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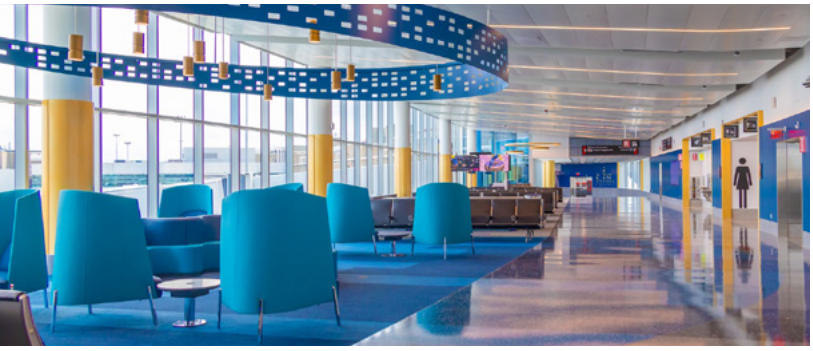
SUSTAINABILITY & RESILIENCY REPORT



massport

The Bipartisan Infrastructure Law grant awarded to Logan Airport will be used to fund improvements to Terminal E that were eliminated due to COVID-related financial constraints ($50 million) and improvements to critical terminal area roadways ($12 million).

President Joseph R. Biden Visits Boston Logan International Airport

On September 12, 2022, Massport was honored to host President Joseph R. Biden at Boston Logan International Airport's Terminal E to highlight the federal infrastructure law, including a $62 million grant for Logan Airport–the most awarded to any major U.S. airport. The competitive grant was funded by the Bipartisan Infrastructure Law (BIL) and will go towards completing work to modernize Terminal E as well as additional enhancements to roadways at Logan Airport. The President was joined by local, state, and federal elected officials who collectively spoke to the importance of infrastructure investment to help create jobs, protect the environment, and support sustainable development.

In his remarks President Biden said, "Logan is more than an airport, it's an economic engine. It was first built 100 years ago, it's critical to our economy and to your economy, but it needs a significant upgrade to accommodate the passengers flying in and out from all over the world." He further added, "We are creating a modern terminal worthy of America's City on the Hill."

The Terminal E Modernization Project adds four new aircraft gates for more seamless airside operations, upgrades HVAC systems for energy efficiency, and installs new all-electric passenger boarding bridges. Improvements to the roadway system will enhance safety, traffic flow, and curbside efficiency and accessibility. All together, these infrastructure enhancements will create a better passenger experience and ensure Logan Airport connects the residents and businesses of New England to the global marketplace.

The Bipartisan Infrastructure Law is the first infrastructure law in U.S. history that acknowledges and addresses climate disruption. It also contains the first ever legislative definition of resilience and includes funding for fortifying existing infrastructure against extreme weather and natural disasters. The BIL specifies that federal investments are to reduce greenhouse gas emissions at airports and ports; to improve air quality and relieve congestion from surface transportation; and to direct 40% of the overall funding benefits to underserved and disadvantaged communities. Since 2015, when Logan Airport became one of the first airports in the country to address climate change in a sustainability plan, Massport has been laying the foundation to meet this moment—as this annual report will demonstrate.

"We are creating a modern terminal worthy of America's City on the Hill."

President Joseph R. Biden

This report serves to highlight the efforts of Massport during these extraordinary times and to mark the renewal of our environmental and social commitments.

Lisa S. Wieland
CEO & Executive Director
Massport

The Conley Terminal Modernization Program improved global connectivity while implementing sustainable strategies.

A Letter from CEO and Executive Director Lisa S. Wieland

The COVID-19 pandemic brought unprecedented challenges to the world and to the aviation and maritime industries. It also amplified the need for sustainable and resilient solutions. At the depth of the crisis in April 2020, nearly two-thirds of the world's commercial air transport fleet was grounded with borders closed and strict quarantines enforced. Jobs vanished from the industry. Simultaneously, ports contended with supply chain bottlenecks and closures. Before the pandemic, Boston Logan International Airport was handling about 42.5 million passengers, but by July of 2021 Logan only saw 12 million passengers pass through.

Adapting and pivoting became the new normal at Massport—and our sustainability and resiliency efforts were re-energized with fresh thinking and the development of agile responses to the new reality. We engaged our business partners, tenants, and stakeholders to consider how to not only recover from the pandemic, but to consider the long-term implications to our businesses and to the environment.

While we were thinking about the future beyond the pandemic, we were also "keeping the lights on," ensuring that those passengers who chose to travel did so in safety and comfort, and that critical supplies and goods could continue to come through the airports and port to facilitate the recovery. After a brief pause, we also resumed construction including the Terminal E Modernization project, completed the Terminal C canopy and upper roadway project, and continued the work at Conley Terminal to facilitate the servicing of large vessels.

This report serves to highlight the efforts of Massport during these extraordinary times and to mark the renewal of our environmental and social commitments. It's why I'm so proud to see us launch a *Roadmap to Net Zero*—the first step of a comprehensive plan to reach net zero greenhouse gas emissions by Massport's 75th anniversary in 2031.

While the future remains uncertain and recovery is ongoing, Massport's commitment to sustainability and resilience has been renewed. I would like to thank my colleagues for their truly extraordinary response to unprecedented disruption—and for ushering Massport through a recovery and onto the road to net zero.

Massport Sustainability Vision

Massport will maintain its role as an innovative industry leader through continuous improvement in operational efficiency, facility design and construction, and environmental stewardship while engaging passengers, employees, and the community in a sustainable manner.

Built in the mid-1970s, Logan's Terminal E received a LEED Gold rating in 2017 for a renovation that accommodated the growing number of passengers at the airport while applying sustainable building practices.

