BOSTON LOGAN INTERNATIONAL AIRPORT

2023/2024 EDR

ENVIRONMENTAL DATA REPORT

October 2025

EEA #3247

SUBMITTED TO

Executive Office of Energy and Environmental Affairs, MEPA Office

SUBMITTED BY

Massachusetts Port Authority
Office of Climate Innovation and Resilience

PREPARED BY

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October 15th, 2025

The Honorable Rebecca Tepper, Secretary
Executive Office of Energy and Environmental Affairs
Attn: MEPA Analyst, EEA
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Re: Boston Logan International Airport 2023/2024 Environmental Data Report - EEA #3247

Dear Secretary Tepper and Director Kim:

On behalf of the Massachusetts Port Authority (Massport or the Authority), we are pleased to submit this *2023/2024 Environmental Data Report (2023/2024 EDR)* for Boston Logan International Airport (Logan Airport or the Airport). For over four decades, Massport's Environmental Data Report (EDR) filings have continued to provide an extensive record of Logan Airport's environmental trends, facility planning, operations, passenger use, and project mitigation commitments. This EDR focuses on the Airport's operational and environmental conditions over the 2023 and 2024 reporting years in the context of relevant recent and historical trends.

EDRs report on Airport conditions annually for the years between the Environmental Status and Planning Reports (ESPRs), which Massport files every five years. The ESPR and EDR series are critical for providing current and historical context for evaluating individual projects at Logan Airport that meet state environmental review thresholds, as well as for understanding the cumulative environmental effects of the Airport's operations and activities. The Logan Airport EDRs and ESPRs are unique within the Massachusetts Environmental Policy Act (MEPA) process. Unlike other filings within the typical MEPA framework, EDRs and ESPRs are distinctly not "Projects". These documents do not replace any individual project filings subject to MEPA, nor do they serve as an authorization for any specific activity.

Key Findings from the 2023/2024 EDR

In 2023 and 2024, passenger activity and aircraft operations increased at Logan Airport, and in 2024, air passengers exceeded pre-pandemic levels by 2 percent. Logan Airport continues to be an integral part of the regional transportation system, accommodating over 70 percent of New England air passengers, while supporting connectivity with other regional airports, rail and port facilities, and ground transportation networks. Passenger activity and aircraft operations are discussed in Chapter 3, *Activity Levels*, while Logan Airport's interrelationship with regional transportation networks is addressed in Chapter 5, *Regional Transportation*.

As passenger activity at Logan Airport increases, Massport has initiated and progressed several projects to meet the needs of the growing market, upgrade aging infrastructure, improve Airport safety and efficiency, and reduce environmental effects. The status of these new, on-going, and recently completed programs and projects from 2023 and 2024 is provided in Chapter 4, *Airport Planning*, while Chapter 10, *Project Mitigation,* details MEPA mitigation commitments associated with applicable projects.

Massport is committed to reducing the Airport's air quality impacts, and reports air quality metrics with the status of air quality improvement initiatives in Chapter 8, *Air Quality*. In 2023 and 2024, Massport continued emissions reducing initiatives like promoting high-occupancy vehicle (HOV) use; expanding its electric vehicle (EV) fleet; investing in electric charging infrastructure; and supporting tenants, ground transportation services, and fixed base operators (FBOs) with converting fossil fuel burning equipment and vehicles to electricity powered models, including electric ground service equipment (eGSE). To further address Airport-wide emissions from idling vehicles, Massport is conducting additional studies of vehicle dwell time at curbside areas

for each terminal. Data collection resumed in 2025 and will continue over the coming years to collect data at each terminal curbside.

In addition to air quality improvements, Massport has also continued to advance programs to abate and mitigate aviation noise, including successfully restarting its Residential Sound Insulation Program (RSIP) in 2023 to mitigate aircraft noise effects by installing sound insulation in eligible homes near Logan Airport. The goals and timeline of the RSIP are detailed in Chapter 7, *Noise*, but the RSIP's implementation progressed through 2024, and construction on a pilot group of homes began in 2025.

Massport also demonstrated a commitment to environmental sustainability and climate resiliency in 2023 and 2024 through Airport-wide, proactive initiatives and programs to reduce greenhouse gas (GHG) emissions, mitigate climate risks, and achieve Net Zero emissions from activities under Massport's control by 2031, as outlined in *Massport's Roadmap to Net Zero by 2031* (Roadmap to Net Zero). As an active participant in advancing Sustainable Aviation Fuel (SAF) development and use, Massport continued its support and involvement with the Massachusetts Institute of Technology's (MIT) Zero Impact Aviation Alliance (ZIAA) and the Massachusetts SAF Working Group. Massport also supports other air emissions-related research in collaboration with local universities, and considers mitigation measures in response to these research findings in collaboration with MEPA's Logan Airport Work Group.

Massport continuously evaluates ground transportation access strategies and implements measures to reduce vehicle congestion, emissions, and community impacts, and the outcomes of these efforts for 2023 and 2024 are reported in Chapter 6, *Ground Access*. Logan Airport continues to be a leading U.S. airport in promoting HOV usage. Based on the *2024 Logan Air Passenger Ground Access Survey* results, HOV mode share has reached 43 percent. Massport promotes HOV use through improving Logan Express service and station facilities, offsetting operating costs for SL1 Massachusetts Bay Transportation Authority (MBTA) Silver Line buses, and implementing its Ride App Management Plan. In 2023 and 2024, Massport continued to implement strategies set forth in the *Long-term Parking Management Plan*, which guides on-Airport parking strategies and policies to promote long-term parking over short-term, by progressing planning and design on two new on-Airport parking areas.

In response to the Secretary's Certificate on the *2022 ESPR*, public comment letters, and Massport's on-going engagement with stakeholders and MEPA, Massport has created a new chapter for *the 2023/2024 EDR* to distinguish Massport's outreach and environmental justice (EJ) efforts from its on-going sustainability, resiliency, and Net Zero programs. In this EDR, the *2022 ESPR* content previously contained in Chapter 2, Outreach, Environmental Justice, and Sustainability was reorganized into two distinct chapters: Chapter 2, *Outreach and Environmental Justice,* and Chapter 11, *Sustainability and Climate Resilience*.

EDR Content and Structure

The *2023/2024 EDR* responds to the Secretary's Certificate on the *Boston Logan International Airport 2022 ESPR* dated October 18th, 2024. The EDR provides updates from 2023 and 2024 for the following topics:

- Passenger activity levels, aircraft operations, aircraft fleet composition, and cargo volumes;
- Planning, design, and construction activities and the status of project mitigation commitments at the Airport;
- Community outreach and environmental justice considerations;
- Regional transportation statistics and initiatives;
- Key environmental indicators (Ground Access, Noise, Air Quality, Water Quality, and Environmental Compliance Management); and
- Logan Airport's sustainability, climate resilience, and Net Zero initiatives.

The *2023/2024 EDR* includes the Secretary's Certificate on the *Boston Logan International Airport 2022 ESPR* and associated comment letters. Certificates received on projects with existing Section 61 commitments are also included in the EDR and discussed in Chapter 10, *Project Mitigation*. Appendix D, *Distribution* presents the EDR distribution list, and supporting technical appendices are available electronically.

In response to comments on the *2022 ESPR*, we have reevaluated chapter content to streamline narratives, reduce document length, clarify language, and improve overall usability for readers. Each EDR chapter includes standardized headings and subheadings, and the content focuses on comparisons between 2023 and 2024, 2022 as the prior reporting year, and topic-specific benchmark years, which serve as reference points for assessing progress. The EDR includes features from the *2022 ESPR*, like the glossary, color-coded chapters for improved navigation, and bookmarking within electronic versions.

Massport also created a new User's Guide to complement this EDR and future EDRs and ESPRs, which offers detailed context into the regulatory framework, methodologies, models, and analyses referenced in the main technical chapters. The User's Guide consolidates the background information for interpreting chapter findings, previously integrated within EDR chapters and appendices, into a single, easy to use repository for reference when reading the EDRs and ESPRs. The User's Guide will be updated during ESPR years to maintain accuracy and relevance. Hyperlinks in the EDR navigate readers to relevant User's Guide sections for additional context.

In preparation for *the 2023/2024* EDR filing, Massport created a dedicated webpage for EDR and ESPR publications, offering weblinks to chapters, meeting notices, materials from previous meetings and publications, and regularly updated data sources. Historical data is still accessible on the environmental filings' website.

Review Period, Distribution, and Consultation

As we have done in the past for multi-year documents, Massport has requested EEA's consideration of an extended public comment period for this ESPR. Based on this request, the public comment period will begin on October 22, 2025 the publication date of the next MEPA *Environmental Monitor*, and will end on January 6, 2026. The distribution list in Appendix D indicates which listed parties will receive a digital or printed copy of this EDR or notice of availability. This EDR is presented in its entirety on Massport's website (https://www.massport.com/environment/boston-logan-edr-espr-data-portal). The Executive Summary is translated into Spanish, Portuguese, Haitian Creole, and Simplified Chinese, and is available in other languages upon request by contacting Brad Washburn at (617) 568-3546 or bwashburn@massport.com.

A public consultation session on the *2023/2024 EDR* will be held during the public comment period with meeting details posted in the *Environmental Monitor* and on Massport's website. Additional copies of the *2023/2024 EDR* may be obtained by calling (617) 568-3546 or emailing bwashburn@massport.com during the public comment period.

We look forward to your review of this EDR and consultation with the MEPA Office and other reviewers. Please do not hesitate to contact me at bwashburn@massport.com if you have any questions.

Sincerely,

Massachusetts Port Authority

Brad Washburn

Deputy Chief Climate and Resilience Officer

cc. J. Horwood, C. Busch, F. Leo, A. Coppola, C. McDonald/Massport

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Appendix D **Distribution**

The following appendices include supporting documentation for above listed chapters and are available on Massport's website (https://www.massport.com/environment/boston-logan-edr-espr-data-portal):

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Acronyms

A	
AAAE	American Association of Airport Executives
AAD	Average Annual Day
AADT	Annual Average Daily Traffic
AAWDT	Annual Average Weekday Daily Traffic
AC	Advisory Circular
ACA	Airport Carbon Accreditation
ACEP	Airport Community and Environmental Program
ACI-NA	Airports Council International – North America
ACRP	Airport Cooperative Research Program
ACS	U.S. Census American Community Survey
ADA	Americans with Disabilities Act
ADPM	Average Day of Peak Month
ADRM	Airport Development Reference Manual
AEDT	Aviation Environmental Design Tool
AFFF	Aqueous Film Forming Foam
AFS	Aircraft Fueling System
AFV	Alternative Fuel Vehicles
AIP	Airport Improvement Program
ALP	Airport Layout Plan
APC	Automated Passenger Counters
APM	Automated People Mover
APO	FAA Office of Aviation Policy and Plans
APU	Auxiliary Power Unit
APV	Approach Procedure with Vertical Guidance
ARFF	Aircraft Rescue and Firefighting
ARRA	American Recovery and Reinvestment Act
ASCENT	FAA Aviation Sustainability Center
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASPM	Aviation System Performance Metrics
AST	Aboveground Storage Tank
ATCT	Air Traffic Control Tower
ATMS	Automated Traffic Monitoring System
ATR	Automatic Traffic Recorder
AUL	Activity Use Limitation
AVI	Automated Vehicle Identification
AWDT	Average Weekday Daily Traffic
AWEDT	Annual Average Weekend Daily Traffic

B	
BBY	Boston Back Bay
BC	Black Carbon
BDL	Bradley International Airport
BED	Hanscom Field
BESS	Battery Electric Storage System
BGR	Bangor International Airport
BIF	Bird Island Flats
BLANS	Boston Logan Airport Noise Study
BLS	Bureau of Labor Statistics

BMP	Best Management Practice
BMPs	Best Management Practices
BNRD	Bus Network Redesign
BPDA	Boston Planning and Development Agency
BRT	Bus Rapid Transit
BTD	Boston Transportation Department
BTV	Burlington International Airport

C

CAA	Connecticut Airport Authority
CACES	Center for Air Climate and Energy Solutions
CACI	Clean Air Construction Initiative
CAEP	Committee on Aviation Environmental Protection
CAGR	Compound Annual Growth Rate
CARES Act	Coronavirus Aid, Relief, And Economic Security Act
CAT	Central Artery and Tunnel
CATEX	Categorical Exclusion
CATSR	Center for Air Transportation Systems Research
CDC	U.S. Centers For Disease Control And Prevention
CECP	Clean Energy and Climate Plan
CEO	Chief Executive Officer
CFR	Code of Federal Regulations
CFU	Colony Forming Units
CGP	Construction General Permit
CHP	Central Heating Plant
CIA	Cumulative Impact Assessment
CIDP	Capital Improvement Development Program
CIP	Capital Investment Program
CLF	Conservation Law Foundation
CMR	Code of Massachusetts Regulations
CNG	Compressed Natural Gas
CNI	Cumulative Noise Index
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CONEG	Conference of New England Governors
COPD	Chronic Obstructive Pulmonary Disease
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
CRISI	Consolidated Rail Infrastructure and Safety Improvements Program
CSC	Customer Service Center
CTDOT	Connecticut Department of Transportation
CTPS	Central Transportation Planning Staff
CWA	Clean Water Act
CY	Calendar Year

D

dB	Decibels
dBA	A-Weighted Decibel
DC	Direct Current
DCR	Department of Conservation and Recreation
DE&I	Diversity, Equity & Inclusion
DEIR	Draft Environmental Impact Report
DERA	Diesel Emissions Reduction Act
DFE	Design Flood Elevation
DFS	Department of Fire Services
DGA	Designated Geographic Area

DHS	U.S. Department of Homeland Security
DIRP	Disaster and Infrastructure Resiliency Planning
DMF	Massachusetts Department Oo Marine Fisheries
DMP	Demand Management Program
DMRs	Discharge Monitoring Reports
DNL	Day Night Average Sound Level
DO	Dissolved Oxygen
DOT	U.S. Department of Transportation
DPH EJ Tool	Massachusetts Department of Public Health Environmental Justice Tool

E

EA	Environmental Assessment
EAS	Essential Air Service
EDMS	Electronic Document Management System
EDR	Environmental Data Report
EEA	Massachusetts Executive Office Of Energy And Environmental Affairs
EENF	Expanded Environmental Notification Form
eGSE	Electric Ground Service Equipment
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EJ	Environmental Justice
EMAS	Engineered Materials Arresting System
ENF	Environmental Notification Form
EPNdB	Effective Perceived Noise decibel
EPNL	Effective Perceived Noise Level
ESMF	Equipment Storage and Maintenance Facility
ESPR	Environmental Status And Planning Report
EUI	Energy Use Intensity
EV	Electric Vehicle

F

FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FBO	Fixed-Base Operator
FEIR	Final Environmental Impact Report
FIS	Federal Inspection Services
FONSI	Finding of No Significant Impact
FPH	Future Planning Horizon
FRA	Federal Railroad Administration
FSC	Forest Stewardship Council
FSM	Facility Systems Maintenance
FY	Fiscal Year

G

GA	General Aviation
GBCI	Green Business Certification, Inc.
GDP	Gross Domestic Product
GEIR	Generic Environmental Impact Report
GHG	Greenhouse Gas
GIS	Geographic Information System
GPM	gallons per mile
GRP	Gross Regional Product
GSE	Ground Service Equipment
GTOC	Ground Transportation Operations Center

GWh	Gigawatt-hour
GWSA	Global Warming Solutions Act
H	
HHL	High-High-Low
HI	Heat Index
HOV	High-Occupancy Vehicle
HVAC	Heating, Ventilation, And Air Conditioning
HVN	Tweed-New Haven Regional Airport
I	
IAQ	Indoor Air Quality
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ILS	Instrument Landing System
INM	Integrated Noise Model
IPCC	Intergovernmental Panel on Climate Change
ISA	Inclined Safety Area
ISO-NE	Independent System Operator New England
J	
JOC	Joint Operations Center
K	
KPI	Key Performance Indicator
kW	Kilowatt
L	
LAX	Los Angeles International Airport
LCC	Low-Cost Carriers
LDMS	Logan Dispersion Modeling System
LED	Light Emitting Diode
LEED®	Leadership in Energy and Environmental Design
LIAG	Logan Impact Advisory Group
LOI	Letter of Interest
LTAG	Long-Term Aspirational Goal
LTO	Landing and Takeoff
LUO	Land Under Ocean
M	
MA	Massachusetts
MAP	Million Annual Passengers
MAPC	Metropolitan Area Planning Council
MassDEP	Massachusetts Department of Environmental Protection
MassDOT	Massachusetts Department of Transportation
MassDPH	Massachusetts Department of Health
Massport CAC	Massport Community Advisory Committee
MBTA	Massachusetts Bay Transportation Authority
MCAC	Massport Community Advisory Committee
MC-FRM	Massachusetts Coastal Flood risk Model
MCP	Massachusetts Contingency Plan
MEMA	Massachusetts Emergency Management Agency
MEPA	Massachusetts Environmental Policy Act
MESA	Massachusetts Endangered Species Act
MGL	Massachusetts General Laws
MHC	Massachusetts Historical Commission

MHT	Manchester-Boston Regional Airport
MICA	Massport Infrastructure Conditions Assessment
MIT	Massachusetts Institute of Technology
ml	Milliliter
MMT	Million Metric Tons
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MOVES	Motor Vehicle Emissions Simulator
MOV-UP	Mobile ObserVations of Ultrafine Particles
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area
MT	Metric Ton
MW	Mega-watt

N

NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NAVAID	Navigational Aids
NCA	North Cargo Area
NCI	Noise Complaint Initiative
NE	New England
NEA	Northeast Alliance
NEC	Northeast Corridor
NEG/ECP	New England Governors and Eastern Canadian Premiers
NEM	Noise Exposure Map
NEPA	National Environmental Policy Act
NERASP	New England Regional Airport System Plan
NERASP-GA	New England Regional Airport System Planning – General Aviation
NES	Neighborhood Environmental Survey
NHESP	Natural Heritage & Endangered Species Program
NNEIRI	Northern New England Intercity Rail Initiative
NO	Nitrous Oxides
NOMS	Noise And Operations Monitoring System
NOX	Nitrous Oxides
NPC	Notice of Project Change
NPDES	National Pollutant Discharge Elimination System
NPSI	Noise Per Seat Index
NSA	North Service Area

O

OAG	Official Airline Guide
OCIR	Office of Climate Innovation and Resilience
ORH	Worcester Regional Airport

P

PAHs	Polycyclic Aromatic Hydrocarbons
PAL	Planning Activity Level
PARC	Parking And Revenue Control
PARTNER	Partnership for Air Transportation Noise and Emissions Reduction
PBN	Performance-Based Navigation
PCA	Pre-Conditioned Air
PCBs	Polychlorinated Biphenyl

PFAS	Per- And Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctanesulfonic Acid
PM	Particulate Matter
PMO	Program Management Office
PNC	ParticleNumber Concentration
ppm	Parts Per Million
PPP	Peak Period Pricing
ppt	Parts Per Trillion
PRAS	Preferential Runway Advisory System
PSB	public safety building
PSCS	Public Safety Communications System
PSM	Portsmouth International Airport
PSS	Passenger Security Screening
PV	Photovoltaic
PVD	Rhode Island T.F. Green International Airport
PWM	Portland International Jetport

Q

QTA	Quick Turnaround Areas

R

RACT	Reasonable Available Control Technology
RAM	Royal Air Maroc
RCC	Rental Car Center
RFI	Request For Information
RFP	Request For Proposals
RFQ	Request For Quote
RIAC	Rhode Island Airport Corporation
RIDOT	Rhode Island Department of Transportation
RIM	Runway Incursion Mitigation
RJ	Regional Jet
RMAT	ResilientMass Action Team
RMP	Risk Management Plan
RNAV	Area Navigation
RNP	Required Navigational Performance
ROD	Record of Determination
RON	Remain Over Night
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RSIP	Residential Sound Insulation Program
RTC	Resilient Massachusetts Action Team
RTN	Release Tracking Number

S

SAF	Sustainable Aviation Fuel
SAPHE	State Action for Public Health Excellence
SAS	Scandinavian Airlines
SCA	South Cargo Area
SDG	Sustainable Development Goals
SID	Standard Instrument Departures
SIP	Massachusetts State Implementation Plan
SL	Silver Line
SMP	Sustainability Management Plan
SOV	Single-Occupancy Vehicle
SPCC	Spill Prevention Control and Countermeasure
SRI	Solar Reflectance Index
STEM	Science, Technology, Engineering, and Math
SWPPP	Stormwater Pollution Prevention Plan

SWSA	Southwest Service Area
T	
TA	Time Above
TAA	Tenant Alteration Application
TAF	Terminal Area Forecast
TBD	To Be Determined
TDM	Transportation Demand Management
THC	total hydrocarbon
TIM	Time in Mode
TIP	Transportation Improvement Program
TMA	Transportation Management Association
TRB	Transportation Research Board
TRI	Toxic Release Inventory
TSA	Transportation Security Administration
TSP	Transportation Security Program
TSS	Total Suspended Solids
U	
U.S.ACE	Army Corps of Engineers
U.S.BLS	U.S. Bureau of Labor Statistics
U.S.DOD	U.S. Department of Defense
U.S.EPA	U.S. Environmental Protection Agency
U.S.GBC	U.S. Green Building Council
U.S.HUD	U.S. Department of Housing And Urban Development
UFP	Ultrafine Particle
ULCC	Ultra-Low Cost Carriers
ULSD	Ultra Low Sulfur Diesel Fuel
UPS	United Parcel Service
USC	University of Southern California
USTs	Underground Storage Tanks
UW	University of Washington
V	
VALE	Voluntary Airport Low Emission
VMT	Vehicle Miles Traveled
VNM	Virtual Noise Monitors
VOC	Volatile Organic Compound
W	
WET	Whole Effluent Toxicity
Z	
ZIAA	Zero Impact Aviation Alliance

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Key Terminology

Term (Acronym)	Definition
"A"-weighted decibel (dBA)	A noise metric that adjusts the Sound Pressure Level (SPL) to mimic human auditory sensitivity. Humans are less responsive to low and high frequencies and most sensitive to mid-range frequencies.
Aboveground Storage Tanks (AST)	Aboveground Storage Tanks (AST) at airports are storage containers located above the ground, primarily used for storing aviation fuel and other essential liquids. Their installation and management are typically overseen by environmental and aviation regulatory bodies.
Advisory Opinion	If a proponent has questions regarding the meaning or applicability of any provision or requirement of the Massachusetts Environmental Policy Act (MEPA), an Advisory Opinion may be requested from the MEPA office.
Air Passengers	Enplaned (arriving) and deplaned (departing) passengers.
Air Taxi	Small commercial aircraft used for short flights between locations not served by scheduled airlines. It may be an on-demand service.
Air Toxics Cancer Risk	An indicator reflecting the estimated possible lifetime cancer risk due to inhalation exposure to airborne pollutants. For example, an air toxics cancer risk of one in one million for a given pollutant means if one million people were exposed to that pollutant consistently for 70 years, one person among that million people may develop cancer.
Air Toxics Respiratory Hazard Index (HI)	Measures the ratio of exposure concentrations to health-based reference concentrations for hazardous air pollutants.
Aircraft Certification Noise Categories (Stages 1 through 5)	Stage 1 aircraft are the noisiest, and Stage 5 aircraft are the quietest, as defined in the Code of Federal Regulations (CFR) Title 14 Part 36, *Noise Standards: Aircraft Type and Airworthiness Certification*.
Aircraft Noise and Performance Data (ANP data)	Noise-related data used in the AEDT model (version 3e) based on distance, altitude, speed, and engine power for civilian aircraft, 84 military aircraft, and 26 helicopters.
Aircraft Operations	Arriving and departing aircraft movements, including takeoffs and landings.
Airline Codeshare Agreement	A commercial agreement where two or more airlines sell seats on the same flight using their own respective flight numbers. This allows airlines to offer more flights to more destinations without as many associated costs and provides similar benefits to passengers as interline agreements.

Term (Acronym)	Definition
Airline Interline Agreement	A commercial agreement between two or more airlines that allows passengers to travel on multiple flights operated by different airlines using a single ticket and checked-through baggage. It enables airlines to provide seamless travel experiences by facilitating the transfer of passengers and their baggage between connecting flights.
Airside	Refers to the restricted area of an airport that is accessible only to authorized personnel. This includes areas such as the runways, taxiways, apron, and gates where aircraft are parked, loaded or unloaded, refueled, or boarded. Airside areas are often referred to as the Air Operations Area, or AOA.
Alternative Fuel Vehicle (AFV)	AFVs are motor vehicles that operate on non-traditional fuels, such as electricity, biofuels, natural gas, or hydrogen, instead of conventional petroleum fuels, like gasoline, which reduces overall emissions and enhancing environmental sustainability.
Annual Average Daily Traffic (AADT)	AADT is a measure of how much vehicle traffic, like passenger cars, the Airport experiences on an average day over a year.
Annual Average Weekday Daily Traffic (AWDT)	AWDT is the average number of vehicles on Airport roadways on a typical weekday over the course of a year.
Annual Average Weekend Daily Traffic (AWEDT)	AWEDT is the average number of vehicles on Airport roadways on a typical weekend day over a year.
Area Navigation (RNAV)	A method of navigation that allows aircraft to fly a direct course between any two points in the air, rather than being restricted to routes between ground-based navigation aids. Using technology like GPS and distance measuring equipment (DME), this method gives pilots greater flexibility in choosing flight paths, uses less fuel with more efficient routing, enables more efficient airspace use, and allows instrument approaches to airports without traditional ground-based navigation systems. RNAV is a component of Performance-Based Navigation (PBN), alongside Required Navigation Performance (RNP).
Automated Traffic Monitoring System (ATMS)	ATMS technology automatically collects, processes, and analyzes vehicle volume data, which helps Airport staff better manage, understand, and control traffic flow.
Auxiliary Power Unit (APU)	APU devices provide energy to aircraft for functions other than propulsion, usually to power systems when the main engines are not running, such as during ground operations, pre-flight checks, and providing air conditioning for passengers.
Aviation Environmental Design Tool (AEDT)	The FAA's standard modeling software for assessing aircraft performance in space and time to estimate environmental impacts like fuel consumption, noise, and emissions.

Term (Acronym)	Definition
Aviation Sustainability Center (ASCENT)	An FAA, NASA, and Department of Defense (DoD) supported research center co-led by Washington State University and Massachusetts Institute of Technology (MIT) focused on advancing sustainable practices within the aviation industry, including reducing environmental impacts. It supports Logan Airport by promoting innovations in fuel efficiency and emissions reduction. ASCENT projects have historically occurred at or around Logan Airport.
Belly Cargo	Cargo transported in the lower hold of a passenger aircraft. Once passengers and luggage are onboard, the remaining free space in the aircraft's lower hold is filled with cargo to optimize the flight's carrying capacity.
Best Management Practices (BMPs)	BMPs, as defined under the CWA NPDES program, are engineered structures, an organization's policies and procedures, or other technologies used to manage, control, or prevent harmful pollutants from being exposed to environmental media, like stormwater, or carried by runoff to natural water bodies or other sensitive environmental areas, like groundwater or soils.
Block Groups	Geographical units used by the United States Census Bureau to organize and group detailed demographic data about communities. Implemented within census tracts, block groups typically contain between 600 and 3,000 people.
Building Envelope	The components of a building that enclose its internal spaces, such as walls, floors, roofs, windows, and doors.
Capacity or Seat Capacity	Number of passenger seats per aircraft or aggregated across a given set of aircraft.
Carbon Offsets	Measurable, verifiable actions which demonstrably reduce greenhouse gas (GHG) emissions to compensate for emissions produced elsewhere; typically achieved by either reducing the production of GHGs or by removing GHGs from the atmosphere.
Cargo Airlines	Airlines operate aircraft only for the transportation of cargo without customer passengers onboard.
Catchment Area	The geographic area from which an airport draws the majority of its passengers. In other words, the area where most air travel customers for the airport come from originally.
Categorical Exclusion (CATEX)	A federal action may be exempt, or "categorically excluded," from a detailed environmental analysis when the proposed activity normally does not have a significant effect on the human environment.
Census Tracts	Small, relatively permanent statistical subdivisions of a county delineated by the U.S. Census Bureau. Each tract typically encompasses about 4,000 inhabitants and is used to analyze population statistics.

Term (Acronym)	Definition
Clean Water Act (CWA)	Originally enacted as the Federal Water Pollution Control Act in 1948, the Act was significantly reorganized and expanded in 1972, becoming commonly known as the Clean Water Act. This U.S. federal law, regulated by the U.S. Environmental Protection Agency (U.S. EPA), controls the discharge of pollutants into the nation's surface waters, including lakes, rivers, streams, wetlands, and coastal areas. The CWA established the basic structure for regulating pollutant discharges into the Waters of the United States (WOTUS) and gave the EPA the authority to implement pollution control programs such as setting water quality standards and the NPDES program.
Climate Resilience Design Standards Tool	A tool for assessing and integrating climate resilience measures into projects, ensuring long-term adaptability against climate risks like flooding and extreme heat. It supports sustainable development by providing guidelines to enhance community and infrastructure safety.
Compressed Natural Gas (CNG)	An alternative fuel made by compressing natural gas, which is used in vehicles and has fewer GHG emissions when combusted than other fuels like gasoline or diesel.
Connecting Passengers	Passengers who arrive at an airport on one flight, and subsequently take another flight to reach a different airport at their final destination.
Co-permittee	Under a stormwater NPDES permit, refers to an entity that shares responsibility and liability with the primary permit holder for complying with the conditions of the permit. This can include managing BMPs, stormwater quality sampling or monitoring, and reporting spills of possible pollutants, among others.
Criteria Air Pollutants	The group of main air pollutants that have been established by the US.EPA under the National Ambient Air Quality Standards (NAAQS)to cause harm to human health, the environment, or property. These pollutants may be generated by aircraft engines, ground support equipment, or vehicles, potentially affecting air quality. The U.S. EPA criteria pollutants are carbon monoxide (CO), nitrogen dioxide (NO_2) and nitrogen oxides (NO_x), ozone (O_3), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), sulfur dioxide (SO_2), and lead (Pb).
Cumulative Noise Index (CNI)	A single number representing the total noise energy from commercial jet takeoffs and landings for a full year. Like DNL, CNI incorporates a 10-decibel weighting for operations occurring at night.
Day Night Average Sound Level (DNL)	A 24-hour cumulative noise exposure measure that applies a 10-dB weighting to nighttime noise (10:00 PM to 7:00 AM) due to increased sensitivity. It is the FAA's preferred metric for assessing noise and land use compatibility.

Term (Acronym)	Definition
Deadhead trips	Trips where vehicles travel to or from the Airport without additional passengers other than the driver. For example, with for-pay transportation services like taxis, the driver may leave the Airport without a customer in the vehicle after dropping off passengers.
Decibel (dB)	The standard unit for Sound Pressure Level (SPL), representing the logarithmic ratio between the pressure of a sound source and a reference pressure. SPL ranges from 0 dB for barely audible sounds to 120 dB for the loudest pain-free sounds, with most daily sounds falling between 30 to 100dB.
Derivative forecast	Detailed forecast that derives specific data regarding aircraft, destination pairs, and other more fine-grained information.
Designated Geographic Area (DGA)	The area within one mile or five miles of the project area for projects subject to MEPA review. For the EDRs and ESPRs, the DGA is 1-mile from the Logan Airport Boundary.
Disaster and Infrastructure Resiliency Planning Study (DIRP)	Focuses on assessing potential risks and enhancing the resilience of the airport's infrastructure against natural and man-made disasters. By developing strategic plans and reinforcing critical systems, the study ensures continued operation and safety under adverse conditions.
Diversity, Equity, and Inclusion (DE&I)	Principles that promote a diverse workforce, ensure equal opportunities, and foster an inclusive environment. This involves strategies to include different groups, based on race, gender, age, and other factors, in staffing, leadership, and decision-making processes.
Domestic Air Travel	Travel starting and ending within the U.S.
Draft Environmental Impact Report (DEIR)	A detailed report prepared by a project proponent and filed with the state's MEPA Office, which assesses and documents the potential environmental impacts of a project or development. The report also proposes steps to mitigate the identified impacts. This report includes responses to comments received on the ENF, which is then submitted to MEPA for review and approval.
Effective Perceived Noise in Decibels (EPNdB)	A measure of the perceived loudness of aircraft noise, considering both the intensity and frequency of the sound, helps establish noise standards for aircraft certification and community noise impact assessments.
Effective Perceived Noise Level (EPNL)	A metric calculated using a series of "tone corrected" perceived noise levels, measured in EPNdB. This includes a "pure tone" correction of up to 6 dB. EPNdB is an international standard for aircraft noise certification and contributes to the calculation of the CNI.

Term (Acronym)	Definition
Effective Runway Use vs. Actual Runway Use	Effective Runway Use, a measure specific to noise, multiplies nighttime operations by 10 before determining percentages, allowing direct comparison of runway use changes with DNL changes (because DNL calculations incorporate a 10-times nighttime weighting). In contrast, Actual Runway Use is reported as annual percentages calculated from operations counts that occurred on each runway.
Electric Vehicle (EV)	A vehicle powered by electricity, often stored in a battery.
Engineered Materials Arresting System (EMAS)	An Engineered Material Arresting System uses crushable material placed at the end of a runway to help stop an aircraft that overruns or undershoots the runway.
Environmental Assessment (EA)	Under the National Environmental Policy Act (NEPA), this is a concise public document that evaluates the potential environmental impacts of a proposed federal action, which can be a new development project at an airport, and determines if the action has the potential to cause significant environmental effects.
Environmental Impact Statement (EIS)	A comprehensive document required by the National Environmental Policy Act (NEPA) for any major federal actions significantly affecting the quality of the human environment. It provides an in-depth analysis of the potential environmental effects of proposed projects or actions and considers alternatives and mitigation strategies to minimize adverse impacts. The EIS process ensures that decision-makers and the public are informed about the environmental consequences before project approval.
Environmental Justice (EJ)	Massport utilizes the Massachusetts Energy and Environmental Affair's (EEA) and Massachusetts Environmental Policy Act Office's (MEPA) definition of environmental justice (EJ) communities: "EJ populations are those segments of the population that EEA has determined to be most at risk of being unaware of or unable to participate in environmental decision-making or gain access to state environmental resources or are especially vulnerable. They are defined as neighborhoods (U.S. Census Bureau census block group data for minority criteria, and American Community Survey (ACS) data for state median income and English isolation criteria) that meet one or more of the following criteria: • The annual median household income is not more than 65 percent of the statewide annual median household income; • Minorities comprise 40 percent or more of the population; • 25 percent or more of households lack English language proficiency; • or Minorities comprise 25 percent or more of the population and the annual median household income of the municipality in which the neighborhood is located does not exceed 150 percent of the statewide annual median household income."

