

## CLIMATE READY: CHARLESTOWN

**Land area:** 1.4 sq miles  
**Population:** 16,000  
**Jobs:** 12,200  
**Economic contribution:** \$2.5 billion



Equitable development and job creation. Improved transit and community services. Increased access to open space. Enhanced health and security. All of these community benefits can be achieved through preparing Boston for the impacts of climate change.

Led by the City of Boston and the Green Ribbon, Climate Ready Boston is aimed at identifying how Boston's climate is going to change, what's most at risk, and steps that can be taken to improve our community and thrive in the future. It builds on Boston's commitment to address global warming by cutting carbon and other emissions. The Climate Ready Boston report is available at (<https://www.boston.gov/environment-and-energy/climate-ready-boston>) and was developed with input from leading scientists; city, regional and state staff; utilities; and nonprofit and community organizations.

## What Climate Change Means for Charlestown

GREATER  
AMOUNTS  
OF SEA  
LEVEL RISE



### More Flooding:

- Due to sea level rise, significant flooding will result from storm surges less powerful than those causing flooding today.
- Charlestown ranks in the top three among all coastal neighborhoods for land area exposed to flooding throughout the century.
- While near term flooding risks will be limited to the waterfront edge, they will expand over time.
- Over 50% of Charlestown will be exposed to coastal flooding during major storms as soon as the 2070s

MORE HOT  
DAYS



### More Heat:

- Climate change means hotter temperatures in Charlestown, especially in its urban "heat islands," or areas with more asphalt and less tree cover to provide shade.
- Certain populations such as children and the elderly are particularly vulnerable.

## What's At Stake



### Community Assets & Flooding

- Near term flooding will primarily occur in the Navy Yard and near the Schrafft's building site.
- Important community assets that could be exposed include Seaport Academy, Charlestown's police station, and one of its two fire stations.
- As early as the 2050s, the area flooded by major storms will increase by 150%, expanding into the low-lying areas near Sullivan Square. Once water from the Mystic River crosses Rutherford Ave, flooding will expand to the south.
- Mid-century flooding at both Orange Line stations would restrict access to Downtown and Bunker Hill Community College; the more than 15,000 daily riders would require alternative transportation. Charles River neighborhoods have limited exposure to flooding until mid-century due to the New Charles River Dam.



### People and Buildings Impacted by Major Flood Events

As sea level rise accelerates, a greater area of the city will be affected. The majority of exposed buildings in Charlestown are residential and mixed-use structures.

- In the near term, roughly 350 people live in areas expected to be flooded by monthly high tides, the second highest number of all Boston neighborhoods. As soon as the 2070s, this number will increase to over 1,070 people.
- In terms of overall flood risk, in 2030, more than 1,300 people and 140 buildings valued at \$2.2 billion would be exposed.
- In 2070, these figures increase to more than 5,100 people and 680 buildings valued at \$4.3 billion.



### Economic Output and Jobs

Flooding can be extremely disruptive to the local economy as operations are interrupted while structures are repaired or businesses relocate.

- Charlestown is expected to incur annual losses of \$8 million in economic output and 50 jobs toward the end of the century.
- The main industries affected are expected to be scientific research and development, accounting, and insurance-related services.

## Charlestown in Action

The following initiatives have been proposed to ensure that Charlestown is prepared for the effects of climate change.



### Prepared & Connected Communities:

- Conduct an outreach campaign to private facilities that serve vulnerable populations to ensure that they engage in emergency preparedness and adaptation planning.
- Update the city's heat emergency action plan.
- Expand Boston's small business preparedness program.



### Protected Shores:

- Develop a local climate resilience plan for Charlestown to support district-scale climate adaptation. The plan should include the following:
  - Community engagement through a local climate resilience committee;
  - Land-use planning for future flood protection systems;
  - Infrastructure adaptation planning;
  - Coordination with other plans, including Imagine Boston 2030, GoBoston 2030, Special Planning Areas, and any potential Municipal Harbor Plan process;
  - Development of financing strategies and governance structures to support district-scale adaptation.



### Resilient Infrastructure:

- Develop coordinated risk response plans for extreme weather events.
- Support MBTA's Orange Line flooding assessment.
- Explore options for a neighborhood energy grid in the Main Street corridor.



### Adapted Buildings:

- Update zoning and building codes and notify developers with projects in the pipeline to update plans.
- Help building owners assess potential impacts and increase resilience.
- Promote access to insurance.
- Prepare municipal buildings to withstand change.