

# 11. Sustainability and Climate Resilience

Massport is committed to environmental stewardship, social responsibility, and resilience planning. It continues to evolve its efforts to address current environmental challenges while promoting long-term community well-being. Through strategic planning and regional collaboration, Massport demonstrates a comprehensive commitment to **sustainability** and to addressing both the causes and impacts of climate change. The approach reflects a holistic, forward-looking vision of a sustainable and resilient future, setting a high standard for best practices in the aviation industry.

Chapter 10, *Project Mitigation*, outlines specific mitigation measures for projects developed through the **Massachusetts Environmental Policy Act (MEPA)** environmental review process. In addition to these requirements, Massport undertakes a variety of voluntary, on-going initiatives at Boston Logan International Airport (Logan Airport or Airport) and each of its facilities. These efforts aim to improve operational efficiency, minimize environmental impacts, uphold social responsibility, and support Massport's goal of achieving **net zero emissions (Net Zero)** by 2031. The following sections detail these proactive initiatives, highlight climate-related risks, and describe Massport-wide climate **resiliency** strategies.

Massport actively participates in efforts to improve the quality of life of residents, promoting workforce and business diversity, and facilitating learning opportunities. For more information on Massport's community initiatives and outreach practices, refer to Chapter 2, *Outreach and Environmental Justice*, and Massport Community Advisory Committee (Massport CAC) at <a href="https://massportcac.org/">https://massportcac.org/</a>.

### Key Massport Materials Related to Sustainability and Climate Change

Massport's Roadmap to Net Zero webpage (<a href="https://www.massport.com/environment/roadmap-to-net-zero">https://www.massport.com/environment/roadmap-to-net-zero</a>) provides a comprehensive overview of the program, featuring baseline and recent greenhouse gas (GHG) emissions data, major on-going initiatives, and program-relevant key performance indicators (KPIs).

In addition to the Roadmap to Net Zero webpage, Massport continues to publish additional materials with further information on Massport sustainability and resiliency programs, including:

- Massport Sustainability Overview (<a href="https://www.massport.com/environment/sustainability">https://www.massport.com/environment/sustainability</a>);
- 2022/2023 Sustainability, Net Zero, and Resiliency Report
   (https://www.massport.com/sites/default/files/2025-02/Massport-Sustainability-Report-2022-2023.pdf);
- Sustainability Design Guidelines
   (https://www.massport.com/sites/default/files/2025-01/2025-Massport-Sustainability-Design-Guidelines FINAL.pdf); and
- Floodproofing Design Guidelines

  (https://www.massport.com/sites/default/files/2025-01/2025-Massport-Floodproofing-Design-Guide FINAL.pdf).

## 2023 Sustainability and Climate Resilience Key Findings

The following details key findings of sustainability and climate resilience efforts at the Airport in 2023:

- Piers Park II officially opened in December 2023, adding 4.5 acres of sustainable and resilient public space to Piers Park along the East Boston waterfront. The expansion includes community-focused amenities, including the Piers Park Sailing Center.
- The Terminal B to C Connector Project achieved Leadership in Energy and Environmental Design (LEED®) Gold Certification.
- Massport joined the Zero Impact Aviation Alliance (ZIAA) as a founding member in 2023, furthering Massport's commitment to the development and implementation of sustainable aviation fuel (SAF).
- Logan Airport received Level 1 Certification from Airport Carbon Accreditation (ACA).

## 2024 Sustainability and Climate Resilience Key Findings

The following details key findings of sustainability and climate resilience efforts at the Airport in 2024:

Massport completed comprehensive building condition assessments across its facilities, including
Logan Airport, in 2024. These assessments led to the identification and initial implementation of
targeted energy efficiency measures, further supporting Massport's commitment to sustainability and
its Roadmap to Net Zero by 2031 (Roadmap to Net Zero).

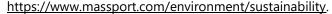
- In 2024, Massport launched a pilot Renewable Diesel Program to evaluate the widespread use of renewable diesel as a cleaner alternative to conventional diesel in its fleet of medium-and heavy-duty vehicles, including buses.
- Massport continued its transition to electric vehicles (EVs) by acquiring an electric street sweeper in 2023 and two electric buses for airside passenger transport in 2024, advancing the use of heavy-duty EVs in its operations.

# 11.1 Sustainability

Massport is actively working towards sustainability at Logan Airport and is committed to promoting sustainable practices beyond its immediate operations. The following sections discuss how Massport has integrated sustainability into its operations and business practices, including initiatives focused on sustainable design and construction, natural resource preservation, materials management, water conservation, and ground access and connectivity.

# 11.1.1 Annual Sustainability Reporting

Since completing Logan Airport's Sustainability Management Plan (SMP) in 2015, Massport has actively advanced and tracked its progress in sustainability and resiliency. These regularly published reports highlight key achievements and on-going initiatives. The most recent report, published in early 2025, presents data and stories from 2022 and 2023, and for the first time, includes an overview of Massport's Roadmap to Net Zero program and progress. Massport's latest and previous sustainability and resiliency reports can be viewed on Massport's Sustainability webpage:





# 11.1.2 Sustainability Initiatives

In alignment with the structure of Massport's 2022/2023 Sustainability, Net Zero, and Resiliency Report, the following sections provide an overview of several key initiatives implemented in 2023 and 2024.

# 11.1.2.1 Sustainable Design and Construction

Massport is committed to integrating innovative, sustainable practices, renewable energy solutions, and proven principles of sustainable design and construction into its built environment. In association with its Roadmap to Net Zero, Massport has established a new benchmark for sustainable development, grounded in the latest and most stringent building energy codes in Massachusetts, as well as reputable third-party sustainability rating systems. For more information and updates on Sustainable Design and Construction at Massport, see <a href="https://www.massport.com/environment/sustainability/sustainable-design-and-construction">https://www.massport.com/environment/sustainability/sustainable-design-and-construction</a>.

## Sustainability Design Guidelines (January 2025)

In January 2025, Massport published a significant update to replace the 2018 *Sustainability Design Guidelines* (SDGs). The update aligns with Massport's commitment to the Roadmap to Net Zero and reinforces its broader sustainability efforts. The SDGs provide clear instructions and benchmarks for



architects, engineers, and contractors to follow in the design and construction of building and non-building capital projects on Massport property.

The SDGs aim to integrate sustainable performance, reduce both operational and embodied **greenhouse gas (GHG)** emissions, and enhance climate resilience from the earliest stages of project design. Depending on the project type and construction cost, the SDGs also require projects to pursue or achieve Gold level certification under the U.S. Green Building Council™ LEED® rating system, Green Business Certification Inc.™ **ParkSmart**® rating system, and the Institute for Sustainable Infrastructure™ **Envision**® rating system. The SDGs can be viewed at

https://www.massport.com/sites/default/files/2025-01/2025-Massport-Sustainability-Design-Guidelines-FINAL.pdf.