Term (Acronym)	Definition
Environmental Notification Form (ENF)	The MEPA review of a project is initiated through the preparation and filing of an Environmental Notification Form.
Envision™	Institute for Sustainable Infrastructure (ISI) Envision™ Verification is a process for sustainable infrastructure projects, ensuring they align with the Envision™ framework's comprehensive sustainability goals. These goals focus on enhancing environmental stewardship, improving quality of life, and promoting economic prosperity. The verification process objectively assesses whether the project's plans, resources, and execution strategies effectively address these goals, facilitating the credible implementation of sustainable practices.
Essential Air Service (EAS)	Established to guarantee that small communities served by certificated air carriers before airline deregulation maintained a minimal level of scheduled air service. The U.S.DOT is mandated to provide eligible EAS communities with access to the National Air Transportation System. This is generally accomplished by subsidizing two daily round trips with 30- to 50-seat aircraft or additional frequencies with aircraft with 9-seat or fewer, usually to a large- or medium-hub airport.
Executive Office of Energy and Environmental Affairs (EEA)	A state governmental agency that oversees the conservation, regulation, and utilization of the state's environmental resources, along with developing and implementing the state's energy policies. EEA manages the enforcement of MEPA. EEA mandates the Section 61 mitigation measures for those projects that have been determined through MEPA review to cause environmental impacts requiring proponents to implement avoidance, minimization, and mitigation strategies.
Federal Aviation Administration (FAA)	The U.S. government agency responsible for regulating and overseeing all aspects of civil aviation, including air traffic control, safety standards, and airport infrastructure.
Final Environmental Impact Report (FEIR)	A comprehensive report filed with the MEPA Office that provides final details on a project's potential environmental impacts, following the Draft Environmental Impact Report (DEIR). This report includes responses to comments received on the DEIR, completes the analysis of environmental impacts, and outlines final commitments to mitigate identified impacts. This final report is submitted to the MEPA Office for a final review and decision on the project.
Finding of No Significant Impact (FONSI)	If the Federal agency determines that the action will not have significant environmental impacts, the agency will issue a Finding of No Significant Impact.
Fixed-base operator (FBO)	A business that operates on an airport providing aeronautical services such as fuel, parking, and hangar space.

Term (Acronym)	Definition
Future Planning Horizon	The future period of time over which aviation demand and capacity needs are projected or estimated based on historical trends.
Gateway Roadways	These are the roads, streets, and other surface transportation infrastructure that serve as access points to enter and exit from Logan Airport.
Gateway Vehicle Volumes	Count of vehicles over a given period of time that pass through gateway roadway access points when entering or leaving the Airport.
General Aviation (GA)	A public-use airport that does not have scheduled service or has scheduled service with fewer than 2,500 passengers each year. Includes aviation activities that are not military, commercial cargo, or commercial passenger travel based, including private flying, flight training, business flights, and emergency services.
Grab Samples	Single samples of discharges from stormwater outfalls collected from outfall-specific locations.
Greenhouse Gases (GHG)	Gases in Earth's atmosphere trap heat, contributing to the greenhouse effect and global climate change, and include carbon dioxide, methane, nitrous oxide, and fluorinated gases. These gases are reported in the unit metric tons of carbon dioxide equivalent (MTCO2e). The scopes of GHGs typically refer to the different sources of emissions: Scope 1 covers direct emissions from Massport-owned sources, Scope 2 includes indirect emissions from purchased electricity, heating, and cooling, while Scope 3 covers all other indirect emissions.
Gross Domestic Product (GDP)	A measure of economic output for the U.S.
Gross Regional Product (GRP)	A measure of economic output for a region within the U.S.
Ground Service Equipment (GSE)	The various vehicles and tools used on the ground at airports to support aircraft operations, such as tugs, tractors, loaders, refuelers, and catering and cleaning vehicles.
Headway	Refers to the time interval between vehicles, such as buses or shuttles, on a particular route. This reflects the maximum passenger wait time for a vehicle to arrive.
High-Occupancy Vehicle (HOV)	A category of transportation that prioritizes shared travel modes to maximize passenger capacity and reduce congestion. This includes transit services, such as buses and trains, as well as public or privately run shared ride modes like carpooling, vanpools, and shuttle services. HOV systems are designed to encourage the use of vehicles carrying multiple passengers, thereby promoting more efficient use of transportation infrastructure and reducing environmental impact.
Impervious Surface	The percentage of land covered by materials like pavement, affecting water infiltration and urban heat.

Term (Acronym)	Definition
Instrument Landing System (ILS)	Provides alignment, descent gradient, and position for landing safely under conditions of reduced ceilings and visibility. An ILS uses a signal path from the localizer (LOC) antenna and Glide Slope (GS) antenna to provide horizontal and vertical guidance to pilots.
International Air Travel	Travel to and from locations outside the U.S.
International Civil Aviation Organization (ICAO)	A specialized agency of the United Nations that establishes international standards to ensure safe, secure, and sustainable air transport. ICAO influences Logan Airport by aligning its operations with global safety, efficiency, and environmental standards.
Large Hub	An airport that accommodates 1 percent or more of annual commercial enplanements in the U.S.
Large Jet Aircraft	Jet aircraft with 100 seats or more.
Leadership in Energy and Environmental Design (LEED®)	Administered by the U.S Green Building Council, provides a framework for healthy, efficient, and cost-saving green buildings. LEED® certification is a globally recognized symbol of sustainability achievement and leadership. LEED Certification is an independent certification verified by a third party.
Load Factor	The percentage of passengers compared to available aircraft seats per flight.
Logan Airport Parking Freeze	A regulatory measure, part of the Massachusetts State Implementation Plan, which sets a limit on the number of commercial and employee parking spaces at Logan Airport. In accordance with 310 CMR 7.30, Massport regularly reports on compliance, not allowing the total parked vehicles to exceed the parking freeze limits, with special provisions for "Restricted Use Parking Spaces" in scenarios of high demand.
Logan Express	A convenient bus service to and from Logan Airport, providing travelers with reliable and cost-effective transportation options from various locations in Greater Boston. This service is designed to reduce traffic congestion and improve accessibility to the airport.
Low-cost carrier (LCC)	An airline offering lower price fares than the full-service legacy carriers. Usually operates a few aircraft types and have large, but not comprehensive, route networks. These airlines' business models focus more on point-to-point flying between origin and destination airports than connections through hubs.
Massachusetts Bay Transportation Authority (MBTA)	As a division of the Massachusetts Department of Transportation (MassDOT), the MBTA provides subway, bus, Commuter Rail, ferry, and paratransit service to eastern Massachusetts and parts of Rhode Island.

Term (Acronym)	Definition
Massachusetts Clean Energy Center (MassCEC)	An economic development group dedicated to accelerating the clean energy sector in Massachusetts, focused on the importance of integrating renewable energy technologies and enhancing energy efficiency.
Massachusetts Contingency Plan (MCP)	A set of regulations governed by the Massachusetts Department of Environmental Protection (MassDEP) that controls the reporting, assessment, and cleanup of oil and hazardous material spills. It prescribes the site cleanup process based on the nature and extent of a release's contamination.
Massachusetts Department of Environmental Protection (MassDEP)	Administers and enforces environmental laws to protect air, water, and land resources in Massachusetts.
Massachusetts Department of Transportation (MassDOT)	Oversees state transportation infrastructure, including highways, rail, and aviation, and MassDOT coordinates with Massport to ensure efficient transportation connectivity at Logan Airport.
Massachusetts Environmental Policy Act (MEPA)	A state law that requires all state agencies to study the environmental impacts of their projects. The MEPA review process typically begins with submitting an Environmental Notification Form (ENF) to the MEPA office, which provides a preliminary description of the project and its potential environmental impacts. If the project is deemed to have significant environmental impacts, the proponent must then prepare an Environmental Impact Report (EIR) that provides a more detailed analysis. The Secretary of Energy and Environmental Affairs (EEA) then issues a Secretary's Certificate, which determines whether the EIR adequately and properly complies with MEPA and whether a Final EIR is required..
MassDEP CIA Framework	Incorporates assessments of cumulative environmental impacts in air quality permitting processes, particularly in areas near vulnerable communities. It enables comprehensive pollution management and protects EJ populations.
Massport Community Advisory Committee (Massport CAC)	Serving as a liaison between Massport and local communities, the Massport CAC provides feedback and suggestions on airport operations' impact, helping Logan Airport foster community relations and address local concerns. Massport CAC represents 35 communities.
Medium Hub	An airport that accommodates 0.25 to 1 percent of annual commercial enplanements in the U.S.

Term (Acronym)	Definition
MEPA Review	This is a requirement for a project if a state agency has jurisdiction over the project and the project meets or exceeds a MEPA review threshold (outlined at 301 CMR 11.03). MEPA review is not a permitting process. MEPA requires public study, disclosure, and development of feasible mitigation for a proposed project. MEPA review occurs before permitting agencies act, to ensure project proponents are aware ofproject related environmental impacts.
Metropolitan Statistical Area (MSA)	U.S. government designation of the relevant geographic area with significant economic effects on a high population density.
Motor Vehicle Emission Simulator (MOVES)	A computer-based tool developed by the EPA for estimating emissions from ground support equipment, auxiliary power units in aircraft, and from vehicles on airport roads.
Narrow-body Aircraft	Single-aisle aircraft, typically with a seating capacity of 100-200 seats.
National Ambient Air Quality Standards (NAAQS)	Established by the EPA to limit the concentrations of criteria air pollutants in outdoor air, with the objective of protecting public health or welfare. If an established area meets and surpasses these standards, it is described as being "in attainment."
National Environmental Policy Act (NEPA)	A federal law that requires federal agencies, such as the Federal Aviation Administration (FAA), to assess the environmental effects of their proposed actions prior to making decisions. The process often begins with preparing an Environmental Assessment (EA), a concise document that provides sufficient evidence and analysis for determining the environmental impact of a proposed action. If the EA determines that the environmental impact is not significant, a Finding of No Significant Impact (FONSI) is issued by the FAA, which is a document presenting the reasons why an action will not have a significant effect on the human environment.
National Pollutant Discharge Elimination System (NPDES)	Permit program regulated by the EPA that controls the discharge of pollutants from point sources to waters of the United States. The NPDES permit process involves evaluating the type and quantity of pollutants being discharged, implementing control measures to reduce pollutant discharge, and regular monitoring and reporting of discharge data to the EPA. NPDES permits are typically reviewed and renewed every five years to ensure ongoing compliance with the water quality standards of the Clean Water Act.
Navigational Aids (NAVAIDs)	A physical device on an airfield that provides navigational data to aircraft.

Term (Acronym)	Definition
Net Zero Emissions (Net Zero)	When GHG emissions released to the atmosphere equal those sequestered or removed from the atmosphere. A Net Zero policy often refers to strategies to decrease GHG emissions by increasing operating efficiencies, implementing technologies that reduce overall emissions, or offsetting emissions at other locations.
Network Airlines	Large, full-service airlines that operate comprehensive national and global route networks, utilizing connecting hubs and regional affiliate airlines. Also referred to as "traditional carriers" or "legacy carriers."
Noise and Operations Monitoring System (NOMS)	Massport's NOMS includes aircraft operations and flight tracking software as well as 30 permanent noise monitors installed in Boston and throughout surrounding communities.
Noise Contour	Lines connecting points of equal noise exposure on a map, much like topographic map contours connect points of equal elevation. DNL contour maps describe noise exposure geographically.
Noise Exposure Map	An official map documenting noise exposure for the 65 DNL contour.
Non-hub	An airport that accommodates more than 10,000, but fewer than 0.05 percent of annual commercial enplanements in the U.S.
Non-jet Aircraft	Turboprop and piston aircraft without jet engines.
Notice of Project Change	Request to the MEPA Office should a project materially change prior to construction.
Origin and Destination (O&D) Passengers	Passengers who begin or end their air journey at the airport, as compared to connecting passengers.
Outfalls and Discharges	Refer to the points where stormwater, often from runways and other impermeable surfaces, is discharged into the environment, whether into surface water bodies or the ground.
ParkSmart®	A certification process designed for parking facilities to meet the ParkSmart® framework's sustainability and efficiency goals. This certification verifies parking operations are optimized by enhancing energy efficiency, reducing environmental impacts, improving management practices, and integrating sustainable transportation strategies.
Passenger Airlines	Commercial airlines providing scheduled and non-scheduled passenger air transportation services; not including GA services.
Passenger Count	An annual measure of departing, arriving, and transiting (connecting) passengers at an airport. Includes commercial airline and GA passengers.

Term (Acronym)	Definition
Per- and Polyfluoroalkyl Substances (PFAS)	A group of chemicals used in various industrial applications and consumer products. PFAS are frequently used in aeronautics applications because they maintain their chemical properties and behave the same way under extreme heat, UV light, and in a vacuum, like conditions at high altitudes or in outer space. However, PFAS have primarily been used at airports in Aqueous Film Forming Foam (AFFF), which firefighters use to extinguish jet fuel and petroleum product fires. AFFF use was previously mandated by the FAA for all commercial service airports in the U.S. as part of Part 139 Safety Certification requirements.
Performance-Based Navigation (PBN)	A navigation system that enhances flight path precision and efficiency of aircraft operations by utilizing advanced technologies and procedures.
Planning Activity Level (PAL)	A metric used in airport planning to represent anticipated passenger or aircraft activity volumes at a future point in time, the Future Planning Horizon, which guides infrastructure development and operational improvements planning to accommodate projected or forecasted future demand.
Record of Decision (ROD)	Issued before an action to explain why NEPA approved or did not approve a Proposed Action. The ROD explains what the airport sponsor proposes to do and why, identifies actions the FAA and other Federal agencies must take, explains the alternatives analyzed and which one is environmentally preferred, and identifies required mitigation measures.
Regional Jet (RJ)	Small jet aircraft, typically with fewer than 100 seats per plan, commonly used for shorter distance, regional flights.
Reliever airport	Airports designated by the FAA to relieve congestion at nearby commercial airports and to improve GA access to the community.
Rematch Program	Allows RideApp drivers who are dropping off passengers to locate, connect to, and pick up another passenger quickly and efficiently, which reduces or eliminates Deadhead trips where the driverleaves the Airport without a passenger.
Residential Sound Insulation Program (RSIP)	A noise mitigation initiative implemented by airport authorities and overseen by the FAA to reduce aircraft noise in nearby homes by installing soundproofing measures, like additional insulation or sound dampening windows.
Resiliency	The ability to adapt to a significant disruption or impact successfully and recover readily to prior operating conditions, even if adapting to prevent an impact was not possible.

Term (Acronym)	Definition
ResilientMass Action Team (RMAT)	Focused on building climate resilience across Massachusetts, RMAT advances policies and initiatives that address climate risks, enabling the safeguarding of infrastructure and operations from climate-related disruptions.
RideApp	Formerly referred to as Transportation Network Companies (TNC), RideApp companies use online platforms to connect passengers with drivers who use their personal vehicles. Examples include Uber™ and Lyft™.
Runway Incursion Mitigation (RIM) Study	A comprehensive analysis conducted by airports to identify, prioritize, and develop strategies to reduce the risk of runway incursions. Runway incursions occur when an unauthorized aircraft, vehicle, or person enters the Airport's designated area for aircraft landings or takeoffs. A RIM study enhances runway safety by addressing risk factors such as unclear taxiway markings, airport signage, and complex runway or taxiway layouts.
Runway Safety Area (RSA)	A defined area surrounding the runway consisting of a prepared surface suitable for reducing the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from the runway.
Scope 1, Scope 2, Scope 3	• Scope 1 emission sources are owned or controlled by Massport, including: Gound support vehicles, Massport shuttles, and stationary sources, like boilers. • Scope 2 emissions are from using electricity generated off-Airport at power plants. • Scope 3 emissions come from aircraft, ground service equipment (GSE) and auxiliary power units (APUs), and vehicles traveling to and from the Airport.
Section 61 Findings and Mitigation Commitments	Massport prepares Section 61 Findings for projects that are subject to MEPA and require state permits. Massachusetts General Law Chapter 30, Section 61 authorizes state agencies with permitting responsibilities to make an official determination regarding potential impacts from a proposed project and whether impacts have been avoided, minimized, and mitigated for, as appropriate.
Small Hub	An airport that accommodates 0.05 to 0.25 percent of annual commercial enplanements in the U.S.
Solar Photovoltaic System	A system that generates electricity from sunlight.
Spill Prevention Control and Countermeasure (SPCC) Plan	Required by the EPA for facilities, such as the Airport, that store, handle, or use oil, which outlines how the facility will prevent oil spills and manage spills if they occur.
Stormwater Pollution Prevention Plan (SWPPP)	A required plan developed by a NPDES permit holder that describes measures and actions the permit holder will take to prevent pollutants from reaching stormwater or the environment.

Term (Acronym)	Definition
Sustainability	The practice of meeting present needs without compromising the ability of future generations to meet their own needs, by balancing environmental, social, and economic considerations. Airports Council International - North America (ACI-NA) expands on this concept for an airport setting by emphasizing a holistic approach to managing assets to promote economic viability, operational efficiency, natural resource conservation, and social responsibility, often referred to as the EONS approach.
Sustainable Aviation Fuel (SAF)	A more environmentally sustainable alternative to conventional jet fuel, derived from renewable resources, which can reduce the carbon footprint and environmental impact of air travel. SAF plays a crucial role in helping the aviation industry meet emission reduction targets and sustainability goals.
Tenant Alteration Application (TAA)	An internal Massport process for tenants who want to make modifications to their leasehold.
Terminal Area Forecast (TAF)	FAA annual forecast estimate of aviation activity projections, including passenger enplanements, operations, and cargo volumes, for U.S. commercial airports.
Terminal Area Planning	Projects designed to modernize and enhance airport facilities to improve passenger experience, operational efficiency, and safety.
Time Above (TA)	A metric indicating the total minutes that sound levels, typically from aircraft, exceed a specified threshold (e.g., "TA65" for 65 dB). While often used for a 24-hour average annual day, it can represent any time period, and any threshold can be used.
U.S. Environmental Protection Agency (U.S. EPA)	A federal agency responsible for protecting human health and the environment by enforcing regulations and setting standards for air, water, and land quality.
Ultra Low Sulfur Diesel Fuel (ULSD)	A cleaner-burning diesel fuel with significantly reduced sulfur content, mandated by environmental regulations to lower emissions of sulfur oxides and particulates, which is vital for compliance with air quality standards and reducing environmental impact from diesel engines.
Ultra-Low-Cost Carrier (ULCC)	Airlines which generally offer the lowest fares for air travel, but these airlines generally operate fewer types of aircraft less frequently and at less convenient times than more expensive carriers. These airlines offer few amenities, which usually are an extra charge or fee beyond the airfare price.
Underground Storage Tanks (UST)	Belowground tanks primarily used for storing liquids like aviation fuel, and their operation and maintenance are closely regulated.

Term (Acronym)	Definition
Upgauging	Introducing larger aircraft with greater capacity on existing frequencies to accommodate demand, typically on routes previously using regional jet aircraft.
Vehicle Miles Travelled (VMT)	VMT is the total number of miles driven by all vehicles within the Airport over an established timeframe.
Wide-body Aircraft	Dual-aisle aircraft, typically with more than 200 seats per plane.
Zero Impact Aviation Alliance (ZIAA)	Partnering with Massport, the MIT-led Zero Impact Aviation Alliance is establishing a sustainable aviation fuel hub at Logan Airport. This project aims to significantly reduce the environmental impacts of aviation by leveraging innovations in sustainable fuels.

1. Introduction and Executive Summary

The Massachusetts Port Authority (Massport or the Authority) has provided an extensive record of Boston Logan International Airport's (Logan Airport or Airport) environmental trends, facility planning, **aircraft operations**, and passenger activity levels for over four decades. Massport continues its commitment to transparency with this *Boston Logan International Airport 2023/2024 Environmental Data Report* (*2023/2024 EDR*).

For a translated version of this *Introduction and Executive Summary*, printed translations are available at each of the public libraries listed in Appendix D, and electronic translated versions are available on Massport's EDR and ESPR website: https://www.massport.com/environment/boston-logan-edr-espr-data-portal Other language translations are available upon request. Please contact: **(617) 568 3546** or **community@massport.com**.

1.1 Logan Airport Context

Massport owns and operates Logan Airport, a crucial hub for Boston and New England's passenger and cargo transportation networks. As the Boston metropolitan area's primary airport, the Airport is the main air service provider for passengers and a significant international gateway for transatlantic services. Located less than 3 miles from downtown Boston, the Airport spans about 2,400 acres in East Boston and Winthrop, including 700 acres in Boston Harbor. Logan Airport's airfield comprises 6 runways, approximately 15 miles of taxiway, and about 240 acres of concrete and asphalt aprons. An airfield apron, also known as a ramp, is where aircraft are parked, loaded, unloaded, fueled, and maintained. The Airport has four interconnected passenger terminals, Terminals A, B, C, and E, each equipped with ticketing, baggage claim, and ground transportation facilities. Public transit lines, several direct bus lines, and a well-connected roadway system provide access to and from the Airport. Massport also offers on-Airport parking garages and **Logan Express** bus service for **air passengers** and employees from various park-and-ride lots in the metropolitan area. Logan Airport and its surroundings are illustrated in **Figure 1-1** and **Figure 1-2** for context.

Figure 1-1 Logan Airport Context - Aerial View

2023/2024 Environmental Data Report

Terminal Buildings
Parking Facilities
Service Areas

0 900 1,800 3,600 Feet

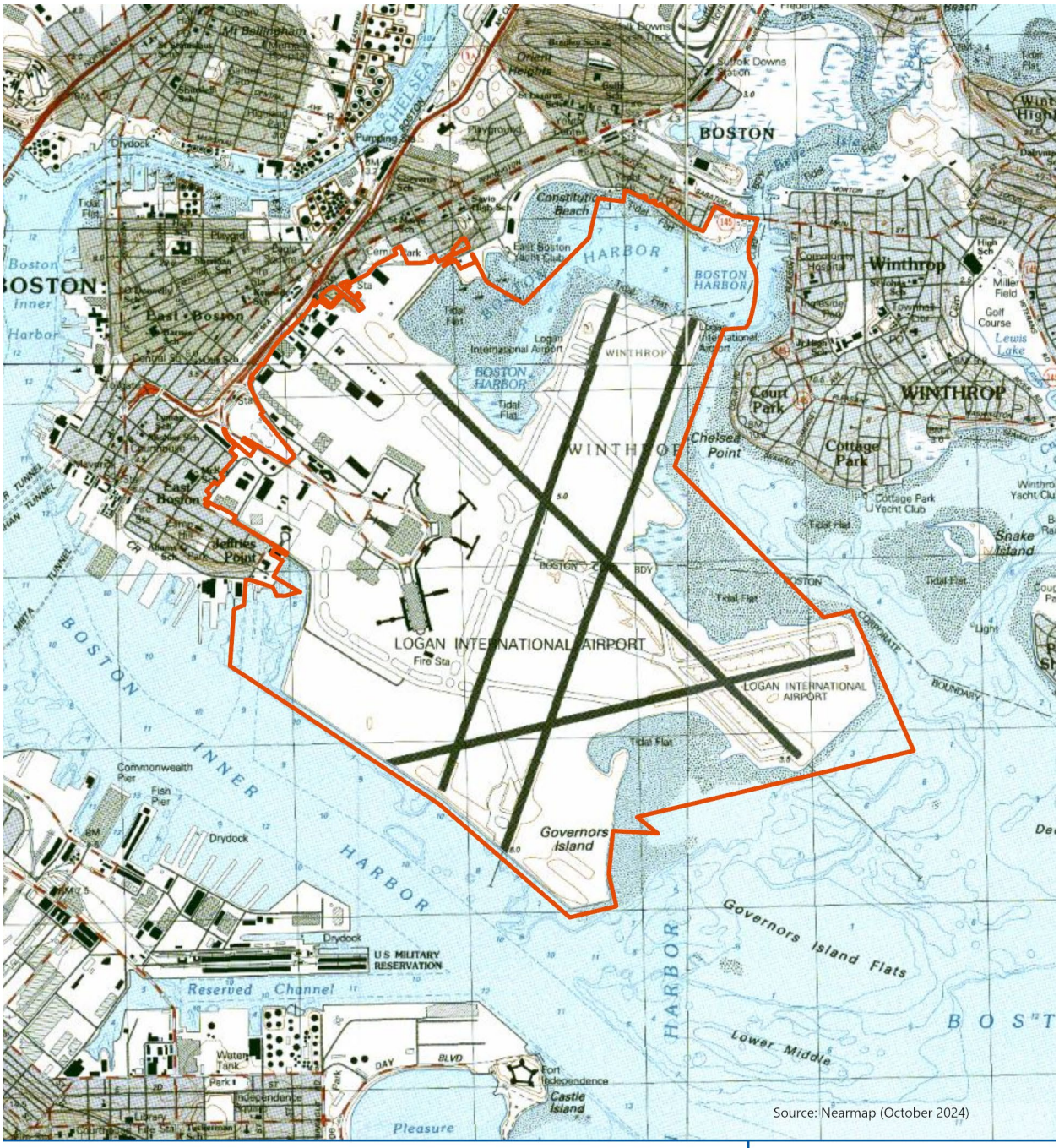


Figure 1-2 Logan Airport Context - Topographic View

2023/2024 Environmental Data Report

Logan Airport Boundary

0 1,250 2,500 5,000 Feet

1.1.1 Activity Levels

This *2023/2024 EDR* reports on recent trends in passenger activity levels and aircraft operations at Logan Airport with comparisons to historical benchmark years. The number of air passengers and aircraft operations grew in 2023 and 2024, with passenger activity levels at Logan Airport exceeding the 2019 pre-COVID peak with a record high of 43.5 million passengers by 2024. Aircraft operations levels were still 3 percent less than 2019 levels by the end of 2024. Even though passengers and flights increased, most environmental conditions improved compared to historical conditions, and Massport remains committed to implementing a broad range of environmental and operational measures to reduce impacts associated with Airport operations. Changes in environmental conditions from 2023 and 2024 are reported alongside discussions of trends and measures taken to reduce impacts in the following chapters of this *2023/2024 EDR*.

1.1.2 Massport's Investment in Logan Airport

Massport continues to enhance Logan Airport's safety, security, operational efficiency, and accessibility while monitoring the environmental effects of its activities. Recent and on-going terminal area projects will provide seamless post-security connectivity between the terminals and improve passengers' travel experience through consolidated security checkpoint areas. Massport also prioritizes access to areas around Logan Airport, and works with the **Federal Aviation Administration (FAA)** to enhance airside safety by improving **Runway Safety Areas (RSA)** and simplifying airfield geometry.[1] See Chapter 4, *Airport Planning*, to learn more about on-going improvement projects at Logan Airport. In addition to development projects, Massport remains committed to implementing project-related mitigation strategies, as documented in Chapter 10, *Project Mitigation*.

In addition to the routine funding requests to advance the *Roadmap to Net Zero by 2031* (Roadmap to Net Zero) program, in 2023, the Board of Directors voted to approve $500 million to advance Net Zero projects, laying the groundwork for future emissions reductions over the next five years. More on Massport's Roadmap to Net Zero efforts are included in Chapter 11, *Sustainability and Climate Resilience,* Section 11.2.

1 Airfield geometry refers to the dimensions, orientation, condition, and number of runways on an airport's campus.

1.2 ESPR and EDR Purpose

The *2023/2024 EDR* is part of an annual series of environmental review documents Massport submits to the Secretary of the **Executive Office of Energy and Environmental Affairs (EEA)**, in accordance with the **Massachusetts Environmental Policy Act (MEPA)**.[2] The *2023/2024 EDR* continues Massport's established state-level environmental review process, which assesses the cumulative environmental impacts of activities associated with Logan Airport. These documents provide the current and historical context for individual projects at Logan Airport that meet state and federal environmental review thresholds, as well as report on the cumulative environmental effects of Logan Airport's operations and activities. For more on the purpose of the **Environmental Status and Planning Reports (ESPRs)** and EDRs, section **User's Guide Section U1.3**.

This *2023/2024 EDR* provides updates on the following topics:

- Community Outreach and Environmental Justice
- Activity Levels
- Airport Planning
- Logan Airport's Regional Transportation Network Role
- Airport Ground Access
- Noise Abatement
- Air Quality and Emissions
- Water Quality and Environmental Compliance
- Project-Specific Mitigation Efforts
- Sustainability and Climate Resilience

Following EEA's review of the *2022 ESPR*, Massport was directed to prepare this *2023/2024 EDR* according to a scope established by the Secretary's Certificate on the *2022 ESPR* dated October 18, 2024. This EDR fulfills the requirements outlined in the Secretary's Certificate on the *2022 ESPR* and responds to the comments within the Secretary's Certificate and as well as those submitted by other commenters. The Certificate and comment responses are included in Appendix A, *MEPA Certificates and Responses to Comments*. A Spanish translation of this chapter is included after the English version of the Executive Summary. Translations of the Executive Summary into Haitian Creole, Simplified Chinese, and Portuguese are available electronically and also in print at local libraries as noted in Appendix D, *Distribution List* and on Massport's website at https://www.massport.com/environment/project-environmental-filings/boston-logan. A Babel Notice informing readers how to access language translation services and request project materials in a specific language for the *2023/2024 EDR* is also available in Vietnamese, Russian, Mon-Khmer, Arabic, and Korean. To request additional translation services, please contact Brad Washburn, Massport, by phone at (617) 568-3546 or by email at community@massport.com.

User's Guide Section U1.3

1.2.1 Project-Specific Reviews

Massport's EDR is a unique document within the MEPA process. Unlike other MEPA documents, the ESPRs and the annual EDRs are not "projects" within the typical MEPA framework. The documents do not take

2 Massachusetts General Laws Chapter 30, Sections 61-62H. MEPA is implemented by regulations published at 301 Code of Massachusetts Regulations (CMR) 11.00 ("the MEPA Regulations").

the place of any individual project filings subject to MEPA, nor do they serve as approval for any specific activity. Rather, as their titles indicate, the ESPRs and EDRs report on Logan Airport's general operating activities and environmental conditions.

Logan Airport projects undergo a project-specific, public environmental review process when MEPA environmental review thresholds are met. When required pursuant to MEPA, Massport and Airport tenants submit **Environmental Notification Forms (ENFs)** and **Environmental Impact Reports (EIRs)**. If a project triggers a **National Environmental Policy Act (NEPA)** environmental review, the project is reviewed under the FAA's NEPA environmental review process. Chapter 4, *Airport Planning*, discusses current and potential future projects and their respective regulatory review status under MEPA, NEPA, or both, if applicable. Chapter 10, *Project Mitigation*, reports on the on-going implementation of required mitigation commitments made in project-specific MEPA filings.

1.2.2 Document Layout and Format

In response to the comments within the *Secretary of the Executive Office of Energy and Environmental Affairs' Certificate*, (see Appendix A) and Comment Letters received from the public (see Appendix B, *Comment Letters and Responses to Comments*), Massport reviewed the full *2022 ESPR* document in detail to assess ways to reduce the overall length of the *2023/2024 EDR* document and streamline the content of future ESPR and EDR filings while ensuring the environmental data and key findings expected in each chapter are still included. As a result, Massport has made significant changes to improve overall accessibility and readability of the document and reduce its length. Namely, with the introduction of the User's Guide and additions to the Environmental Filings webpage, readers can access more content related to the EDR and ESPR and updates can be made more frequently, as practicable. These changes should also enable Massport to return the EDRs to an annual reporting schedule.

Content from each chapter was reorganized to focus on data from each reporting year individually, 2023 and 2024 for this EDR, within the main body text. The annual data analysis focuses on findings between the reporting years, the previous year (2022), and a topic-specific benchmark year, which was typically chosen as the year of the historic high at Logan Airport for the given metric. See **User's Guide, Section U1.2.2.1** for rationale behind the selection of each topic's benchmark year. Where appropriate, supporting technical data used to develop findings was relocated to the technical appendices, while background information on the regulatory framework, methodologies, and further context was moved to the corresponding User's Guide chapter.

User's Guide Section U1.2.2.1

To enhance content accessibility and reduce technical jargon, glossary tables providing key terminology with definitions was added to assist readers. Key terminology is defined in **bold, blue colored font** when first used in the main text. The *2022 ESPR* format, which also reduced large, information-dense blocks of text and added more visual elements with straightforward depictions of information, was continued within this EDR.

Each chapter has color-coded block icons, or "tabs," in the upper corner of each page with a unique color assigned to each chapter and corresponding chapter number icon centered in the color block. For electronic viewers, the table of contents preceding this chapter has been hyperlinked to allow the reader to easily jump to sections quickly. Chapter and section references within the main body of the text have also been bookmarked and hyperlinked.

Each chapter has a unique color-coded block icon, or "tab," with the chapter's number inside the block, located in the upper page corner. This chapter's example is below:

1.2.2.1 User's Guide

For the first time, Massport is publishing a User's Guide alongside this *2023/2024 EDR*. The stand-alone document provides details on the regulatory framework, methodologies, models, model inputs, programs, and analyses used to create the EDRs and ESPRs. The User's Guide provides essential background information and context necessary to interpret these documents, which had previously been included within EDR and ESPR chapter text and technical appendices. Each chapter in this *2023/2024 EDR* is accompanied by a User's Guide chapter.

This EDR includes several references throughout the chapters' text to relevant sections of the User's Guide where essential contextual information can be found. The electronic version of this *2023/2024 EDR* includes User's Guide references as hyperlinks embedded in the document text which will open the associated User's Guide section when clicked. References to the User's Guide will look like: **User's Guide, Section #.#**.

User's Guide icons distributed within the EDR are hyperlinked to the Guide for easy navigation.

The User's Guide will be reviewed and updated as necessary on ESPR years (every 5 years) to maintain accuracy and relevance. The User's Guide updates will incorporate information on significant changes that occurred during the previous reporting cycle, like changes in regulatory requirements, modeling methodologies, or data collection approaches. However, these changes will also be addressed in the relevant EDR or ESPR chapters for the reporting years in which these changes occurred, then the information will be migrated to the User's Guide during the next ESPR cycle. For more on the User's Guide's purpose, see **User's Guide, Section U1.1**.

1.2.2.2 EDR/ESPR Webpage

Massport's EDR/ESPR webpage is linked here: https://www.massport.com/environment/boston-logan-edr-espr-data-portal

Massport developed a new online webpage specifically for EDR and ESPR filings. The website will contain documentation and links to EDR and ESPR materials in one place, providing easy access to each chapter of the most recent filings, notices for upcoming meetings, materials from prior meetings, prior ESPR and EDR filings, and the User's Guide. The webpage will also include links to data sources referenced within EDRs and ESPRs that provide some of the publicly available data used to develop the reports. These data sources are primarily hosted by Massport, other state and federal agencies, and other reputable sources.

1.3 2023 and 2024 Key Findings

This section provides a brief overview by chapter of key findings at Logan Airport for the 2023 and 2024 reporting years. Additional information concerning Airport activities is provided in subsequent chapters.

1.3.1 Outreach and Environmental Justice

Chapter 2, *Outreach and Environmental Justice* separates sustainability from the discussion on outreach and **Environmental Justice (EJ)**, in response to the *2022 ESPR* Secretary's Certificate, which is provided in the *2023/2024 EDR* Appendix A. Chapter 2 discusses Massport's community outreach activities and EJ practices, in alignment with recent MEPA EJ policy changes, and outlines Massport's community engagement efforts, including ESPR and EDR outreach and philanthropic donations providing essential funding for community improvement programs. Massport's **sustainability**, **resiliency**, and Roadmap to Net Zero initiatives are detailed in a new chapter, Chapter 11, *Sustainability and Climate Resilience*. For more context on this chapter, refer to **User's Guide, Section U2**.

User's Guide Section U2

Outreach and Environmental Justice	
Massport is a member of MEPA's Logan Airport Work Group, collaborating with state agencies, local government representatives, and community groups to identify potential supplemental mitigation measures to address environmental concerns from Logan Airport's operations within EJ communities.	Massport continues to expand outreach and provides translation services in languages spoken by at least 5 percent of the given population located within a 5-mile radius of Logan Airport or within **Massport Community Advisory Committee (Massport CAC)** communities, which currently includes eight languages as well as resources for further translation needs.
As of 2024, Diversity STEM Scholarships has awarded a total of $92,000 in scholarships to 48 students of color who plan to pursue degrees in a STEM field. The scholarship amount was increased from $3,000 to $5,000 in 2023.	Massport continued work started with the *2022 ESPR* in this EDR by conducting an existing community conditions review following the new **Massachusetts Department of Environmental Protection (MassDEP)** Cumulative Impact Analysis (CIA) Framework.