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For more information, contact:

Massachusetts Port Authority
One Harborside Drive, Suite 200S
East Boston, MA 02128-2909
Telephone: (617) 568-5000
Email: sustainability@massport.com
www.massport.com

More information on Massport's environmental initiatives can be found at:
www.massport.com/sustainability

Introduction

This report showcases the Massachusetts Port Authority's (Massport) ongoing efforts to be a more sustainable and resilient organization. Each year since the publication of the 2015 *Boston Logan International Airport Sustainability Management Plan* (SMP), Massport has widened the lens of its sustainability and resiliency goals to include maritime and other aviation facilities. Massport also sought new avenues to be a better neighbor to surrounding communities—reducing noise and air pollution, improving ground access to Logan, and extending Diversity, Equity & Inclusion (DE&I) initiatives beyond its operational borders.

While Massport had already met many of the goals and key performance indicators (KPIs) outlined in the SMP in 2019, the COVID-19 global pandemic—combined with severe climate events—went on to disrupt every aspect of operations and performance. But these events also provided an opportunity to reshape Massport's vision for a more sustainable and resilient path forward. Future reports will share the progress of the work that stems from the *Roadmap to Net Zero* and a suite of KPIs that will highlight Massport's advancement of its environmental stewardship objectives.

More information on Massport's *Roadmap to Net Zero* can be found at:

www.massport.com/massport/about-massport/roadmap-to-net-zero/

Boston Logan International Airport is surrounded by Boston Harbor on three sides and comprised of 1,700-acres.

Logan's Terminal B Optimization project received LEED Silver certification in 2022.

With the development of the *Boston Logan International Airport Sustainability Management Plan* (SMP), Massport put forth definitions and identified goals for operational efficiency, natural resource conservation, and social responsibility that have influenced decision making and investments.

Massport's operational boundary includes aviation and maritime facilities as well as real estate and green space assets in East and South Boston. Massport also operates the Logan Express bus network of terminals and buses as well as on-airport shuttles.

SUSTAINABILITY

Consistent with Airports Council International—North America's definition of sustainability, Massport is focused on a holistic approach to managing Boston Logan International Airport and other Massport facilities to ensure economic viability, operational efficiency, natural resource conservation, and social responsibility (EONS).

RESILIENCY

The ability of a system to prepare for disruptive events, recover within a reasonable timeframe with minimal damage, and sometimes emerge stronger.

Massport Sustainability Goals

Energy and Greenhouse Gas (GHG) Emissions

Reduce energy intensity and GHG emissions while increasing the portion of Massport's energy generated from renewable sources.

Materials, Waste Management, and Recycling

Reduce waste generation, increase the recycling rate, and utilize environmentally sound materials.

Ground Access and Connectivity

Provide superior ground access to Boston Logan International Airport through alternative and high-occupancy vehicle (HOV) travel modes.

Resiliency

- Improve resiliency for overall infrastructure and operations.
- Restore operations during and after disruptive events in a safe and economically viable manner.
- Create robust feedback loops that allow dynamic solutions for changing conditions.
- Inform operations and policy, and implement design/build decisions, through the application of sound scientific principles that consider threats, vulnerabilities, and cost-benefit analysis.
- Become an exemplar of a knowledge-sharing and forward-thinking, resilient port authority.
- Work with key influencers and decision makers to understand the impacts of natural hazards on human, national and economic security, and man-made threats to Massport's facilities and the region.

Water Conservation

Conserve regional water resources through reduced potable water consumption.

Noise Abatement

Minimize noise impacts from Boston Logan International Airport operations.

Water Quality/ Stormwater

Protect water quality and minimize discharge of pollutants.

Community, Employee, and Passenger Well-being

Promote economically prosperous, equitable, and healthy communities, and passenger and employee well-being.

Air Quality

Decrease air pollutants from Massport sources.

Natural Resources

Protect and restore natural resources near Massport facilities.

MASSPORT-WIDE

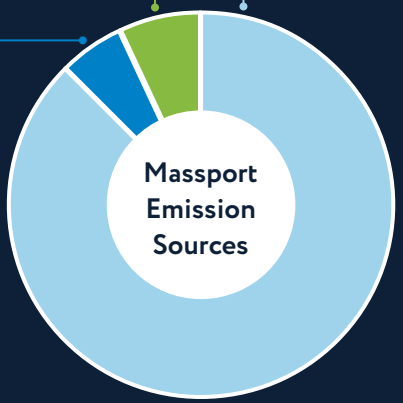
Net Zero Roadmap

In March 2022, Massport unveiled its commitment to achieve net zero greenhouse gas emissions (GHG) by 2031, coinciding with Massport's 75th anniversary. The *Roadmap to Net Zero* (Roadmap) focuses on 100% of the GHG emissions from Massport-owned facilities and equipment (Scope 1), and purchased electricity (Scope 2), with continued potential influence in areas it does not control (Scope 3). The Roadmap is the next iteration of Massport's comprehensive approach to climate action planning, which dates back to 2014.

Over the next 10 years, Massport will pursue **five primary pathways** to achieve net zero GHG emissions, as follows:

- ENERGY CONSERVATION AND EFFICIENCY MEASURES
- CLEAN AND RENEWABLE ENERGY SOURCES
- SUSTAINABLE GROUND TRANSPORTATION
- PARTNERSHIPS
- CULTURE OF SUSTAINABILITY AND INNOVATION

The announcement of the Roadmap predates and surpasses the U.S. Department of Transportation's Federal Aviation Administration and U.S. airports Airport Climate Challenge, announced in April 2022, to help achieve the Biden-Harris Administration goal of net-zero emissions by 2050. In Massachusetts, the agenda laid out in the Roadmap will play an important part in statewide carbon emission reductions as well: In March 2021, Governor Charlie Baker signed into law *An Act Creating A Next-Generation Roadmap for Massachusetts Climate Policy*, which requires net zero statewide GHG emissions by 2050. The Commonwealth's climate planning was further advanced in June 2022 with the release of *Massachusetts's Clean Energy and Climate Plan for 2025 and 2030*, which specified additional actions to achieve more aggressive GHG reduction targets.