## Floodproofing Design Guide (January 2025)

Massport published an update to the *Floodproofing Design Guide* in 2025, incorporating newer modeling information provided by the Massachusetts Coastal Flood Risk Model (MC-FRM). The *Floodproofing Design Guide* primarily serves as an effort to enhance climate resiliency in capital planning and real estate development processes. The *Floodproofing Design Guide* can be viewed at <a href="https://www.massport.com/sites/default/files/2025-01/2025-Massport-Floodproofing-Design-Guide FINAL.pdf">https://www.massport.com/sites/default/files/2025-01/2025-Massport-Floodproofing-Design-Guide FINAL.pdf</a>. More information on this topic is provided in Section 11.3.3.

# **Sustainability Rating System Certifications**

In 2005, Logan Airport became the first airport in the world to earn LEED certification for an airport terminal; the Terminal A Redevelopment project. Since then, Massport has expanded its commitment to sustainable building practices with a total of 10 LEED-certified buildings now in its portfolio. In September 2023, Logan Airport's Terminal B to C Connector achieved LEED Gold certification under the Building Design and Construction (BD+C)® rating system. As of 2024, the Terminal E Modernization project, completed in October 2023, is pursuing LEED Gold certification also under the BD+C rating system. A complete list of Massport's LEED-certified buildings, including the five additional LEED-certified tenant-owned and operated buildings, is included within the 2022/2023 Sustainability, Net Zero, and Resiliency Report.

Massport is seeking ParkSmart® certification for two multi-level parking structures currently in development: the Terminal E Garage and the other as part of the Framingham **Logan Express** Garage

expansion. Refer to Chapter 4, *Airport Planning*, Section 4.1 for additional information on planned parking garage projects.

Additionally, Massport is seeking Envision Gold Verification for the Runway 27 End Runway Safety Area (RSA) Project. See Chapter 4, Section 4.3.3 for more information about this project.

## 11.1.2.2 Natural Resource Preservation

Massport is committed to protecting Massachusetts' unique ecosystems, expanding open and recreational spaces, and supporting the state's environmental and climate resilience goals. In addition to their ecological and community benefits, these green spaces also help reduce carbon dioxide in the atmosphere through carbon sequestration. In 2024, Massport began evaluating the annual carbon sequestration capacity across its properties to understand better and enhance this climate benefit.

## **Open Space and Airport Edge Buffers**

Massport is proud to offer over 30 acres of green space to the community in its parks and open spaces, designed to enhance the quality of life and well-being in surrounding neighborhoods. As of 2024, Massport developed and maintains eight parks and open spaces in East Boston and five in South Boston. **Figure 11-1** illustrates open space and airport edge buffers around the Airport. For more information on Massport's parks and open spaces, see <a href="https://www.massport.com/community/public-parks">https://www.massport.com/community/public-parks</a>.



Figure 11-1 Airport Edge Buffer Projects and Open Space

2023/2024 Environmental Data Report



#### ID Name

- 1 Piers Park
- 2 Navy Fuel Pier Airport Edge Buffer
- 3 Mary Ellen Welch Greenway
- 4 Southwest Service Area Airport Edge Buffer
- 5 Breman Street Park and Dog Park

#### ID Name

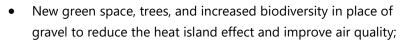
- 6 Neptune Road Airport Edge Buffer
- 7 East Boston Greenway Connector
- 8 Narrow Gauge Connector
- 9 Bayswater Embankment Airport Edge Buffer

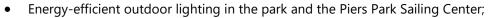


#### Piers Park II

Piers Park II officially opened in December 2023, adding 4.5 acres of new open space along the East Boston waterfront. The park is the result of collaboration between Massport, the Piers Park Advisory Committee (PierPAC), and the East Boston community. It is also home to the Piers Park Sailing Center, a 501(c)(3) charitable nonprofit organization, featuring a newly constructed 1,600-square-foot building.

Piers Park II includes various ecological enhancements, sustainability features, and provisions that improve the resiliency of the site and adjacent community area against flooding and sea level rise:





- Highly efficient electric, heating and cooling systems in the Piers Park Sailing Center;
- Bottle-filling stations to encourage the use of reusable bottles, reduce plastic waste, and provide accessible drinking water;
- Raised elevation and landscape berms to mitigate potential flooding;
- Structures added to provide for shade and reduce the heat island effect;
- Timers for water features to conserve water; and
- Solar arrays are to be added to the roof of the Piers Park Sailing Center by the end of 2025.

### **Bremen Street Park**

In 2023, Massport installed buttons and timers to activate the splash pad water features at Bremen Street Park and Piers Park. This upgrade saves water and energy while maintaining the community benefits of the splash pad. Previously, the splash pad operated continuously during open hours; the upgraded splash pad now runs more efficiently during the summer, significantly reducing water and energy usage.

# **Natural Resource Mitigation**

As documented in the **Section 61 Findings and Mitigation Commitments** for project-specific impacts in Chapter 10, Massport has committed to restoring or replacing natural resources impacted by its projects. In addition to the coastal wetlands surrounding the airfield, a particular focus has been the careful management of the airfield's grasslands, which serve as habitat for several threatened or endangered bird species. In 2024, Massport completed a detailed inventory of all grassland projects dating back to 2009 to track and quantify the outcomes of the airfield mitigation efforts. The new tracking system will help Massport, the **Federal Aviation Administration (FAA)**, and the Massachusetts Natural Heritage and Endangered Species Program (NHESP) to monitor grassland habitat changes and provide a baseline for



Piers Park II in East Boston

future MA Endangered Species Act (MESA) applications. That effort demonstrated that over the past 15 years, Massport has increased the area of airfield grasslands by approximately 2.4 acres.

#### Runway 22R Runway Safety Area (RSA) Mitigation Rumney Marsh

Massport's Rumney Marsh Salt Marsh Restoration was a requirement established in the federal Section 404 permit and Massachusetts Department of Environmental Protection (MassDEP) variance associated with FAA-mandated RSA enhancements at Runway-End 22R. Those approvals required the construction of at least 4.2 acres of restored salt marsh and intertidal wetlands to offset the unavoidable loss of 0.6 acres of intertidal mud flat and 0.8 acres of intertidal salt marsh at the end of Runway 22R. The restoration site is located within the 600-acre Massachusetts Department of Conservation and Recreation (DCR) Rumney Marsh Reservation in Saugus, MA. Site restoration construction began in 2014, following a Memorandum of Agreement with the DCR, and was completed in 2016. Post-construction wetland monitoring was conducted annually from 2017 to 2022. The 2022 monitoring findings, completed in 2023, confirmed that the mitigation efforts were successfully achieved.