1.3.2 Activity Levels

Chapter 3, *Activity Levels* studies the recent trends in passengers, operations, and cargo at Logan Airport. For more context on this chapter, refer to **User's Guide, Section U3**.

User's Guide Section U3

Activity Levels Key Findings	
In 2023, Logan Airport handled 40.8 million passengers, increasing 13% from 2022. The Airport also conducted 395,146 aircraft operations in 2023.	In 2024, Logan Airport saw 43.5 million passengers, increasing 6% from 2023. The Airport also conducted 413,409 aircraft operations in 2024.
From 1998 to 2024, there was a 64 percent increase in annual passengers despite a 19 percent decrease in annual aircraft operations.	In 2024, 47 airlines offered flights to 153 global destinations from Logan Airport; an increase from 2023, which had only 42 airlines serving 145 global destinations.

1.3.3 Airport Planning

Chapter 4, *Airport Planning* describes recently completed and on-going projects as well as future planning concepts. By regularly updating this information, stakeholders can track various projects currently underway and get a preview of potential projects likely to begin over the coming years. Chapter 4 also discusses possible activities or projects that might require review under MEPA or NEPA regulations. In this chapter, projects are grouped into the following categories by airport area: ground access and parking; terminal areas; airside areas; service areas. Chapter 4 provides status information on on-going and planned projects. For more context on this chapter, refer to **User's Guide, Section U4**.

User's Guide Section U4

Airport Planning Key Findings	
In 2024, design began on the Danvers Logan Express (formerly Peabody) location, construction began on the Framingham Logan Express garage addition, and preliminary design and permitting began on the Braintree Logan Express parking garage. These projects will facilitate and promote **high-occupancy vehicle (HOV)** and public transit ridership.	The roadways associated with the Terminal C Canopy, Connector, and Roadway Projects were completed in 2023 and the project achieved Leadership in Energy and Environmental Design (LEED®) Gold certification.

Airport Planning Key Findings	
Environmental permitting for the Runway 15R-33L Rehabilitation and Taxiway B North Rebilitation projects were completed in 2023. In November 2023, construction on the Runway 15R-33L Rehabilitation project was completed.	Feasibility and planning studies for FAA Air Traffic Control Tower (ATCT) improvements to accommodate FAA NextGen equipment began in 2024. The project is anticipated to be completed in 2026.

1.3.4 Regional Transportation

Chapter 5, *Regional Transportation* reports on Logan Airport's role in the wider New England transportation system, which includes other airports, highways, ports, and rail connections. Logan Airport, which is the largest of three airports run by Massport, is the main domestic and international entry point for the Boston Metropolitan Area and the New England region.

Chapter 5 details transportation planning for the New England region for various transportation modes, presenting 2023 and 2024 aircraft and passenger activity levels as well as on-going and up-coming projects at airports in New England. Recent rail service statistics for Amtrak are presented and analyzed, as rail transportation is an alternative to air travel via Logan Airport and is increasingly being utilized, especially between Boston, New York City, and Washington, D.C. For more context on this chapter, refer to **User's Guide, Section U5**.

User's Guide Section U5

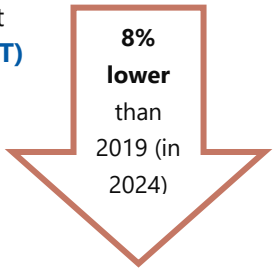
Regional Transportation Key Findings	
New England regional airports, excluding Logan Airport, served approximately 16.7 million passengers in 2023 and 17.9 million passengers in 2024. **4% higher** than 2019 in 2024	New England's 10 regional airports served 29 percent of New England's passengers in 2023 and 2024. The remaining 71 percent of passengers were accommodated at Logan Airport. 29% 71%
4% higher than 2022 in 2024 New England regional airports, excluding Logan Airport, conducted 650,418 aviation operations in 2024, a 3 percent increase from 2023 (631,170 operations).	Amtrak rail services experienced a significant 25.7 percent increase in ridership from Boston-area stations in 2023, compared to 2022, with strong performance across all four routes servicing the Greater Boston area. Ridership continued to increase again in 2024.

1.3.5 Ground Access to and From Logan Airport

Chapter 6, *Ground Access* evaluates trends in surface transportation modes used to access the Airport, including personal vehicles, shared ride services or Ride App services, shuttles, and high-occupancy vehicle (HOV) modes. Post-pandemic research indicates Logan Airport continues to be one of the top U.S. airports in terms of airport passengers and employees that routinely utilize HOV and public transit modes of transportation. Most ground transportation services available in 2023 and 2024 showed increased ridership over 2022, demonstrating the use of the various access modes to Logan Airport, and exceeding 2022 performance targets.

Massport continues to monitor conditions at the Airport and among surrounding areas in order to offer ground access programs to meet the needs of air passengers and Logan Airport employees and to reduce environmental and community impacts. For more context on this chapter, refer to **User's Guide, Section U6**.

User's Guide Section U6

Ground Access Key Findings	
Average weekday on-Airport **vehicle miles traveled (VMT)** was 171,340 average daily miles traveled in 2023 and 192,554 average daily miles in 2024. 	High-occupancy vehicle (HOV) mode share reached 43 percent, according to the 2024 *Logan International Airport Air Passenger Ground-Access Survey*.
Ridership on Logan Express reached an all-time high in 2024, exceeding 2023 levels by over 13percent.	Massport continued to promote and improve HOV modes in 2023 and 2024, by purchasing ten replacement **Massachusetts Bay Transit Authority (MBTA)** Silver Line buses, constructing and planning for more parking spaces at Logan Express sites, adjusting rates and schedules, and more.

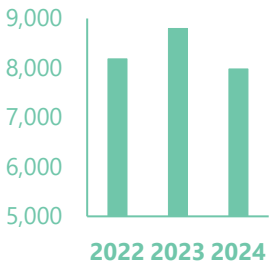
1.3.6 Noise

Chapter 7, *Noise* discusses the noise levels around the Airport in 2023 and 2024 and Massport's on-going efforts to decrease aviation related noise at Logan Airport. Airport noise is measured using comprehensive flight information and the FAA's **Aviation Environmental Design Tool (AEDT)** noise model, which calculates noise exposure levels in **decibels (dB)**. Chapter 7 also describes Massport's recent efforts to manage the impacts of noise on surrounding communities and on-going history of noise abatement over the past four decades. For more context on this chapter, refer to **User's Guide, Section U7**.

User's Guide Section U7

Noise Key Findings

The exposed population in the 65 dB contour included 8,797 people in 2023, marking a 7 percent increase from 2022. In 2024, the population in the 65 dB contour decreased to 7,980 people, lower than the population within the 2019 and 2022 contour.



Massport restarted the **Residential Sound Insulation Program (RSIP)**, conducting sound insulation treatment pilot tests with a group of 10 homes in Revere and Winthrop in 2023. In 2024, Massport progressed design drawings and began soliciting bids for contractors to support the RSIP's implementation.

Noise complaint calls decreased year over year, with 218,830 noise complaint callers in 2023 and 212,423 callers in 2024.

Massport was recognized with the 2025 Jay Hollingsworth Speas Airport Award for its collaborative work with the FAA, Massachusetts Institute of Technology (MIT), and the community on noise reduction efforts.

1.3.7 Air Quality and Greenhouse Gas Emissions

Chapter 8, *Air Quality and Greenhouse Gas (GHG) Emissions* provides details about Logan Airport's air emissions in 2023 and 2024 in comparison to historical data. Airport emissions generally come from various sources including aircraft, **ground service equipment (GSE)**, vehicles, buildings, and stationary sources. Tracking these emissions each year helps identify trends and enables future planning to reduce these emissions, including initiatives to advance Massport's Roadmap to Net Zero. Emissions are greatly influenced by aircraft activity levels, which have increased each year following the pandemic. However, technological advancements and energy-efficient strategies enacted by Massport help to reduce overall emissions and are expected to result in future emission levels remaining below historical levels. For more context on this chapter, refer to **User's Guide, Section U8**.

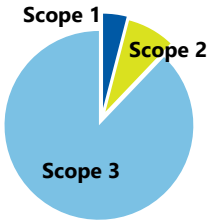
User's Guide Section U8

Air Quality and GHG Emissions Key Findings

Total modeled airport related emissions of volatile organic compounds (VOCs), nitrogen oxides (NO_X), and carbon monoxide (CO) increased in 2023 over 2022 levels. In 2024, total modeled airport-related emissions of VOCs, NO_X, CO, and particulate matter ($PM_{10}/PM_{2.5}$) increased from 2023.

In 2023, total $PM_{10}/PM_{2.5}$ emissions from all airport-related sources at Logan were 44 percent lower than 2022 levels. The decrease is attributed to modeling software updates which provided a more accurate calculation of $PM_{2.5}$ and PM_{10} emission rates as well as more efficient vehicle technology and lower fuel use in non-mobile sources, such as generators and snow melters.

In 2023 and 2024, Logan Airport's **greenhouse gas (GHG)** emissions remained below 2019 GHG levels. The GHG emissions breakdown from 2023 and 2024 by scope is as follows:



- Massport-controlled, **Scope 1** emissions represented 4 percent of Airport-wide GHG emissions in 2023 and 5 percent in 2024;
- Indirect emissions from **Scope 2** purchased electricity represented 7 percent of Airport-wide GHG emissions in 2023 and 2024; and
- **Scope 3** emissions, which are tenant owned and controlled, represented 89 percent of total Logan Airport GHG emissions in 2023 and 2024.

Total GHG emissions in 2023 increased by 19 percent from 2022 levels. The changes in GHGs are attributable to increases in operational and passenger activity levels, as well as an increase in electrical usage due to the modernization and the expansion of Terminal E. Logan Airport's total GHG emissions in 2023 and 2024 were both 1 percent of the most recent statewide total emissions estimates and 12 percent and 13 percent, respectively, of Boston's citywide emissions.

1.3.8 Water Quality

Chapter 9, *Water Quality* discusses the Airport's compliance with state and federal environmental regulations. Through regular monitoring and documentation of environmental conditions, Massport regularly assesses the Airport's environmental compliance program performance, including conditions like stormwater quality; fuel use and storage; and spill control and countermeasures.

Massport is also continually developing, implementing, and evaluating new ways to maintain compliance standards while striving to improve policies and programs beyond regulatory mandates. This includes implementing Logan Airport's *Sustainability Management Plan* (SMP); managing stormwater; minimizing water use and surface water runoff; maintaining fuel storage and spill reporting compliance; performing environmental inspections; and improving plans and procedures to prevent pollution from accessing the surrounding environment. For more context on this chapter, refer to **User's Guide, Section U9**.

User's Guide Section U9

Water Quality Key Findings	
In 2023, Massport was issued a new **National Pollutant Discharge Elimination System (NPDES)** with several different water quality testing requirements and limitations. Massport began monitoring water quality testing with the new permit in November 2023.	No exceedances of discharge limitations per the NPDES permit were found in 2023 water quality testing results.
In 2024, over 98 percent of stormwater samples collected were in compliance with the discharge limitations per the NPDES permit and no **per- and polyfluoroalkyl substances (PFAS)** compounds were found above the detection limit in 2024.	Massport continues to assess and remediate ***Massachusetts Contingency Plan* (MCP)** sites associated with Logan Airport. In 2023, Massport brought three sites to regulatory closure and closed one MCP site in 2024.

1.3.9 Project Mitigation

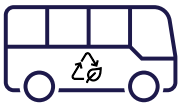
The Section 61 mitigation measures discussed in Chapter 10, *Project Mitigation,* are specific to individual projects and generally include the steps taken to avoid and minimize potential environmental impacts through project design, construction, or during on-going operations. The status of Logan Airport projects with active Section 61 commitments are presented in Chapter 10, while additional environmental measures are discussed in Chapter 11, *Sustainability and Climate Resilience*. Within the traditional MEPA process, "project mitigation" refers to specific project measures to "avoid, minimize, and mitigate environmental impacts." For the EDR, the chapter associated with mitigation efforts include: project-specific mitigation required under Massachusetts General Law (MGL) c. 30, §§ 61 (**Section 61 Findings and Mitigation Commitments**) for projects required to prepare a state EIR; community commitments; and other environmental measures. For more information on Project Mitigation, see **User's Guide, Section U10**.

User's Guide Section U10

Project Mitigation Key Findings	
Within the MEPA process, Project Mitigation refers to specific project measures to "avoid, minimize and mitigate environmental impacts." Project mitigation commitments outlined within a required Environmental Impact Report (EIR) for a project are required by law under Massachusetts General Law (MGL) Chapter 30, Section 61.	Massport continues to track its mitigation commitments, and report their status in the EDR. As of December 2024, four projects at Logan Airport have on-going Section 61 commitments.

1.3.10 Sustainability and Climate Resilience

Chapter 11, *Sustainability and Climate Resilience* details Massport's proactive sustainability and resiliency programs as well as community initiatives, such as the Airport's open spaces and edge buffers initiatives. An overview and update on Massport's commitment to achieving **net zero emissions**, as described in Massport's Roadmap to Net Zero program, is provided in this chapter. An analysis on Logan Airport's climate hazard exposure projected for 2030 and 2050 is also included in Chapter 11 alongside Massport's approach to mitigate climate change impacts through resiliency programs.

Sustainability and Climate Resilience Key Findings	
Massport created the Office of Climate Innovation and Resilience (OCIR) to lead environmental and climate action at Massport, in collaboration with several key departments. The OCIR also leads Massport's Roadmap to Net Zero program, which recently launched a website to track progress on the Roadmap to Net Zero. The website (https://www.massport.com/environment/roadmap-to-net-zero) provides the public with relevant background, data, and regular updates on key projects all in one place.	Massport continued its transition to electric vehicles (EVs) by acquiring 34 more electric or hybrid vehicles in 2024, increasing the share of electrified vehicles to 20 percent of the fleet. These new EVs include two electric buses for airside passenger transport in 2024 and an electric street sweeper in 2023, advancing the use of heavy-duty EVs in its operations.
In 2023, 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 published major updates to its Sustainability Design Guidelines (SDGs) and Floodproofing Design Guide, enhancing the Roadmap to Net Zero and climate resiliency objectives through accessible standards and policy.

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2. Outreach and Environmental Justice

Massport is committed to fostering strong relationships with the communities surrounding Logan Airport by prioritizing community engagement and effective outreach strategies. Massport has participated in and initiated programs that directly benefit neighboring communities, as described in this chapter and the *2022-2023 Massport Sustainability, Net Zero, and Resiliency Report*.[1]

To increase community awareness of Logan Airport's projects and programs, Massport has developed project-specific as well as EDR and ESPR program-specific outreach initiatives. EDR and ESPR community outreach efforts include an expanded distribution list, translation into languages commonly spoken within these communities, and frequent engagement with the public at local meetings. In addition, Massport participates in the **Massachusetts Environmental Policy Act** Office's (MEPA) Logan Airport Work Group (the Work Group), which brings together state agencies, local government representatives, and community groups to identify potential beneficial air quality measures within the communities of East Boston, Winthrop, and Chelsea. Although the Work Group's efforts will conclude in early 2026, Massport will continue to meet with community groups to further engage in Logan Airport's environmental conditions.

In addition to summarizing the status of Massport's 2023 and 2024 outreach programs, this chapter characterizes **environmental justice (EJ)** populations within the vicinity of Logan Airport by building on the public health existing conditions assessment conducted for the *2022 ESPR*. It presents findings from the newly released **Massachusetts Department of Environmental Protection (MassDEP)** Cumulative Impact Analysis (CIA) Framework. Massport continues to follow regulatory frameworks and serves as a responsive partner in reporting and engaging with the surrounding community through these efforts.

1 2022-2023 Massport Sustainability, Net Zero, and Resiliency Report. Massport 2024. https://www.massport.com/environment/sustainability

2023 Outreach and Environmental Justice Key Findings

The following details key findings of outreach and environmental justice efforts at the Airport in 2023:

- For this EDR and future EDRs and ESPRs, Massport has expanded its EJ outreach to provide translation services in languages spoken by at least 5 percent of the population located within 5 miles of Logan Airport and among the 35 **Massport Community Advisory Committee (Massport CAC)** communities. For this EDR, this includes eight languages.

2024 Outreach and Environmental Justice Key Findings

The following details key findings of outreach and environmental justice efforts at the Airport in 2024:

Massport employees participate in various community activities throughout the year, including a children's winter coat drive, Veterans Day initiatives, a Thanksgiving food drive, a children's backpack drive, a donation drive for a women's shelter, and community beautification projects.

- Massport is a member of MEPA's Logan Airport Work Group, which was established following the *2022 ESPR* Secretary's Certificate. The Work Group has brought together state agencies, local government representatives, and community groups to identify potential air quality beneficial measures within the communities of East Boston, Winthrop, and Chelsea.
- An updated assessment of existing community conditions was developed using the newly released **MassDEP CIA Framework**. The framework provides tools for public health assessments and environmental indicators, offering more detailed data than previously available tools.

2.1 Massport Community Engagement

Massport has and will continue to champion community benefits and robust community engagement. Working in concert with government, community, and civic leaders throughout Massachusetts and New England, Massport is actively engaged in advancing environmental initiatives and expanding community programs for residents living near Massport's facilities. **Table 2-1** provides an overview of the community giving program and progress for 2023 and 2024. Refer to the **User's Guide, Section U2.1** for a more comprehensive list of Massport's past community giving.

User's Guide Section U2.1

Table 2-1 2023 and 2024 Massport Community Giving and Engagement Summary

Program	2023/2024 Update
Massport Charitable Contribution Program	• Massport's Charitable Contribution Program is intended to assist non-profit programs in neighboring communities with grants to support their missions. • In Fiscal Year (FY) 23, Massport supported 55 organizations with $260,000 in grants. • In FY24, Massport supported 58 organizations with $280,000 in grants.

Table 2-1 2023 and 2024 Massport Community Giving and Engagement Summary

Program	2023/2024 Update
Community Summer Jobs	• Massport's Community Summer Jobs Program provides grants to help civic and social services agencies hire youth employees for the summer. • In 2023, Massport awarded $650,000 for 275 youth employment positions to 30 neighborhood organizations. • In 2024, Massport awarded $680,000 for 285 youth employment positions to 29 neighborhood organizations.
East Boston Foundation, South Boston Foundation, and Winthrop Foundation	• Community foundation payments are based on project milestones. The funding is used to support organizations in their neighborhoods with programming grants. • In 2023, Massport provided $1.3M in community foundation payments to the East Boston, South Boston, and Winthrop Foundations. • In 2024, Massport provided $150,000 to the South Boston Foundation.
NeighborHealth	• Beginning in 2014, as a result of the Logan Airport Health Study, Massport provides annual funding to NeighborHealth (formerly the East Boston Neighborhood Health Center). • This partnership helps to expand the efforts of their Pediatric Asthma and Chronic Obstructive Pulmonary Disease (COPD) Prevention and Treatment Program in East Boston and Winthrop. The program offers services that include screenings for children, distribution of asthma kits, and home visits to support families. • Massport provides $340,000 to support these programs each year. • As of 2024, 554 patients were enrolled.
Diversity Science, Technology, Engineering, and Mathematics (STEM) Scholarships and Memorial Scholarships	• Each year, Massport awards 2 Diversity STEM Scholarships and 4 Memorial Scholarships to local students for $5,000 each. • As of 2024, Massport has awarded $340,000 in scholarships to 96 students.
Pathways Internship Program	• In 2023, the law enforcement internship program was extended to UMass Boston, aiming to attract diverse talent, including students of color and women. Since the program began, three students have been hired full-time by Massport.
Aviation and Maritime STEM Expo	• In 2023, the annual onsite STEM Expo in collaboration with the Federal Aviation Administration (FAA) was resumed after a three-year COVID-19 hiatus. The event featured over 50 exhibits and 35 aircraft, and attracted more than 1,000 students interested in aviation, technology, transportation, and sustainability careers. • In 2024, approximately 2,000 8th-grade and high school students representing 48 schools from the New England region attended the annual Aviation & Maritime STEM Expo. The event showcased an experimental electric airplane, a Boston MedFlight emergency aircraft, snow removal equipment, and many other vehicle and plane displays.

2.2 Community and Environmental Justice Outreach

Massport, through its Community Relations & Government Affairs Department and the Massport CAC, has demonstrated a consistent commitment to engaging with nearby communities and enhancing the quality of life of Massport's neighbors. This section outlines Massport's public outreach practices, including its comprehensive EJ and translation policies. These practices inform Massport's strategy across both specific projects and broader filings such as EDRs and ESPRs. Included are particular measures taken to ensure thorough, inclusive, and accessible communication through public involvement. Additionally, this section highlights Massport's continued evolution in its approach to community engagement, with recent expansions in outreach efforts and the addition of pre-filing public information sessions for projects in the MEPA process.

2.2.1 Regulatory Framework

Massport continues to comply with the **Executive Office of Energy and Environmental Affairs (EEA)**-enacted Climate Roadmap Act, the *MEPA Public Involvement Protocol for Environmental Justice Populations,* and the *MEPA Interim Protocol for Analysis of Project Impacts on Environmental Justice Populations* (2022 EJ Protocols) for individual projects at Logan Airport filed with MEPA.[2] While Massport's EDR and ESPR filings are not formally subject to these recent regulations and protocols as they are not projects, Massport voluntarily complies with these protocols. Following these regulations and protocols, the *2023/2024 EDR* defines the **designated geographic area (DGA)** as a 1-mile radius from the outer perimeter of Logan Airport, consistent with 301 Code of Massachusetts Regulations (CMR) 11.02 and the *2022 ESPR*. The DGA is utilized for characterizing EJ populations within the vicinity of the Airport, assessing existing health conditions, and, at a minimum, determining the extent of outreach for the *2023/2024 EDR*. Characterization is conducted through the analysis of **census tracts** within the DGA and **block groups**, which are smaller subsets of a census tract. Census tracts are small statistical subdivisions of municipalities with a targeted population size of 4,000 people. Block groups divide census tracts into smaller subsets of around 1,200 residents.[3] As discussed in the following sections, Massport strives to provide comprehensive outreach on the on-going and upcoming activities and operations at Logan Airport to neighboring communities. A map of the EJ populations within the DGA (1-mile) is illustrated in **Figure 2-1**.

2.2.2 Massport's History of Community Outreach

Massport has conducted and continues to conduct comprehensive outreach to the surrounding communities through its Community Relations & Government Affairs Department. This department manages Massport's relations with community members and government officials, furthering Massport's

2 EEA. 2021. MEPA Interim Protocol for Analysis of Project Impacts on Environmental Justice Populations. https://www.mass.gov/doc/final-mepa-interim-protocol-for-analysis-of-project-impacts-on-environmental-justice-populations-effective-date-of-january-1-2022/download.

3 United States Census Bureau, 2025. https://www.census.gov/programs-surveys/geography/about/glossary.html#par_textimage_13

goal of being a good neighbor. The department implements Massport's public engagement practices, which are tailored on a project-by-project basis to meet community needs and for the annual EDRs and ESPRs. Additionally, Massport relies on input from the Massport CAC to serve as the formal government representatives for the 35 communities surrounding Massport facilities, thereby fostering a strong relationship of continued collaboration and cooperation. Massport CAC meetings are open to the public, both during the meeting and after, through published recordings. These meetings are also announced with sufficient notice for the public to attend.[4]

2.2.3 Project-Specific Massport Public Involvement Practices

The Community Relations & Government Affairs Department directs Massport's EJ and community outreach for projects subject to **MEPA review**. Massport identifies EJ block groups within a 1-mile radius and a 5-mile radius[5] for a Project Area as part of the DGA for MEPA project filings on projects occurring after the enactment of the *Environmental Justice Policy of the Executive Office of Energy and Environmental Affairs* (2021 EJ Policy) and 2022 EJ Protocols.

2.2.4 ESPR Public Involvement Practices and Outreach

This EDR, like previous Massport EDR and ESPR filings, voluntarily offers an extension to the typical 30-day MEPA public comment period. Throughout the development of the *2023/2024 EDR*, Massport enhanced public involvement and outreach through continuing practices initiated within the *2022 ESPR* and through participation in MEPA's Logan Airport Work Group, which is discussed in subsequent sections. Additionally, Massport's Community Relations & Government Affairs Department provides oral updates on on-going projects and programs at Logan Airport, including ESPRs and EDRs, through its participation in neighborhood meetings. Further information on project-specific Massport outreach policies can be found in the **User's Guide, Section U2.3**.

User's Guide Section U2.3

2.2.4.1 Translation

Starting with the *2022 ESPR*, Massport has expanded EJ outreach and the subsequent EJ Reference List to EJ populations within 5 miles of the Airport and translates the document into languages spoken by at least 5 percent of the census tract's population who do not speak English well or at all within 5 miles of Logan Airport, as well as within Massport CAC communities. **Table 2-2** provides a list of languages spoken by more than 5 percent of the population who "do not speak English very well," within 5 miles of Logan Airport and within the 35 Massport CAC communities.[6] The table also denotes how Massport incorporated these languages into the EJ and community outreach strategy.

4 Massport CAC. https://massportcac.org/

5 EJ populations within 5 miles of standard individual projects undergoing MEPA review are typically depicted in a figure, while EJ populations within 1 mile are detailed in a table and analyzed for disproportionate adverse effects. If the project exceeds an air quality threshold, the project is subject to a disproportionate adverse effects analysis for all EJ populations within 5 miles.

6 MEPA Public Involvement Protocol for Environmental Justice Populations. January 1, 2022. https://www.mass.gov/doc/final-mepa-public-involvement-protocol-for-environmental-justice-populations-effective-date-of-january-1-2022/download

Table 2-2 Massport Enhanced Language Access

Massport Expanded Outreach	Languages Spoken by Greater Than 5% of Population within DGA							
	Spanish	Portuguese	Simplified Chinese	Haitian Creole	Vietnamese	Russian	Mon-Khmer	Arabic
Notification of Availability								
Full Translation	X	X	X	X				
Babel Notice					X	X	X	X
Chapter 1, Introduction and Executive Summary								
Full translation	X	X[1]	X[1]	X[1]				
Email Filing Notification								
Full Translation	X	X	X	X				
Babel Notice					X	X	X	X
Public Meetings								
Full Translation	X	X	X	X				
Babel Notice					X	X	X	X
Interpreter Provided	X							

Notes: Interpretation services for all languages listed above can be provided by Massport with at least 48 hour notice before a public meeting.

1 Available electronically on Massport's website and at local libraries (see Appendix D, *Distribution List*).

Chapter 1, *Introduction and Executive Summary*, has been translated into Spanish, Portuguese, Simplified Chinese, and Haitian Creole. The Spanish translation of Chapter 1 is included in all electronic and printed copies. Portuguese, Simplified Chinese, and Haitian Creole translations are available electronically via links to Massport's website and are also available in print at local libraries (see Appendix D, *Distribution List*, for a list of the libraries that receive a copy). Massport intends to follow this translation approach for future public notices and summaries. In addition, Massport provided a Babel Notice for five additional languages. A Babel Notice informs readers, in English and other languages, how to access language translation services and how to request project materials in a specific language. The languages Massport included in the Babel Notice for the *2023/2024 EDR* are Vietnamese, Russian, Mon-Khmer, Arabic, and Korean. Massport offered interpretation services in Spanish and additional languages upon request for public meetings.

2.2.4.2 MEPA's Logan Airport Work Group

Starting in February of 2025, Massport has been participating in MEPA's Logan Airport Work Group, a working group co-led by MEPA and the EEA EJ Office. The purpose of the Work Group is to identify

potential supplemental beneficial measures related to air quality in communities neighboring the Airport. The recurring members of the Work Group include:

- EEA MEPA Office (co-moderator);
- EEA Environmental Justice and Equity Office (co-moderator);
- Massport;
- MassDOT;
- MassDEP Air and Climate Programs;
- Massachusetts Department of Public Health (MassDPH) Environmental Epidemiology Program;
- City of Boston: Air Quality Division;
- City of Chelsea;
- Massport CAC;
- GreenRoots;
- Conservation Law Foundation (CLF);
- Airport Impact Relief Inc. (AIR Inc.);
- Mothers Out Front (East Boston and Winthrop); and
- Friends of Belle Isle Marsh.

Initial Work Group agendas included presentations by MassDPH on their Logan Airport Health Study and Tufts, Boston University, and Olin College research on ultrafine particulate (UFP) matter monitoring around airports. Future Work Group meetings will include public health experts as recommended by members of the Work Group and presentations from Massport. The Work Group will continue to meet into early 2026 and will conclude with recommendations for supplemental beneficial measures related to air quality. The *2025 EDR* will provide further updates on the status and conclusion of the work group.

2.2.4.3 Public Information Sessions

Through work within MEPA's Logan Airport Work Group, Massport has increased engagement with community groups that have frequently participated in past public information sessions and provided comments on previous EDRs, ESPRs, and other Massport projects. In 2025, Massport continued to meet with interested stakeholders to discuss airport activities further. Massport's Community Relations & Government Affairs Department frequently attends neighborhood association meetings and other local meetings to provide verbal updates on current and upcoming projects and programs at Logan Airport as part of its regular community involvement.

2.3 Environmental Justice Populations

Figure 2-1 shows EJ block groups within the DGA for Logan Airport and within a 5-mile radius of the Airport, as well as the 37 census tracts within the Logan Airport DGA. Of those, 26 census tracts contain at least one EJ block group, totaling 64 EJ block groups.

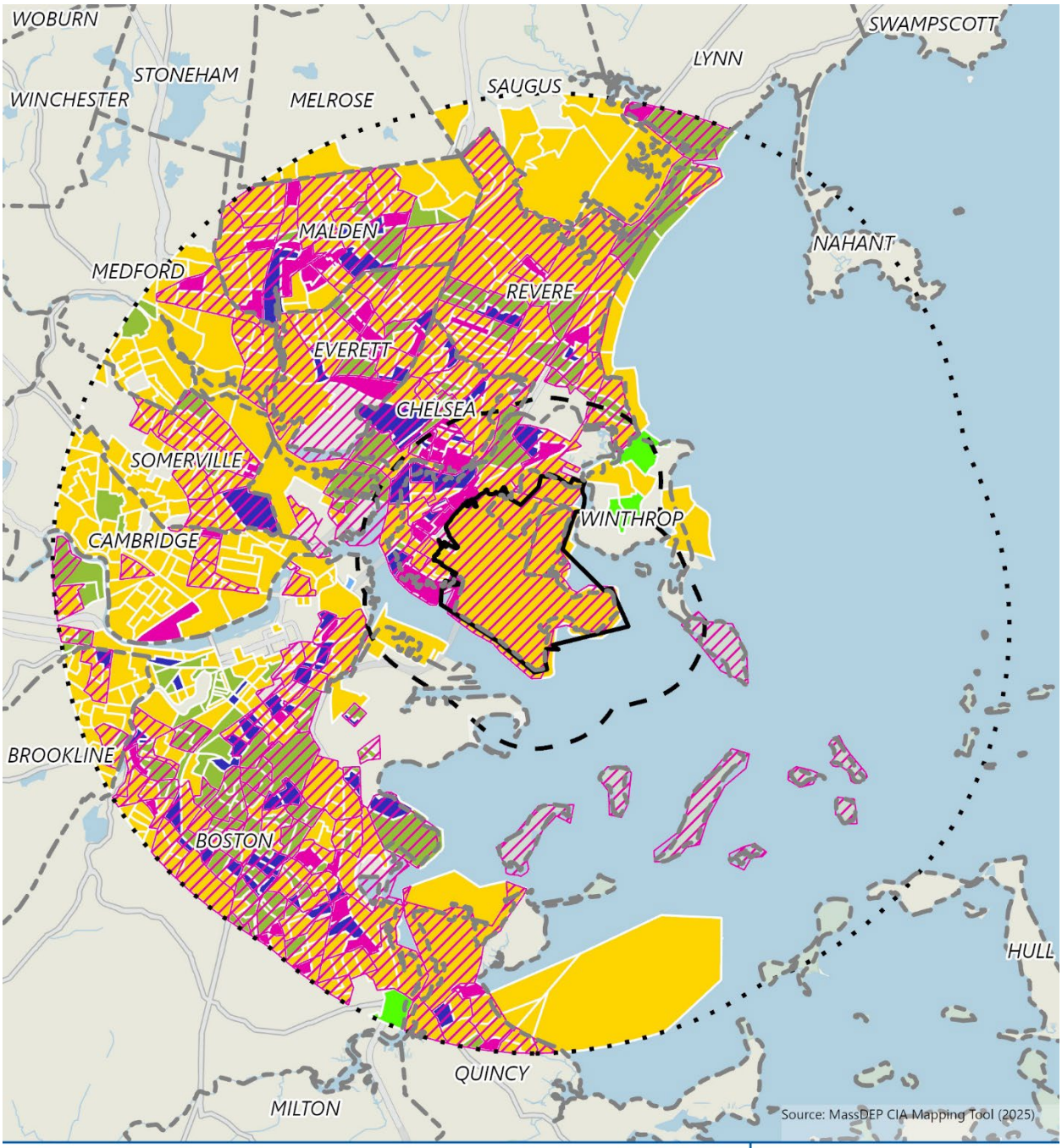

Figure 2-1 EJ Populations within 1 and 5 miles of Logan Airport

2023/2024 Environmental Data Report

- Minority
- Income
- English isolation
- Minority and English isolation
- Minority and income
- Minority, income and English isolation
- Language Spoken by at least 5% of Population
- Massport Boundary
- One Mile Boundary
- Five Mile Boundary
- Municipalities

0 0.5 1 2 Miles

The characterization of EJ block groups within the DGA is as follows:

- 32 meeting minority criteria;
- 3 meeting low-income criteria;
- 14 meeting both minority and English isolation criteria;
- 7 meeting both minority and income criteria; and
- 8 meeting minority, income, and English isolation criteria.

These characterizations are consistent with the *2022 ESPR*. See Appendix E, *Environmental Justice Supporting Documentation,* Table E-2 to Table E-5 for a more detailed breakdown of EJ block group characteristics within the DGA.

2.4 Public Health Existing Conditions Review

The *2022 ESPR* included a review of existing public health conditions within the DGA (1 mile) of Logan Airport in response to a request from the MEPA Office. This review was conducted to identify existing environmental burdens[7] and related public health consequences[8] experienced by communities surrounding Logan Airport. Tools used for the existing conditions review are approved by MEPA and are included in the 2022 EJ Protocols.

The tools used for the *2022 ESPR* existing conditions review and this update are unable to differentiate Logan Airport-related activities from other surrounding activities and site uses. When Massport can differentiate airport impacts from those derived from different sources, the impacts and associated offsets are reported in the respective EDR chapters. Future filings will provide updates on existing public health conditions, as data becomes available.

7 Environmental burdens are defined by EEA as "any destruction, damage, or impairment of natural resources that is not insignificant, resulting from intentional or reasonably foreseeable causes, including but not limited to climate change, air pollution, water pollution, improper sewage disposal, dumping of solid wastes and other noxious substances, excessive noise, activities that limit access to natural resources and constructed outdoor recreational facilities and venues, inadequate remediation of pollution, reduction of ground water levels, impairment of water quality, increased flooding or storm water flows, and damage to inland waterways and waterbodies, wetlands, marine shores and waters, forests, open spaces, and playgrounds from private industrial, commercial or government operations or other activity that contaminates or alters the quality of the environment and poses a risk to public health."