Scope 1: 7.0%
Controlled by Massport

Airport
- Central Heating Plant
- Fire Training Facility

Airport and Maritime
- Terminal Buildings
- Fleet Vehicles
- Cargo Handling Equipment
- Emergency Generators
- Snow Melters

Scope 2: 5.5%
Controlled by Massport

Purchased Electricity
- Airports
- Maritime
- Parks
- Logan Express Facilities

Scope 3: 87.5%
Potential for Massport to Influence

Airport
- Aircraft
- Ground Service Equipment
- On-Airport Traffic

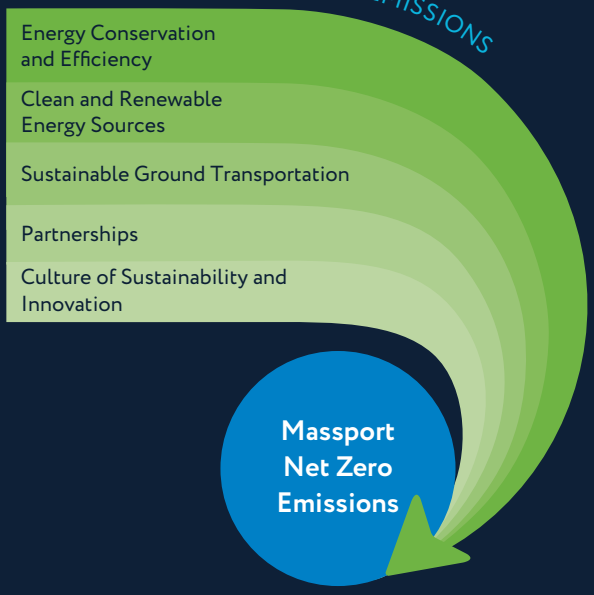
Maritime
- Ocean-Going Vessels
- Harbor Craft

Airport and Maritime
- Tenant Operations
- Heavy-Duty Trucks
- Public Travel
- Employee Commuting

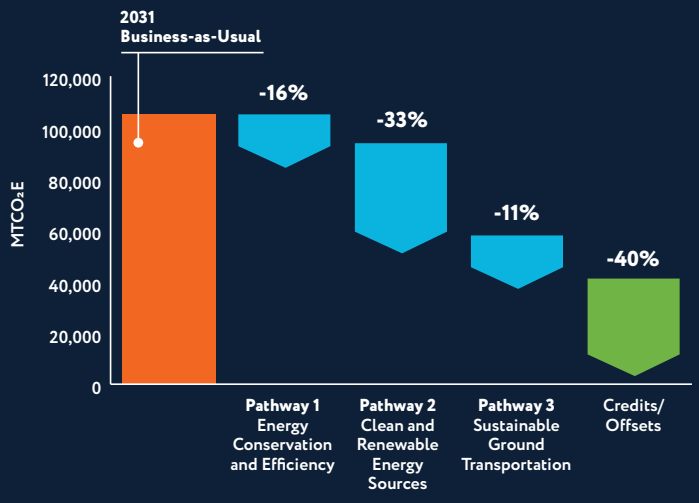
MASSPORT-WIDE / Net Zero Roadmap

The recent wave of net zero commitments from nations, corporations, and the Commonwealth of Massachusetts stems from the Paris Agreement, a landmark international accord adopted by nearly every nation in 2015 to address the harmful impacts of climate change. To limit global warming to 1.5 degrees Celsius relative to pre-industrial levels, global GHG emissions will need to reach net zero by 2050. In contrast to carbon neutrality—which refers just to carbon dioxide (CO_2) reductions counterbalancing CO_2 emissions—net zero works towards zero GHG emissions being released.

PATHWAYS TO NET ZERO GHG EMISSIONS



REACHING NET ZERO BY 2031: PROJECTED EMISSION REDUCTION STRATEGIES BY PATHWAY (Scopes 1 and 2 only)



Massport has already initiated the *Net Zero Electrification Pathway Study*, which is focusing on the capacity needs and delivery options for electricity to serve the growing clean power sector.

For any areas where emissions cannot be reduced to zero, Massport will invest in purchased carbon offsets to reach the 2031 target. Offsets are investments in GHG-reducing projects, such as reforestation projects, that help to diminish the global impact of an organization's own GHG emissions. Massport intends to invest in community projects within the Commonwealth so that the benefits of these projects are felt locally. Massport expects to be net zero without the use of offsets by 2040.

Massport has already initiated the *Net Zero Electrification Pathway Study*, which is focusing on the capacity needs and delivery options for electricity to serve the growing clean power sector. Similarly, Massport is contracting directly for an engineering study to evaluate and recommend options for the conversion of Logan's Central Heating Plant (CHP) to clean power, and to optimize the systems that provide conditioned air to buildings across the airport. Both studies will be critical to informing

MASSPORT-WIDE / Net Zero Roadmap

Sustainable Aviation Fuel (SAF) is a biofuel substitute for fossil jet fuels that helps reduce carbon emissions and improve air quality. It is estimated that more than 99% of airline emissions and approximately 50% of airport emissions worldwide are related to the combustion of jet fuel. In fall 2021, President Biden announced a goal for U.S. companies to produce at least 3 billion gallons of SAF per year by 2030 and, by 2050, sufficient SAF to meet 100% of aviation fuel demand, which is currently projected to be around 35 billion gallons per year.

an overall implementation strategy. This fall, Massport will add to its team a third-party Program Management Office (PMO) to oversee planning, decision-making, and budgeting considerations necessary to meet the net zero commitments. The intent is to broaden Massport's exposure to new and creative approaches to climate action planning, implementation, performance, measurement, and disclosure, while ensuring the achievement of net zero GHG emissions from Massport-controlled sources by 2031.

The influence Massport can have in pursuit of the Roadmap's agenda on spurring innovation and reducing environmental impacts beyond its own footprint is substantial. At Logan, it will mean decarbonizing all aspects of aviation operations by influencing the demand for sustainable aviation fuel. At the Port of Boston, this will require investing in hybrid or electric terminal equipment and upgrading infrastructure to handle electrification demand. And across the Massport portfolio, it will involve leading the adoption of alternative fuels for vehicles and facilities that may include waste to biofuel, hydrogen, electrification, and perhaps other strategies not yet known.

At Logan's Terminal C, JetBlue utilizes Massport-installed charging for their eGSE (electric ground service equipment).