#### Runway 9-27 RSA Mitigation Saratoga Street

Massport has proposed wetland restoration to mitigate impacts on previously undisturbed Land Under Ocean (LUO) and Coastal Beach, resulting from the installation of concrete piles and emergency access ramps associated with the pending Runway 9-27 RSA project. Restoration efforts will take place north of Logan Airport, near Saratoga Street in East Boston, in an area that was previously partially filled and disturbed due to a former marine crane business and pier located there. Although the pier remains in place, it is currently unused and in disrepair. Massport proposes to remove all existing piles and piers near Saratoga Street to restore the area to a more natural bank and beach habitat, and to excavate a portion of the existing land in that location to create additional coastal resource areas. Construction is anticipated to begin in the fall of 2026.

# 11.1.2.3 Materials Management

Massport is committed to reducing waste consumption and finding innovative ways to reuse and recycle waste that would otherwise be sent to a landfill or incineration facility.

#### Construction and Demolition

Massport aims to reduce waste headed to landfills by diverting construction and demolition waste for reuse either onsite or elsewhere. **Table 11-1** lists the final diversion rates for projects completed in 2023 and 2024. For more on the listed construction projects, see Chapter 4.

Table 11-1 Construction and Demolition Volumes for Projects Completed in 2023 and 2024

Project	Tons Diverted	Diversion Rate
Terminal E Modernization	3,472	77%
Terminal B to C Roadways <sup>1</sup>	6,170	25%²
Piers Park II	1,304	93%
Taxiway M North Rehabilitation and Geometry Improvements	Not recorded <sup>3</sup>	100%
Taxiway N Rehabilitation	Not recorded <sup>3</sup>	100%

Source: Massport, 2025.

#### Notes:

- 1 Terminal B to C Roadways are a part of the Terminal C Canopy, Connector, and Roadway Projects discussed in Chapter 4, Section 4.2.1.
- 2 Diversion rates were low due to the presence of contaminated materials that could not be recycled.
- 3 Tons diverted were not reported as all materials were reused onsite, resulting in a 100 percent diversion rate.

## Waste Cooking Oil Recycling

The cooking oil recycling initiative at Logan Airport is a collaborative effort between tenants and third-party collectors. In 2023, 59,325 gallons of waste cooking oil were recycled. This amount increased to 70,365 gallons in 2024.

#### OSCAR™ Sort Program

OSCAR™ is an artificial intelligence (AI) enabled sorting assistant developed by Intuitive Robotics, Inc. It utilizes real-time image recognition to guide proper waste disposal, enhance recycling accuracy, and minimize contamination. In early 2025, three OSCAR™ units were deployed in high-traffic areas across Logan Airport's terminals. These smart sorting stations support Massport by increasing waste diversion, enhancing data collection on material flows, educating users on waste management best practices, and showcasing a commitment to sustainability through innovative, data-driven solutions.

#### **Hydration Stations**

Massport has been adding water bottle filling hydration stations around Logan Airport and began tracking the number of single-use bottles avoided in 2024. Since the beginning of tracking in July 2024 through the end of the year, 2,849,637 single-use bottles were avoided.

## 11.1.2.4 Water Conservation

Massport is dedicated to reducing water consumption and managing natural water resources. At Logan Airport, Massport has integrated water-efficiency measures into its landscaping and buildings using native and drought-resistant plants, as well as high-efficiency water fixtures. These efforts have realized significant water use reduction on a per-passenger basis. Refer to Chapter 9, *Water Quality*, for additional information on water quality programs.

## **Slurry Water Recycling**

Massport recycles industrial water as part of its efforts to conserve water and reduce waste. Massport received third-party certification from Globalcycle, Inc., the operator of the only fully permitted industrial wastewater treatment recycling and non-hazardous solid waste handling facilities in Massachusetts, to confirm that slurry water meets recycled water quality regulatory standards. Between 2022 and the end of 2023, Logan Airport recycled 25,357 gallons of industrial water.

# 11.1.2.5 Ground Access and Connectivity

Massport is committed to enhancing ground access and connectivity at Logan Airport, reducing congestion by catering to employees' unique transportation needs and promoting sustainable travel practices. Key initiatives include early-morning and late-night shuttles, off-Airport parking, and enhancing **high-occupancy vehicle (HOV)** options in partnership with local transit agencies.

## **Promoting Commuter Benefits for Logan Airport Employees**

Airport employee ground access requirements differ from those of passenger transportation. Airport employees often have non-traditional and sometimes unpredictable working hours that can be difficult to align with the typical Massachusetts Bay Transportation Authority (MBTA) public transit service hours, which are from 5:00 AM to 1:00 AM. Massport strives to reduce the number of Airport employees commuting by automobile, enhance commuter options, and reduce vehicle congestion and parking demands at Logan Airport. Implemented ground transportation initiatives have centered on providing early-morning and late-night shuttle and transit options, as well as providing off-Airport employee parking. Refer to Chapter 6, *Ground Access*, Section 6.4.4 for further information on employee ground transportation initiatives.

## High-Occupancy Vehicle (HOV) Strategy

Massport's strategy for HOV modes focuses on utilizing options such as MBTA public transit and shared-ride services, including Logan Express, coach, and shuttle buses. The goal is to reduce **vehicle miles travelled (VMT)**, alleviate vehicle congestion, and minimize environmental impacts. These HOV modes efficiently transport multiple travelers, resulting in fewer vehicle trips compared to single-occupancy vehicles.

Massport collaborates with Massachusetts and transportation agencies in surrounding states to enhance these services, prioritizing methods that lower vehicle emissions and improve air quality. Logan Express bus service, with frequent scheduling from suburban and urban locations, is central to Massport's HOV strategy by offering and facilitating an alternative to private vehicle usage. Additionally, Massport collaborates with the MBTA to provide transit options, including the Silver Line, Blue Line, and water transportation services, all of which offer shuttle connections for seamless access to airport terminals. Recent initiatives aimed at promoting these HOV options have successfully increased ridership,



Silver Line 1 which serves Logan Airport

demonstrating progress toward Massport's ground access objectives. Refer to Chapter 6, Section 6.1 for further information on HOV adoption.

### Ride App Management Program

Since 2017, Massport has implemented the **Ride App** Management Program to promote more sustainable ride-sharing at Logan Airport. This strategy encompasses several initiatives, including Ride App **Rematch** Program, the introduction of rideshare options, and the development of a fee structure to support HOV usage. Roadway and garage projects, detailed in Chapter 4, Section 4.1, focus on centralizing Ride App pick-up and drop-off areas to facilitate shared rides, reduce **deadhead trips**, and alleviate curbside congestion. Refer to Chapter 6, Section 6.4.1 for further details on Ride App management.