8 A public health consequence is designated by a rate of occurrence greater than 110 percent of the statewide rate of occurrence for DPH EJ Tool Vulnerable Health EJ Criteria data.

2.4.1 Public Health Regulatory Context

The *2022 ESPR* used the tools listed below to conduct the existing public health conditions review for the DGA:

- **Massachusetts Department of Public Health (MassDPH) Environmental Justice Tool (DPH EJ Tool) Vulnerable Health EJ Criteria**: The DPH EJ Tool presents vulnerable health criteria at the community level (heart attack and pediatric asthma) and the census tract level (low birth weight and elevated blood lead). Since the *2022 ESPR*'s filing, the DPH EJ Tool has not been updated.
- **DPH EJ Tool Potential Pollution Sources:** The DPH EJ Tool was used to identify potential off-airport sources of pollution that may have affected, or may currently affect, communities, including EJ populations, within 1 mile of Logan Airport based on Vulnerable Health EJ Criteria. Since the *2022 ESPR*'s filing, the DPH EJ Tool Potential Pollutant Sources has not been updated.
- **U.S. Environmental Protection Agency's (U.S.EPA's) EJScreen EJ Indexes:** presents percentile ranking comparisons by census block group to statewide and national averages, respectively, for 13 EJ Indexes. EJ Indexes indicate a potential existing burden or heightened risk of burden on EJ populations within the DGA but are not specific to aviation activities and airport operations. Since the *2022 ESPR*'s filing, the U.S.EPA's EJScreen has been removed from the U.S.EPA's website and is no longer accessible.

As demonstrated, since the publication of the *2022 ESPR*, previously used data tools have not been updated. With approval from the MEPA Office, the *2023/2024 EDR* has not repeated the existing conditions review of data sources that have not been updated. Findings from these tools were presented in Chapter 2, Section 2.5 of the *2022 ESPR*.

In accordance with *An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy*, the MassDEP has implemented amendments to 310 CMR 7.00 Air Pollution Control, effective as of March 29, 2024. These amendments necessitate conducting a CIA as part of a Comprehensive Plan Application (CPA)[9] for facilities situated in or near EJ populations. The amendments include requirements for an assessment of existing community conditions following the MassDEP CIA Framework.[10] The assessment of existing community conditions includes identifying proximal EJ populations, sensitive receptors, and nearby regulated facilities, while assessing health conditions, air quality, and climate indicators within census tracts within the DGA. The Secretary's Certificate (see Appendix A, *MEPA Certificate and Responses to Comments*) directed the *2023/2024 EDR* to include a section on existing

9 A Comprehensive Plan Application (CPA): is a detailed regulatory proposal submitted to the Massachusetts Department of Environmental Protection, designed to address potential environmental impacts associated with facility operations. The CPA outlines plans for new or existing facilities, particularly focusing on air pollution control measures, compliance with state environmental regulations, and engagement with environmental justice communities. It includes assessments of potential emissions, strategies for minimizing environmental harm, and commitments to enhance public outreach and involvement of affected populations in the decision-making process.

10 MassDEP Guidance for Conducting Cumulative Impact Analysis for Air Quality Comprehensive Plan Applications. 2024. https://www.mass.gov/doc/guidance-for-conducting-cumulative-impact-analysis-for-air-quality-comprehensive-plan-applications-march-28-2024/download

community conditions utilizing the MassDEP CIA Framework for air quality and climate indicators. The following sections report on methodology and findings from the MassDEP CIA Framework for air quality and climate indicators. To assess air quality and climate indicators, a comprehensive evaluation of existing community conditions was conducted, following the MassDEP CIA Framework. This assessment presented health conditions and air quality data at a more granular level (often down to the census tract) compared to data available during the preparation of the *2022 ESPR*. Despite the increased granularity, findings for health conditions, air quality, and climate indicators remain consistent with those presented in the *2022 ESPR*.

2.4.2 Existing Community Conditions Review Methodology

The public health existing conditions review uses data made available by MassDEP on the CIA webpage. To obtain data for specific census tracts, a 1-mile buffer around Logan Airport was uploaded to MassDEP's CIA mapping tool, which then pulled data for these tracts into workable data files. These data sources are publicly available, but they do not provide the level of detail necessary to demonstrate Logan Airport-specific activity. The existing community conditions review uses the same 1-mile radius as the DGA for the EJ existing conditions review.

MassDEP CIA air quality and climate indicators are a series of seven environmental indicators (listed in **Table 2-3**) that quantify a census tract population's risk as a percentile compared to state averages. Six environmental indicators overlap with those used by the U.S. EPA's EJ Screen, as reported in the *2022 ESPR*. Per the 2022 EJ Protocols, environmental indicators with a value greater than or equal to the 80th percentile indicate a heightened risk of burden or an existing health consequence. Percentiles are valid for comparison purposes, but may not accurately portray burdens experienced by a community. EJ populations with rates of one or more of the environmentally related health indicators 110 percent above statewide rates, based on a five-year rolling average, exhibit vulnerable health EJ criteria.

Table 2-3 Related Public Health Data

Indicator Type	MassDEP CIA Environmental Indicators	Related Potential Sources of Pollution	Related Vulnerable Health EJ Criteria
Air Quality and Climate Indicators	• Particulate Matter • Ozone • Diesel Particulate Matter • Impervious Surface[1] • Air Toxics Cancer Risk • Air Toxics Respiratory Hazard Index (HI) • Toxic Releases to Air • Traffic Proximity	• Large quantity toxic users • Large quantity generators • Facilities with air operating permits • Proximity to roadways • Airport infrastructure • Non-electric rail infrastructure • Power plants • Construction activities	• Heart Attack • Pediatric Asthma • Low Birth Weight • Pediatric Asthma

Source: DPH, Environmental Public Health Tracking and Data, 2022. MassDEP CIA Framework, 2024.

1 Impervious Surface is the only environmental indicator that does not overlap with indicators in U.S.EPA's EJScreen.

2.4.3 MassDEP CIA Existing Community Conditions Review

The following environmental indicators, averaged across the DGA, are equal to or above the 80th percentile of the statewide rates, indicating a potential existing environmental burden for the area's EJ populations.[11] Appendix E, Table E-8 provides values for each environmental indicator at a census tract level, including air quality and climate indicators. Despite the increased granularity of available data, this analysis is unable to differentiate Logan Airport-related activities from other surrounding activities.

- **The Diesel Particulate Matter (PM):** represents the modeled annual average concentration of diesel PM in the air from all sources, including transportation and stationary emitters. The DGA's diesel PM concentration is 0.34 micrograms per cubic meter ($\mu g/m^3$). Logan Airport's DGA location, adjacent to major highway corridors and dense industrial activity, likely contributes to elevated diesel PM concentrations.
- **Air Toxics Cancer Risk:** This indicator reflects the estimated lifetime cancer risk per million people due to inhalation exposure to air toxics, based on the U.S.EPA's AirToxScreen modeling. The DGA's average cancer risk is 28.29 per million. These modeled risks are based on ambient concentrations and should be interpreted as estimates of general community-level exposure, not individual health outcomes.
- **Air Toxics Respiratory Hazard Index (HI):** The respiratory HI measures the ratio of exposure concentrations to health-based reference concentrations for multiple hazardous air pollutants. A value greater than 1.0 would indicate a potential for adverse effects. In the DGA, the average respiratory HI is 0.36, suggesting DGA populations are more likely to be exposed to elevated ambient concentrations of air toxics associated with respiratory effects.
- **Traffic Proximity:** This indicator measures the proximity of block groups to major roadways using a weighted combination of daily traffic counts and distance to roads, and is only reported for the 26 census tracts that contain EJ block groups.[12] The DGA's median traffic proximity value is 14,185,603 with an average of 13,684,987. This value reflects Logan Airport's urban location and proximity to major transportation infrastructure, including I-90, Route 1A, and the Sumner and Ted Williams tunnels. The value differs significantly from previous EJScreen-calculated results due to methodological differences.

11 U.S.EPA. Overview of Environmental Indicators in EJScreen.

12 The Traffic Proximity indicator in EJScreen is based on data from the US Department of Transportation National Transportation Atlas Database, Highway Performance Monitoring System. EJScreen reports traffic proximity as the count of vehicles per day (average annual daily traffic or AADT) at major roads within 500 meters (or nearest one beyond 500 m), divided by distance in meters (that is, the indicator is traffic counts weighted by distance from the block group). For Census Tract values, block groups within the DGA have been averaged

- **Impervious Surface (percentage):** This indicator represents the percentage of the land surface within a census tract that is covered by impervious materials such as pavement, which do not allow water infiltration. High impervious surface coverage is associated with increased urban heat island effects, reduced green space, and increased stormwater runoff. Within the DGA, the average impervious surface is 69 percent. The value reflects the dense urban and built-up character of the area, including Logan Airport.

2.4.4 Existing Community Conditions Review Conclusions

Select census tracts with EJ and non-EJ populations within the DGA that meet the Vulnerable Health EJ Criteria, as established by EEA's 2021 EJ Policy and 2022 EJ Protocols, were determined using MassDEP's CIA existing community conditions framework. According to this public health existing conditions review, which utilized publicly available and validated data from government sources, both EJ and non-EJ populations within the DGA are likely to experience health consequences if these populations meet the Vulnerable Health EJ Criteria. Several census tracts within the DGA met Vulnerable Health EJ Criteria, with select census tracts showing elevated rates of health consequences, including heart attack, pediatric asthma, low birth weight, and elevated blood lead levels, which are correlated in the scientific literature with exposure to pollutants in air, potable water supplies, and soil or groundwater, as well as exposure to excessive noise levels. The findings of the public health existing conditions review are typical for a DGA centered around Boston. They are consistent with typical sources of pollution within metropolitan areas across the State and the U.S.

MassDEP CIA Framework indicates that air quality and climate indicators are categorized as an environmental and health consequence when the census tract is in the 80th percentile or greater compared to the State. These pollutants have been shown in scientific literature to be associated with transportation, manufacturing, construction, and other industrial activities. Some types of facilities where these activities occur, or source areas, include pharmaceutical manufacturing facilities, factories, roadways, active construction sites, railyards, ports and shipping facilities, and airports.

Currently, the scientifically validated data and technology needed to differentiate each of the pollution sources affecting these surrounding communities are not available. The scope and scale of source contributions cannot be directly quantified using current technology. Therefore, it is not possible at the time of filing this EDR to accurately assess what effects are under a source's direct control to address or what actions could be taken that would have a meaningful effect.

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3. Activity Levels

Air passenger activity and **aircraft operations** at Logan Airport are reported in **Environmental Status and Planning Reports (ESPRs)** and **Environmental Data Reports (EDRs),** as well as provide input into operational and environmental analyses. Over the past several decades, despite increases in passengers and flights, most environmental conditions have improved due to cleaner and quieter aircraft, cars, trucks, and equipment, as well as more efficient buildings and Airport operations. Continued efforts by Massport, the **Federal Aviation Administration (FAA)**, and business partners have been key drivers for reducing the overall impact of Logan Airport operations.

This chapter reviews current and recent trends in passenger levels, aircraft operations, takeoffs, and landings, with comparisons to historical benchmark years provided for context. The chapter then discusses how changes in these factors and trends have, or could, affect the environmental conditions at and around Logan Airport.

Activity Levels Key Findings

Table 3-1 provides a historical summary of aircraft operations and passenger activity levels for 2022, 2023, and 2024, as well as benchmark years where operations, cargo, and passengers reached the highest observed levels, 1998, 2000, and 2019, respectively. See **User's Guide, Section U1.2.2.1** for more background on the selected benchmark years.

User's Guide Section U1.2.2.1

Table 3-1 Air Passengers and Aircraft Operations, 1998, 2000, 2019, 2022-2024

Year	Air Passengers	Percentage Change from 2019	Aircraft Operations	Percentage Change from 2019
1998	26,526,708	-37.6%	507,449	18.8%
2000	27,726,833	-34.8%	487,996	14.2%
2019	**42,522,411**	**-**	**427,175**	**-**
2022	36,090,716	-15.1%	378,613	-11.4%
2023	40,833,978	-4.0%	395,146	-7.5%
2024	43,500,033	2.3%	413,409	-3.2%

Source: Massport.

3.1 Passenger, Aircraft Operations, and Cargo Activity Levels

Greater Boston has historically experienced strong passenger growth driven by favorable economic conditions, low unemployment, a diverse job market, and on-going investments in commercial and residential real estate, particularly in the fields of life sciences, finance, healthcare, and higher education.

Throughout 2023 and 2024, the U.S. airline industry continued to manage route economics, seat capacity, and operations. On-going issues related to supply chains, labor shortages, new aircraft delivery delays, and fuel costs pose challenges for airlines at Logan Airport and across the national system.

3.1.1 Air Passenger Service, Markets, and Activity

Updated guidance released by the U.S. Department of Homeland Security (U.S.DHS) in mid-May 2023 no longer required non-U.S. travelers entering the U.S. to be fully vaccinated against COVID-19. The decision contributed to the return of international traffic at Logan Airport and the recovery of the foreign tourist markets, an essential component of Logan Airport's overall growth alongside domestic travel. Passenger activity in 2023 mirrored levels observed in 2018, and in 2024, Logan Airport exceeded 2019 levels as airlines resumed previously suspended services, added new destinations, and responded to strong market demand in the Greater Boston area. This section provides an update on key changes and emerging trends across the airline industry and at Logan Airport in 2023 and 2024, offering context for current air transport performance levels. For more background on commercial service passenger activity levels, refer to **User's Guide, Section U3.2**.

User's Guide Section U3.2

3.1.1.1 Passenger Activity Levels

Logan Airport has rebounded more rapidly than other airports nationally. These positive trends reflect the resilience and growth opportunities within Logan Airport's regional market. Historically, factors contributing to increases in demand for air travel within Massachusetts and Greater Boston include:

- Economic growth and increased travel demand nationwide, particularly in leisure-oriented markets and business-related travel.
- Growth by airlines in response to local and national economic conditions, including jetBlue Airways (jetBlue), Delta Air Lines, and American Airlines at Logan Airport, along with emerging airline partnerships, which can expand service offerings and destinations.
- Introduction of new international destinations served by U.S. domestic and foreign carriers, which expands their respective route networks and increases travel appeal to a broader variety of potential customers; and
- Advancements in aircraft technology, including the introduction of longer-range aircraft equipped with fuel-efficient engines and new noise level reduction technologies.

However, additional challenges and potential economic obstacles may impede activity level growth at Logan Airport, including:

- Economic slowdowns or uncertainty in economic development activity at the state, regional, national, or international level;
- Airline labor supply constraints, especially for pilots, flight crew, and maintenance services, along with supply chain disruptions that could delay delivery of aircraft, goods, or materials;
- Air traffic control labor shortages or other staffing issues that could impact daily operations and efficiency;
- Fluctuating fuel prices, limited fuel availability, or changes in fuel service providers or suppliers that could affect operations or consumer airfare costs;
- Future business and corporate travel policy trends, along with the evolving nature of business and conference event travel, and
- Regulatory challenges that impact Airport and airline operations, growth, or airline consolidation or solvency.

Strong domestic activity was driven by resilient demand for leisure travel, particularly to destinations offering outdoor recreational activities and desirable weather conditions. **Table 3-2** illustrates air passenger levels for 2023 and 2024.

Table 3-2 Air Passengers by Market Segment, 2019, 2022-2024

Market Segment	2019	2022	2023	2024	2022-2023 Percent Change	2023-2024 Percent Change
Domestic	**34,098,788**	**29,527,910**	**32,320,293**	**33,735,044**	**9.5%**	**4.4%**
Europe / Middle East / Africa[1]	5,003,881	4,124,245	5,163,800	5,762,277	25.2%	11.6%
Bermuda / Caribbean[2]	1,278,045	1,322,723	1,669,082	1,897,441	26.2%	13.7%
Canada	985,051	602,835	726,975	791,422	20.6%	8.9%
Asia / Pacific[3]	602,004	149,452	342,331	515,574	129.1%	50.6%
Central / South America	449,012	250,745	504,313	693,241	101.1%	37.5%
International	**8,317,993**	**6,450,000**	**8,406,501**	**9,659,955**	**30.3%**	**14.9%**
General Aviation	**105,630**	**112,806**	**107,184**	**105,034**	**-5.0%**	**-2.0%**
Total Passengers	**42,522,411**	**36,090,716**	**40,833,978**	**43,500,033**	**13.1%**	**6.5%**

Source: Massport, 2025.

Notes: Reported international passengers include only international passengers using Logan Airport as an international gateway. A significant number of international origin and destination (O&D) passengers also board domestic flights from Logan Airport to connect to other U.S. gateways to international destinations.

1 Royal Air Maroc (RAM), a Moroccan air carrier, had not yet recommenced its service to Casablanca, Morocco (North Africa) by year-end 2024.

2 Includes Puerto Rico and the U.S. Virgin Islands.

3 Starting in May 2019, Korean Air re-commenced service out of Boston with a direct connection to Seoul, Korea via Incheon International Airport (ICN).

Figure 3-1 illustrates that **domestic air travel** has recovered more quickly than **international air travel** as foreign countries have gradually eased entry requirements and restrictions on border crossings for travelers.

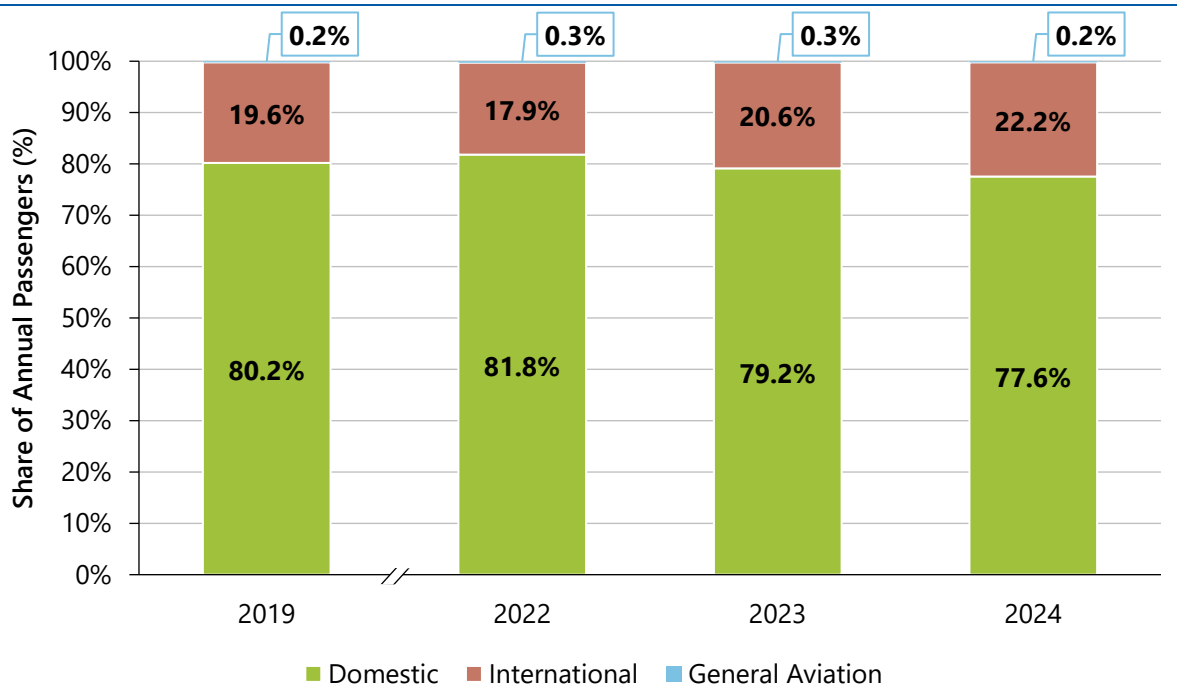
2023 Air Passenger Activity Levels

Logan Airport ranked as the 16th busiest U.S. airport by **passenger count** in 2023.[1] Air travel passenger traffic rose by more than ten percent since 2022, signaling strong demand and the U.S. aviation industry approaching a new normal. Logan Airport's recovery lagged the national average, with 2023 total passenger counts still below 2019 levels, whereas total U.S. airport traffic had fully recovered by 2023.[2]

1 U.S.DOT T-100 database. 2025. https://www.bts.gov/browse-statistical-products-and-data/bts-publications/data-bank-28ds-t-100-domestic-segment-data

2 U.S.DOT T-100 database. 2025. https://www.bts.gov/browse-statistical-products-and-data/bts-publications/data-bank-28ds-t-100-domestic-segment-data

Figure 3-1 Domestic, International, and GA Passenger Market Share Distribution, 2019, 2022-2024



Source: Massport.
Note: Percentages may not add up to 100 percent due to rounding.

2024 Air Passenger Activity Levels

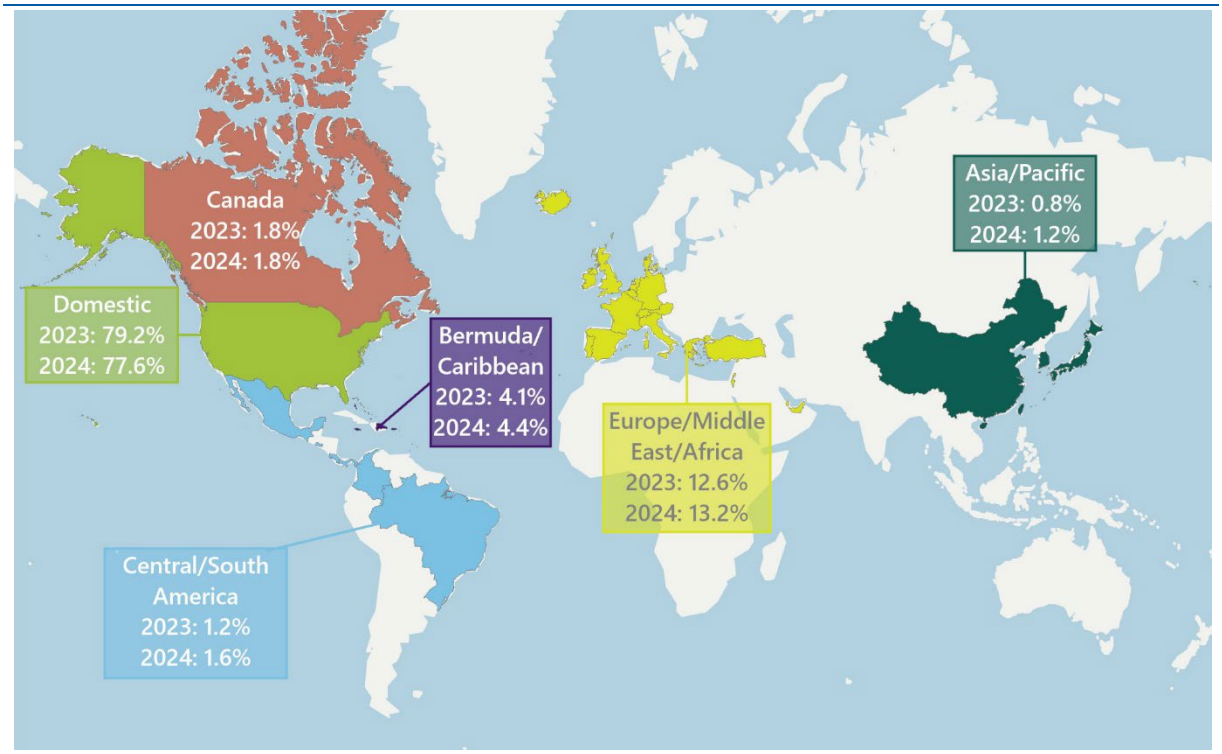
Logan Airport remained the 16th busiest U.S. airport by passenger count in 2024.[3] Passenger traffic increased from 2023, reflecting continued strong demand. In 2024, Logan Airport surpassed its 2019 passenger levels by approximately two percent, marking a full recovery since the onset of the COVID-19 pandemic.

3.1.1.2 Passenger Markets

Logan Airport is primarily an **Origin and Destination (O&D)** market, meaning most passengers begin or end their journeys in Boston rather than connect through to other flights. The O&D metric and the percentage of passengers categorized as O&D types are key metrics for airports, indicating the proportion of passengers who are local versus **connecting passengers**. Logan Airport's high O&D percentage share underscores its role as an essential gateway for international air traffic, reflecting the strength of the local market driven by robust demand from business, academic, and leisure travelers.

3 U.S.DOT T-100 database. 2025. https://www.bts.gov/browse-statistical-products-and-data/bts-publications/data-bank-28ds-t-100-domestic-segment-data

Figure 3-2 Distribution of Logan Airport Passengers by Market Segment, 2023-2024



Source: Massport, 2025.
Note: General Aviation (GA) accounted for 0.3 percent and 0.2 percent of total Logan Airport passengers in 2023 and 2024, respectively.

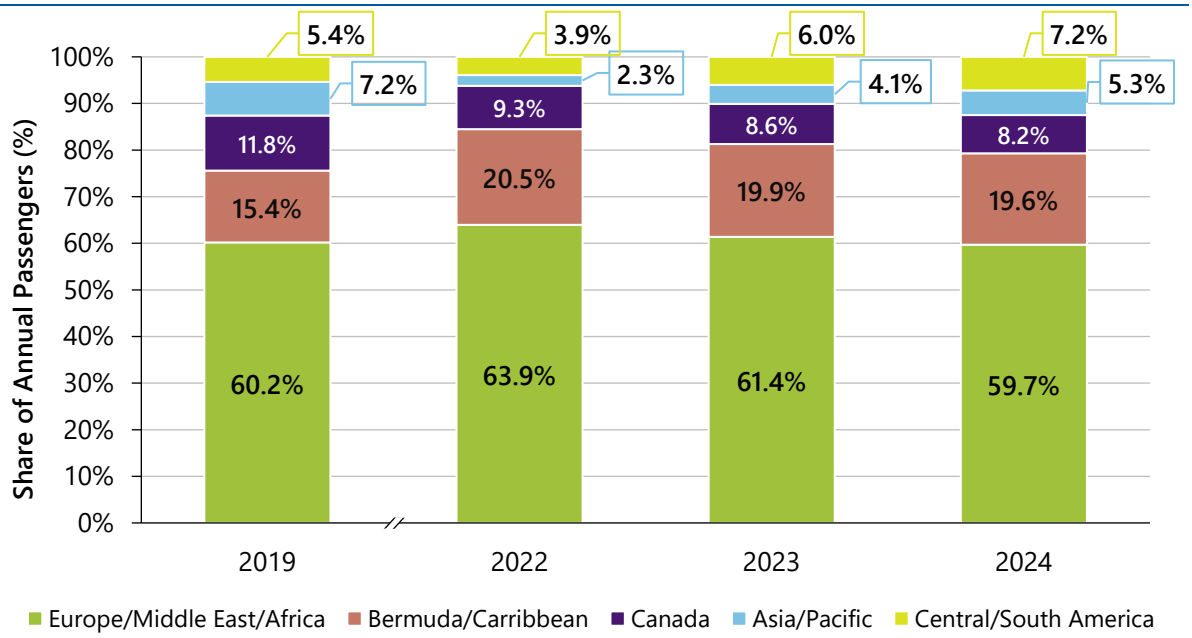
Figure 3-1 illustrates the market share between domestic and international passengers at Logan Airport. **Table 3-2** presents historic passengers by market share. **Figure 3-2** depicts the 2023-2024

Logan Airport passenger distribution by market segment, and **Figure 3-3** illustrates the passenger destination distribution from 2019 to 2024.

2023 Passenger Markets

Between 2022 and 2023, the domestic passenger segment continued to represent the largest share of total passengers. However, its relative share declined by 2.6 percentage points as international travel continued to rebound more strongly. The easing of pandemic-era travel restrictions, restoration of transatlantic and long-haul routes, and the introduction of new services contributed to the rebound. Compared to 2019, the share of international travelers increased by 1.0 percent, with Europe, the Middle East, and North Africa accounting for the largest portion of international traffic.

Figure 3-3 Logan Airport International Market Segment Passenger Distribution, 2019, 2022-2024



Source: Massport, 2025.

2024 Passenger Markets

Between 2023 and 2024, the domestic passenger segment continued to decline as a share of total traffic, with its relative share falling by 1.6 percentage points. Meanwhile, international air travel increased by 2.6 percent in 2019 (**Figure 3-1)**. Logan Airport has steadily expanded its international service. The combined Europe, the Middle East, and North Africa region remains a primary market, but flights to Bermuda, the Caribbean, and Central and South America have also grown notably.

3.1.1.3 Passenger Service by Airline

A diverse mix of carriers has historically served passenger commercial air service at Logan Airport. Past reporting of passenger airline service characterized airlines by **legacy carriers**, such as American, Delta, and United Airways; **Low-Cost Carriers (LCCs)**, such as jetBlue and Southwest Airlines; and **Ultra-Low-Cost Carriers (ULCCs)**, like Spirit Airlines, Frontier Airlines, and Sun Country Airlines. Each carrier group offers different levels of service and connectivity. Over the past decade, combined LCC and ULCC passenger activity levels have significantly increased traffic at the Airport, surpassing the volumes

RJs are smaller single-aisle aircraft with fewer than 100 seats, built for short trips and often flown under a larger airline's brand (e.g., American Eagle, Delta Connection, Air Canada Jazz, etc.)

carried by individual legacy carriers at Logan Airport.[4] In this chapter, air passenger service is discussed in terms of two categories, **Large Jet** services and **Regional Jet (RJ)** services. In this context, the Large Jet and RJ categories are not directly associated with **wide-body aircraft** and **narrow-body aircraft**, which are terms used throughout the EDR as metrics for aircraft operations.

Airlines use RJs to connect smaller and medium-sized communities with less demand to larger hub airports found in the metropolitan areas, where passengers often find connecting opportunities to longer flights or international destinations. Narrow-body aircraft refers to any single-aisle plane, ranging from small RJs to larger aircraft such as the Boeing 737 or Airbus A320 series, which are often used on longer routes. In this sense, "Regional Jet" is a distinct sub-segment within the broader narrow-body category. Refer to the **User's Guide, Section U3.3.1**, for definitions of these classifications and how they support passenger activity analyses. **Figure 3-4** illustrates the annual passenger volumes of the six major airlines at Logan Airport.

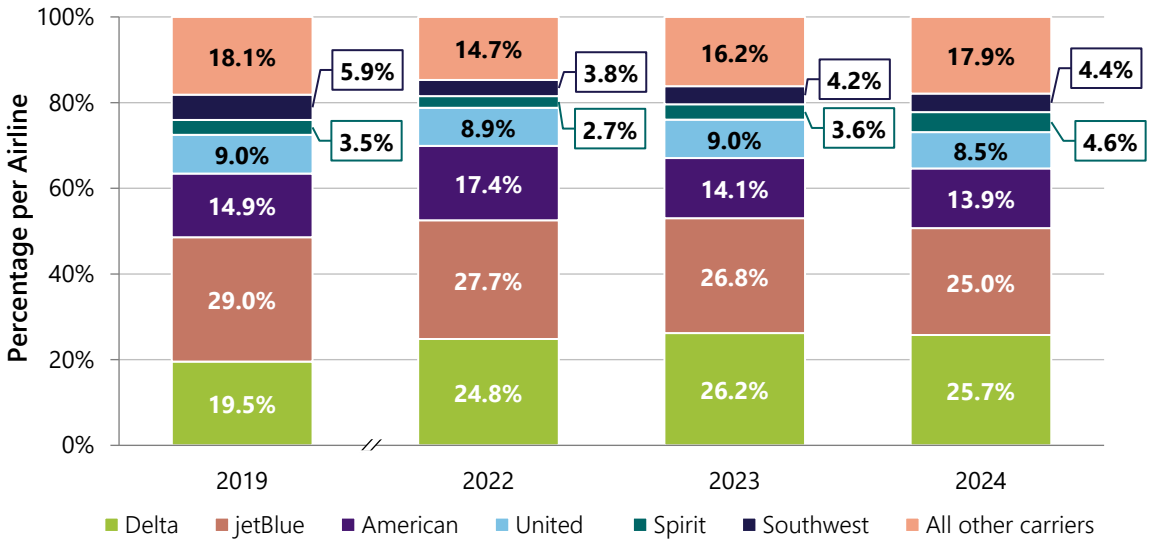
User's Guide Section U3.3.1

Overall, Logan Airport's strong O&D market position and air travel demand have made it a strategic location for international expansion by jetBlue, Delta, American Airlines, and their global partner airlines. Foreign airlines have also introduced new nonstop services catering to O&D demand, enabling connection opportunities through airline **code-share agreements** and **interline agreements**. These partnerships with U.S. airlines, particularly on transatlantic routes, facilitate seamless international connections.

The adoption of newer aircraft technology, including the A321LR/XLR and Boeing 737 MAX, enables airlines to expand their fleet capabilities and utilize smaller, more fuel-efficient aircraft to serve mid-sized origin-and-destination (O&D) markets, such as Boston. Additionally, the economic viability of using larger, longer-range wide-body aircraft, such as the Airbus A350, Boeing 787, and the upcoming Boeing 777X, supports increased global connectivity with fewer flights and greater seat capacity.

4 Airline industry consolidation includes the merger of Delta Air Lines and Northwest Airlines (October 2008); United Airlines and Continental Airlines (August 2010); Southwest Airlines and AirTran Airways (April 2011); American Airlines and U.S. Airways (December 2013); Alaska Airlines and Virgin America (December 2016); and Alaska Airlines and Hawaiian Airlines (September 2024). However, Hawaiian Airlines statistics will remain separate until the airlines receive a single aircraft operating certificate, expected in 2025.

Figure 3-4 Share of Annual Passengers Served by Logan Airport's Major Airlines, 2019, 2022-2024



Source: Massport, 2025.

2023 Passenger Service by Airline

In 2023, jetBlue was the largest carrier at Logan Airport, carrying over 10.9 million passengers, which represented a 9.4 percent increase from 2022. However, this remained 11.4 percent below 2019 levels. Delta followed as the second-largest carrier, transporting 10.7 million passengers. Delta's traffic rose 19.5 percent from the previous year compared to 2022 and exceeded 2019 levels by 28.8 percent, reflecting its on-going commitment to expanded service at Logan Airport, particularly through additional European routes served.

Together, jetBlue and Delta accounted for 53.0 percent of total passengers at Logan Airport, marking a significant milestone in their combined market dominance. Compared to 2022, American's passenger traffic declined 8.3 percent, United grew 13.7 percent, and Southwest increased 26.7 percent. These three airlines remained below 2019 levels, with American down 9.2 percent, United down 4.9 percent, and Southwest down 31.6 percent. All other carriers combined accounted for 19.8 percent of total passenger traffic at Logan Airport in 2023.