> The pandemic gave us an opportunity to rethink the way we do business going forward, and we are now on the path to net zero. This is a real commitment, with aggressive goals, tied to real actions that will take us to net zero by 2031, which also happens to be Massport's 75th anniversary. While we get our own house in order, simultaneously we will be working with our business partners on ways they can help reduce emissions in the aviation, maritime and transportation sectors.

Lisa S. Wieland
CEO and Executive Director

Massport offers direct current fast charging, or Level 3 charging, for taxi and ride-sharing app drivers—as well as for its own fleet.

MASSPORT-WIDE

A Diverse, Equitable, and Inclusive Massport

Massport understands that words matter: Diversity is a metric, inclusion is a practice.

It was 25 years ago that Massport's Compliance Department became the Office of Diversity & Inclusion/Compliance. Last year, the department further evolved into the Office of Diversity, Equity and Inclusion/Compliance. Massport knows workplaces that embrace diversity, equity, and inclusion (DE&I) foster strategic thought, collaboration, and link organizations with the communities that they operate in. Here are just some of Massport's recent DE&I initiatives:

Diversifying the workforce pipeline

Massport launched the Pathways Program with Bridgewater State University in 2021, providing two Aviation Management students in their junior year with scholarships and a paid internship during the summer. Interns meeting the performance criteria will be offered an employment opportunity with Massport following graduation. Massport's Tiffany Brown-Grier, Director of Diversity, Equity & Inclusion/Compliance, knows the positive impact a career on-ramp like this can have: She was a Massport intern 30 years ago.

Scholarships to the future

Since 2007, Massport has distributed $76,000 in Diversity STEM scholarships to support 46 students of color pursuing STEM or transportation careers and reside or attend school in the city of Boston or neighboring communities.

SPOTLIGHT ON STEM SCHOLARSHIPS

Kate Martinez

PATHWAYS PROGRAM (2022-23) / DIVERSITY STEM SCHOLARSHIP (2019)

Kate Martinez took her first flight lesson as a high school freshman at Excel Academy, adjacent to Logan Airport. From that moment on she was hooked on flying. In her first year at Bridgewater State University (BSU), Kate received Massport's Diversity STEM scholarship to support her pursuit of a degree in Aviation Science. She went on to be among the first two Massport Pathway Program interns in the summer of 2022. "I have found mentors at Massport, and through the internship I discovered that I want a career in Aviation Management," she explains. Kate will return to Massport as an intern next summer and has her sights on joining the Massport Operations team at Logan Airport after she graduates.

"Through the Pathways Program, I got to watch terminal managers working with the airlines, going between airside and landside—all with construction going on," she shared. "It was so exciting. That's what I want to do."

Kate is pursuing both a private pilot and aircraft dispatcher's license. She graduated early with a BS, Aviation Science with a concentration in Aviation Management, from BSU, where she founded the first Women in Aviation chapter on campus. She plans to receive her MBA from BSU in the spring of 2023. "There are not many women or people of color in the aviation industry," said Martinez. "I want to be able to introduce students like me to mentors in the industry."

MASSPORT-WIDE / A Diverse, Equitable, and Inclusive Massport

Investing in the local community

The Charitable Contribution Program provides grants for youth development, education, environment, and arts/culture programming. It focuses especially on supporting organizations that assist residents and improve the quality of life in Massport's neighboring communities including Charlestown, Chelsea, East Boston, Revere, and South Boston. Grant requests are reviewed by the Employee Evaluation Committee, composed of Massport staff, some of whom reside in these communities.

For FY2022, Massport set a goal to distribute at least 50% of the program budget to organizations or programs that serve predominately people of color—and 69% ended up going to such organizations. This amounted to $173,300 in grants awarded to 33 organizations—23 of these organizations are run by or have a person of color on their executive leadership teams.

Recent Grant Recipients

Just a few of the local non-profits that received funding from Massport

		MISSION
YES	Youth Enrichment Services (YES)	The mission of Youth Enrichment Services is to inspire youth through outdoor experiences, and leadership opportunities that build confidence and prepare them to summit life's challenges.
afh	Artists for Humanity	Artists for Humanity (AFH) provides under-resourced teens the keys to self-sufficiency through paid employment in art and design.
eliminating racism empowering women ywboston	YW Boston	YW Boston is dedicated to eliminating racism, empowering women, and promoting peace, justice, freedom, and dignity for all.
BOYS & GIRLS CLUBS OF AMERICA	Boys & Girls Club of Worcester	The Boys & Girls Club of Worcester's mission is to help youth, especially those who need us most, develop the qualities needed to become responsible citizens, and community leaders, through caring professional staff who forge relationships with youth members and influence their ability to succeed in life.
KENNEDY CENTER CHARLESTOWN, MA	Kennedy Center	The Kennedy Center's mission is to provide individuals and families in need services, opportunities, and the tools they require to lead productive and fulfilling lives.
HarborCOV Communities Overcoming Violence	HarborCOV	HarborCOV provides free safety and support services, along with housing and economic opportunities, that promote long-term stability for people affected by violence and abuse.

MASSPORT-WIDE / A Diverse, Equitable, and Inclusive Massport

Leveraging real estate to bring more Bostonians to the table

Seaport District's Omni Hotel

Massport pioneered a DE&I model (known as the "Massport Model") in real estate development to broaden and deepen economic opportunity through a competitive, market-driven process. The model was first applied in 2016 to Request for Proposals (RFPs) to develop a Massport-owned parcel that is now the Omni Boston Hotel at the Seaport. In that competitive bid, Massport said diversity, equity, and inclusion were as important as traditional evaluation criteria—financials, design, and ability to execute. The model does not prescribe how to incorporate DE&I, but instead gives the private sector the flexibility to propose new and creative approaches. Smaller, women- and minority- owned firms—typically sidelined from large projects in the city—partnered with some of the region's largest development, architecture, and construction firms to bid. The result was a broadly diverse team as well as $7 million of equity from minority investors.