#### Long-Term Parking Management Plan

In addition to supporting HOV, Massport actively manages parking supply as another strategy to reduce drop-off and pick-up modes. The on-airport parking supply at Logan Airport is managed with the following objectives:

- Promote long-term parking over short-term parking (thus reducing the number of daily trips to and from Logan Airport);
- Support efficient and balanced use of parking facilities;
- Provide excellent customer service; and
- Comply with the provisions of the Logan Airport Parking Freeze.<sup>1</sup>

Elements of the Long-Term Parking Management Plan focus on increasing the parking supply through projects like the Terminal E Garage and the Framingham Logan Express Garage site, as discussed in Chapter 4, Section 4.1. Finally, Massport regularly evaluates parking pricing to encourage air passengers

<sup>1</sup> The Logan Airport Parking Freeze, part of Massachusetts' State Implementation Plan (SIP) under the Federal Clean Air Act, regulates the number of commercial and employee parking spaces at Logan Airport, with Massport required to monitor and report compliance to MassDEP, ensuring the total parking spaces do not exceed specified limits.

to consider alternative transportation and parking options. Refer to Chapter 6, Section 6.4.3 for more information on long-term parking management.

## 11.2 Net Zero Greenhouse Gas Emissions

In March 2022, Massport published its *Roadmap to Net Zero by 2031* (Roadmap to Net Zero), an ambitious, Authority-wide program to achieve net zero GHG emissions by 2031 for the activities under Massport's control. The 2031 timeframe also coincides with the 75th anniversary of Massport's founding. The following sections discuss Massport's pathways and planning towards achieving Net Zero emissions.

# 11.2.1 Introducing the Office of Climate Innovation and Resilience

Establishing OCIR transforms Massport's climate ambition into organizational infrastructure, strategic focus, and measurable action.

Massport's new Office of Climate Innovation and Resilience (OCIR), led by the Chief Climate and Resilience Officer, works in close partnership with senior staff from Capital Programs, Strategic Planning, Real Estate Asset Management, and Aviation, and leads environmental and climate action at Massport, serving stakeholders with innovative solutions that build climate resilience and cut emissions. The OCIR also leads the implementation of the Roadmap to Net Zero initiative, ensuring that

climate goals are integrated across the organization. Consultants with a wide range of technical expertise in climate strategy and performance further support the office.

Massport is governed by a Board of Directors, which receives periodic updates regarding the Roadmap to Net Zero and approves related funding allocations. In 2023, the Board voted to approve \$500 million in investments for Net Zero projects, laying the groundwork for emissions reduction projects through 2031.<sup>2</sup>

# 11.2.2 Progress to Net Zero

Massport's Roadmap to Net Zero website (<a href="https://www.massport.com/environment/roadmap-to-net-zero">https://www.massport.com/environment/roadmap-to-net-zero</a>) serves as a central resource for tracking the Authority's progress toward its net zero emissions goals. The site provides detailed information on Massport's GHG emission sources and outlines the strategies being implemented to decarbonize its operations. It includes baseline and historical emissions data to illustrate trends over time. Additionally, the site features updates on key projects, such as fleet electrification procurement and solar photovoltaic (PV) installations, which support efforts to reduce emissions. Relevant KPIs are also included to help evaluate the effectiveness of these efforts and ensure transparency in reporting. The platform is regularly updated to reflect new data, milestones, and developments in Massport's climate action initiatives.

<sup>2</sup> MassLive. 2023. Massport to invest \$500 million for net-zero emissions goals. https://www.masslive.com/politics/2023/03/massport-to-invest-500-million-for-net-zero-emissions-goals.html

## 11.2.3 Net Zero Emissions Initiatives

To achieve Net Zero by 2031, Massport has identified five implementation pathways:

- Energy Conservation and Efficiency;
- Clean and Renewable Energy Sources;
- Sustainable Ground Transportation;
- Partnerships; and
- Culture of Sustainability and Innovation.

Strategies for reducing emissions at Logan Airport fall under one or more of these pathways.

Massport is committed to reaching Net Zero emissions from its own operations by 2031. By 2040, it aims to eliminate all greenhouse gas emissions across its facilities and activities, without relying on carbon offsets or credits.

# 11.2.3.1 Energy Conservation and Efficiency

The energy conservation and efficiency decarbonization pathway focuses on retrofitting existing infrastructure to reduce energy use intensity (EUI) and incorporating net zero energy strategies into new construction. Achieving these goals requires more than just technical upgrades; it also depends on supportive policy decisions, strategic partnerships, and comprehensive education and training to establish consistent standards and procedures across Massport-owned and operated facilities, as well as among tenants.

# Massport Infrastructure Conditions Assessment - Building Conditions Assessment

Beginning in 2022, Massport launched its Infrastructure Conditions Assessment – Building Conditions Assessment (MICA-BCA) program to evaluate the condition of Massport-owned buildings and properties.

These audits examined structural integrity and building systems, while also incorporating American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Level 1 and selected Level 2 energy audits to identify opportunities for energy efficiency improvements. The comprehensive assessment was completed in 2024, and several recommended measures have already been implemented, including light-emitting diode (LED) lighting retrofits and the initiation of a building metering project to support energy monitoring and management.



PV Glass within Terminal E Modernization

# 11.2.3.2 Clean and Renewable Energy Sources

Massport is actively working to transition its facilities and vehicles away from fossil fuel energy sources. This effort also includes supporting airlines, tenants, and other operators in adopting cleaner energy alternatives. The Authority has invested in onsite renewable energy generation at several Logan Airport facilities and is pursuing additional onsite and offsite renewable energy projects to eventually meet 100 percent of its electricity demand through clean energy sources.

#### **Solar Photovoltaics**

Massport is continually seeking innovative ways to integrate renewable energy generation into both new and existing infrastructure at Logan Airport. Massport currently has over 1 megawatt (MW) of installed solar PV capacity across its facilities, including approximately 970 kilowatts (kW) at Logan Airport. The most recent addition at Logan Airport is a 20 kW solar glass installation at the new Terminal E, which not only generates electricity but also features dynamic tinting to reduce solar heat gain. Looking ahead, Massport plans to expand its onsite solar at Logan Airport capacity by installing an additional 1.6 to

Solar PV systems at Logan
Airport generate more than 1.1
gigawatt-hours (GWh) of
electricity annually, enough
power for nearly 190 average
Massachusetts homes per year.