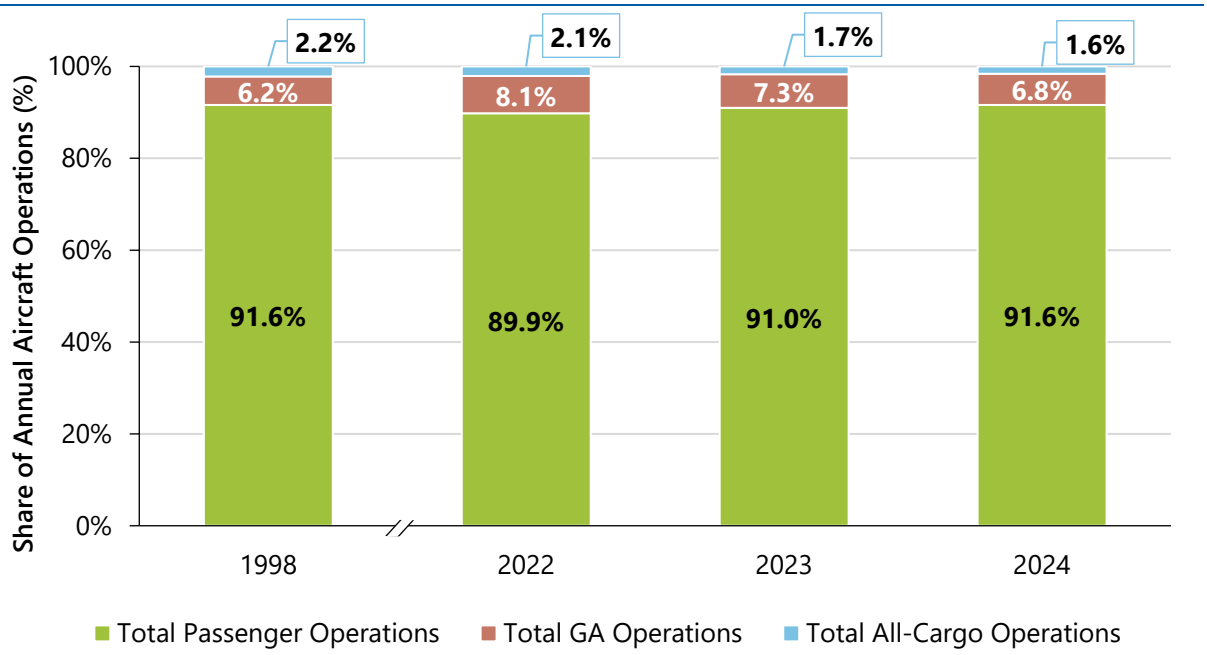
2024 Passenger Service by Airline

In 2024, Delta surpassed jetBlue to become Logan Airport's largest carrier serving nearly 11.2 million passengers. Delta passengers served represent a 4.6 percent increase from 2023 and 34.7 percent above 2019 levels. jetBlue, now the second-largest carrier serving Logan Airport served 10.9 million passengers. jetBlue's share was down 0.7 percent From 2023 and 12.0 percent less than its 2019 volumes. The minor decline in growth reflected operational and financial restructuring events following

the U.S. Justice Department's blocking of its merger with Spirit Airlines in mid-January 2024. The airline also trimmed unprofitable routes from its scheduled flight network. jetBlue also reduced domestic scheduled seat capacity at Logan Airport while expanding international services, particularly on transatlantic routes, which contrasted with other carriers' domestic growth at Logan Airport.

American Airlines, United Airlines, and Spirit Airlines ranked third, fourth, and fifth, with market shares similar to 2023, respectively. From the previous year, American's traffic rose 5.5 percent, United increased 0.8 percent, and Spirit grew 37.7 percent. In 2024, Spirit Airlines overtook Southwest as Logan Airport's fifth-largest carrier. American and United were the only two legacy carriers yet to recover to their 2019 levels, each down approximately 4 percent compared to 2019. Conversely, Spirit expanded its operations significantly by 37.6 percent against 2019 levels. All other carriers combined accounted for 22.2 percent of Logan Airport's total passenger traffic in 2024, an increase of 2.5 percentage points from 2023. The growth reflects the more diverse airline mix aimed at meeting its growing passenger base.

Figure 3-5 Logan Airport Passenger, GA, and Cargo Aircraft Operations, 1998, 2022-2024



Source: Massport, 2025.
Note: May not add up to 100 percent due to rounding.

3.1.2 Aircraft Operations

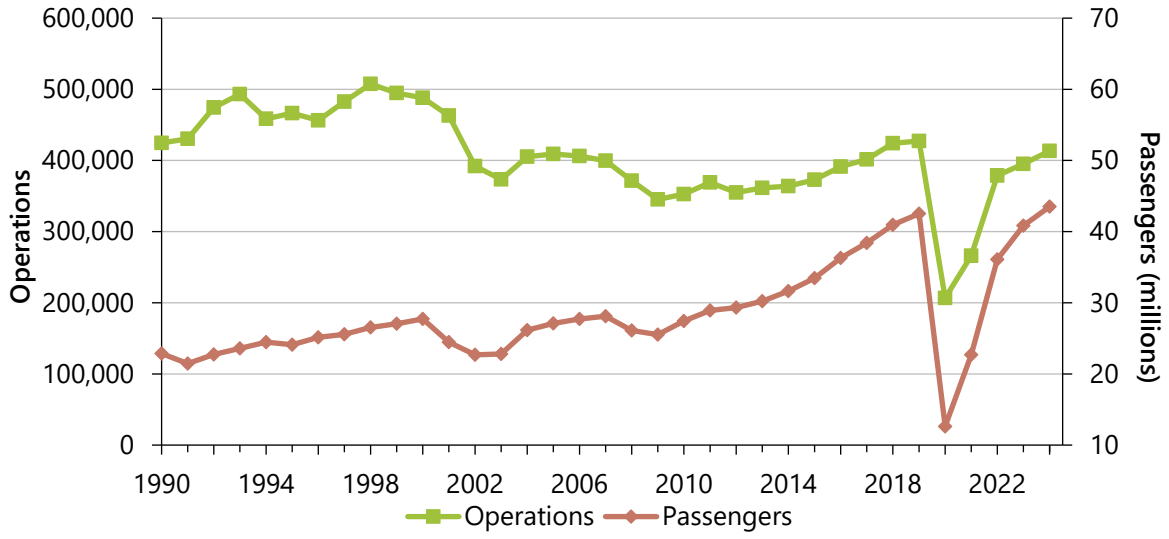
This section reports on aircraft operations levels at Logan Airport, including commercial passenger aircraft, GA aircraft, and cargo aircraft operations, as well as aircraft passenger **load factors** for 2023 and 2024. Throughout the year, several airlines increased service frequencies to existing markets from Logan Airport and introduced new point-to-point nonstop services to cater to travel demand trends. Changes in operations are illustrated in **Table 3-3,** and passenger aircraft operations are shown in **Figure 3-5**. **Figure 3-6** depicts past and current passenger levels and aircraft operations. The data shows a historical trend of passenger levels increasing and operations decreasing, though not as rapidly as passenger activity levels are rising. This indicates a growing trend among air carriers towards higher aircraft load factors, or more passengers per flight, greater efficiency, and more seats per aircraft.

The load factor is the percentage of passengers on a flight relative to the number of seats potentially available on the aircraft for a given flight.

3.1.2.1 Operations Activity Levels

Passenger operation increases are attributed to positive economic activity, improved local and state **gross domestic product (GDP)**, lower unemployment rates, and renewed demand for previously deferred leisure travel among New Englanders. The return and continued growth of local businesses, along with increased conference events and improved corporate travel spending, also contributed to demand from the business-related air traveler segment.

Figure 3-6 Logan Airport Annual Passenger Levels and Aircraft Operations, 1990-2024



Source: Massport, 2025.

Table 3-3 Logan Airport Aircraft Operations by Type, 1998, 2022-2024

Operation Type	1998	2022	2023	2024	2022-2023 Percent Change	2023-2024 Percent Change
Passenger Jet	242,927	244,971	266,375	275,784	8.7%	3.5%
Passenger Regional Jet	12,087	60,891	58,326	62,794	-4.2%	7.7%
Passenger Non-Jet	209,665	34,449	34,875	40,242	1.2%	15.4%
Total Passenger Operations	**464,679**	**340,311**	**359,575**	**378,820**	**5.7%**	**5.4%**
GA Jet Operations	13,636	24,078	23,199	22,053	-3.7%	-4.9%
GA Non-Jet Operations	18,076	6,426	5,687	6,083	-11.5%	7.0%
Total GA Operations	**31,712**	**30,504**	**28,886**	**28,136**	**-5.3%**	**-2.6%**
Cargo Jet	10,428	7,390	6,151	6,011	-16.8%	-2.3%
Cargo Non-Jet	630	408	534	442	30.8%	-17.2%
Total Cargo Operations	**11,058**	**7,798**	**6,685**	**6,453**	**-14.3%**	**-3.5%**
Total Aircraft Operations	**507,449**	**378,613**	**395,146**	**413,409**	**4.4%**	**4.6%**

Source: Massport, 2025.

Notes: The Passenger Regional Jet (RJ) category includes the Embraer E-190 aircraft, which is a RJ configured with 88 to 100 seats, but is similar in size to some traditional narrow-body jets.

2023 Aircraft Operations

Total aircraft operations in 2023 were higher than in 2022, but 7.5 percent below 2019 levels. Airlines continued to resume nonstop routes and replenish seat capacity lost due to COVID-19, while also adjusting staffing and balancing seat capacity to meet the expected return of passenger demand in the post-pandemic recovery. **Table 3-3** highlights key trends around aircraft operations:

- Total passenger aircraft operations outpaced GA and cargo operations between 2022 and 2023. The growth was primarily driven by passenger jet activity. In contrast, RJ operations declined, reflecting a reduced reliance on regional airline affiliates of major carriers, such as Delta Connection and American Eagle, as well as a continued shift toward larger narrow-body aircraft, including the A320 and A321. Refer to **User's Guide, Section U3.3.1**, for definitions on these size classifications.
- The recovery of passenger aircraft movements supported **belly cargo** activity, which transports a significant portion of cargo, particularly on international wide-body aircraft flights. This trend benefited foreign carriers as international demand continued to strengthen. However, the total number of cargo operations declined in 2023 compared to 2022, finishing 2.1 percent below 2019 levels, trailing the recovery of passenger aircraft operations.
- GA operations dropped in 2023 and remained 0.1 percent below 2019 levels, well below the 2017 peak activity levels in the recent decade. This decline reflects a continued shift of GA traffic to

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smaller regional airports across New England, including Laurence G. Hanscom Field and Worcester Regional Airport, which offer lower landing costs, greater operational flexibility, and access to local communities.

2024 Aircraft Operations

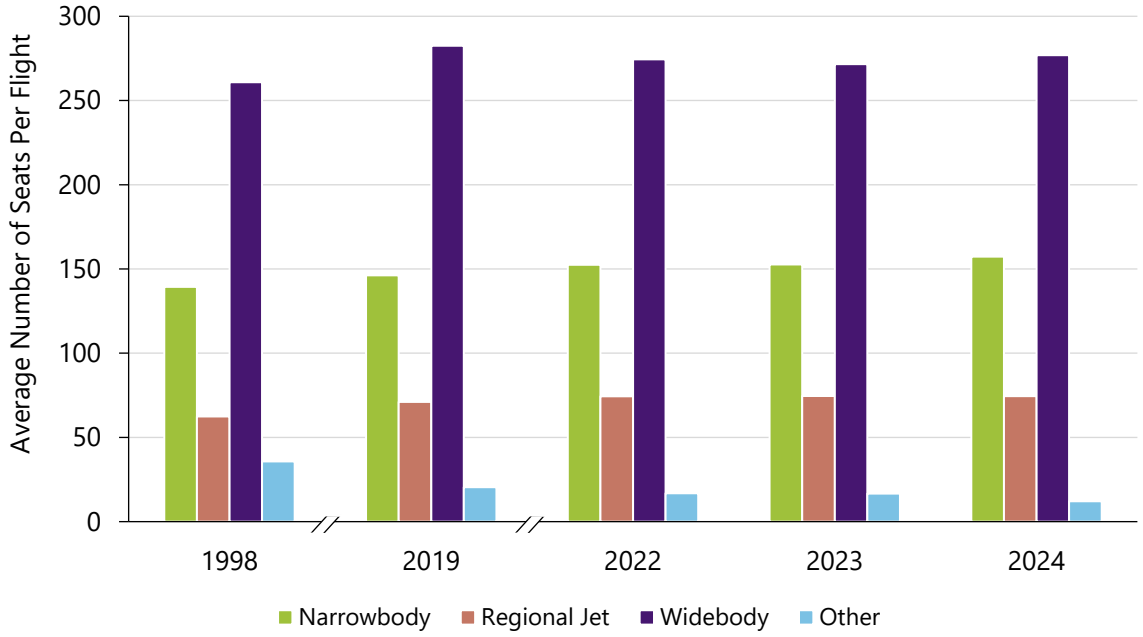
Total aircraft operations in 2024 were 4.6 percent higher than in 2023 and 3.2 percent below 2019 levels. The following are key trends in aircraft operations exhibited in **Table 3-3:**

- Total passenger aircraft operations outpaced **general aviation (GA)** and cargo operations. The growth was primarily driven by passenger non-jet activity, which increased approximately 15 percent in 2023. RJ operations also increased, reflecting a growing reliance on regional airline affiliates of major carriers, such as Delta Connection and American Eagle, as well as the continued resumption of regional routes.
- Similar to 2023 trends, cargo continued to be primarily transported as belly cargo on passenger aircraft flights. Total cargo operations declined in 2024 compared to 2023 and were 5.5 percent below 2019 levels. Overall, cargo operations have not kept pace with the recovery seen in passenger operations.
- GA operations in 2024 declined in 2023 compared to the previous year and remained 2.7 percent below 2019 levels. Similar GA trends described in 2023 also apply here.

3.1.2.2 Passenger Aircraft Operations

Table 3-3 shows Annual changes in passenger jet, RJ, and **non-jet aircraft** operations. **Figure 3-7** presents the evolution of passenger aircraft operations by aircraft type, regional, narrow-body, and wide-body, from 1998 to 2024. The data reveals a structural shift in airline fleet deployment strategies, particularly following 2019. Regional aircraft operations have declined, with the average number of passengers per operation decreasing slightly from 52 in 2019 to 50 in 2024. This indicates a reduction in the utilization of smaller aircraft on scheduled routes. In contrast, narrow-body aircraft have gained operational share, increasing by 5 percent since 2019, with the average number of passengers per flight rising from 136 to 140. This reflects a continued industry emphasis on **upgauging** and operational efficiency, supported in part by the introduction of aircraft such as the Airbus A220, which enables service on routes without reliance on traditional RJs. Wide-body aircraft operations also show signs of recovery, with an average of 184 passengers per operation in 2024, just below the 2019 level of 186, underscoring the restoration of long-haul international capacity. Collectively, these trends indicate a deliberate move toward higher-capacity aircraft and more efficient deployment across networks.

Figure 3-7 **Average Size of Scheduled Passenger Aircraft (Number of Seats per Flight) Operations at Logan Airport by Aircraft Body Type, 1998, 2019, 2022-2024**



Source: U.S.DOT T-100 schedules via Airline Data, Inc., accessed February 2025.
Notes: Figure evaluates seats per operation among scheduled passenger flights as reported by T-100 schedules. The "Other" category includes turboprop aircraft.

2023 Passenger Aircraft Operations

Logan Airport recorded 5.7 percent more passenger aircraft operations in 2023 than in 2022, reflecting a strong recovery in scheduled passenger service. Operation counts, however, remained 8.1 percent below 2019 levels. Delta Air Lines and jetBlue, the Airport's two largest carriers, accounted for 39.5 percent of all operations. Along with American Airlines, Cape Air, United Airlines, and Southwest Airlines, the top six carriers operated nearly 64.6 percent of all passenger flights.[5]

Passenger Jet Aircraft Operations

As shown in **Table 3-3**, large passenger jet operations at Logan Airport increased from the prior year in 2023 but remained 10.2 percent below 2019 levels. Delta Air Lines exceeded its 2019 passenger jet operation count substantially, while jetBlue, American Airlines, United Airlines, and Southwest Airlines remained below 2019 levels, respectively. These varying recovery rates reflect broader market trends, including the continued rebound of international long-haul service. Foreign carriers, including Air Canada, Aer Lingus, Icelandair, TAP Portugal, Air France, Emirates, Japan Airlines, and Korean Air, experienced growth in the number of operations in 2023 compared to 2019.

5 Aircraft operation numbers for airlines include regional partners and subsidiaries.

Passenger Regional Jets

RJ operations at Logan Airport decreased from the prior year in 2023 but were 18.0 percent above 2019 levels. While some upgauging has occurred post-pandemic, the continued use of RJs reflects a strategic response to uneven demand recovery on specific routes and on-going operational constraints. Airlines have relied on RJs to right-size capacity in slower-recovering markets, maintain frequency, and navigate mainline pilot shortages. As a result, RJ utilization remains structurally higher than pre-2019 levels despite a modest decline in the past year.

2024 Passenger Aircraft Operations

In 2024, passenger aircraft operations at Logan Airport increased from 2023, resulting in activity 3.2 percent below 2019 levels. The top six airlines increased their share slightly to 65.2 percent of total aircraft operations in 2024.[6]

Passenger Jet Aircraft Operations

As shown in **Table 3-3**, large passenger jet operations increased from 2023 but remained 6.8 percent below 2019 levels. Notably, ULCCs such as Frontier Airlines and Spirit Airlines experienced significant growth in jet operations, with increases of 180.5 percent and 43.3 percent, respectively. American and Southwest also increased their 2023 passenger jet operations by between 7 and 8 percent. Frontier and Spirit have recovered and grown beyond 2019 levels, while American and Southwest remain more than 30 percent below their 2019 operations.

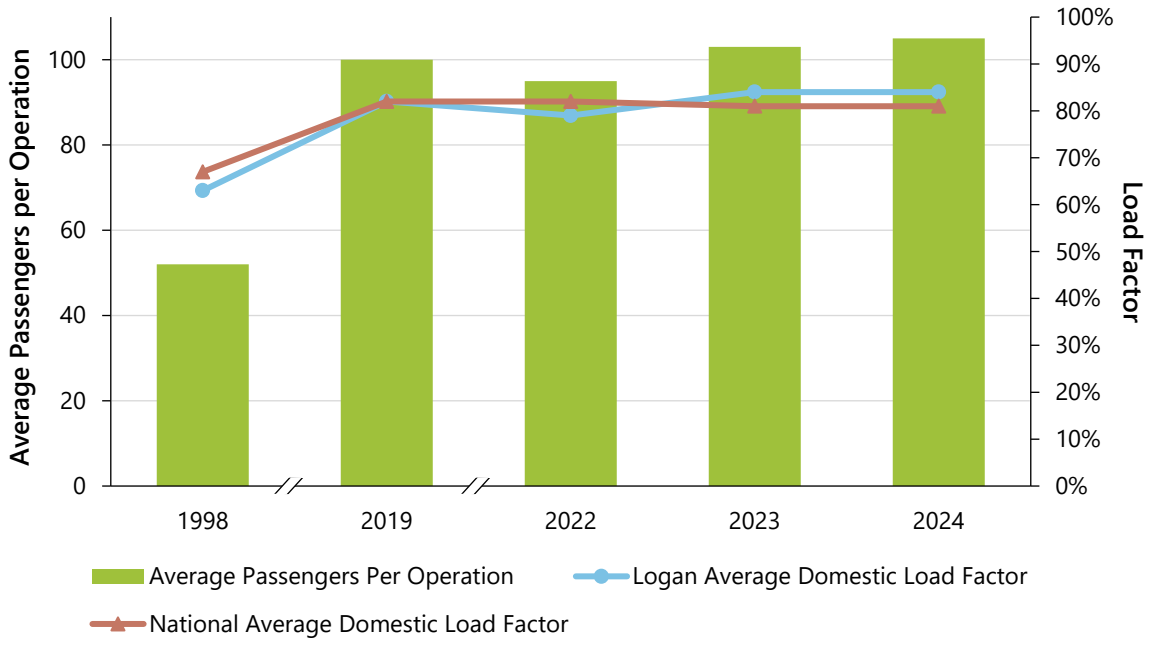
In contrast, jetBlue and Delta Air Lines faced reductions in their large jet operations of 3.9 percent and 0.6 percent, respectively. jetBlue remained 17.9 percent below 2019 levels, while Delta operated 37.8 percent more flights than in 2019. Although jetBlue operated more large jet flights than Delta in 2024, Delta carried more passengers due to its use of wide-body aircraft on transatlantic and other long-haul transcontinental domestic routes. This higher seat capacity resulted in a larger passenger share for Delta despite fewer operations. These airline trends continued from 2023, driven by similar market factors.

Passenger Regional Jets

RJ operations at Logan Airport in 2024 surpassed those of 2023, which were 27.9 percent higher than in 2019. Similar to 2023, regional affiliate operators flying under Delta Connection and American Eagle contributed to this increase in flying as aircraft were reactivated. Specifically, Republic Airways, operating under the Delta Connection brand, increased its flights by 17.1 percent, while Envoy Air, flying as American Eagle, saw a 10.2 percent increase in operations. These increases reflect the continued resumption and launch of new regional routes, including services that were previously suspended, particularly to smaller and mid-sized markets where demand has returned.

6 Aircraft operation numbers for airlines include regional partners and subsidiaries.

Figure 3-8 **Passengers per Aircraft Operation and Aircraft Load Factors, 1998, 2019, 2022-2024**



Source: Massport; U.S.DOT, T-100 Database via Airline Data, Inc., accessed February 2025.
Notes: Includes scheduled passenger service only.

3.1.2.3 Passengers per Aircraft and Load Factors

The load factor is the percentage of passengers on a flight relative to the number of seats potentially available on the aircraft of the given flight. Load factors generally measure the efficiency of each operation. **Figure 3-8** illustrates the load factor over time, showing that the load factor at Logan Airport has remained consistent with the national average, while the number of seats per operation has increased. **Table 3-4** demonstrates operations, load factor, and passengers per aircraft over time.

2023 Load Factor

In 2023, Logan Airport averaged more passengers per aircraft operation than in 2022 and significantly higher than the average in 1998, as shown in **Table 3-4**. This growth reflects the resumption of international services by domestic and foreign carriers, who reinstated previously suspended nonstop flights and introduced new market connections. Larger wide-body aircraft, such as the Airbus A350, Boeing 787, Boeing 777, and Airbus A380 superjumbo jets, have resumed service on these international routes, particularly on high-demand transatlantic routes like Boston to London and Boston to Munich. In general, the larger wide-body aircraft, which typically have between 200 and 500 seats, drove much of the growth in the average number of passengers per operation.

Table 3-4 Air Passengers and Aircraft Operations and Load Factors at Logan Airport, 1998, 2019, 2022-2024

Load Factor Metrics	1998	2019	2022	2023	2024	2022-2023 Percent Change	2023-2024 Percent Change
Air Passengers	26,526,708	42,522,411	36,090,716	40,833,978	43,500,033	13.1%	6.5%
Aircraft Operations	507,449	427,175	378,613	395,146	413,409	4.4%	4.6%
Average Passengers per Operation	52.3	99.54	95.3	103.3	105.2	8.4%	1.8%
Average Seats per Operation	145.2	130.2	131.6	134.1	136.7	1.9%	1.9%
Average Domestic Load Factor	62.5%	82.5%	79.2%	84.0%	83.8%	6.0%	-0.2%

Source: Massport; U.S.DOT, T-100 Database.

Note: Includes scheduled passenger service only. Average seats per operation are based on T-100 figures, while average passengers per operation reference Massport reported sources for all operation types (including charter).
Refer to Appendix F, *Activity Levels Supporting Documentation*, Section F.1, for additional passenger and operations data dating back to 1980.

Airlines also improved seat utilization by monitoring flight economics and introducing newer, more fuel-efficient aircraft to their fleet to serve Boston routes. As a result, Logan Airport's average domestic load factor improved to an all-time high in 2023. In contrast, the national average domestic load factor fell slightly to 81.1 percent in 2023 from 81.8 percent in 2022. Logan Airport's domestic load factor remained strong and higher than the national average.

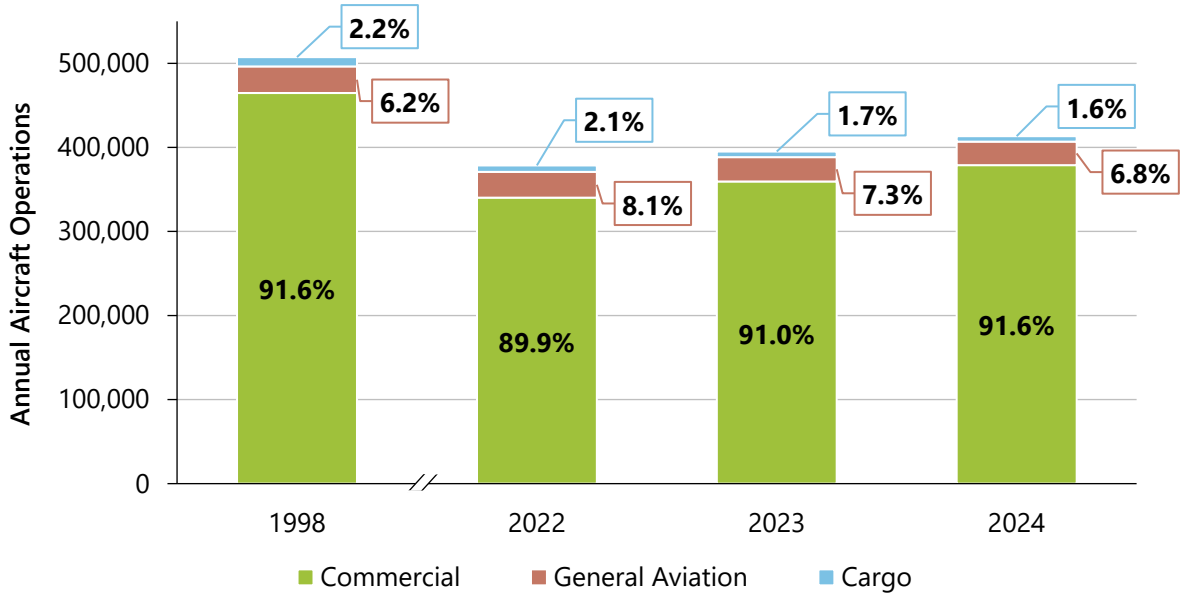
2024 Load Factor

In 2024, Logan Airport averaged more passengers per aircraft operation compared to 2023. The increase is due to strong market demand that the airlines are successfully capturing, along with their efforts to manage aircraft loads effectively for favorable route economics, as well as the continued development and shift towards deploying larger aircraft on Boston routes. The average load factor in 2024 was slightly lower than in 2023 but remained above the national average of 81.1 percent.

3.1.3 General Aviation Operations

GA is generally considered to encompass civilian, non-scheduled, and non-commercial aviation activities, excluding commercial passenger and cargo services, as well as military operations. GA operations encompass a variety of aviation activities at Logan Airport, including private corporate or business aviation, private business jet charters, law enforcement flights, and emergency medical flights

Figure 3-9 Aircraft Operations at Logan Airport by Aircraft Class, 1998, 2022-2024



Source: Massport, 2025.
Notes: Jet, RJ, and non-jet operations are associated with commercial passenger and cargo-only airlines.
GA operations also include jet and non-jet aircraft, but are associated with private charter and corporate use.

or air ambulance services. These operations are conducted by a diverse group of private individuals and businesses, and aircraft range from single-engine piston-driven aircraft to high-performance, long-range jets. **Table 3-3** in Section 3.1.2.1 shows annual changes in GA operations.[7] **Figure 3-9** depicts changes in the number of Logan Airport aircraft operations and relative distributions among total operations by category since 1998.

2023 General Aviation Operations

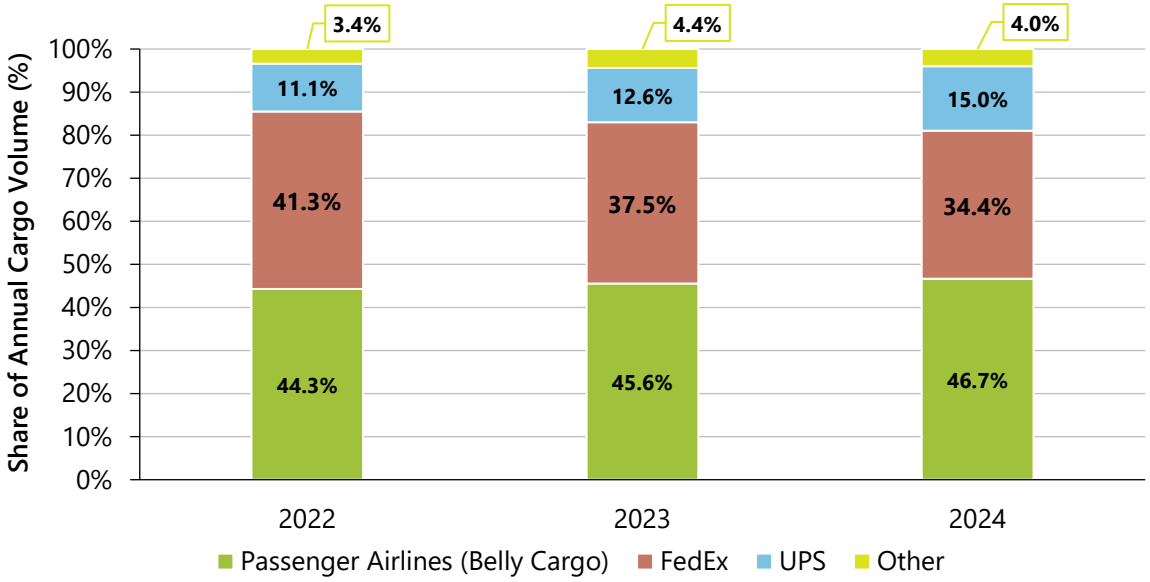
GA jet operations declined by 0.8 percent from 2022 to 2023; however, they remained 20.0 percent above 2019 levels. GA non-jet operations decreased compared to 2022 and were 40.7 percent below 2019 levels. Overall GA activity in 2023 was 0.1 percent above 2019 levels. The continued decline in both jet and non-jet activity is partly a result of GA operators shifting to nearby regional airports, where they benefit from lower landing fees and greater operational flexibility.

2024 General Aviation Operations

A similar trend to 2023 was observed in 2024, with total GA operations declining. GA jet operations fell, while GA non-jet operations increased compared to the previous year.

7 Hanscom Field remains the primary GA airport for the Greater Boston region, accommodated over four times the number of GA operations than Logan Airport reported. Hanscom Field accommodated 119,961 GA operations in 2022, which represented 98.2 percent of Hanscom Field's total aircraft activity. See Chapter 5, *Regional Transportation*, for additional information on Hanscom Field.

Figure 3-10 Share of Logan Airport Cargo Volume by Cargo Carrier, 2022-2024



Source: Massport, 2025.
Note: Includes mail and passenger airlines carrying cargo as belly cargo.
Wiggins Airway and Mountain Air Cargo, which operated for FedEx, are grouped as part of FedEx.
21 Air, ABX Air, Amerijet International, Atlas Air, and Kalitta Air operated for DHL (grouped as part of "Other").
The breakdown of cargo volume by carrier was not available for the historic benchmark year of 2000.

3.1.4 Cargo Operations and Volume

Cargo at Logan Airport is transported either as belly cargo on passenger aircraft or by dedicated **cargo carriers.** Cargo carriers at Logan Airport include FedEx, United Parcel Service (UPS), DHL, and a few other carriers that operate wide-body freight aircraft. **Table 3-5** shows cargo aircraft operations and cargo volumes at Logan Airport. **Figure 3-10** illustrates the share of total cargo volume carried by different cargo carriers.

3.1.4.1 2023 Cargo Operations and Volume

Cargo operations at Logan Airport declined in 2023, continuing a multi-year trend that has brought cargo operations 2.1 percent below 2019 levels. Total cargo and mail volumes reached 599.7million pounds in 2023, declining from the previous year.

In 2023, express and small package volumes and freight declined, while mail volume experienced a significant reduction compared to the prior year. These declines reflect a broader slowdown in air cargo demand driven by inflationary pressures, reduced consumer spending, and high inventory levels in retail and manufacturing sectors. While air shipping continued to benefit from the relevance of e-commerce.

Table 3-5 Cargo and Mail Operations and Volume, 2000, 2022-2024

Cargo Category	2000	2022	2023	2024	2022-2023 Percent Change	2023-2024 Percent Change
Operations						
Cargo Aircraft Operations	12,282	7,798	6,724	6,451	-13.8%	-4.1%
Volume (lbs.)						
Express / Small Packages	484,490,143	366,647,422	307,383,478	293,583,531	-16.2%	-4.5%
Freight	367,857,011	278,860,406	274,808,447	257,736,468	-1.5%	-6.2%
Mail	194,902,513	28,401,227	17,539,133	13,097,506	-38.2%	-25.3%
Total Cargo and Mail Volume	**1,047,249,667**	**673,909,055**	**599,731,058**	**564,417,505**	**-11.0%**	**-5.9%**

Source: Massport.

Overall cargo volumes at Logan Airport's market remained well below peak levels, signaling a more cautious market environment for freight and logistics in 2023.

3.1.4.2 2024 Cargo Operations and Volume

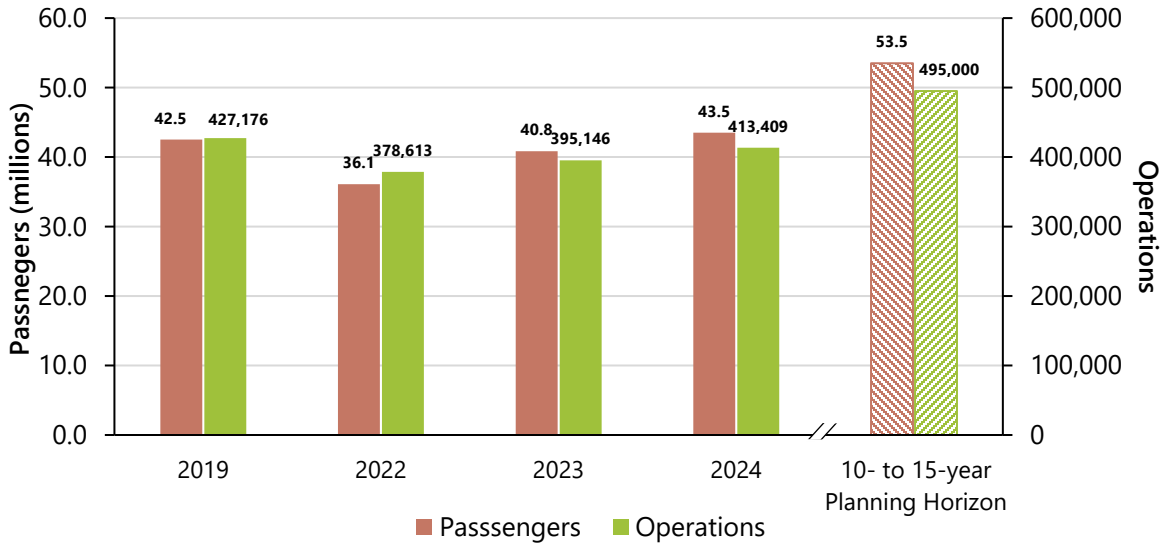
In 2024, cargo operations at Logan Airport declined and cargo operations neared 2019 levels. Total cargo and mail volumes increased slightly from 2023.

Express and small package volumes continued to decline from 2023, however, at a slower rate than in the previous year. Freight volumes increased, and mail segment volumes surged 33.9 percent year-over-year. While signs of the prior year's air cargo slowdown eased in 2024, external factors, including persistent cost pressures due to global impacts on general supply chain logistics, reduced consumer discretionary spending, and elevated inventories in key sectors, continued to limit growth. Views on e-commerce's impact on cargo volumes at Logan Airport remained consistent with 2023 trends described above.