Massport did not stop there. With the release of an RFP in 2018 for 10 World Trade in South Boston, the DE&I challenge was met by the development team, which raised $15 million from minority equity investors. This project advances the Massport Model by including people of color and women in significant ownership and leadership roles in every aspect of the project, from development to property management.

The Massport Model continued to evolve with the selection of a developer for another South Boston parcel in 2021. Known as Seaport Circle, the project will house the South Boston Waterfront Job Training Pavilion, a unique public space that will open the Seaport District and the burgeoning life sciences sector to a wide array of Bostonians with workforce training for high school graduates and underserved residents.

The most recent application of the Massport Model was an RFP issued by Massport in late 2021 for a mixed-income, affordable housing project on D Street in South Boston. Proposals will be evaluated equally for DE&I commitments, housing affordability—a vital need in a neighborhood with some of the lowest rates of income-restricted housing in the city—design, and ability to execute.

The Massport Model has begun to be emulated by other agencies and municipalities. MassDOT applied a similar approach in a 2021 RFP for a parcel in Chinatown. In 2022, the Boston Planning and Development Agency announced that private developers must begin to report on DE&I within their teams and proposals.

> **From the trades constructing these sites, to expanding employment opportunities, workforce development, and eventually affordable housing residents, all these development projects under the Massport Model will enhance access, opportunity, and equity for people of color and women as well as other diverse businesses, bringing under-represented people to Boston's Seaport District.**
>
> **Tiffany Brown-Grier**
> Director, Diversity, Equity & Inclusion/Compliance

Breaking down gender barriers in construction

In the U.S., only 11% of construction workers are women and in engineering and architecture they make up 27%. But at Massport, 40% of the staff who are building, designing and managing projects are women. In fact, a female steelworker guided the last beam into place at Logan Airport Terminal C to B Connector project.

Massport observes Women in Construction Week, which was started by the National Association of Women in Construction in 1998 to spotlight the work of women in the construction industry across the country. In March 2022, some of the women who work in Massport's Capital Programs and Environmental Affairs (CPEA) Department, which manages all construction projects at Massport, were recognized in a photo gallery throughout the terminals at Logan.

"I'm proud to say that a diverse group of women are part of the decision-making process in every construction project at Massport. Diversity of thought is important as we build world-class facilities that serve diverse people."

Dr. Luciana Burdi
Director, Capital Programs and Environmental Affairs

Jaya Gopakumar, Assistant Project Manager, Capital Programs and Environmental Affairs, supports a variety of construction projects at Massport.

MARITIME

Conley Terminal Welcomes Larger Vessels and New Global Connections

The working Port of Boston generates $8.2 billion in annual economic impact.

Conley Container Terminal is an important economic asset for the New England region, serving more than 2,500 businesses. It is New England's only deep-water, full-service container terminal, playing a significant role in the regional economy by moving roughly one-third of the New England cargo in and out of the market. The working Port of Boston, which collectively includes Conley Terminal, as well as the Flynn Cruiseport, Charlestown Autoport, and seafood processing facilities, is responsible for $8.2 billion in annual economic impact and more than 9,000 direct jobs.

To ensure Conley, and the larger Port of Boston, could stay competitive in the global economy, Massport and its federal and state partners invested $850 million to deepen Boston Harbor and modernize Conley Terminal. **The Boston Harbor Deep Draft Navigational Improvement Project** was a $350 million federal, state and Massport investment in the dredging and deepening of Boston Harbor to a depth of 47 feet to allow bigger ships, including larger container ships, to use the shipping channels. To complete this work, approximately 12 million cubic yards of dredged material and rock were removed from the bottom of Boston Harbor.

As part of the **Conley Terminal Modernization Program,** Massport constructed a bypass road that removes all Conley Terminal truck traffic from residential streets by rerouting it through a former oil storage site, rehabilitated two existing berths at Conley Terminal, constructed a new deep-water berth (Berth 10) with big ship capabilities at an increased depth of 50 feet, and expanded container yard storage. The

Massport collaborated with local, state, and federal leaders and the US Army Corps of Engineers (USACE) to dredge and deepen Boston Harbor to accommodate larger vessels.

In 2003, Conley Terminal was the first container terminal in the United States to develop a comprehensive Environmental Management System (EMS).

MARITIME / Conley Terminal Gets Big Ship Ready

The construction of a new Berth 10 at Conley Terminal was not short on challenges: It is under air-draft restrictions of Logan, it abuts the shoreline of a brownfield site, and operates adjacent to a residential community.

$215 million **Berth 10 Construction Project** involved the installation of a new 1,200-foot-long bulkhead along the shoreline, dredging approximately 330,000 cubic yards of material and underwater rock blasting, and construction of a pile-supported deck. The project also included procurement of three new custom-designed, low-profile, ship-to-shore cranes capable of handling the larger ships.

In addition to the new Berth 10, the Conley Terminal Modernization Program is comprised of many other elements such as new refrigerated container storage racks to improve energy efficiency, terminal technology and equipment upgrades, and sustainable features, such as a new LED lighting system in the yard that reduced light pollution and cuts electricity usage in half. Related landside projects currently underway include new gate processing facilities and improvements to truck circulation that will further reduce truck turnaround times, queuing, and idling—as well as associated environmental impacts.

Instead of managing these projects in isolation, Massport recognized the opportunity to develop and execute a comprehensive and cost-effective **Soil Management Program** to test, manage, treat, process, and reuse soils onsite for all construction projects at Conley. As of fall 2022, this innovative and comprehensive initiative treated, reused, and/or retained 86,000 cubic yards of urban fill, substantially reducing truck traffic in the community. This successful program allowed Conley Terminal to maximize soil reuse onsite and minimize the amount of new fill to be imported. This eliminated 7,300 truck trips through the adjacent residential community for off-site soil disposal and another 4,900 truck trips for import fill, which resulted in the elimination of approximately 49,000 gallons of truck fuel.