1.8 MWs of PV systems on existing buildings in the south cargo area and expanding solar at Piers Park II. These efforts may be complemented by solar and battery energy storage systems (BESS) at the Logan Office Center, further supporting the Authority's goal of meeting 100 percent of its electricity demand with renewable energy. For more information on solar PV systems at Massport, see <a href="https://www.massport.com/environment/roadmap-to-net-zero/solar-photovoltaics">https://www.massport.com/environment/roadmap-to-net-zero/solar-photovoltaics</a>.

#### Renewable Fuels

Renewable fuels play a vital role in the transition to more sustainable energy systems. These fuels, from natural and renewable resources, help reduce dependence on fossil fuels and significantly lower lifecycle GHG emissions. Massport is actively integrating cleaner fuel alternatives into its operations and supports the development and adoption of renewable fuels currently under research and development.

#### Renewable Diesel

Where electrification is not yet feasible, Massport is transitioning its fleet, including medium- and heavy-duty vehicles, to renewable diesel fuel. This cleaner-burning alternative to conventional diesel has been shown to reduce lifecycle GHG emissions by 65 percent in on-and off-road vehicles and **ground service** equipment (GSE).



Zero Impact Aviation Alliance Pledge

#### Sustainable Aviation Fuel (SAF)

As a founding member of the Massachusetts Institute of Technology (MIT)-led **Zero Impact Aviation Alliance (ZIAA)**, Massport is advancing the development and implementation of SAF through collaboration with industry leaders and academic institutions. In 2023, Massport conducted SAF feasibility research and participated in ZIAA workshops focused on decarbonizing air transportation through innovative, research-driven solutions, including SAF production, logistics, and adoption strategies.

Starting in December 2024, Massport participated in bi-weekly

meetings with the Massachusetts SAF Working Group, which includes representatives from:

- Executive Offices of Economic Development (EOED);
- Executive Office of Energy and Environmental Affairs (EEA);
- Administration and Finance (A&F);
- the Office of Climate Innovation and Resilience;
- Massachusetts Clean Energy Center (MassCEC);
- Massachusetts Department of Transportation (MassDOT) Aeronautics Division; and
- Massport.

The group's objective is to bring together policymakers and stakeholders from across the region to explore practical strategies for advancing technology and policies that support the development and deployment of SAF within the area. The workshop concluded in June 2025 with a strategic framework to guide the development of a Regional SAF Hub.

For more information on the Regional SAF Hub see: <a href="https://www.massport.com">https://www.massport.com</a> /environment/saf-hub

## 11.2.3.3 Sustainable Ground Transportation

Massport is advancing sustainable ground transportation through several key initiatives, including the transition of its fleet vehicles to electric or renewable energy sources, encouraging HOV ridership, and implementing policies to support the shift towards cleaner, low-carbon alternatives of **Scope 1** and **Scope 3** ground transportation operations and equipment.

#### **EV Fleet Transition**

In collaboration with National Grid, Massport has developed a comprehensive strategy to inform the electrification of Massport's owned and operated fleet, including non-road equipment, by 2038. As of 2023, electrified vehicles (electric or hybrid-electric) accounted for 15 percent of Massport's total fleet. In 2024, Massport added 34 more electric or hybrid vehicles, increasing the share of electrified vehicles to 20 percent of the fleet.

Massport has expanded its use of EVs by incorporating heavy-duty EVs into its fleet. In a significant step, it purchased an electric street sweeper in 2023, marking the first acquisition of an electric, specialized heavy-duty vehicle. This vehicle is expected to reduce GHG emissions by 25 to 30 metric tons annually compared to a traditional diesel street sweeper. For more information on the EV fleet transition at Massport, see <a href="https://www.massport.com/environment/roadmap-to-net-zero/ev-fleet-transition">https://www.massport.com/environment/roadmap-to-net-zero/ev-fleet-transition</a>.

#### Electric Ground Service Equipment (eGSE)

Massport continues to promote the transition to electric ground service equipment (eGSE) among



eGSE at airside charging port

aviation tenants and has expanded its airside fleet with the purchase of electric vehicles. In 2024, Massport acquired two e.COBUS 3000 fully electric buses for transporting passengers between Logan Airport terminals and aircraft. This zero-emissions bus boasts a high capacity, long lifespan, and fast, flexible charging capabilities.<sup>3</sup>

In addition to expanding eGSE tugs, tractors, and baggage handling systems, aviation tenants have introduced the first electric catering truck at Massport. The electric catering truck, developed by Mallaghan and International Motors, LLC, will be operated by DO & CO out of Cargo Venture's Logan Cargo Park to support Delta Air Lines' onboard dining services at Logan Airport.<sup>4</sup>

## **EV Charging**

Massport provides EV charging infrastructure at Logan Airport to support tenants and ground transportation providers who choose to operate EVs. As of 2024, Logan Airport offers a total of 372 airside charging ports for tenant-owned eGSEs and 115 landside charging ports, including 67 publicly available Level 2 chargers and eight direct current (DC) fast chargers for ride-for-hire services. In 2023, EV chargers at Logan Airport helped avoid over 900 metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e) emissions, with the majority of these savings attributed to rideshare operators. For more information on Massport's electric charging infrastructure, see <a href="https://www.massport.com/environment/roadmap-to-net-zero/electric-vehicle-charging">https://www.massport.com/environment/roadmap-to-net-zero/electric-vehicle-charging</a>.

#### Ride-for-Hire Fleet Electrification



EV's charging in Ride App lot

In 2022, Massport received a grant from the MassCEC to promote the adoption of EVs among ride-for-hire fleets, which includes Ride App, taxis, limos, and other hired vehicles operating at Logan Airport. The grant supported a comprehensive study to identify barriers and opportunities for the electrification of fleets. Additionally, it funded the installation of direct current fast-charging infrastructure at the Ride App lot to meet the growing demand from rideshare operators.

Massport offers free, high-speed EV charging to Ride App companies and taxis operating at Logan Airport. In 2023, the number of EV charging sessions by Ride App vehicles increased approximately fivefold compared to 2022, exceeding 30,000

<sup>3</sup> COBUS Industries GmbH. <a href="https://www.cobus-industries.com/produkte/e-cobus-3000/">https://www.cobus-industries.com/produkte/e-cobus-3000/</a>

<sup>4</sup> EastBoston.com. https://eastboston.com/massachusetts-leaders-launch-first-ev-catering-truck-in-north-america-to-serve-logan-international-airport/

charging sessions. There was also a significant rise in EV charging sessions for taxi and limo vehicles in 2023, compared to the previous year.

## **EVs Among Rental Car Fleets**

Massport actively encourages rental car companies at Logan Airport to expand their EV offerings. By 2023, approximately 1,000 EVs were available for rent, reflecting both rising consumer demand and broader industry momentum toward electrification. To further support this transition, Massport is exploring strategies such as enhancing charging infrastructure, engaging with rental car stakeholders, and promoting public awareness of EV options.