3.1.5 Comparison to the 2022 ESPR Forecast

The forecast developed within the *2022 ESPR* projected activity levels and operations for a select year, 10 to 15 years in the future. While the forecast only considers conditions for a single year in the future, Massport compared passenger activity levels and operations from 2024 to the forecast presented in the *2022 ESPR*. **Figure 3-11** provides a comparison of historic and present passenger and operational levels to those assessed over the 10-to 15-year planning horizon in the *2022 ESPR*.

Figure 3-11 **Passenger and Operation Activity Levels Comparison to 2022 ESPR Future Planning Horizon, 2019, 2022-2024**



Note: 10- to 15- year planning horizon comes from the 2022 ESPR.

In 2024, while passenger activity levels were higher than experienced in 2019, levels remained approximately 19 percent below the 53.5 million annual passengers (MAP) presented in the 10-to 15-year **future planning horizon (FPH)** in the *2022 ESPR*. Similarly, operations in 2024 were roughly 16 percent below those projected in the *2022 ESPR*. For further details on the development of ESPR forecasts, refer to **User's Guide, Section U3.4.**

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3.2 Service Developments at Logan Airport

Airlines adjust service at an airport in two primary ways: by changing either the number of flights operated or the size of the aircraft. Both of these affect seat capacity, or the total number of seats available to passengers. As such, airline service is typically discussed in terms of both seat capacity and the number of flight departures.[8] This section examines changes in airline departures and seat capacity at Logan Airport in 2023 and 2024, including newly launched, suspended, or discontinued routes, which were shaped in part by pandemic-induced travel patterns and trends, as well as airlines' shifting priorities on economically viable routes. For context, the analysis draws trend comparisons to 2019 and prior years where relevant.

8 A departure is an aircraft takeoff at an airport. While aircraft operations include both departures and arrivals, airline services are typically described in terms of departures, as the number of scheduled departures generally equals the number of scheduled arrivals. Changes in departures translate to changes in overall operations.

According to the Official Airline Guide (OAG) Analyzer, 42 airlines operated nonstop to 145 domestic and international destinations from Logan Airport in 2023. The total number of destinations served from Logan Airport remained unchanged compared to 2019, despite six airlines ceasing operations on routes that were subsequently continued by other carriers. This reflects the market's strong, diverse, and competitive airline mix.

In 2024, both the number of airlines and destinations expanded to a total of 47 airlines serving 153 global destinations, resulting in a notable increase in international connectivity and carrier presence. The average nonstop domestic stage length rose from 1,088 miles in 2019 to 1,128 miles in 2023, and to 1,131 miles in 2024, reflecting more long-haul nonstop activity to destinations west of the Appalachians, the West Coast, and Hawaii. For international flights, the average stage length fell from 3,144 miles in 2019 to 3,052 miles in 2023, then rose to 3,099 miles in 2024. While still below 2019 stage length levels, the 2024 increase signaled a partial rebound due to the reintroduction and expansion of long-haul international services. These trends reflect continued recovery and expansion of both domestic and international networks, with airlines adding new routes and resuming previously suspended services.

3.2.1 Domestic Passenger Service

Logan Airport is served by a combination of large jet carriers and regional and commuter carriers. **Table 3-6** shows year-over-year changes in domestic air passenger operations categorized by type of airline.

Table 3-6 Scheduled Domestic Air Passenger Operations by Airline Category, 2000, 2022-2024

Airline Category	2000	2022	2023	2024	2022-2023 Percent Change	2023-2024 Percent Change
Scheduled Large Jet Carriers	233,993	211,384	222,755	225,339	5.4%	1.2%
Regional / Commuter Jet	160,041	85,707	85,936	94,721	0.3%	10.2%
Total Scheduled Domestic Air Passenger Operations	**394,034**	**297,091**	**308,691**	**320,060**	**3.9%**	**3.7%**

Source: Massport, 2025.

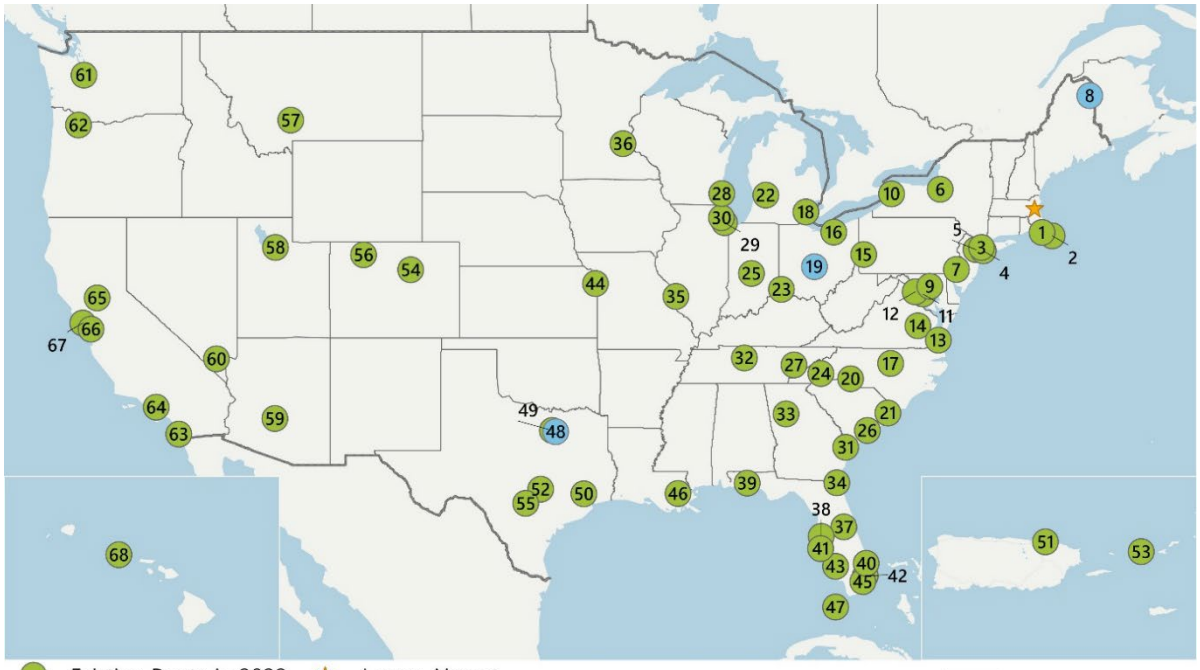
Notes:

1 Includes legacy carrier large jet operations only; regional jet and non-jet operations operated by regional affiliates or subsidiaries of legacy carriers are included in the "Regional/Commuter" category.

2 Low-cost carriers (LCC) which provided domestic service at Logan Airport in 2020 and 2021 included jetBlue Airways, Southwest Airlines, Spirit Airlines, Sun Country Airlines, Frontier Airlines and Allegiant Air. Before 2019, Virgin America was aggregated with the low-cost subtotals.

The large jet carriers generally operate larger aircraft and provide service throughout the domestic network. Regional and commuter carriers generally operate smaller aircraft to shorter-haul regional markets.

Figure 3-12 Domestic Non-Stop Large Jet Markets Served from Logan Airport



ID	Route	ID	Route	ID	Route	ID	Route
1	Martha's Vineyard, MA	18	Detroit, MI	35	St. Louis, MO	52	Austin, TX
2	Nantucket, MA	19	Columbus, OH	36	Minneapolis/St. Paul, MN	53	St. Thomas, USVI
3	New York, NY (LaGuardia)	20	Charlotte-Douglas, NC	37	Orlando, FL	54	Denver, CO
4	New York, NY (JFK)	21	Myrtle Beach, SC	38	Tampa, FL	55	San Antonio, TX
5	New York, NY (Newark)	22	Grand Rapids, MI	39	Destin-Ft Walton Beach, FL	56	Steamboat Springs/Hayden, CO
6	Syracuse, NY	23	Cincinnati, OH	40	West Palm Beach, FL	57	Bozeman, MT
7	Philadelphia, PA	24	Asheville/Hendersonville, NC	41	Sarasota/Bradenton, FL	58	Salt Lake City, UT
8	Presque Isle, ME	25	Indianapolis, IN	42	Fort Lauderdale, FL	59	Phoenix, AZ
9	Baltimore, MD	26	Charleston, SC	43	Fort Myers, FL	60	Las Vegas, NV
10	Buffalo, NY	27	Knoxville, TN	44	Kansas City, KS	61	Seattle, WA
11	Washington, D.C. (Reagan)	28	Milwaukee, WI	45	Miami, FL	62	Portland, OR
12	Washington, D.C. (Dulles)	29	Chicago, IL (Midway)	46	New Orleans, LA	63	San Diego, CA
13	Norfolk, VA	30	Chicago, IL (O'Hare)	47	Key West, FL	64	Los Angeles, CA
14	Richmond, VA	31	Savannah, GA	48	Dallas, TX	65	Sacramento, CA
15	Pittsburgh, PA	32	Nashville, TN	49	Dallas/Fort Worth, TX	66	San Jose, CA
16	Cleveland, OH	33	Atlanta, GA	50	Houston, TX (Bush)	67	San Francisco, CA
17	Raleigh/Durham, NC	34	Jacksonville, FL	51	San Juan, PR	68	Honolulu/Oahu, HI

Source: OAG Analyzer, 2025.

Note: There were no new Large Jet routes in 2023. New Large Jet routes in 2024 serve Presque Isle, ME, Columbus, OH, and Dallas, TX.

Trends observed after comparing scheduled domestic passenger flight activity in 2023 and 2024 against 2019 levels are summarized below. Logan Airport's scheduled domestic large jet and domestic regional services are illustrated in **Figure 3-12** and **Figure 3-13**. A complete listing of all changes in scheduled departures by domestic destination is in Appendix F, *Activity Levels Supporting Documentation*, Section F.1.2.

3.2.1.1 Large Jet Carriers

Large jet carriers include airlines that are frequently described as legacy carriers, LCCs, and ULCCs. Legacy carriers include the "Big Three" U.S. airlines: American Airlines, Delta Air Lines, and United Airlines. These carriers operate extensive domestic and international networks, maintain large hub-and-spoke systems, and typically offer a range of cabin classes and services. They are distinguished from LCCs by their global alliances, frequent flyer programs, and long-standing market presence. LCCs, such as Southwest and jetBlue, offer lower fares by simplifying their service and operating efficiently, often with fewer amenities. ULCCs, such as Spirit, Frontier, and Allegiant, take this model further by offering very low base fares and charging separately for most services, including carry-on bags and seat selection.

In recent years, these distinctions have become somewhat less clear, as airlines have adjusted their business models and service offerings. For example, Southwest has expanded its domestic and international networks, which are more frequently associated with legacy carriers. Reporting in this EDR has moved away from these airline distinctions, as they are unable to capture the current practices of airlines at Logan Airport sufficiently. Logan Airport continues to be served by a diverse mix of carriers, offering services for various market segments and preferences. See Appendix F, for a full breakdown of tables on operations for each airline.

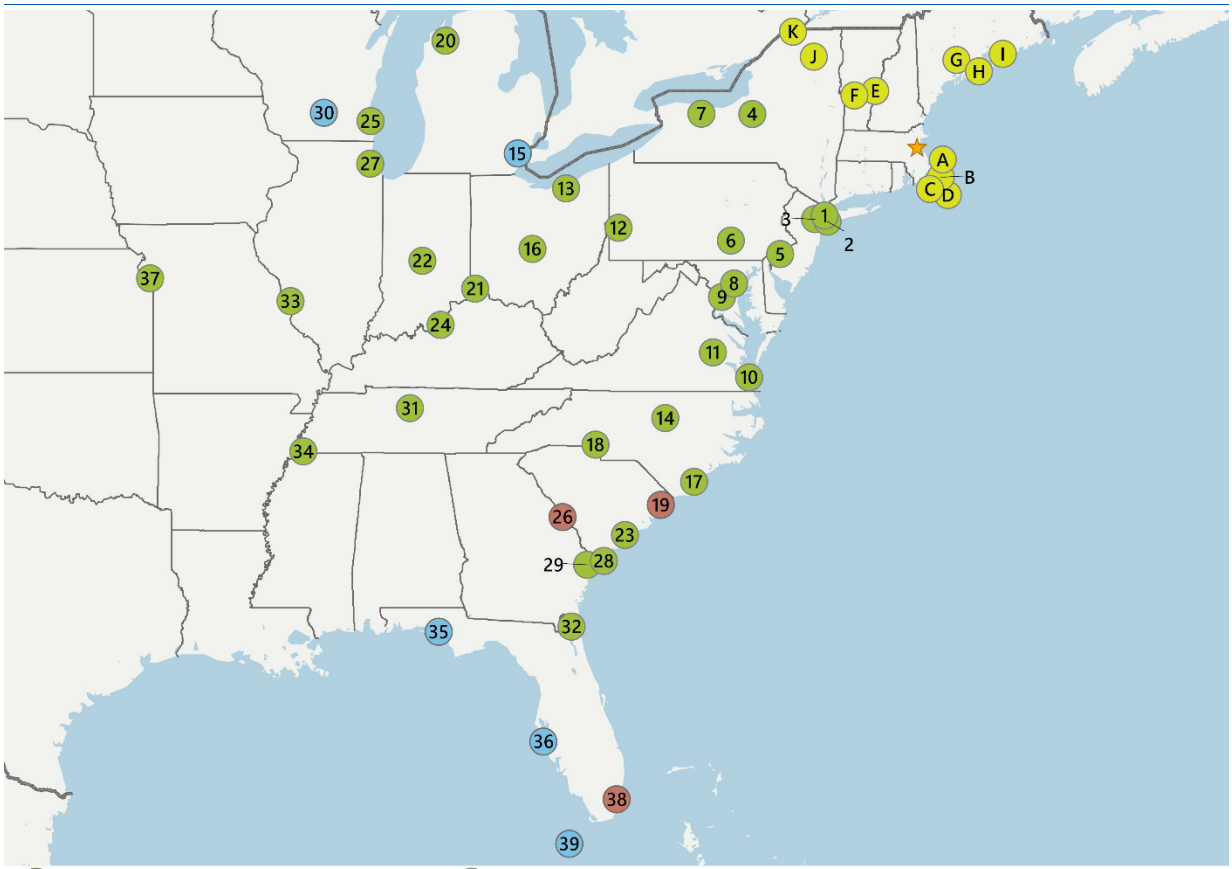
2023 Large Jet Carriers

At the end of 2023, Delta's operations were 37.1 percent above its pre-pandemic performance. In contrast, United Airlines only recovered around 90 percent of its 2019 operations. The varied recovery rates were influenced by strategic decisions on route expansion, the use of regional affiliates, and differing market demands.

jetBlue increased operations by 3.6 percent from the prior year but remained 17.4 percent below 2019 levels. Although jetBlue does not formally designate Logan Airport as a hub, Boston remains a key focus city across its network as evidenced by its relatively high traffic market share.

Spirit Airlines' operations grew by 47.1 percent in 2022, recovering to 88.8 percent of their 2019 activity. Southwest Airlines increased 16.0 percent from 2022 but operated 38.6 percent less than it did in 2019. Frontier Airlines operated 1,039 flights in 2023, down from both 2022 and 2019, before ramping up in 2024. Allegiant Air maintained its stable presence with just over 1,000 flights in 2023. Sun Country Airlines operated 472 flights, marking a 13.5 percent increase over 2022, which was 63.9 percent more operations than reported in 2019.

Figure 3-13 Domestic Non-Stop Regional Jet and Non-Jet Markets Served from Logan Airport



ID	Route
1	New York, NY (LaGuardia)
2	New York, NY (JFK)
3	New York, NY (Newark)
4	Syracuse, NY
5	Philadelphia, PA
6	Harrisburg, PA
7	Rochester, NY
8	Baltimore, MD
9	Washington, DC (Reagan)
10	Norfolk, VA
11	Richmond, VA
12	Pittsburgh, PA
13	Cleveland, OH

ID	Route
14	Raleigh/Durham, NC
15	Detroit, MI
16	Columbus, OH
17	Wilmington, NC
18	Charlotte-Douglas, SC
19	Myrtle Beach, SC
20	Traverse City, MI
21	Cincinnati, OH
22	Indianapolis, IA
23	Charleston, SC
24	Louisville, KY
25	Milwaukee, WI
26	Augusta, GA

ID	Route
27	Chicago, IL
28	Hilton Head Island, SC
29	Savannah, GA
30	Madison, WI
31	Nashville, TN
32	Jacksonville, FL
33	St. Louis, MO
34	Memphis, TN
35	Panama City, FL
36	Sarasota, FL
37	Kansas City, KS
38	Miami, FL
39	Key West, FL

ID	Route
A	Provincetown, MA
B	Hyannis, MA
C	Martha's Vineyard, MA
D	Nantucket, MA
E	Lebanon/Hanover, NH
F	Rutland, VT
G	Augusta, ME
H	Rockland, ME
I	Bar Harbor, ME
J	Saranac Lake, NY
K	Massena, NY

Source: OAG Analyzer, 2025.

Note: In 2022, six new domestic, nonstop routes were introduced, serving Baltimore, MD; Louisville, KY; Memphis, TN; White Plains, NY; and St. Louis, MO. No new routes were added on non-jet aircraft.

2024 Large Jet Carriers

In 2024, Delta slightly reduced its operations, decreasing by 1.1 percent, but still operates 35.5 percent above 2019 levels and is now the largest carrier at Logan Airport. American and United continued to grow, but also fell short of 2019 activity, recovering 96 percent of their operations. Spirit increased operations by 50.1 percent over 2023, surpassing 2019 levels by more than 33 percent. Frontier more than doubled its 2023 flights, increasing 161.3 percent from 2023 and 124.0 percent over 2019 levels.

jetBlue experienced a 7.9 percent decline in operations compared to 2023, falling to 23.9 percent below 2019 levels. The reduction reflects on-going restructuring and capacity adjustments as described earlier in this chapter. Similarly, Southwest Airlines grew by 7.9 percent in 2023 but remained approximately 33.8 percent below its 2019 level. Sun Country Airlines and Allegiant Air operations held steady, each operating over 1,000 flights in 2024.

Spirit and Frontier's gains in 2024 signified a renewed push from ULCC providers into the Boston market, offsetting slower growth and reductions by larger LCCs, such as jetBlue and Southwest.

3.2.1.2 Regional and Commuter Services

Since 2019, regional and commuter services[9] at Logan Airport have experienced both consolidation and growth with total operations increasing by 7.9 percent in 2024. However, the market has become increasingly concentrated among a few major affiliates. Republic Airlines, operating as Delta Connection, and Envoy Air, flying for American Eagle, expanded their presence significantly and account for a dominant share of regional and commuter operations. In contrast, SkyWest Airlines (which operated for United Express and Delta Connection) and Endeavor Air (Delta Connection) saw steep declines and near-exits from the Logan Airport market. As a result, while regional carriers continue to represent a steady share of passenger flights at Logan Airport, service is now provided by fewer operators tied to the mainline legacy carriers.

2023 Regional and Commuter Services

In 2023, regional and commuter services at Logan Airport totaled 92,997, a 2.5 percent decline from 2022. Republic Airlines remained the largest carrier, operating 45,002 flights. While this represented a 2.7 percent decrease from 2022, it was more than double (206 percent) its 2019 volume due to Republic's expanded capacity purchase agreement flying under Delta Connection. This expanded role follows after Delta did not renew its contract with GoJet, and Compass Airlines ceased operations in 2020. Envoy Air experienced significant growth, growing by 70.4 percent from 2022 and nearly eightfold from 2019, as American Eagle added new routes.

9 Commuter Services' and 'Regional Jet' markets both refer to short-distance flights operated with smaller regional jet aircraft. This category includes flights by smaller carriers operating under the brand of larger airlines, such as Delta Connection, United Express, and American Eagle, and the term 'commuter' is consistent with how this segment is published in Massport's Boston Logan Airport's monthly aviation statistics.

SkyWest Airlines rebounded from pilot shortage-driven cuts in 2023, flying 3,920 operations. This was a 401.5 percent increase from 2022, but still 19.7 percent below 2019 levels. Cape Air remained the second-largest regional operator in terms of the number of flights, with 29,026 flights, nearly flat from 2022 (down 0.8 percent) and 17.9 percent below 2019 levels. While frequencies were reduced on several regionally oriented routes, most destinations were retained. Endeavor Air nearly exited the Logan Airport market, with operations decreasing 98.9 percent from 2022. Jazz Air (Air Canada's regional affiliate operator) operated 20.9 percent fewer flights than in 2022. Canada-based Porter Airlines increased service by 18.8 percent in 2022 as it continued to rebuild its Boston network, following the recovery of transborder U.S.-Canada travel demand.

Six of Cape Air's destinations from Logan Airport are qualified as **Essential Air Service (EAS)** communities, receiving federal support to connect small cities in New England and New York. While Cape Air maintained most routes, services to Hyannis, MA; Bar Harbor, ME; Adirondack, NY; and Portland, ME operated at reduced frequency compared to pre-pandemic schedules.

2024 Regional and Commuter Services

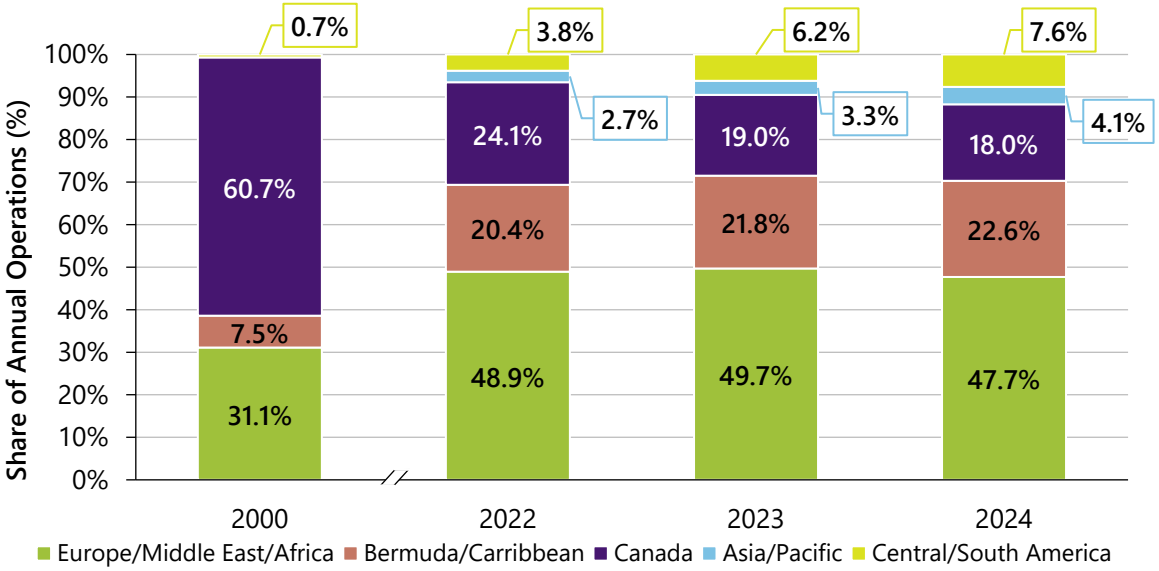
In 2024, regional and commuter operations at Logan Airport reached 102,412 flights, a 7.9 percent increase over 2019 levels. This growth was led by Republic Airlines, which more than doubled its 2019 operations, up 141.4 percent, as it continued to operate a growing share of Delta Connection flights. Envoy Air increased its presence, operating over 3,800 flights in 2024 compared to just 396 in 2019, reflecting American Eagle's on-going expansion in Boston.

Meanwhile, SkyWest Airlines and Endeavor Air effectively exited the market, maintaining only minimal services in the Boston market. SkyWest dropped from nearly 4,900 flights in 2019 to just 10 in 2024, and Endeavor fell from over 10,500 operations to only 20 in the same time period. These declines may reflect on-going industry issues, including the pilot shortage, the maintenance mechanic shortage, and network consolidation by Delta and United.

3.2.2 International Passenger Service

Table 3-7 summarizes foreign airlines' scheduled international operations in 2023-2024, with the share of international operations shown in **Figure 3-14**. For details on the changes in operations by carrier, refer to Appendix F, Section F.1. **Figure 3-15** illustrates the existing and added routes for 2023-2024.

Figure 3-14 **Logan Airport International Market Segment Operations Distribution, 2000, 2022-2024**



Source: Massport, 2025.

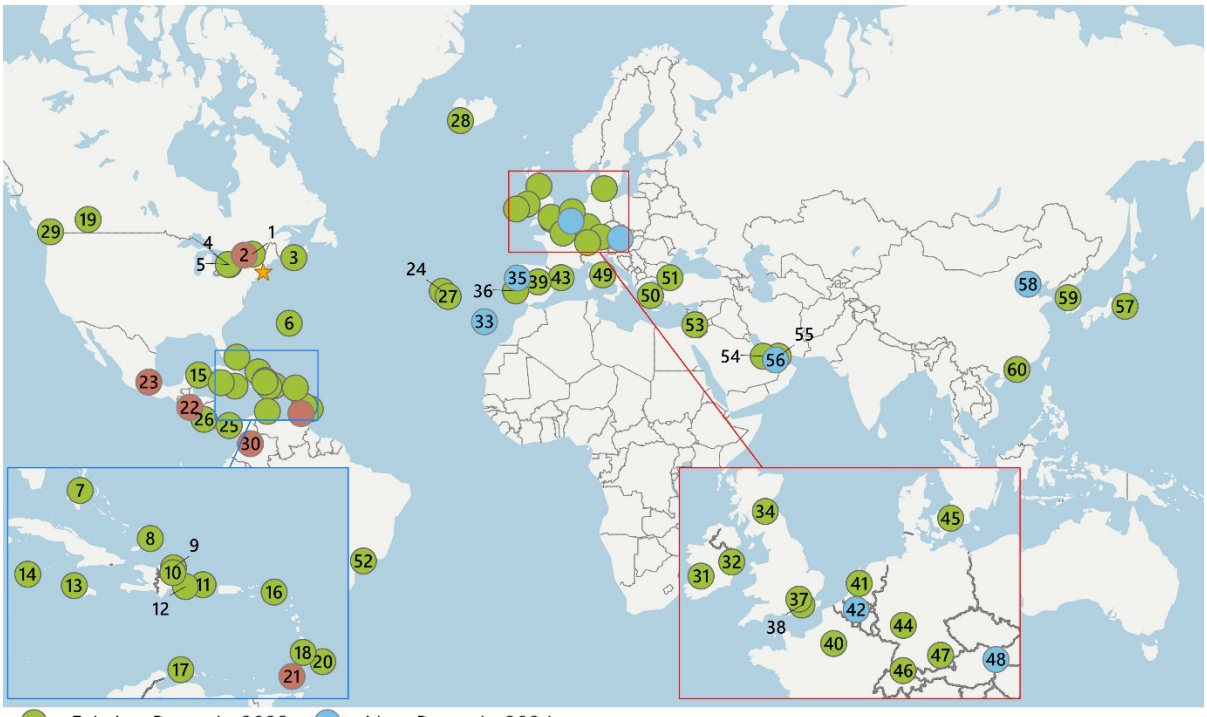
2023 International Passenger Service

In 2023, international passenger aircraft operations at Logan Airport totaled 50,854, marking a 17.8 percent increase from 2022 but still 6.6 percent below 2019 levels. Growth continued across several key markets, including expanded service from Delta Air Lines, which operated 7,132 international flights, 51.1 percent above 2019 levels, and jetBlue, which increased its international operations by 31.6 percent from 2022, reaching 11,061 flights, more than double its 2019 total.

Other notable developments included the return and expansion of service from Air Canada, Virgin Atlantic, and Icelandair, as well as increased frequencies by carriers such as Swiss International Air Lines, Korean Air, and Scandinavian Airlines (SAS). However, international service recovery remained uneven across airlines and regions. Carriers such as British Airways, Lufthansa, and Porter Airlines remained below pre-pandemic levels, and several foreign flag carriers had either not returned or were operating reduced schedules.

Figure 3-15 shows Logan Airport's scheduled international passenger service in 2023, including carriers and destinations served. While Logan Airport served a growing number of international destinations, the total still trailed the 2019 count, and recovery continued to vary by region.

Figure 3-15 International Non-Stop Markets Served from Logan Airport



ID	Route	ID	Route	ID	Route	ID	Route
1	Montreal, Canada	15	Cancun, Mexico	31	Shannon, Ireland	47	Munich, Germany
2	Ottawa, Canada	16	St. Maarten	32	Dublin, Ireland	48	Vienna, Austria
3	Halifax, Canada	17	Aruba	33	Madeira, Portugal	49	Rome, Italy
4	Toronto, Canada (Billy Bishop)	18	St. Lucia-Vieux Fort, Saint Lucia	34	Edinburgh, Scotland	50	Athens, Greece
5	Toronto, Canada (Pearson)	19	Calgary, Canada	35	Porto, Portugal	51	Istanbul, Turkey
6	Bermuda	20	Bridgetown, Barbados	36	Lisbon, Portugal	52	Sao Paulo, Brazil
7	Nassau, Bahamas	21	Grenada	37	London, U.K. (Heathrow)	53	Tel Aviv, Israel
8	Providenciales, Turks and Caicos	22	San Salvador, El Salvador	38	London, U.K. (Gatwick)	54	Doha, Qatar
9	Puerto Plata, Dominican Republic	23	Mexico City, Mexico	39	Madrid, Spain	55	Dubai, UAE
10	Santiago, Chile	24	Terceira, Portugal	40	Paris, France	56	Abu Dhabi, UAE
11	Punta Cana, Dominican Republic	25	Panama City, Panama	41	Amsterdam, Netherlands	57	Tokyo, Japan
12	Santo Domingo, Dominican Republic	26	Liberia, Costa Rica	42	Brussels, Belgium	58	Beijing, China
13	Montego Bay, Jamaica	27	Ponta Delgada, Portugal	43	Barcelona, Spain	59	Seoul, South Korea
14	Grand Cayman, Cayman Islands	28	Reykjavik, Iceland	44	Frankfurt, Germany	60	Hong Kong
		29	Vancouver, Canada	45	Copenhagen, Denmark		
		30	Bogota, Columbia	46	Zurich, Switzerland		

Source: OAG Analyzer, 2025.

Note: In 2022, Logan Airport welcomed ULCC, Fly Play, and Condor, which offered nonstop services to Reykjavik, Iceland, and Frankfurt, Germany, both of which began in May 2022. ITA Airways (formerly Alitalia) commenced service to Rome, Italy, while United Airlines launched nonstop service to London, United Kingdom, in April 2022.

Table 3-7 Scheduled International Passenger Operations by Market Segment, 2000, 2022-2024

Market Segment	2000	2022	2023	2024	2022-2023 Percent Change	2023-2024 Percent Change
Canada	26,067	10,406	9,659	10,543	-7.2%	9.2%
Europe / Middle East / North Africa	13,345	21,122	25,279	28,004	19.7%	10.8%
Bermuda / Caribbean[1]	3,205	8,803	11,092	13,298	26.0%	19.9%
Asia	0	1,179	1,693	2,398	43.6%	41.6%
Central / South America	314	1,662	3,131	4,483	88.4%	43.2%
Total Scheduled International Passenger Operations	**42,931**	**43,172**	**50,854**	**58,726**	**17.8%**	**15.5%**

Source: Massport, 2025.
Notes:
1 Includes Puerto Rico and the U.S. Virgin Islands

2024 International Passenger Service

In 2024, total international passenger aircraft operations at Logan Airport reached 58,726, exceeding 2019 levels by 7.8 percent and growing 15.5 percent over 2023. This milestone was driven by continued expansion from Delta, jetBlue, and Air Canada. Delta operated 7,360 international flights, an increase of 3.2 percent from 2023 and 55.9 percent above 2019. jetBlue recorded 14,154 international operations, growing 28.0 percent from 2023, and now operates nearly 50 percent more international flights than domestic flights.

In addition, BermudAir, Etihad, Austrian, and Norse Atlantic Airways launched or ramped up new service to Boston in 2024, contributing to the Airport's overall growth. While major European and Middle Eastern carriers, such as Qatar, Air France, Virgin Atlantic, and Turkish Airlines, increased frequencies, others, including British Airways and Lufthansa, remained slightly below pre-pandemic volumes. The international network at Logan Airport has not only rebounded but also diversified, with more carriers and a broader range of destinations served than before 2019.

3.2.2.1 Canada

2023 Passenger Service to Canada

There were 9,659 scheduled international passenger flights to and from Canada in 2023. This represented a 7.2 percent decrease from 2022 and remained 43.4 percent below 2019 levels. Although Air Canada added back capacity, overall service levels from Canadian carriers, including Porter and

WestJet, continued to lag their pre-pandemic operations. In June 2023, jetBlue added a new Canadian destination with summer seasonal service to Vancouver.

2024 Passenger Service to Canada

Services to Canada increased by 9.2 percent between 2023 and 2024, reaching 10,543 passenger operations. This remains 38.3 percent less than the number of operations handled in 2019, making Canada the only major region where pre-pandemic flight volumes have yet to recover.

3.2.2.2 Europe, Middle East, and North Africa

2023 Passenger Service to Europe, the Middle East, and North Africa

In 2023, Logan Airport recorded 25,279 scheduled passenger flights to Europe, the Middle East, and North Africa, representing a 19.7 percent increase from 2022. Most of this growth originated from Europe, which experienced a significant recovery, with 21,122 flights in 2023. This reflects a 19.2 percent increase from 2022 and a 14.9 percent increase from 2019 levels. Delta Air Lines expanded its transatlantic service, adding more frequencies on routes to Athens, Rome, Paris, and Amsterdam. While many European carriers remained below their pre-pandemic levels, including British Airways (2,002 flights) and Lufthansa (1,686 flights), Icelandair (1,390 flights) continued to expand, surpassing 2019 levels. jetBlue also contributed to the overall increase, launching services to Paris and Amsterdam.

Service to the Middle East totaled 2,398 flights in 2023, a 41.6 percent increase from 2022 but still 16.0 percent below 2019 levels. Emirates operated 732 flights, a slight increase from 702 in 2022, maintaining its consistent service. Other carriers, such as Qatar Airways (with 726 flights) and Turkish Airlines (with 658 flights), also maintained their operations without significant capacity increases. There were no scheduled flights to North Africa in 2023, as Royal Air Maroc (RAM) did not resume its service to Casablanca.

2024 Passenger Service to Europe, the Middle East, and North Africa

In 2024, scheduled flights to Europe, the Middle East, and North Africa increased to 28,004, representing a 10.8 percent increase from 2023 and a 29.8 percent increase above 2019 levels. Europe continued to drive the growth, with 25,279 flights, up 11.8 percent from 2023 and 18.1 percent above 2019 volumes. Delta expanded its European network with increased frequencies, and Austrian Airlines (242 flights) and Norse Atlantic Airways (60 flights) launched new services. Icelandair continued to grow its presence, operating 1,496 flights, up from 1,390 in 2023 and exceeding pre-pandemic levels. jetBlue continued its European expansion launching service to Dublin.

Service to the Middle East reached 2,898 flights in 2024, a 24.5 percent increase from 2023, and 9.3 percent above 2019 levels. This growth was supported by Etihad Airways, which launched service to Abu Dhabi in March 2024 with 374 flights, as well as by the consistent operations of Qatar Airways and Turkish Airlines. Emirates expanded slightly, operating 736 flights in 2024, up from 732 in 2023. North Africa remained unserved in 2024.