Conley Terminal Recent Awards

2022

American Society of Civil Engineers *Project Excellence Award.* New Berth 10

Construction Management Association of America (CMAA)—New England. *Mark H. Hasso Project Excellence Program for the Infrastructure Category—Constructed Value Greater than $100 Million.* New Berth 10

CMAA *National Project Achievement Award for Environmental Projects over $50 Million.* New Berth 10

Environmental Business Council of New England *Brownfields Remediation Project of the Year.* Conley Container Terminal

2021

U.S. Department of Energy *Integrated Lighting Campaign.* LED lighting system with real-time wireless controls

2020

American Association of Port Authorities *Environmental Improvement Award.* Soil Reclamation & Reuse Initiatives

American Association of Port Authorities *Lighthouse Award for Facilities Engineering.* New Berth 10

No longer dependent on the tide schedule, large container vessels calling on Conley Terminal idle for less time in Boston Harbor, saving on fuel and reducing CO_2 emissions.

CONLEY BY THE NUMBERS

12 million cubic yards

of dredged material and rock were removed from the bottom of Boston Harbor to deepen shipping channels and build new berths. This allows larger vessels to dock at the Terminal without tidal constraints.

86,000 cubic yards

of urban fill was treated, reused, or retained at Conley Terminal, saving 12,200 potential truck trips through adjacent neighborhoods.

~49,000 gallons

of truck fuel, almost four metric tons of NOx emissions and 500 metric tons of CO_2 emissions for the project were eliminated during the Berth 10 construction.

$5 million

of economic benefits resulted from the Conley Terminal Modernization Program.

LOGAN AIRPORT

Massport Gets Plugged-In

Almost 20% of all ride-sharing app trips in Boston start or end at Logan Airport.

Electric vehicles (EVs) and equipment are an important piece of the decarbonization puzzle—and a critical pathway in Massport's planning for net zero. In addition to maintaining over 133 charging ports throughout its portfolio for public, commercial, or employee use, Massport has been committed to collaborating with partners at the state and federal level as well as with industry stakeholders to accelerate the transition to EVs. Here are a few of the most recent EV projects:

Influence ride-sharing app companies

Almost 20% of all ride-sharing app trips in Boston start or end at Logan Airport. Massport works with companies such as Uber and Lyft to implement programs that have a positive environmental impact. Massport also establishes rules for these ride-sharing app companies. In 2019, Massport required Uber and Lyft drivers to operate within a central garage, co-locating passenger pick-up and drop-off. This increased the "rematch" of drivers to new passengers—reducing "deadhead" trips (empty cars) by 15-25% following implementation, easing congestion, and lowering emissions.

As part of this plan, riders receive a discount for using shared rides, which matches riders headed to similar destinations, thereby further reducing vehicle miles traveled (VMTs) and emissions. Since these changes went into effect in 2019, Lyft and Uber offer riders the ability to specifically request a hybrid or fully electric vehicle for their trip as well.

Expedite EV adoption in the ride-for-hire and rental car industries

In spring 2022, Massport was awarded $615,000 from the Massachusetts Clean Energy Center Accelerating Clean Transportation for All ("ACT4All") program to create an ecosystem for planning and facilitating the transition to EVs in the ride-for-hire industry at Logan Airport. Massport is now working on a series of legal, policy, operational, and software changes to incentivize EV adoption by drivers, and to improve the efficiency of commercial modes on the airport campus to reduce VMTs and emissions. This includes planning a phased strategy for EV charging infrastructure investment primarily at Logan Airport for Uber and Lyft use. An educational campaign to encourage the adoption of lower-emission vehicles by both drivers and passengers will be a key component of the program also.

Rental car companies have been expanding their EV fleets at the Rental Car Center at Logan Airport. With Boston as a "focus city" for companies such as Hertz, AVIS and Enterprise

LOGAN AIRPORT / Massport Gets Plugged-In

As of fall 2022, Massport offered 286 charging ports for eGSEs across Logan Airport.

Holdings, Logan Airport will benefit from a growing offering of EVs for rent. Hundreds of EVs were already available to rent at Logan's Rental Car Center as of fall 2022—and the number will keep growing. This is a benefit not just for passengers renting cars but to ride-sharing app drivers as Uber and Lyft have programs for their drivers to rent EVs. For instance, Hertz has a commitment to buy 100,000 Teslas nationwide with half accounted for by Uber via a partnership between the two companies. The work the rental companies are currently engaged in to decarbonize their fleets in the Boston market will lead to additional benefits for the Commonwealth by creating a used EV market and increasing affordability.

Contribute to the national EV infrastructure

In collaboration with Massachusetts Department of Transportation (MassDOT), Massport recently evaluated the most appropriate and advantageous sites for the installation of direct current (DC) fast chargers as part of the Commonwealth's Electric Vehicle (EV) Infrastructure Deployment Plan under the National Electric Vehicle Infrastructure (NEVI) formula program. The purpose of NEVI is to site publicly accessible EV charging along the national EV Alternative Fuel Corridor—an EV charging network designated by the Federal Highway Administration. Situated at the terminus of I-90, Logan sits within the network and is eligible for this state funding. Massport will continue to explore opportunities with the Commonwealth for NEVI and other grant funding to expand publicly available charging infrastructure.

Expand EVs airside too

As of fall 2022, Massport offered 286 charging ports for eGSE (electric ground support equipment) across Logan Airport's terminals and General Aviation ramp areas. Commitments by the airlines to use this infrastructure was an integral part of this effort, and will continue to be as Massport seeks further opportunities to electrify the airside of Logan. The installation of eGSE charging stations was partially funded with $4.3 million in grants from the Federal Aviation Administration's Voluntary Airport Low Emissions (VALE) program awarded in FY2019 and FY2020.