# 11.2.3.4 Partnerships

The partnerships pathway focuses on collaboration with business partners and neighboring communities to identify opportunities for reducing lifecycle GHG emissions and advancing sustainable technologies and research. Massport's engagement with industry groups, academic institutions, airlines, other tenants, and local businesses plays a vital role in promoting awareness and innovation for its Net Zero initiative both within the organization and beyond. These partnerships will also be essential for supporting future efforts related to the procurement of sustainable fuel alternatives and the development of resilient utility infrastructure.

## **Zero Impact Aviation Alliance**

As noted above, Massport is a founding member of the ZIAA, a consortium of airports, aviation businesses, aircraft manufacturers, and academic institutions committed to achieving net zero emissions in airport operations. In September 2023, Massport participated in a collaborative discussion at Logan Airport, convened by researchers from MIT. During this event, Massport joined aviation industry leaders and subject matter experts to explore strategies for reducing the environmental footprint of aviation and advancing sustainable practices across the sector.<sup>5</sup>

# 11.2.3.5 Culture of Sustainability and Innovation

The culture of sustainability and innovation pathway aims to foster a culture of sustainability and innovation across Massport by integrating Roadmap to Net Zero principles into daily operations, decision-making, education, and training. Below are examples of Massport's internally-focused activities that support the Roadmap to Net Zero initiative.

## **Employee Roadshows**

In 2023, Massport's Net Zero staff, with the support of consultants, conducted approximately 30 "roadshows" across the organization. These sessions were designed to engage employees at all levels and across various departments. The primary goals were twofold: first, to raise awareness and understanding

<sup>5</sup> AeroAstro MIT. 2023. <a href="https://aeroastro.mit.edu/news-impact/ziaa-a-green-future-for-aviation/">https://aeroastro.mit.edu/news-impact/ziaa-a-green-future-for-aviation/</a>

of the Roadmap to Net Zero initiative; and second, to actively solicit feedback, ideas, and suggestions for enhancing the program's performance.

### **Employee Education**

Massport has developed a series of educational courses through its internal employee training platform, NeoGov, to support staff engagement with its sustainability goals. As of 2024, four courses have been launched:

- Net Zero 101;
- Sustainable Massport;
- Net Zero and Your Job Part 1; and
- Net Zero and Your Job Part 2.

These courses are designed to build foundational knowledge, highlight organizational initiatives, and help employees understand how their individual roles contribute to achieving Massport's sustainability objectives, including the Roadmap to Net Zero. By integrating sustainability education into professional development, Massport is fostering a more informed and empowered workforce.

#### **Net Zero Hero**

As part of the Massport Net Zero Roadmap rollout, Massport launched the Net Zero Hero initiative to raise awareness and support for the Net Zero program. The program celebrated individuals who make exceptional contributions to advancing the organization's Net Zero goals, highlighting and rewarding innovative thinking, proactive problem-solving, and leadership in sustainability across all levels of Massport during the initial launch of the Roadmap to Net Zero.

# 11.3 Climate Resilience

Massport defines resiliency as the ability to prepare for disruptive events, recover within a reasonable timeframe with minimal damage, and, when possible, emerge stronger.

Massport recognizes climate change as a real and urgent challenge, with far-reaching impacts including rising sea levels, extreme storms, heavy precipitation, flooding, and extreme heat. While these effects are global, the specific vulnerabilities of a geographic area can influence how climate change is experienced locally. This section focuses on the projected climate conditions at Logan Airport. It outlines the measures Massport has taken, and continues to take, to protect critical infrastructure, maintain operational

continuity, and safeguard employees and surrounding communities from these evolving risks. Since launching its comprehensive resilience initiative in 2013, Massport has enhanced the resilience of critical infrastructure to withstand flooding better, developed robust operational response plans, and embedded resiliency practices into its planning, design, construction, and daily operations. All new construction and renovation on Massport property, including Capital Programs Projects, Tenant Alterations, and Real Estate & Asset Management Projects, are required to comply with the Massport *Floodproofing Design Guide*.

In addition, Massport has prioritized awareness, education, and training on climate resiliency for both internal staff and external stakeholders, reinforcing its commitment to long-term sustainability and preparedness. To learn more about Massport's resiliency goals and on-going efforts, see <a href="https://www.massport.com/environment/sustainability/resiliency">https://www.massport.com/environment/sustainability/resiliency</a>.

# 11.3.1 RMAT Existing Data Review

The **ResilientMass Action Team (RMAT)** is an interagency working group co-led by the EEA and the Massachusetts Emergency Management Agency (MEMA). RMAT is responsible for coordinating the implementation, monitoring, and maintenance of the *ResilientMass Plan*, which serves as the *Massachusetts State Hazard Mitigation and Climate Adaptation Plan* (MSHMCAP).

To support climate-informed decision-making, RMAT developed the **Climate Resilience Design Standards Tool**. This tool helps identify potential climate risks and vulnerabilities to capital programs by providing standardized, science-based exposure and risk ratings. It is designed to guide planning, design, and procurement decisions across Massachusetts. For this EDR, the ResilientMass Climate & Hazards Viewer<sup>6</sup> was reviewed for Logan Airport and discussed in the following sections.

# 11.3.1.1 Projected Climate Conditions

The area within Logan Airport's property boundary was assessed for preliminary exposure to projected climate conditions for the 2030 and 2050 planning horizons. Exposure scores were assigned across four key climate hazards: extreme heat; sea level rise and storm surge; extreme precipitation (riverine flooding); and extreme precipitation (stormwater flooding). The overall preliminary climate hazard exposure rating reflects the highest of these individual scores. A high-level summary of Logan Airport's exposure to the climate hazards is provided in **Table 11-2**.

Table 11-2 Preliminary Climate Hazard Exposure Score for Logan Airport

Planning Horizon	Extreme Heat <sup>1</sup>	Sea Level Rise and Storm Surge <sup>2</sup>	Riverine Flooding <sup>3</sup>	Stormwater Flooding <sup>4</sup>
2030	High Exposure (5)	Moderate Exposure (2)	Not Exposed	Moderate Exposure (2)
2050	High Exposure (6)	Moderate Exposure (2)	Not Exposed	Moderate Exposure (2)

Source: ResilientMass, 2024. https://www.mass.gov/doc/crdst-preliminary-climate-risk-screening-output/download

Note: The exposure levels in this table represent a high-level overview of Logan Airport's potential exposure to climate impacts from the Geographic Information System (GIS) databases. Scoring criteria from user question inputs were omitted. Projects may be more or less exposed depending on their location, history with climate impacts, and design.

