors and the principal staff members will be evaluated on their technical expertise and experience as it pertains to the scope of this project. We are looking for demonstrated expertise in climate infrastructure funding and financing, strategic stakeholder management, equitable development and coastal resilience. Vendors are expected to have a qualified, experienced, and effective team lead and staff with recent relevant experience in similar projects.
3. Value and cost: Vendors will be evaluated on the cost of their proposal based on the work to be performed in accordance with the scope of the project.

Diversity, Equity and Inclusion. The work of the Green Ribbon Commission is to bring together a wide variety of institutions, and the people who make them great, across sectors and perspectives to advance climate action. We know that diversity plays a core role in helping us advance our work. Different perspectives and backgrounds spark new ideas and creativity, allowing us to tackle the immense challenge of climate change with fresh ideas and approaches. We also know that historically excluded communities are those that face the brunt of the climate crisis. We strive to bring this understanding into our work as we co-create a climate ready Boston where everyone can thrive.

Right to Reject/Cancel. The Green Ribbon Commission reserves the right to cancel this procurement, to waive any defect or technicality, and to advertise for new proposals, without notice or justification, where the rejection, cancellation, waiver or advertisement would be in the best interests of the GRC.

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Formal Contract Required. Upon award, the Green Ribbon Commission and the successful bidder will enter into a contract based on the factors described in this Request for Proposal. The services to be provided will begin and end on specific dates to be negotiated by the parties, not to exceed nine months. The contract value will not exceed the proposed amount, unless the time period and/or the contract value are modified by written, executed amendment to the contract.

No Liability for Costs. Each prospective bidder responding to this RFP agrees that it will have no claims against the Green Ribbon Commission for any costs or liabilities incurred relating to this RFP.

Indemnification. The successful bidder will indemnify and hold harmless the Green Ribbon Commission, its trustees, employees, agents and members from any and all liability resulting from the performance of the services provided under the contract, including, but not limited to, the acts or omissions of the successful bidder, its directors, officers and employees, any and all sub-contractor(s) and their employees, and/or from any and all third party claims related to the contract.

Applicable Law. This Request for Proposal and any Contract subsequently executed shall be governed and/or construed in accordance with the laws of the Commonwealth of Massachusetts.

Appendix

Relevant Documents

- [City of Boston Climate Ready Boston Strategy and Neighborhood Plans](#)
- [Climate Ready Boston Resilience Tracker](#)
- [Expanding Boston's Capacity to Build Coastal Resilience Infrastructure - Lessons from the Seaport District](#)
- [Financing Climate Resilience Report](#)
- [USACE Boston Study](#)
- [Boston Green New Deal research and fact sheets on financing climate action.](#)

Additional resources that are not yet available online:

- ResilientMass Finance Strategy and Investment Assessment
- Mystic and Charles Regional Coastal interventions FEMA funded (City of Cambridge/RMC)
- Boston Planning Department memo on economic impacts of flooding