MASSPORT-WIDE

LEEDing the Way

HANSCOM ARFF/CBP BY THE NUMBERS

98%
of occupied spaces have access to daylight and views

92%
of construction and demolition waste was diverted from landfill. The project was able to relocate and reuse equipment, minimizing the use of new materials and associated packaging

The project was designed to save
30%
of energy compared to a building that just meets the energy code

A green cleaning program that minimizes occupant exposure to chemicals, particles and moisture was developed. The program will be utilized throughout Hanscom

Studying historic flood data, Massport was able to site the project on a higher elevation to avoid costly damage from potential future flooding

As a 24/7 facility, the FAA requires a natural gas generator for emergency backup. Otherwise, the building is 100% electric

Massport continues to utilize the U.S. Green Building Council's LEED rating system on new construction projects throughout its portfolio. As of fall 2022, there are eight LEED-certified projects at Massport with two in progress and several tenant spaces certified. The LEED framework helps Massport apply the latest environmentally sound design and construction principles and practices, while aligning with its sustainability goals and enhancing its institutional knowledge of high-performance buildings.

Hanscom Aircraft Rescue Fire-Fighting and US Customs & Border Protection Facility, LEED Silver (2020)

Just 20 miles northwest of Boston, Laurence G. Hanscom Field is the region's busiest general aviation airport and a vital link in the transportation infrastructure of Massachusetts and New England. In November of 2015, Massport took over the aircraft rescue fire-fighting responsibilities from Hanscom Air Force Base, which created the need for the new Massport Aircraft Rescue Fire-Fighting Facility (ARFF). U.S. Customs and Border Protection, stationed at Hanscom, utilized a temporary facility, so it made sense to co-locate the two airside functions into the new ARFF/CBP facility. In addition to designing the building to serve two functionally disparate occupants, the project needed to meet the stringent design requirements of both the Federal Aviation Administration (FAA) and U.S. Customs and Border Protection —and be constructed on an active airfield. On top of that, Massport sought LEED certification for the project, the first new facility for Hanscom in nearly 20 years.

The Hanscom ARFF/CBP building was designed to reduce annual water use by 40% and annual energy use by 30% over a baseline building.

MASSPORT-WIDE / LEEDing the Way

Since 2005, when Logan's Terminal A redevelopment became the first LEED certified airport terminal in the world, Massport has employed the LEED rating system to advance the designs and performance of its portfolio.

All Massport LEED Certifications

Boston Logan Terminal A Redevelopment / LEED Certified 2006

Boston Logan Green Bus Depot / LEED Silver 2014

Boston Logan Rental Car Center / LEED Gold 2015

Boston Logan John A. Volpe Terminal E NLA Wing / LEED Gold 2017

Boston Logan Terminal B Gates 37-38 Connector / LEED Gold 2019

Hanscom ARFF & Customs & Border Patrol Facility / LEED Silver 2020

Boston Logan Terminal B Optimization / LEED Silver 2022

Boston Logan Terminal C to B Connector / In progress

Boston Logan Terminal E Modernization / In progress

All Tenant LEED Certifications

Signature Logan Terminal / LEED Certified 2008

Boston Logan Nouria Service Center / LEED Silver 2020

Boston Logan Chase Sapphire Lounge / In progress

Boston Logan Delta Sky Club / In progress

Hanscom Boston Medflight / In progress

Signature Hanscom Terminal / In progress

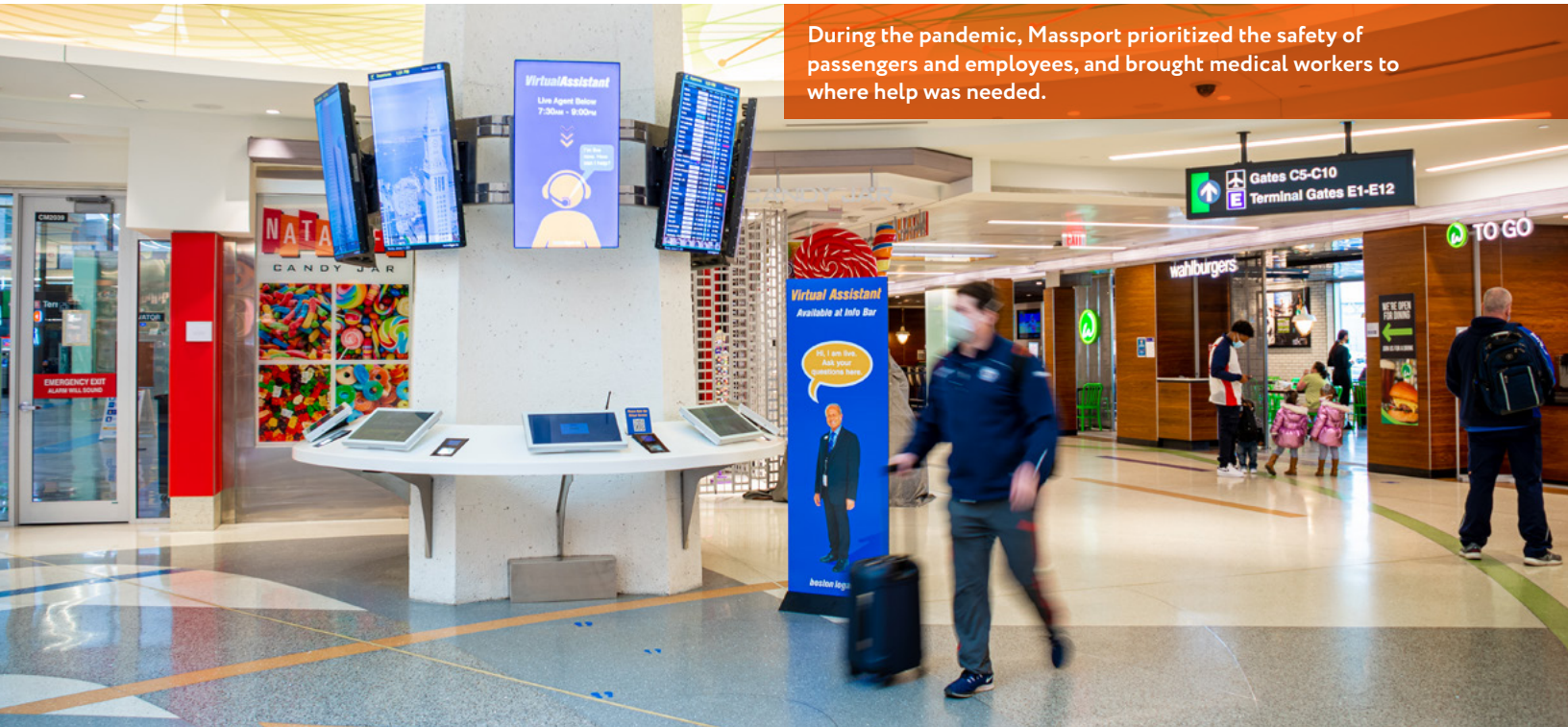
Logan's Terminal E Modernization project was designed to serve as a noise barrier to nearby neighborhoods and exceed the MA Energy Code by at least 20%.