3.2.2.3 Caribbean and Bermuda

2023 Passenger Service to the Caribbean and Bermuda

In 2023, there were 11,092 flights to the Caribbean and Bermuda, representing a 26.0 percent increase from 2022 and a 14.6 percent increase above 2019 levels. The Caribbean market experienced strong growth, benefiting from its proximity to the U.S. and continued demand for leisure travel. The return of several nonstop services and the overall mix of carriers contributed to the recovery, particularly in popular destinations. The Bermuda market also saw increased frequencies, helping the region recover more quickly than other international destinations.

2024 Passenger Service to the Caribbean and Bermuda

In 2024, service to the Caribbean and Bermuda increased to 13,298, a 19.9 percent increase from 2023 and 37.4 percent above 2019 levels. This increase was driven by continued strong demand, with more flights available to both Caribbean islands and Bermuda, as well as increased frequency of service during peak travel seasons.

3.2.2.4 Asia

2023 Passenger Service to Asia

Flights to Asia increased to 1,693 in 2023, a 43.5 percent rise over 2022, although they remained 40 percent below 2019 levels. Domestic carriers and foreign carriers such as Japan Airlines and Korean Air managed to increase service, but U.S.-China air travel remained constrained as both governments maintained limits on the total number of weekly round-trip flights between the two nations. In 2023, the U.S. Department of Transportation (U.S.DOT) gradually increased the weekly cap on round-trip flights by Chinese carriers from 12 in May 2023 to 35 by November 2023.

Cathay Pacific operated at around 11 percent of its 2019 capacity. Hainan Airlines, which historically accounted for 36 percent of all flights to Asia in 2019, had not resumed flights from Logan Airport to Shanghai and Beijing in 2023.

2024 Passenger Service to Asia

Flights to Asia increased to 2,398 in 2024, a 41.6 percent rise from 2023, although they remained 16 percent below 2019 levels. Recovery across Asia continued, led by stronger growth in the Japanese and South Korean markets. Japan Airlines and Korean Air capitalized on this trend by adding capacity, while Cathay Pacific increased its service from 83 flights in 2023 to 313 in 2024. Effective March 31, 2024, the U.S.DOT increased the weekly round-trip flight cap discussed in the previous section from 35 to 50 round-trips for Chinese carriers and 50 round-trips for U.S. flag carriers. This allowed for renewed activity on China-related routes with Hainan Airlines operations increasing from 32 to 312 flights in 2024.

3.2.2.5 Central and South America

2023 Passenger Service to Central and South America

In 2023, Logan Airport recorded 3,131 flights to Central and South America, a 6.7 percent increase from 2022 but still 4.2 percent below 2019 levels. The recovery in this region was led by major Latin American carriers, including Copa Airlines (939 flights), Avianca (521 flights), and LATAM Airlines (439 flights), which serve destinations in Panama, Colombia, El Salvador, and Brazil. The market showed steady progress, although it had not yet fully returned to pre-pandemic levels.

2024 Passenger Service to Central and South America

In 2024, Logan Airport recorded 4,483 flights to Central and South America, a 43.1 percent increase from 2023 and 37.2 percent above 2019 levels. This significant growth was again driven primarily by Copa Airlines (939 flights), Avianca (521 flights), and LATAM Airlines (312 flights). Additionally, Aeroméxico resumed service in 2024, operating 569 flights to Mexico City, further contributing to the region's strong recovery. Overall service in 2024 surpassed pre-pandemic levels, marking a complete recovery of flights to this region.

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4. Airport Planning

Logan Airport is constantly evolving and adapting to changing aviation transportation needs, updating and upgrading aging buildings and infrastructure, enhancing safety, improving operational efficiencies, and reducing environmental impacts. See **User's Guide Section U4.1** for Massport's strategy towards planning. This chapter discusses the status of Massport's recently completed or on-going projects and Airport-wide planning and development initiatives as of the end of 2024.

User's Guide Section U4.1

The projects and initiatives discussed in this chapter are organized by Airport location. These areas include the terminals, landside service facilities that support aviation activities, ground transportation access and parking, and the airfield with its **airside** facilities. See **User's Guide, Section U4.2**, for further explanation on the activities within these different areas. **Table 4-1** presents a brief overview of planning initiatives and on-going projects, as well as projects planned for the near future. These Projects are mapped in **Figure 4-1**. Where relevant, a discussion of Airport-wide initiatives is also included.

User's Guide Section U4.2

Additional details on the Airport's transportation-related projects and planning concepts can be found in Chapter 6, *Ground Access*. Airport projects related to energy, **sustainability**, and **resiliency**, as well as Airport buffers and open space programs, are discussed in Chapter 11, *Sustainability and Climate Resilience*. Massport and tenant projects that trigger review thresholds under the **Massachusetts Environmental Policy Act (MEPA)** or the **National Environmental Policy Act (NEPA)** must undergo the appropriate, project-specific state **MEPA review**, federal NEPA review, or both. These projects and their associated mitigation requirements are discussed in Chapter 10, *Project Mitigation*.

This chapter reviews current and planned projects for:

- Ground Transportation and Parking Areas
- Terminal Areas
- Airside Areas
- Service Areas

2023 Airport Planning Key Findings

The following details key findings for Airport Planning in 2023:

- As part of the Logan Airport Parking Project, Massport began preliminary design for adding approximately 4,000 garage parking spaces across from Terminal E, to encourage long-term parking at the Airport, and reduce overall drop-off and pick-up trips.
- The Terminal C Canopy, Connector, and Roadway Projects achieved **Leadership in Energy and Environmental Design (LEED®)** Gold certification from the U.S. Green Building Council (U.S.GBC), and upgrades to the associated roadways were completed.
- In October, four new gates opened as part of the Terminal E Modernization project.
- The Runway 15R-33L Rehabilitation Project was completed in November after permits, including a NEPA **Categorical Exclusion (CATEX)**, were issued by federal, state, and local regulatory agencies.
- A MEPA Certificate was issued for the **Final Environmental Impact Report (FEIR)** for the Runway 27 End **Runway Safety Area (RSA)** Improvement Project, and the **Federal Aviation Administration (FAA)** issued a **Finding of No Significant Impact (FONSI)** for the **Environmental Assessment (EA)**.

2024 Airport Planning Key Findings

The following details key findings of Airport Planning in 2024:

- Preliminary design work began on the Prescott Street Public Safety Building (PSB). This project will consolidate public safety and security personnel within a state-of-the-art operations and situational awareness center, allowing for integrated incident dispatch and response.
- Design began on the Danvers **Logan Express** (formerly Peabody) location, and construction began on the Framingham Logan Express garage additions. These will facilitate and promote **high-occupancy vehicle (HOV)** and public transit ridership.
- Construction started on the FAA Air Traffic Control Tower (ATCT) to accommodate FAA NextGen equipment.

Table 4-1 Logan Airport Short- and Long-Term Planning Initiatives

ID	Project	Status 2022 Year End	Status 2023 Year End	Status 2024 Year End	Anticipated Construction Completion
Ground Access Projects and Planning Concepts					
1	Terminal E Grage	Permitted	Preliminary Design	Pre-Construction	2028
2	Airport-wide Ride App Infrastructure Improvements and Policy	On-going	On-going	On-going	On-going
3	Danvers Logan Express	N/A	Design	Under Construction	2027
4	Braintree Logan Express	N/A	Feasibility	Feasibility	2030
5	Framingham Logan Express Expansion	Permitted	Design	Under Construction	2025
6	Terminal B Garage Rehabilitation	N/A	Design	Design / Under Construction	2026
Terminal Area Projects and Planning Concepts					
1	Terminal C Canopy, Connector, and Roadway Projects	Under Construction	Complete (2023)	N/A	2023
2	Terminal E Modernization (Phase 1: 4 gates / Phase 2: 3 gates)	Phase 1: Under Construction Phase 2: Permitted	Phase 1: Opened Phase 2: Deferred	Phase 2: Deferred	2023
3	NextGen Air Traffic Control Tower (ATCT) Improvements	N/A	Planning	Under Construction	2026
4	Terminal C Improvements	Feasibility / Planning	Preliminary Design	Permitting / Design	2029
5	Terminal A to B Airside Connector	Feasibility / Planning	Feasibility / Planning	Permitting / Design	2028
6	Central Heating Plant (CHP) Upgrade	Feasibility	Feasibility	Feasibility	On-going
Airside Projects and Planning Concepts					
1	Runway 15R-33L Rehabilitation Project	Permitting / Under Construction	Complete (2023)	N/A	2023
2	Taxiway B North Rehabilitation	N/A	Design	Complete (2024)	2024
3	Runway 9-27 RSA Improvement Project	Planning / Permitting	Permitting / Design	Permitting / Design	2026
4	Runway 4R-22L Lighting Upgrade to LED and Circuitry Replacement	Planning / Permitting	Design	Under Construction	2025
5	Taxiway B East and South Rehabilitation	N/A	N/A	N/A	2026
6	Taxiway M North Rehabilitation and Geometry Improvements	N/A	N/A	N/A	2029
7	Taxiway N Rehabilitation	N/A	Design	Under Construction	2025

Table 4-1 Logan Airport Short- and Long-Term Planning Initiatives

ID	Project	Status 2022 Year End	Status 2023 Year End	Status 2024 Year End	Anticipated Construction Completion
8	Airside Energy Optimization Program	N/A	Feasibility	Feasibility	On-going
Service Area Projects and Planning Concepts					
1	Additional Jet Fuel Tank	Under Construction	Under Construction	Under Construction	2026
2	North Service Area Optimization	Feasibility	Planning	Planning / Permitting	On-going
3	Prescott Street Public Safety Building	Feasibility / Planning	Planning / Programming	Permitting / Design	TBD
4	North Cargo Through-put Facility	Feasibility / Planning	Feasibility / Planning	Feasibility / Planning	TBD

Notes: Details of each project or planning concept are provided in the sections that follow. On-going anticipated construction completion denotes multi-component programs or projects.
N/A Not applicable
TBD To be determined
1 Not applicable; the project and initiative are either Airport-wide or a location has yet to be identified.

Figure 4-1 Location of Airport Projects and Planning Concepts

2023/2024 Environmental Data Report

4.1 Ground Access Planning

Ground access and parking planning goals focus on enhancing Airport roadway operations, safety, and reducing traffic congestion, while also promoting more sustainable transit options. Related projects often involve strategic expansions and renovations to accommodate increased demand, improve infrastructure, and alleviate congestion. Key objectives include optimizing vehicle and pedestrian circulation, enhancing public transportation options, coordinating Ride App and shared ride services, and reducing emissions by integrating sustainable practices. The following sections discuss how current projects and planning initiatives achieve these objectives. **Figure 4-2** illustrates Airport Ground Access Projects and Planning Concepts. Massport's long-standing Parking Management Strategy focuses on parking supply, pricing, and operations to promote the use of HOV, transit, and shared-ride services, thereby reducing environmental impacts.

Figure 4-2 Location of Ground Access Projects/Planning Concepts

4.1.1 Terminal E Garage

The updated project now calls for approximately 4,000 commercial revenue spaces within a new garage in front of Terminal E (see 1 in **Figure 4-2**). New pedestrian bridges will connect the Terminal E Garage to the northwestern side of Terminal C, and to the west side of Terminal E.

- The existing pedestrian bridge between the West Garage and Terminal E will be dismantled, and the new bridges will be integrated into the garage floor plan to allow for better vehicular and pedestrian circulation.
- A vehicular bridge will connect the West Garage to the new garage.

Several roadway enhancements are necessary to facilitate this project. These enhancements will also benefit the campus-wide roadway system. Proposed roadway and curbside reconfigurations will improve vehicle access, particularly for HOVs, at the curb; minimize dwell and idling time; and reduce overall emissions.

In 2017, the **Massachusetts Department of Environmental Protection (MassDEP)** and the United States Environmental Protection Agency (U.S.EPA) approved an amendment to the **Logan Airport Parking Freeze** to add 5,000 parking spaces at Logan Airport. The new garage (as shown in **Figure 4-2** as 1) continues to comply with the Logan Airport Parking Freeze, while allowing Massport to recover 2,000 lost spaces formerly located in the Central Garage and Terminal B Garage. HOV and Ride App initiatives at Terminal B and Terminal C displaced these spaces. As of this filing, Logan Airport is more than 7,000 commercial spaces below the Logan Airport Parking Freeze limit and following construction of the garage will remain approximately 3,000 commercial spaces below the parking freeze limit. Construction of the garage is anticipated to be complete in 2028.

2023 Project Status

In late 2023, the preliminary design process for the Terminal E Garage began. As activity levels rebounded following the pandemic, Massport has reaffirmed that additional parking spaces are needed to encourage long-term, on-Airport parking, rather than two trips for both drop-off and pick-up. Before filing the *2022 ESPR*, the Secretary of the **Executive Office of Energy and Environmental Affairs (EEA)** affirmed that the Secretary's Certificate on the FEIR remains valid for the project as currently planned.

2024 Project Status

The preliminary design continued throughout 2024 in preparation for construction, which began in 2025.

4.1.2 Airport-wide Ride App Infrastructure Improvements and Policy

Massport's plan to manage increasing Ride App service use more efficiently includes the **Ride App Rematch Program**, changes to the Ride App fee structure to encourage shared rides and competition between modes, and optimizing Ride App operations on campus to reduce deadhead activity. The Airport-wide Ride App Infrastructure Improvements and Policy is an on-going program designed to enhance Massport's capacity to meet the increasing demand for Ride App services. In 2024, Logan Airport had the highest use of Ride App with nearly 5 million drop-offs and almost 4 million pick-ups. Additional details on Ride App management can be found in Chapter 6, *Ground Access*, Section 6.4.

2023 Project Status

A new EV charging infrastructure was added to the Ride App lot near the Rental Car Center in 2023.

2024 Project Status

Massport continued to evaluate the effectiveness of the existing Ride App infrastructure and policy in 2024 to inform future improvements.

4.1.3 Danvers Logan Express

The proposed Danvers Logan Express facility will replace the temporary North Shore Logan Express facility at the Liberty Tree Mall. The project proposes to reconfigure existing parking lots in Danvers and

construct a new, approximately 5,400 square-foot building. The project would include long-term and short-term parking areas, a bus lane, a pick-up/drop-off area, walkways, landscaping, and various other site improvements. The long-term parking area will include approximately 530 parking spaces, while the short-term parking area adjacent to the building will include approximately 20 parking spaces. The new building will house a public waiting area lobby, a ticketing office, a manager's office, a break room, restrooms, and support spaces. Construction of the surface lots was completed, with the building's construction anticipated to be completed by 2027.

2023 Project Status

The Logan Express site was relocated from Peabody to Danvers in 2023. Design and feasibility for the new facilities were on-going during 2023.

2024 Project Status

Site design and permitting were on-going in 2024, with an anticipated construction start for this work in 2025 and completion in 2026.

4.1.4 Braintree Logan Express Garage

To meet parking demand, Massport is proposing the construction of a garage and new terminal building at the existing Braintree Logan Express site, the busiest of Massport's four Logan Express sites. These additions would allow for increased HOV capacity for passengers and Airport employees. The proposed garage would incorporate sustainability and resiliency features, including **solar photovoltaic (PV)** systems and flood protection measures, and would pursue **ParkSmart®** Certification.

2023 Project Status

Feasibility studies for the project were conducted in 2023.

2024 Project Status

Preliminary design and initial permitting began in 2024. Permitting is anticipated to continue into 2025, with construction scheduled to start in 2026 and expected to be completed by 2030.

4.1.5 Framingham Logan Express

The Framingham Logan Express passenger demand continues to exceed the existing garage's capacity. Massport is in the process of adding three new levels to the existing four-story garage, which will provide capacity for 2,037 spaces once complete. The project will also incorporate sustainable design elements to the maximum extent practical. The new garage will feature **electric vehicle (EV)** charging equipment and aims to achieve ParkSmart® Silver Certification.

2023 Project Status

The project is in the permitting and design phase.

2024 Project Status

Construction of the project began in 2024, with an anticipated completion date of 2025.

4.1.6 Terminal B Garage Rehabilitation

The project will enhance passenger flow, operational efficiency, and accessibility at the Terminal B Garage (see 6 in **Figure 4-2)** through a series of upgrades. These upgrades include reconfiguring the garage and passenger areas, such as installing temporary passenger zones at Piers A and B, relocating the existing taxi stand, and adjusting Level 2 curbside allocations for limousine pick-ups. Other improvements involve permanent reconfigurations with concrete islands, curbside adjustments for buses and taxis, and various accessibility enhancements. Additionally, the project addresses structural repairs and comprehensive concrete and roadway repairs to ensure safe and seamless operations.

2023 Project Status

Design began in 2023 and progressed throughout the year.

2024 Project Status

Design and construction elements were on-going throughout 2024. In November 2024, passenger pick-up and bus loading areas were separated from each other. Sidewalk accessibility upgrades and garage structural repairs are anticipated to begin in 2025, with construction expected to be complete by 2025.

4.2 Terminal Area Planning

The terminal area at Logan Airport accommodates most passenger functions, including the passenger terminals, terminal area roadways, central parking facilities, and the Hilton Hotel. **Terminal area planning** projects are designed to modernize and enhance Airport facilities, improving the passenger experience, operational efficiency, and safety while integrating sustainable and resilient practices. These projects often involve infrastructure upgrades, new construction, and reconfigurations to optimize terminal access, circulation, and amenities in response to existing passenger activity levels. Key goals include enhancing connectivity between terminals, upgrading roadways and curbsides, and incorporating environmental initiatives to support sustainability targets. The following sections present information on the status of the on-going terminal area project and planning concepts, which are illustrated in **Figure 4-3**.

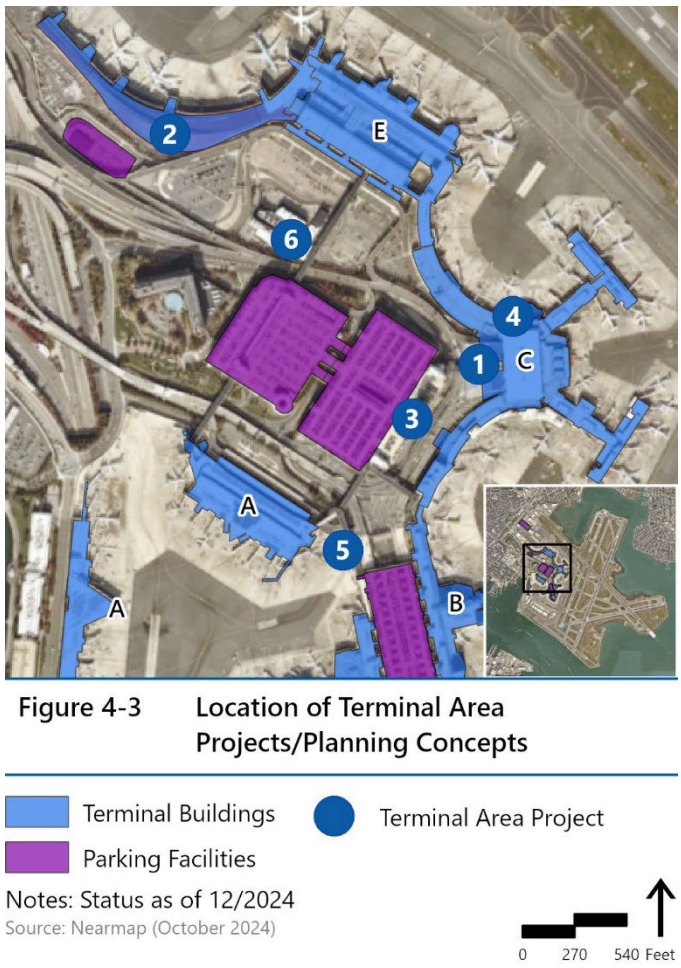


Figure 4-3 Location of Terminal Area Projects/Planning Concepts

4.2.1 Terminal C Canopy, Connector, and Roadway Projects

Massport improved Terminal C facilities by providing a post-security connector between Terminal B and Terminal C, replacing aging roadways, enhancing Terminal C curb operations, and replacing the departures level canopy (see 1 in **Figure 4-3**). As part of these improvements, passenger cars are separated from buses at the roadway curbsides on the arrivals level at Terminal C to prioritize higher HOV modes on transit. The project also includes new pavement markings, wayfinding signage modifications, lighting upgrades, and comprehensive structural repairs.

2023 Project Updates

Prior components of the project were completed in 2022. The roadways were completed, and the project achieved LEED® Gold certification in 2023.

4.2.2 Terminal E Modernization

The Terminal E Modernization Project includes three gates originally approved in 1996, but never constructed, as well as an additional four gates (see 2 in **Figure 4-3**). The building is aligned to function as a noise barrier and includes new passenger areas and hold rooms. The project includes sustainability features and is anticipated to achieve a minimum of LEED® Gold certification from the U.S.GBC. The project includes integrated photovoltaics, optimal harvesting of daylight all year round, a well-insulated **building envelope**, recycled materials incorporated throughout, renewable energy sources that are used along with advanced building systems, including a solar-ready roof, which supports the *Roadmap to Net Zero by 2031* (Net Zero by 2031) goals to reduce **greenhouse gas (GHG)** emissions.

2023 Project Status

Initial construction of Phase 1 began in 2019, with the four gates opening in October 2023.

2024 Project Status

Phase 2 of the project, which proposed including three additional gates and a direct pedestrian connection to the Blue Line Airport Station, remains deferred. Internal enhancements to Terminal E were on-going in 2024.

Terminal E Modernization Opening (October 2023).

4.2.3 Air Traffic Control Tower Improvements

The Logan Airport ATCT began service in the early 1970s and is currently the second-oldest in the FAA system, serving an airport of Logan Airport's size (see 3 in **Figure 4-3**). While there have been various renovations over the tower's lifespan, the over 50-year-old, mission-critical building requires renovations, repairs, and system modernization to improve Airport safety and operations. The project will construct approximately 6,500 square feet to accommodate FAA NextGen equipment between the existing ATCT pylons for use by the FAA and Massport. Construction is anticipated to commence in 2025, with completion scheduled for 2026.

2024 Project Status

Feasibility and planning were initiated in 2024.

4.2.4 Terminal C Improvements Program

The Terminal C Improvements Program encompasses projects at multiple discrete areas of Terminal C (see 4 in **Figure 4-3**). The program aims to improve passenger and operational efficiency. The existing Terminal C Main Checkpoint area, which serves as the circulation point for departing passengers before security screening, will be reconfigured to accommodate current passenger activity levels more effectively, as well as to create a new jetBlue airline passenger club space in place of the existing pre-security concessions space. The C3 Club Addition includes the construction of a two-story club space. Massport is targeting a U.S.GBC LEED® Gold certification level for the C3 Club. The Terminal C to E Connector would widen and modernize an existing corridor connecting the two terminals to provide better passenger circulation. Additionally, the connector would include a connection point to a pedestrian bridge from the Terminal E Garage. The Terminal C to E Connector portion of the Terminal C Improvements has been deferred. The Terminal C Improvements Program includes other smaller projects, such as bathroom renovations and interior work, aimed at improving passenger and operation efficiency. Construction is anticipated to be completed by 2029.

2023 Project Status

Initial planning and preliminary design for the project began in 2023.

2024 Project Status

Permitting and design continued throughout 2024. Massport coordinated with both the MEPA Office and the FAA about the permitting needs for the project. It was determined that the FAA did not have implementing authority over the project, and no MEPA thresholds would be exceeded. Because portions of the building are over 50 years old, a Project Notification Form for all components of the Project was submitted to the Massachusetts Historical Commission (MHC) in December 2024. The MHC, as determined in a letter sent to Massport in January 2025, concluded that the Project is unlikely to impact significant historic or archaeological resources.

4.2.5 Terminal A to B Airside Connector

Massport is considering a post-security connector between Terminals A and B as a part of an Airport-wide effort to enhance post-security terminal connectivity (see 5 in **Figure 4-3**). The Project is not currently in the five-year Capital Program; construction is anticipated to be completed by 2028.

2023 Project Status

Consideration of the Terminal A and Terminal B airside connector is on-going. The Project is currently in the feasibility and planning stages.

2024 Project Status

The Project began permitting and design in 2024.

4.2.6 Central Heating Plant Upgrade

Massport is evaluating the feasibility of upgrading the Central Heating Plant (CHP) to enhance its operational efficiency. (see 6 in **Figure 4-3**)

2023 Project Status

Studies to consider the conversion or retrofitting of the CHP were on-going in 2023. The study also considered the connections and equipment serving the terminals and other Airport buildings.

2024 Project Status

Feasibility studies were on-going in 2024.

4.3 Airside Planning

Airside planning projects focus on enhancing the operational efficiency, safety, and sustainability of the airside. These projects often involve runway and taxiway rehabilitations, as well as lighting and signage upgrades, conducted to comply with FAA standards. Key goals include enhancing infrastructure to meet current aviation demands and ensuring safe and efficient **aircraft operations**. The following sections describe on-going projects and planning initiatives related to airside planning as illustrated in **Figure 4-4**.

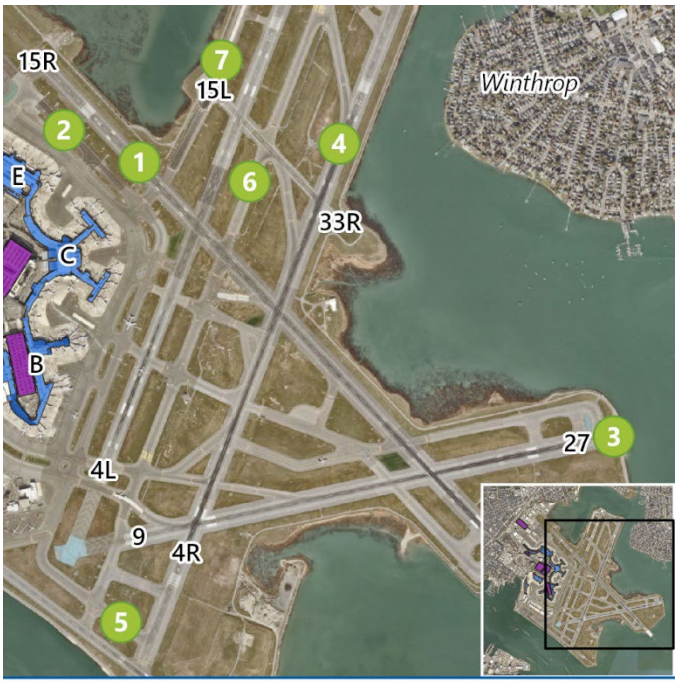


Figure 4-4 Location of Airside Projects/Planning Concepts

4.3.1 Runway 15R-33L Rehabilitation Project

Last rehabilitated in 2021, Runway 15R-33L (see 1 in **Figure 4-4**) was further improved in accordance with FAA standards and the **Runway Incursion Mitigation (RIM) Study**. Improvements included repaving intersections with Runways 4L-22R and 4R-22L, rehabilitation of runways and taxiways, modifications to taxiway pavement geometry at or near Runway 15R-33L, and upgrades to runway and taxiway lighting, pavement markings, and pavement sensors.

2023 Project Status

Massport prepared a CATEX and submitted it to the FAA in 2023. During the NEPA review process, Massport coordinated with applicable federal, state, and local agencies and obtained the appropriate approvals. Construction was completed in November 2023.

4.3.2 Taxiway B North Rehabilitation

Massport is rehabilitating the northern portion of Taxiway B, extending it north to continue compliance with FAA standards (see 2 in **Figure 4-4**).

2023 Project Status

Design began in 2023 for the taxiway rehabilitation.

2024 Project Status

Massport prepared a CATEX and submitted it to the FAA in the summer of 2024. During the NEPA review process, Massport coordinated with applicable federal, state, and local agencies and obtained the necessary approvals. Construction was completed in the fall of 2024.

4.3.3 Runway 27 End RSA Improvement Project

The RIM Study evaluated multiple alternatives for Runway 27 End RSA (see 3 in **Figure 4-4**) enhancements and recommended construction of a pile-supported deck over Boston Harbor at the approach-end of Runway 27, with an **Engineered Materials Arresting System (EMAS)** to meet the FAA safety requirements. While the deck minimizes significant impacts, unavoidable impacts to coastal resources are expected; a comprehensive mitigation program has been developed for an adjacent site within Boston Harbor. Refer to Chapter 10, Section 10.3 for the mitigation measures associated with the project. Construction is began in 2025, with completion expected in 2026.

2023 Project Status

A joint Draft EA/FEIR was filed with the FAA and MEPA at the end of 2022. Consequently, a MEPA Certificate was issued for the FEIR in January 2023, directing the project to proceed with permitting. A Final EA was filed with the FAA, and a FONSI was issued in March 2023.

2024 Project Status

Throughout 2024, the project proceeded with federal, state, and local environmental permitting. While permitting was on-going, the Design-Build entity for the project was selected in December 2025. In April 2025, a **Notice of Project Change (NPC)** was filed with MEPA due to design changes associated with two proposed emergency access/egress ramps, which resulted in an expansion of the work limits and increased impacts on coastal resources. Massport Fire Rescue confirmed the need for the extended emergency access ramps to function effectively during all tide conditions in the event of an emergency. The Secretary of EEA issued a Certificate for the NPC in June 2025, stating that no further MEPA review was necessary and that permitting could proceed. Coordination with federal, state, and local agencies regarding the Project Change is on-going, and permitting concluded in 2025 with Project construction beginning in 2025.

4.3.4 Runway 4R-22L LED Lighting Upgrade and Circuitry Replacement

Massport is making improvements including lighting upgrades, duct bank installation, and operation system to Runway 4R-22L to comply with FAA standards (see 4 in **Figure 4-4**). Improvements are anticipated to be completed in 2025.

2023 Project Status

Design began in 2023 for the runway lighting upgrades.

2024 Project Status

Construction of the upgrades began in 2024.

4.3.5 Taxiway B East and South Rehabilitation

Massport is planning the rehabilitation of Taxiway B East and South to maintain compliance with FAA Part 139 requirements (see 5 in **Figure 4-4**). This pavement was last rehabilitated in Fall 2016. This project will also include the replacement of the centerline lighting infrastructure. Construction is anticipated for completion in 2026.

2023 Project Status

Planning for the project was on-going in 2023.

2024 Project Status

Planning for the project was on-going in 2024.

4.3.6 Taxiway M North Rehabilitation and Geometry Improvements

This project will rehabilitate Taxiway M north of Runway 15R-33L (see 6 in **Figure 4-4**). This taxiway was constructed in 2010 and needs to remain in compliance with FAA Part 139 regulations. As part of this project, geometry improvements on the north side of the airfield are being considered, which shift current Taxiways R and Y to meet FAA design requirements. Construction is anticipated for completion in 2029.

2023 Project Status

Planning was on-going in 2023.

2024 Project Status

Planning was on-going in 2024.

4.3.7 Taxiway N Rehabilitation

Massport is rehabilitating Taxiway N to comply with FAA standards. Improvements include Taxiway N (see 7 in **Figure 4-4**) from Runway 15R-33L to Runway 22L. Construction is anticipated to be completed in 2025.

2023 Project Status

Design and permitting were initiated and completed in 2023.

2024 Project Status

Construction commenced in 2024.

4.3.8 Airside Energy Optimization Program

To support fleet transition of airline and associated ground service equipment towards electrified options, Massport plans to add additional electrical Ground Support Equipment (eGSE) charging stations at gates and at strategic locations around the airfield.

2023 Project Status

Feasibility for future phases was on-going in 2023.

2024 Project Status

Feasibility for future phases was on-going in 2024.

4.4 Service Area Planning

Logan Airport's service areas contain airline support operations and businesses. Land use in these service areas continues to evolve in response to changing airline business, customer, and tenant needs. Massport continues to explore ways to use the limited land resources in these service areas efficiently. The service areas at Logan Airport are shown in **Figure 4-1** and are described within **User's Guide, Section U4.2.4.** Massport and Logan Airport tenants are proposing projects or exploring planning concepts to modernize and implement future improvements in these areas. The following sections present information on the status of each on-going project and planning concept in the service areas.

User's Guide Section U4.2.4

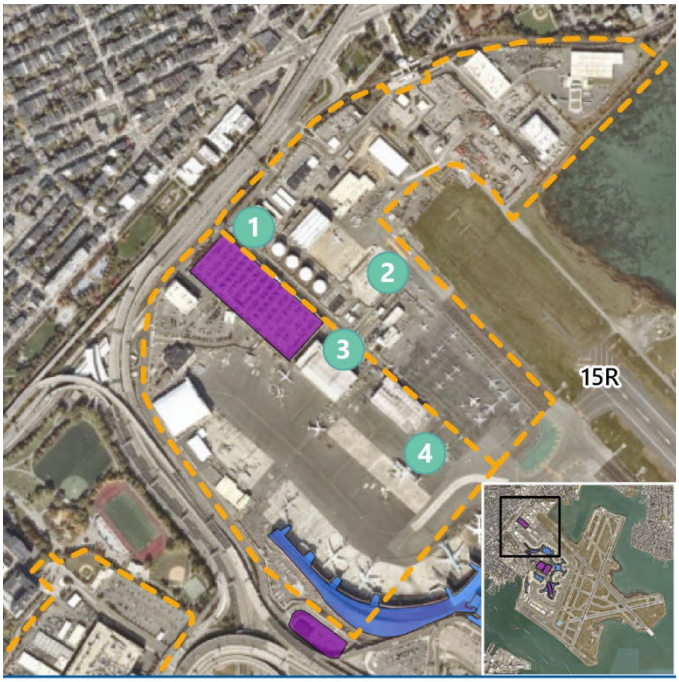


Figure 4-5 Location of Service Area Projects/Planning Concepts

Terminal Buildings
Parking Facilities
Service Area Project
Service Areas

Notes: Status as of 12/2024
Source: Nearmap (October 2024)

0 340 680 Feet

4.4.1 Additional Jet Fuel Tank

Massport is enhancing the existing jet fuel storage and distribution system by installing an additional jet fuel storage facility in the North Service Area (NSA) (see 1 in **Figure 4-5**). The functions, facilities, and land use in the project area will remain generally consistent.

2023 Project Status

Construction of the tank adjacent to the existing tanks and fuel distribution facilities began in 2022 and continued through 2023.

2024 Project Status

Construction of the tank continued throughout 2024, with an anticipated completion of 2026.

4.4.2 North Service Area Optimization

The NSA Optimization encompasses multiple projects aimed at increasing efficiency, updating existing facilities, and enhancing mobility and resiliency within the area. This includes demolition of antiquated maintenance, support buildings, and hangar and construction of a consolidated large vehicle maintenance facility, rehabilitation of Green Bus Deport, consolidated ramp, and new fixed based operator (FBO) building. Massport is studying the relocation of its existing Green Bus Depot operations from the NSA to the southwest service area (SWSA) (see 2 in **Figure 4-5**) to support the transition to an electric fleet, as part of Net Zero by 2031. Construction is anticipated to begin in 2026 with completion by 2028.

2023 Project Status

Massport evaluated the decommissioning of old buildings and reorganization and consolidation of new and repurposed buildings, including the Green Bus depot. This includes enhancing the existing aircraft parking ramp. A feasibility study considering these changes was underway in 2023.

2024 Project Status

Feasibility studies for the reuse of the existing building and current operations continued with initial planning beginning in 2024

4.4.3 Prescott Street Public Safety Building

The Prescott Street Public Safety Building (PSB) (see 3 in **Figure 4-5**) is designed to enhance coordination and communication among emergency responders and public safety staff, facilitating faster and more effective emergency and incident response. The proposed PSB would consolidate staff and functions from adjacent existing buildings, including the Massachusetts State Police Troop F and the Transportation Security Administration (TSA) building, as well as the State Police K9 Facility. Other functions would be relocated from around Logan Airport to the proposed PSB, including Massport Police dispatch communications and building control, a data center, an emergency operations center, and a ground transportation operations center. The Project is currently deferred.