- 1 A project is considered highly exposed if the calculated score from inputs is equal to or greater than 4.
- 2 A project is considered moderately exposed if the calculated score from inputs is between 2 and 3.
- A project is considered not exposed if the total score is 0.
- A project is considered moderately exposed if the calculated score from inputs is between 2 and 3.

<sup>6</sup> RMAT. Climate & Hazards Viewer. https://eeaonline.eea.state.ma.us/ResilientMAMapViewer/.

General characteristics that may influence an asset's exposure, such as the location, elevation, design features, and historical climate impacts, are discussed in the following sections. Extreme precipitation (riverine flooding) was excluded from the analysis, as there are no nearby rivers that pose a flood risk to Logan Airport.

#### **Extreme Heat**

To evaluate Logan Airport's exposure to extreme heat, data layers from the ResilientMass Climate & Hazards Viewer were utilized, including projected days above 90°F for 2030 and 2050, land cover (including **impervious surface** and tree canopy), and proximity to water. Logan Airport is currently considered highly exposed to extreme heat due to its extensive impervious surface coverage and minimal tree canopy. However, its coastal location provides some moderating effect on temperature extremes.

Based on downscaled climate projections used in the ResilientMass Climate & Hazards Viewer, the number of days with temperatures exceeding 90°F at Logan Airport is projected to increase from a historical baseline of approximately eight days per year to 12 days by 2030 and 21 days by 2050. The projected increase in extreme heat days, as shown in **Table 11-3**, contributes to Logan Airport's heightened exposure to the impacts of extreme heat. Massport evaluated extreme heat risks in a study completed by an engineering consultant.

Table 11-3	<b>Temperature Pro</b>	iections for Loa	an Airport	2030 and 2050
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Climate Indicator	Baseline <sup>1</sup>	2030	2050
Days above 90 degrees Fahrenheit	8	12	21
Days above 95 degrees Fahrenheit	1	4	8
Days above 100 degrees Fahrenheit	0	0	1
Number of Heat Stress Events <sup>2</sup>	0	1	2
Average Temperature	50.4	54	55.8

Source: ResilientMass. Cornell University, 2022.

#### Notes:

- 1 Baseline values represent a 0° temperature change scenario derived from observational data from 1950 to 2013.
- 2 Heat Stress Events: Number of instances when a 3-day moving average of temperature is above 86°F.

To manage the risks associated with extreme heat, Massport implements targeted initiatives, such as the Urban Heat Island Program, which focuses on reducing localized temperature impacts. The Urban Heat Island Program is discussed in greater detail in Section 11.3.2.1.

## Sea Level Rise and Storm Surge

Logan Airport's exposure to flooding from sea level rise and storm surge was evaluated using projections from the MC-FRM, available through the ResilientMass Climate & Hazards Viewer. The 2025 *Massport Floodproofing Design Guide* reflects the updated MC-FRM. This model incorporates dynamic simulations

of future sea level rise and storm surge under various climate scenarios, including projections for the 2030 and 2050 planning horizons.

Areas of Logan Airport located along the shoreline and at lower elevations are increasingly vulnerable to coastal flooding. According to 2030 MC-FRM projections, most of the airfield and critical infrastructure at Logan Airport are expected to remain above projected flood levels during a 1 percent Annual Coastal Flood Exceedance Probability (ACFEP) event, commonly referred to as a 100-year coastal storm. However, a 0.1 percent ACFEP event, which is equivalent to a 1,000-year storm, in 2030, is projected to place critical areas of the airfield, access roads, and adjacent neighborhoods at risk of flooding.<sup>7</sup>

By 2050, flood risks are expected to increase, with both 100-year and 1,000-year storm scenarios projected to impact more extensive portions of the Airport and surrounding areas. These projections underscore the importance of continued investment in coastal resilience and adaptive infrastructure planning at Logan Airport.

In the 2025 update of Massport's *Floodproofing Design Guide*, Massport evaluated the elevation of critical infrastructure against protected storm surge and sea level rise in 2030 and 2070 from the MC-FRM and created standards to elevate or floodproof crucial infrastructure above the projected water line to reduce the likelihood and severity of loss from flooding. Refer to Section 11.3.3.1 for more information about the *Floodproofing Design Guide*.

## **Extreme Precipitation (Stormwater Flooding)**

Massport has completed extensive stormwater modeling to evaluate the risks. Logan Airport's exposure to stormwater flooding from extreme precipitation was also assessed using future rainfall projections and existing impervious surface data from the ResilientMass Climate & Hazards Viewer. The current and projected maximum annual rainfall amounts, summarized in **Table 11-4**, indicate that Logan Airport is not significantly exposed to stormwater flooding.

Table 11-4 Precipitation Projections for Logan Airport, 2030 and 2050

Climate Indicator	Baseline <sup>1</sup>	2030	2050
Maximum Precipitation	2.1	2.3	2.4
Total Annual Precipitation	43.6	46.4	47.4

Source: ResilientMass. Cornell University, 2022.

Notes:

1 Baseline values represent a 0° temperature change scenario derived from observational data from 1950 to 2013.

<sup>7</sup> Massachusetts Coast Flood Risk Model (MC-FRM). Woods Hole Group, 2024. https://services1.arcgis.com/7iJyYTjCtKsZS1LR/arcgis/rest/services/MA 2030 1Perc v11/FeatureServer.

While Logan Airport is overall moderately exposed to extreme precipitation, projects in areas with a history of flooding or those that increase impervious surface coverage are considered highly exposed to this climate hazard.

# 11.3.2 Approach to Climate Resilience

Since 2013, Massport has maintained and continuously enhanced a comprehensive set of resiliency initiatives to protect critical infrastructure and surrounding communities from the impacts of climate change, including sea level rise, extreme storms, heavy precipitation, coastal flooding, and extreme heat. Massport collaborates with regional organizations, including the Massachusetts EEA, the ResilientMass program, U.S. Army Corps of Engineers (U.S.ACE), and the City of Boston, to share knowledge, align goals, and advance initiatives to protect the community.

# 11.3.2.1 Urban Heat Island Program

Massport's *Urban Heat Program* comprises a case study aimed at reducing cooling loads, thermal imaging to understand temperature variation on different surfaces, and research into how other airports mitigate heat. Massport has applied these findings to integrate resiliency measures into projects, combating the urban heat island effect and mitigating the potential impacts of extreme heat conditions on its employees and the community. Recent projects that included measures to combat the urban heat island effect include Piers Park II and the Terminal B to C connector. Piers Park II was planted with green space and over 70 trees, which helps to mitigate the urban heat island effect and provide shade. The park is equipped with water fountains and bottle-filling stations to provide accessible drinking water, as well as shade structures, both of which help mitigate the potential impacts of extreme heat. The Terminal B to C Connector included roofing materials with a high Solar Reflectance Index (SRI), and the tarmac was paved with light-colored concrete, reducing the urban heat island effect and heat exposure for workers on the tarmac.