Sustainability Key Performance Indicators (KPIs)

Massport was well positioned for a banner year in 2020 before the global pandemic. The targets set in the 2015 *Boston Logan International Airport Sustainability Management Plan* (SMP) were achieved ahead of the 2020 deadline. The Port of Boston's Conley Container Terminal was moving 2.3 million metric tons of cargo in the year prior. In fact, it saw record-breaking growth in 2019. Similarly, Boston Logan International Airport was on track to reach 45 million passengers in 2021. Then in March of 2020, the COVID-19 global pandemic forced "business as usual" to make a U-turn.

Serving as a vital conduit between New England and the world, Massport focused its resources on ensuring critical goods and supplies entered the region, prioritizing the safety of passengers and employees, facilitating essential travel for medical workers to send them where help was needed, and coordinating humanitarian flights to provide supplies to assist in the response to the crisis.

COVID-19 disrupted routine operations and sent passenger counts plummeting. Some of the promising trend lines of Massport's sustainability and resiliency efforts were impacted. However, for the sake of transparency, accountability, and education, the KPIs from FY2020-2021 are disclosed here. The performance targets from the 2015 SMP are now closed and Massport looks ahead to announcing new measurement and verification metrics in its pursuit of net zero emissions.



During the pandemic, Massport prioritized the safety of passengers and employees, and brought medical workers to where help was needed.

Amid a $400-million budget deficit due to cratering passenger counts during the pandemic, Massport was forced to contract its workforce in the fall of 2020—and adopt other harsh austerity measures. As a result of the drop in travelers and the altering of Massport's workforce composition, many of these KPIs are skewed for FY2020 and FY2021. Energy and water use per passenger increased during the pandemic because, despite a 60% decrease in travelers, Boston Logan International Airport remained a 24/7 facility. Similarly, greenhouse gas emissions per passenger initially fell in FY2020 only to rise in FY2021 due to so few passengers.

LOGAN AIRPORT 2020 & 2021 KPIs

Energy and Greenhouse Gas (GHG) Emissions

KPI	TARGET	TREND
kBTU per passenger at Logan Airport	25% reduction by 2020 (FY2004 baseline)	FY20: 21% increase from baseline FY21: 163% increase from baseline
kBTU per square foot at Logan Airport	25% reduction by 2020 (FY2004 baseline)	FY20: 7% decrease from baseline FY21: 17% decrease from baseline
GHG emissions per passenger at Logan Airport	40% reduction by 2020 (FY2002 baseline)	FY20: 33% decrease from baseline FY21: 45% increase from baseline

kBTU Thousand British Thermal Units

Materials, Waste Management, and Recycling

KPI	TARGET	TREND
Recycling rate* for Logan Airport	Increase recycling rate to 60% by FY2020	FY20: 15.4% recycling rate FY21: 14.9% recycling rate
Construction and demolition waste diversion rate for Logan Airport	Maintain percentage of C&D waste diverted close to 100%	FY20: 97.7% diversion rate FY21: 97.6% diversion rate

* Recycling rate includes single-stream materials, scrap metal, wooden pallets, and organics

LOGAN AIRPORT 2020 & 2021 KPIs

Water Conservation

KPI	TARGET	TREND
Annual gallons of water per passenger at Logan Airport	10% reduction by FY2022 (FY2012 baseline)	FY20: 4% increase from baseline FY21: 63% increase from baseline

Over 1,000 photovoltaic (solar) panels help power Logan's Terminal B garage.

MASSPORT-WIDE 2020 & 2021 KPIs

Community, Employee, and Passenger Well-being

KPI	TARGET	TREND
Number of full-time equivalent jobs through design and construction expenditure*	Sustain 800 full-time equivalent job opportunities through design and construction expenditure	FY20: 4,862 FTE JOBS FY21: 5,108 FTE JOBS
Amount of economic impact to the community	Continue to contribute to the regional economy each year	$16 billion◊
Percentage of hires in each of the categories outlined by the Office of Diversity, Equity and Inclusion/ Compliance	Continue to recruit and retain a diverse group of employees	FY20: 30% female 24% minorities FY21: 28% female 23% minorities

* Includes direct, indirect, induced jobs from construction expenditures

◊ Based on the *2019 Massachusetts Statewide Airport Economic Impact Study*, completed every 3-5 years by MassDOT

Resiliency

KPI	TARGET	TREND
Percentage of capital projects that address resiliency of Massport facilities at Logan Airport	25% of critical assets* and/or key resources enhanced by 2020 100% of critical assets and key resources enhanced with resiliency measures by 2025	FY20 & FY21: 100%

* Critical assets include electrical power, diesel fuel pumping stations, telecommunications systems, and public safety including police and fire

FRONT COVER: (row 1-left) / A view into the newly opened Terminal C to B Connector at Logan, which is seeking LEED Gold certification. **(row 1-right) /** Massport continued its commitment to expanding electric vehicle infrastructure beyond Logan with chargers like these available for public use at the Framingham Logan Express garage. **(row 2-left) /** Free, lower emissions shuttles at Logan Airport circulate between the terminals, the Rental Car Center, and the MBTA's Airport Station. **(row 2-right) /** Massport is seeking LEED certification for the eye-catching, high-performance Terminal E Modernization at Logan. **(row 3-left) /** A female construction worker signs the final steel beam at the "topping off" of the Terminal C to B Connector at Logan. **(row 3-right) /** Massport manages over 30 acres of parks in Boston, including the Bremen Street Community Park.

'20
'21

massport

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