# 11.3.3 Flooding

Massport is committed to conducting studies and developing guidelines to lessen the impact of flooding on infrastructure and develop flood-resilient designs. The following sections describe these studies and guidelines.

# 11.3.3.1 Disaster and Infrastructure Resiliency Planning Study (DIRP)

In 2013, Massport initiated a resiliency initiative to ensure business continuity in the face of both human and natural threats. Recent storms, such as Tropical Storm Irene, Hurricane Sandy, and Winter Storm Nemo, have highlighted the vulnerability of transportation infrastructure to climate hazards. Massport engaged Kleinfelder Northeast to conduct a *Disaster and Infrastructure Resiliency Planning Study (DIRP)*, which assessed climate risks, primarily coastal flooding and sea level rise, and recommended

actions to enhance infrastructure resilience. A key recommendation was to develop flood resiliency design guidelines with stricter standards than current codes, to better prepare for future flooding.

Since the initial study, Massport has reevaluated flood risk with each floodproofing update. Every new building is subject to floodproofing, as outlined in Massport's *Floodproofing Design Guide*. Existing infrastructure was divided into tiers, and Tier 1 infrastructure, or critical infrastructure sites, was installed with initial deployable floodproofing measures. Larger-scale and critical sites, such as the electrical substation, were transitioned to permanent floodproofing. Massport also maintains and continuously improves a robust flood operations plan internally. The plan includes recurring education and training for teams on all activities that need to be carried out in the event of flooding.

# 11.3.3.2 Floodproofing Design Guide

As described in Section 11.2.1, Massport's *Floodproofing Design Guide*, recently updated in January 2025, incorporates flood resiliency objectives into its capital planning and real estate initiatives. The Floodproofing Design Guide includes the Design Flood Elevation (DFE), or the maximum level of water that an engineered structure has been designed to resist, to a higher elevation to account for future conditions, including sea level rise and more frequent or extreme storms, up to 2070. Compliance with the guide is mandatory and requires Massport project teams, tenants, and third-party leaseholders or developers to elevate existing and future engineered structures above the DFE or implement floodproofing design standards for critical infrastructure.<sup>9</sup>

# 11.3.3.3 Logan Airport Stormwater and Flood Risk Modeling Study

Flood modeling, utilizing the Sea, Lake, and Overland Surge from Hurricanes (SLOSH) model developed by the National Weather Service, was conducted as part of the original DIRP climate hazards analysis to predict the worst-case flooding conditions that could occur at Massport facilities under various hurricane scenarios. The resulting flood maps were analyzed to determine the maximum possible extent and depth of coastal flooding across Logan Airport and Maritime facilities in South Boston. Massport updated the modeling based on the MC-FRM.

MassDOT's Boston Harbor Flood Risk Model (BH-FRM) and MC-FRM were compared with SLOSH results from DIRP. The updated 2023 MC-FRM informed the 2025 update, incorporating recent climate science and new modeling. Predicted flood extents for South and East Boston maritime facilities were based on these latest MC-FRM results. The results from these analyses formed the basis for the DFE standards at Logan Airport, which are more stringent than current regulatory standards.

<sup>8</sup> Massport Floodproofing Design Guide. 2025. <a href="https://www.massport.com/sites/default/files/2025-01/2025-Massport-Floodproofing-Design-Guide">https://www.massport.com/sites/default/files/2025-01/2025-Massport-Floodproofing-Design-Guide</a> FINAL.pdf

<sup>9</sup> Massport Floodproofing Design Guide. 2025. <a href="https://www.massport.com/sites/default/files/2025-01/2025-Massport-Floodproofing-Design-Guide-FINAL.pdf">https://www.massport.com/sites/default/files/2025-01/2025-Massport-Floodproofing-Design-Guide-FINAL.pdf</a>

# 11.3.3.4 Logan Airport Coastal Flood Operations

In response to increased flooding seen at Massport's facilities during storm events. Massport has evaluated effective technologies and strategies to preserve operations during flooding and protect infrastructure. Some of these responses include:

- Temporary Flood Barriers;
- Overhead Doors (slide-in panels);
- Sump Pump Systems;
- Sewer and Drainage Shut-Off Valves;
- Sealed Electrical Conduits;
- Pedestrian Flood Doors; and
- Water Level Sensors

The coastal flood operation plan contains separate plans for Logan Airport and Maritime Facilities and serves as an extension of the existing emergency plans.<sup>10</sup>

#### 11.3.3.5 Collaboration

Massport offers resources and training opportunities for staff, tenants, and stakeholders to raise awareness of climate change and improve management oversight and response to storm events that could impact critical infrastructure. It also regularly organizes strategic workshops with stakeholders to review and refine flood operations plans, and it undertakes training exercises to test the deployment of temporary flood barriers at essential facilities. Additionally, Massport collaborates with both internal and external partners to prepare for the potential impacts of climate change. This includes participation in regional and local resiliency efforts, engaging in joint research initiatives, and sharing best practices to support related activities.

Massport also collaborates with the City of Boston, U.S.ACE, and the State to develop district-wide solutions. One specific site benefiting from these efforts is Piers Park, which has helped to address a critical flood pathway along the East Boston waterfront, as discussed in Section 11.1.2.2.

## 11.3.4 Climate Resilience Initiatives

Massport is actively engaged in several key initiatives focused on enhancing resilience and sustainability. The organization conducts comprehensive strategic assessments to evaluate its resilience capabilities, identify potential risks, and assess the impacts of climate-related factors. These evaluations guide the development of adaptation and mitigation strategies.

Additionally, Massport plans for the long-term sustainability of its capital investments and essential infrastructure by implementing sustainable design principles and climate preparedness measures. This includes project-specific designs that adhere to the standards detailed in Massport's *Floodproofing Design* 

<sup>10</sup> Resiliency, Massport, 2015. <a href="https://onlinepubs.trb.org/onlinepubs/conferences/2015/ClimateChange/25.RobbinPeach.pdf">https://onlinepubs.trb.org/onlinepubs.trb.org/onlinepubs/conferences/2015/ClimateChange/25.RobbinPeach.pdf</a>

*Guide* and *Sustainability Design Guidelines*. Additionally, resiliency considerations are also integrated into the **Stormwater Pollution Prevention Plan (SWPPP)** for Logan Airport tenants, as well as in broader environmental management systems.<sup>11</sup>

<sup>11</sup> Massport Resiliency, 2025. <a href="https://www.massport.com/environment/sustainability/resiliency">https://www.massport.com/environment/sustainability/resiliency</a>