2023 Project Status

Feasibility studies were on-going in 2023.

2024 Project Status

Preliminary design and planning began in 2024.

4.4.4 North Cargo Through-put Facility

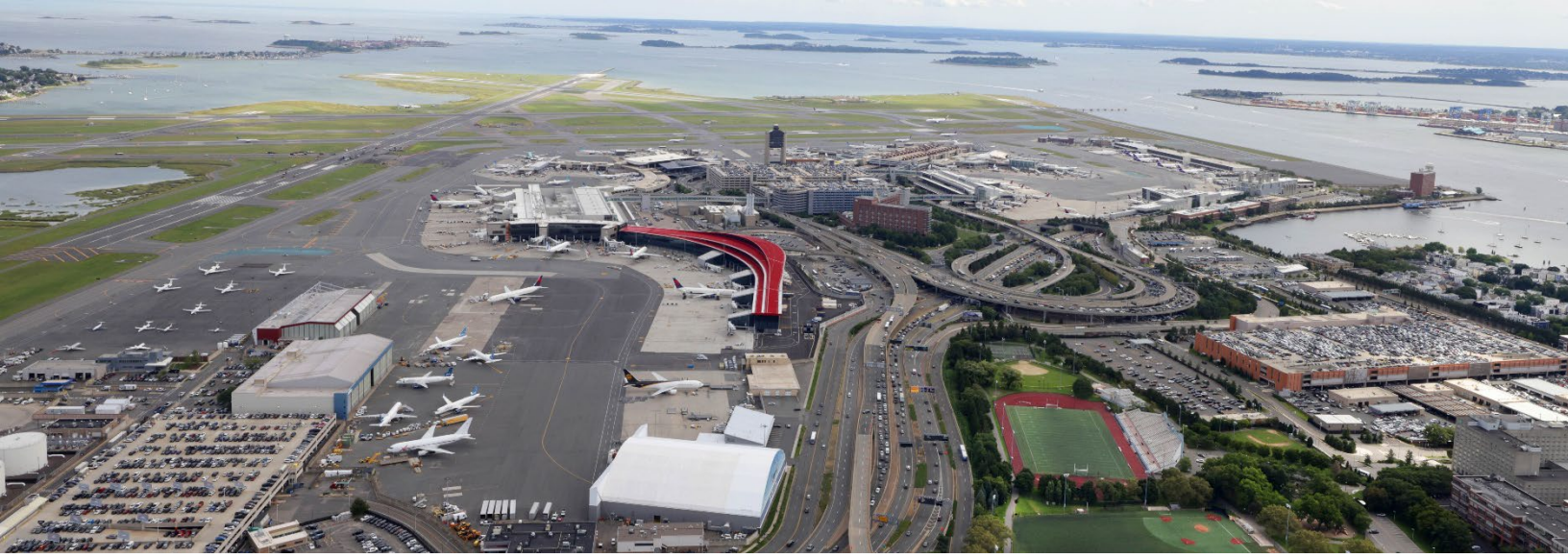
Massport is considering the construction of a cargo throughput facility in the North Cargo area (see 4 in **Figure 4-5**) to improve cargo processing and reduce airside traffic by facilitating the transfer of goods from aircraft to transfer points for future distribution.

2023 Project Status

Feasibility and planning for the project were on-going in 2023.

2024 Project Status

Feasibility and planning for the project were on-going in 2024.



5. Regional Transportation

This chapter examines Logan Airport's role as a key component of New England's intermodal transportation system, the range of air travel options for the region, and how changes within the regional transportation system impact passenger activity, operations, and planning considerations for Logan Airport. This chapter also summarizes aviation activity in 2023 and 2024 across other New England regional commercial passenger airports, including passenger and flight activity, on-going projects to upgrade those facilities, and their long-range plans.[1] A year-over-year comparison of **passenger counts** and **aircraft operations** from 2022 to 2023 and then from 2023 to 2024 is provided to show relative changes over the reporting timeframe, with 2000 and 2019 data included as a benchmark reference year.

New England Regional Airports consist of the following 11 airports:

Massport's Airports

- Boston Logan International Airport (BOS)
- Laurence G. Hanscom Field (BED)
- Worcester Regional Airport (ORH)

Other New England Regional Airports

Connecticut:

- Tweed-New Haven Airport (HVN)
- Bradley International Airport (BDL)

Maine:

- Bangor International Airport (BGR)
- Portland International Jetport (PWM)

Rhode Island:

- Rhode Island T.F. Green International Airport (PVD)

New Hampshire:

- Portsmouth International Airport (PSM)
- Manchester-Boston Regional Airport (MHT),

Vermont:

- Patrick Leahy Burlington International Airport (BTV)

1 Logan Airport passenger activity levels and aircraft operations are reviewed in Chapter 3, *Activity Levels*.

2023 Regional Transportation Key Findings

The following details key findings of the regional transportation system in 2023:

- New England Regional **air passenger** activity, excluding Logan Airport, rebounded to 97.2 percent of 2019 levels, marking a 10.1 percent rise from 2022, driven primarily by domestic travel demand. Logan Airport registered a 6.5 percent increase in passenger volumes, maintaining its position as the dominant hub, handling more than twice the passenger volume of the other 10 regional airports combined.
- Regional transportation is driven by the local economic conditions within the region, and Massachusetts continued to experience robust economic growth, supported by a strong labor market and easing inflation. The unemployment rate in Greater Boston was notably low at 3.3 percent. Massachusetts maintained its 46 percent share of New England's total population, and the Logan Airport **catchment area** continued to show steady population growth of 0.5 percent per year since 2000.
- Among the 10 regional airports, aircraft operations showed a shift in trends, with a four percent increase in commercial flights and a nearly 10 percent decline in military operations. Logan Airport optimized efficiency by using higher-capacity aircraft, averaging 103 passengers per operation.
- Amtrak rail services experienced a substantial, 25.7 percent increase in ridership from Boston-area stations compared to 2022, with strong performance across the four routes servicing the Greater Boston area, indicating robust rail travel demand.

2024 Regional Transportation Key Findings

The following details key findings of the regional transportation system in 2024:

- The 10 New England regional airports, excluding Logan Airport, exceeded 2019 passenger volumes by 4.3 percent. Logan Airport contributed 71 percent of the region's air traffic. Total passenger activity, including Logan Airport, grew by 6.8 percent from the previous year.
- Massachusetts' economy grew by 1 percent, maintaining stability. However, Greater Boston's unemployment rate rose slightly to 3.6 percent, but remained below the State and national averages.
- Total aircraft operations increased by 3.7 percent, highlighted by a 60 percent increase in military activities, while **general aviation (GA)** saw a 2.9 percent decline. This shift signifies a change in operational strategies at regional airports.
- Multiple airports began major infrastructure projects and expanded terminals to enhance passenger services and experiences. Bangor International Airport's $59 million terminal and runway improvements, which are expected to be completed in 2025, illustrate the region's substantial investment in capacity and service enhancements.

Excluding Logan Airport, the 10 other New England regional airports served over 17.8 million passengers in 2024.

Figure 5-1 New England Regional Transportation System

2023/2024 Environmental Data Report

5.1 New England Regional Airports

The New England region has a system of 10 secondary commercial service airports and GA regional airports, as illustrated in **Figure 5-1,** with Logan Airport anchoring as the primary international gateway and significant commercial hub for New England's primary domestic **origin and destination (O&D)** market.[2] Smaller commercial service and GA airports across the region serve as **reliever airports**, which accommodate the remaining passenger demand. In addition to airports shown in **Figure 5-1**, tertiary airports in New England also serve isolated communities where air operators offer **air taxis**, seasonal, or niche commercial air services.[3] The following sections focus on the activity and operational levels of the 10 secondary commercial service and GA airports that support the majority of operations and passengers in New England, outside of Logan Airport.

5.2 Regional Economic Growth's Relationship to Logan Airport

Boston leads the nation in technology jobs per capita as well as share of residents over the age of 25 with advanced degrees.

Massachusetts' economy is anchored by technology, healthcare and social assistance, education, and the Boston biotechnology sector. The State ranks third nationally for employment in education and second overall for employment in healthcare, with Boston recognized as a top global innovation hub.[4] Boston continues to rank fourth for innovation and third for talent concentration. [5] Massachusetts has the world's second-highest concentration of tech talent and leads in life sciences. Massachusetts-based companies saw an increase in initial public offerings in 2024 compared to the previous year. Other cities, such as Waltham and Watertown, also experienced increases in funding for their local biotech companies, signaling that the industry is continuing to grow within the region.[6]

While some Massachusetts biomanufacturing companies have emerged financially since the pandemic, it remains unclear how those companies may respond to tariff disruptions and announcements, as they may impact changes in drug pricing and supply chain disruptions in the U.S.[7]

Given the strong presence of high-income, knowledge-based industries, employees in these sectors are more likely to rely on air travel for both business and leisure purposes. As a result, the economic health

2 A strong O&D market like Boston generates significant local passenger demand, with many passengers starting their journey and ending their journey in that market.

3 Tertiary airports are not included in Figure 5-1.

4 U.S. News & World Report 2024. Massachusetts. https://www.usnews.com/news/best-states/massachusetts

5 JLL's Innovation Geographies 2024, "Innovation is solidifying its dominance as an economic engine," January 2024. https://www.jll.com/en-us/insights/innovation-geographies

6 Axios "Boston's life sciences industry looks to rebound in 2025" January 2025. https://www.axios.com/local/boston/2025/01/09/massachusetts-biotech-pharma-outlook

7 Fierce Biotech "Moderna targets $1.1B in R&D spending cuts, drops 5 programs amid profitability pressures" September 2024. https://www.fiercebiotech.com/biotech/moderna-targets-11b-rd-spending-cut-drops-5-programs-amid-profitability-pressures

and growth of these industries directly influence passenger demand and traffic growth at Logan Airport. The following sections outline the regional population shifts and unemployment rates influenced by these economic shifts in 2023 and 2024, shown in **Figure 5-2**. Logan Airport, the region's predominant international airport, caters to passengers from across New England. However, most passengers reside in the five Massachusetts counties that define Logan Airport's catchment area: Essex, Middlesex, Norfolk, Plymouth, and Suffolk, which includes the City of Boston.

Logan Airport serves a growing, high-earning population, with 2024 personal income per capita within its catchment area 11 percent higher than the state average and 43 percent above the national average.[9]

5.2.1 2023 Regional Economic Characteristics

The population of the six New England states was approximately 15.1 million in 2023, representing a 0.3 percent increase since 2022 and an 8.7 percent increase since 2000. Roughly 46 percent of New England's population resides in Massachusetts. The catchment area included 4.4 million people in 2023, representing a less than 1 percent increase from 2022 and an increase of roughly 455,000 since 2000, primarily due to regional economic growth. Further information on population trends in the catchment area is in Appendix G, *Regional Transportation Supporting Documentation*.

In 2023, Massachusetts' economy continued to show robust growth, supported by a strong labor market, low unemployment, and declining inflation. Although the national economy occasionally outpaced the State's quarterly economic growth, both economies grew in tandem. In 2023, the Greater Boston area consistently maintained a lower unemployment rate compared to the State and the nation (see **Figure 5-2**). Massachusetts experienced a peak unemployment rate in April 2020, which was higher than the national unemployment rate for the same month.[8] The State's unemployment rate fell steadily in 2021, and by 2023, unemployment stood at 3.3 percent, higher than the historic low of 2.7 percent recorded at the end of 2000.[9]

5.2.2 2024 Regional Economic Characteristics

The population of the six New England states remained steady in 2024 with 15.2 million residents, representing similar annual growth to that seen in 2023. The share of the population residing in Massachusetts remained at 46 percent in 2024. The catchment area population increased at a rate similar to that of prior years, adding less than a percentage point to a total of 4.4 million people in 2024. Further information on population trends in the catchment area is in Appendix G.

The primary catchment area for Logan Airport consists of five Massachusetts counties:

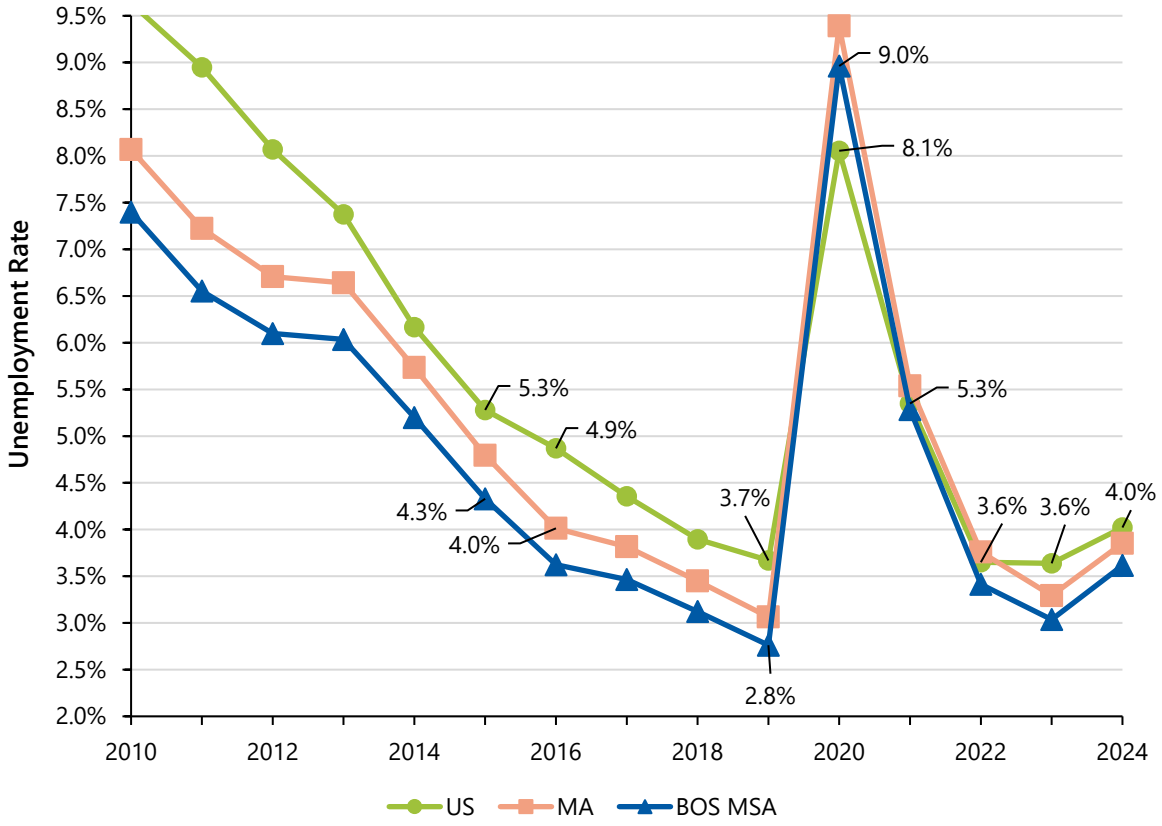
1. Essex
2. Middlesex
3. Norfolk
4. Plymouth
5. Suffolk

8 U.S. Bureau of Labor Statistics.

9 UMass Donahue Institute MassBenchmarks. Published July 2024. https://donahue.umass.edu/our-publications/massbenchmarks2

As of the time of this chapter's data analysis, trends seen in quarters one through three of 2024 indicated 1 percent growth in Massachusetts' economy for 2024. However, the whole year's economic development, including the fourth quarter of 2024, will be discussed in the following **Environmental Data Report (EDR)**. In 2024, the Greater Boston **Metropolitan Statistical Area (MSA)** continued to maintain a lower unemployment rate compared to the State and the nation (see **Figure 5-2**), despite a slight increase from 3.6 percent in 2023.[9]

Figure 5-2 Unemployment Rate Comparison: U.S., Massachusetts, and Boston Metropolitan Statistical Area (MSA), 2010-2024



Source: U.S. Bureau of Labor Statistics (BLS). 2024 (full year preliminary data)
Note: BOS MSA is represented as the Boston-Cambridge-Nashua, MA-NH Metropolitan New England City and Town Area, as defined by the U.S. BLS. Not seasonally adjusted

10 Woods & Poole Economics, Inc. 2024. Complete Economic and Demographic Data Source. Measured in current U.S. dollars.

5.3 New England Regional Trends

This section focuses on overall passenger and aircraft operation trends at Logan Airport and the 10 regional airports. Industry-wide, airlines are operating larger aircraft fleets and increasingly **upgauging** to accommodate more passengers per flight, thereby supporting airline economics. The average number of seats available on a given flight, or aircraft movement, has increased further in recent years as more passengers opt for **ultra-low-cost carrier (ULCC)** flights, which typically utilize aircraft with denser seat configurations, or more seats per plane. Airplanes with more **seat capacity** per flight mean fewer daily aircraft operations, or flights per day, are needed to transport the same number of people. This is especially true for leisure-oriented routes to popular vacation destinations.

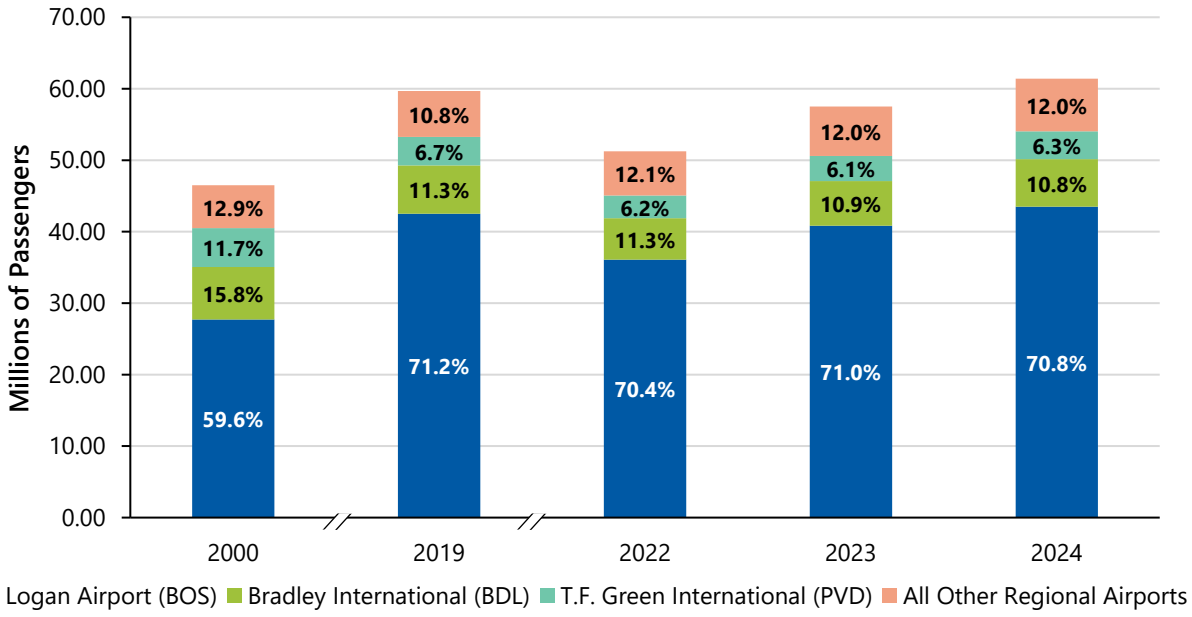
On-going airline network optimization has also improved **load factors**, resulting in a higher percentage of seats being occupied by passengers on each flight. As a result, fewer aircraft movements do not necessarily mean the airport market base is weakening; rather, it reflects an aviation industry shift toward high-capacity, more efficient operations. Logan Airport's overall air traffic increased with the addition of ULCC services from providers like Spirit Airlines (Spirit) and Frontier Airlines (Frontier), as well as the expansion of nonstop operations offered by major U.S. carriers, including Delta Air Lines (Delta), American Airlines (American), United Airlines (United), and Southwest Airlines (Southwest). In both 2023 and 2024, Logan served more than twice as many passengers as the 10 other regional airports combined. Logan Airport's passenger activity and aircraft operations are discussed in Chapter 3, *Activity Levels*. The **User's Guide, Section U3,** includes further information on the metrics used to measure passenger activity and operational trends. **Table 5-1** summarizes the passenger activity at each regional airport, and **Figure 5-3** illustrates each airport's share of New England passengers.

User's Guide Section U3

5.3.1 2023 Regional Air Passenger Activity Trends

Excluding Logan Airport, regional air passenger activity was 10.0 percent greater in 2023 than in 2022. These regional airports do not offer as many international flights. They are primarily domestic service providers, so their passenger activity growth was mainly driven by the domestic travel passenger segment's sharper rebound after the early 2020s travel declines. Regionwide, including Logan Airport, total air passenger volumes increased by 12.2 percent in 2023 compared to 2022 levels. However, despite improvements, the total number of air passengers in 2023 was 3.6 percent below the 2019 levels.

Figure 5-3 **Passenger Activity at Logan Airport and New England Regional Airports, 2000, 2019, 2022-2024**



Source: Massport and individual airport data reports. Non-Massport airports may be based on the U.S. Department of Transportation (U.S. DOT), T-100 Database for scheduled and non-scheduled services, if direct airport records are unavailable.

Notes: Data for Logan Airport includes domestic, international, and GA passengers.

5.3.2 2024 Regional Air Passenger Activity Trends

Passenger volumes continue to grow at a modest, but slightly slower rate of 7.3 percent from 2023 to 2024. For the first time since the COVID pandemic's onset, passenger volumes surpassed 2019 passenger activity levels by 4.3 percent in 2024, indicating a return to pre-COVID conditions for air travel activity in the New England Region. See **Table 5-1** for passenger activity levels at each regional airport and the changes from 2019 activity levels.

Total air passenger traffic in 2024, including Logan Airport, increased by 6.8 percent over 2023, surpassing 2019 volumes by 2.9 percent. This regional aviation passenger growth was driven by the same trends experienced in 2023, namely, an increase in people flying domestic flights from regional airports, additional ULCC flight options, and expanded nonstop operations at Logan. As in prior years, Logan Airport continued to be the region's dominant gateway, handling 71 percent of New England's air passengers.

Table 5-1 Passenger Activity at New England Regional Airports and Logan Airport, 2000, 2019, 2022-2024

Airport	Passenger Levels (millions)[1]					2019-2024 percent change
	2000	2019	2022	2023	2024[2]	
Bradley International (BDL)	7.34	6.75	5.80	6.25	6.66	-1.4%
T.F. Green International (PVD)	5.43	3.99	3.17	3.52	3.89	-2.5%
Portland International Jetport (PWM)	1.34	2.18	1.99	2.22	2.44	11.8%
Burlington International (BTV)	0.90	1.41	1.20	1.30	1.34	-5.0%
Manchester-Boston Regional (MHT)	2.96	1.70	1.29	1.28	1.27	-25.1%
Tweed-New Haven Regional (HVN)[5]	0.08	0.10	0.70	1.06	1.17	1,119.2%
Bangor International (BGR)	0.38	0.61	0.68	0.69	0.73	20.0%
Worcester Regional (ORH)	0.11	0.19	0.16	0.20	0.23	18.2%
Portsmouth International (PSM)[3]	0.07	0.23	0.16	0.15	0.18	-23.8%
Hanscom Field (BED)[3,4]	0.16	0.00	0.00	0.00	0.00	0.0%
Regional Subtotal	**18.77**	**17.16**	**15.15**	**16.67**	**17.90**	**4.3%**
Logan Airport (BOS)	27.73	42.52	36.09	40.83	43.50	2.3%
Total	**46.50**	**59.68**	**51.24**	**57.51**	**61.40**	**2.9%**

Source: Massport and individual airport data reports. Non-Massport airports may be based on the U.S. Department of Transportation (U.S. DOT), T-100 Database for scheduled and non-scheduled services, if direct airport records are unavailable.

Notes: Data for Logan Airport includes domestic, international, and GA passengers.

1 Passenger levels are in millions and rounded to the hundredth place; percent change was calculated with unrounded, raw data. Passenger levels are calculated as the sum of enplaned and deplaned passengers (where available from airport records) or, for Federal Aviation Administration (FAA) enplaned passengers, multiplied by two.

2 Reflects the most updated passenger statistics for BTV, MHT, PWM, and PSM based on the latest available airport records as of March 2025.

3 A value of 0.00 indicates fewer than 5,000, but more than zero scheduled commercial passengers.

4 BED reported annual non-scheduled passenger activity via U.S. DOT T-100.

5 Avelo Airlines established HVN as its base in 2021, driving over a 1,100 percent increase in passenger traffic from 2019, when the airport served fewer than 100,000 total passengers, with only limited regional American Eagle services. In 2024, Avelo operated more than 25 nonstop routes and charter flights. Breeze Airways also launched new Florida services in December 2024.

5.3.3 Regional Airports' Aircraft Operations Trends

Table 5-2 presents aircraft operations by classification for New England's airports in 2023 and 2024. Although Logan Airport remained the region's busiest airport for aircraft movements and flights, T.F. Green International Airport (PVD), Tweed-New Haven Regional Airport (HVN), and Portland International Jetport (PWM) saw notable commercial operations growth. In contrast, airports like Worcester Regional Airport (ORH) and Portsmouth International Airport (PSM) experienced a surge in GA and military activities.

Table 5-2 Aircraft Operations by Classification for New England's Airports, 2023-2024

Airport	2023				2024				2023-2024 Percent Change			
	Commercial[1]	GA[2]	Military[2]	Total	Commercial[1]	GA[2]	Military[2]	Total	Commercial[1]	GA[2]	Military[2]	Total
Bradley International (BDL)	64,435	12,814	2,377	79,626	67,599	13,009	2,630	83,238	4.9%	1.5%	10.6%	4.5%
T.F. Green International (PVD)	41,647	22,840	485	64,972	47,603	23,598	791	71,992	14.3%	3.3%	63.1%	10.8%
Portland International Jetport (PWM)	31,574	21,570	842	53,986	33,908	21,104	862	55,874	7.4%	-2.2%	2.4%	3.5%
Manchester-Boston Regional (MHT)	27,634	15,337	538	43,509	28,541	13,793	793	43,127	3.3%	-10.1%	47.4%	-0.9%
Burlington International (BTV)	24,270	72,541	3,790	100,601	25,113	66,913	3,412	95,438	3.5%	-7.8%	-10.0%	-5.1%
Bangor International (BGR)	17,561	13,742	7,945	39,248	17,276	14,464	6,538	38,278	-1.6%	5.3%	-17.7%	-2.5%
Portsmouth International (PSM)	13,951	46,749	8,884	69,584	11,808	37,900	27,476	77,184	-15.4%	-18.9%	209.3%	10.9%
Tweed-New Haven Regional (HVN)	10,134	22,387	254	32,775	11,114	23,980	144	35,238	9.7%	7.1%	-43.3%	7.5%
Worcester Regional (ORH)	5,187	18,401	526	24,114	5,323	24,733	880	30,936	2.6%	34.4%	67.3%	28.3%
Hanscom Field (BED)[3]	567	120,348	1,840	122,755	671	116,686	1,756	119,113	18.3%	-3.0%	-4.6%	-3.0%
Subtotal	**236,960**	**366,729**	**27,481**	**631,170**	**248,956**	**356,180**	**45,282**	**650,418**	**5.1%**	**-2.9%**	**64.8%**	**3.0%**
Logan Airport	366,260	28,886	0	395,146	385,273	28,136	0	413,409	5.2%	-2.6%	-	4.6%
Total	**603,220**	**395,615**	**27,481**	**1,026,316**	**634,229**	**384,316**	**45,282**	**1,063,827**	**5.1%**	**-2.9%**	**64.8%**	**3.7%**

Source: Federal Aviation Administration (FAA) tower counts; Massport and individual airport data reports.

Notes: Ranked by 2024 commercial operations. FAA tower counts are used for all airports except Logan Airport and PSM.

1 May include some Air Taxi operations by fractional jet operators. FAA tower counts may combine fractional jet operations with those of small regional/commuter airlines.

2 Includes itinerant and local operations at the regional airports. Military operations at Logan Airport are negligible or non-existent and are not included in Massport counts.

3 Commercial value represents non-scheduled commercial activity.

5.3.3.2 2023 Regional Airports' Aircraft Operations Trends

In 2023, total operations in the New England region, which include commercial, GA, and military operations combined, increased by less than 3 percent since 2022, and this increase was primarily driven by growth in commercial operations, which increased 4 percent over 2022. GA operations rose by 1 percent, while military operations declined by nearly 10 percent. Regional airports experienced a 1 percent increase in GA operations, with GA accounting for 58 percent of total operations at 10 regional airports, excluding Logan Airport. At Logan Airport, GA operations accounted for about 7 percent, a slight decrease from 8.1 percent in 2022.

The shift in GA reflects the high costs associated with GA operations at a busy international hub airport like Logan Airport, including aviation landing, parking, ramp, and security fees, which drive GA users to lower-cost alternatives, such as Hanscom Field and Portsmouth Airport. Regional airports that are not **large hub** airports offer less congestion, more convenient ground access to surrounding communities and businesses, and lower operating expenses, making them more attractive for private, corporate, and charter flights.

As discussed in Chapter 3, Logan Airport continued to serve larger aircraft, averaging 103 passengers per operation in 2023, while other regional airports averaged 26 passengers per operation. Growth in aircraft operations at regional airports continued to outpace passenger growth, reflecting the smaller capacity of GA aircraft compared to commercial flight offerings. See Appendix G, Table G-2 for the percent change in aircraft operations by classification from 2022 to 2024.

5.3.3.3 2024 Regional Airports' Aircraft Operations Trends

Total operations increased by 3.7 percent over 2023 in 2024, driven by a 5 percent rise in commercial airline activity and a more than 60 percent rebound in military operations. GA activity declined by approximately 2.9 percent, aligning with national business and GA trends. GA accounted for 55 percent of total operations at the 10 regional airports, excluding Logan Airport, where GA operations were about 7 percent, down from the previous year. The shift from Logan Airport to smaller regional airports continued from 2023, driven by lower costs and reduced congestion at these locations. Similar to 2023, Logan Airport handled larger aircraft, averaging 105 passengers per operation in 2024. In contrast, other regional airports averaged 27 passengers per operation. Operations outpaced the growth of passengers in the 10 regional airports, continuing trends described for 2023.

5.3.4 Regional Airports' Airline Passenger Services

Airlines continually adjust their service levels by increasing or reducing flight frequencies, changing aircraft size, or a combination of both strategies with respect to operational constraints (labor staff, equipment, etc.). These adjustments directly impact the total number of seats available to passengers, known as seat capacity, and influence each airport's overall number of available departures and flights. To fully understand how airline service is evolving, both the number of departures and the available seat capacity need to be considered together. This section reviews airline departure changes, seat capacity

trends, and notable new or discontinued routes at regional airports over 2023 and 2024. Where available, insights from published 2025 schedules provided by the Official Airline Guide (OAG) are also included to highlight expected future changes. Published airline schedule details by airport, route, destination, and the airline providing the scheduled nonstop service are included in Appendix G.

5.3.4.1 Developments at the Regional Airports

In 2023 and 2024, 15 scheduled commercial carriers operated from the 10 regional airports in New England. Significant developments, activity level, operational changes, or other notable events with the potential to affect passengers or operations at Logan Airport from 2023 to 2024 are highlighted below and organized by airport.

Worcester Regional Airport (ORH)

- In 2023, jetBlue Airways (jetBlue) reinstated its Orlando, Florida service, added new flights to Fort Myers, Florida and upgraded its flights to higher-capacity aircraft.
- In 2023, Massport resurfaced the primary runway and installed energy-efficient light-emitting diode (LED) lighting to improve operational efficiency and safety.[11]
- By 2024, ORH's passenger traffic rose to nearly 230,000, marking a 13 percent increase over 2023 and an 18 percent increase over 2019.
- In 2024, Massport replaced the **Engineered Materials Arresting Systems (EMAS)** at the end of Runway 11-29 to enhance safety.[12]

Hanscom Field (BED)

- Signature Aviation opened a renovated private aviation facility in September 2023.[13]
- Massport allocated Hanscom Field approximately $97 million, representing 4 percent of Massport's total $2.7 billion Capital Improvement Program (CIP) for FY2023 to FY2027. These funds will be used for airfield improvements and enhancements to landside facilities.[14]
- Massport is finalizing the total rehabilitation of Runway 5-23, including replacing existing lighting with energy-efficient LEDs, to enhance operational safety and efficiency.[15]

11 Massport to Begin Phase 2 of Runway Safety Work at Worcester Regional Airport, Massport. August 2023. https://www.massport.com/media/newsroom/massport-begin-phase-2-runway-safety-work-worcester-regional-airport

12 Worcester Regional Airport Replaces 'EMAS' Runway System, Spectrum News 1. September 2024. https://spectrumnews1.com/ma/worcester/news/2024/09/18/worcester-airport-emas-system

13 Signature Aviation. "Signature Aviation Announces Opening of Newly Renovated Facility in Bedford, Massachusetts." Signature Aviation Newsroom. https://www.signatureaviation.com/news/signature-aviation-announces-opening-of-newly-renovated-facility/

14 Massport Presentation for ACEC MA Conference, April 2023.

15 Massport Newsroom - Runway 5-23 Rehabilitation Completion. July 2024. https://www.massport.com/media/newsroom/massport-complete-runway-work-hanscom-field

Bradley International Airport (BDL)

- By 2024, airline seat capacity rose 8 percent over the previous year, driven by Avelo Airline's (Avelo) entry with seven new routes and Breeze Airways' expansion, adding four destinations for a total of 16.
- BDL is undergoing $243 million in infrastructure projects, including a new baggage screening facility and additional terminal space, aimed at enhancing the passenger experience. These improvements are expected to be completed by 2026.[16]

Rhode Island T.F. Green International Airport (PVD)

- In 2023, Breeze Airways (Breeze) added seven new routes compared to 2022, continuing its network growth at PVD.
- Since 2023, Frontier has been gradually withdrawing from PVD, entirely exiting the market in 2024.
- By 2024, Breeze expanded to 18 nonstop destinations, adding five more routes. Seat capacity in 2024 increased by 118 percent, approaching 392,000. Breeze plans to expand to 35 destinations, including international destinations, positioning PVD as a key hub, creating up to 400 jobs, and driving annual traffic to exceed one million passengers.[17]
- In August 2024, the Rhode Island Aviation Corporation (RIAC) secured a $9.2 million federal grant for phase four of the South Cargo Project, with plans to relocate cargo operations from the north to the south side to improve efficiency.[18]
- In August 2024, the reconstruction of Taxiway C was completed, improving taxiway geometry, enhancing safety, and avoiding wetland impacts.[19]
- In October 2024, RIAC received a $10 million **Federal Aviation Administration (FAA)** grant for terminal renovations, including backup power and water upgrades, expanded seating capacity, Americans with Disabilities Act (ADA) accessibility improvements, mechanical system upgrades, and standard area enhancements incorporating local architecture.[20]

Manchester-Boston Regional Airport (MHT)

- In 2023, Avelo added a single new route at MHT, while Breeze had yet to enter the market. By 2024, both Avelo and Breeze are expected to have expanded significantly, introducing eight new routes and adding over 73,000 seats, which is expected to increase passenger activity in the years to come.

16 $243M Projects to Improve Circulation, Bag Screening, Support Growth at Bradley International Airport, Hartford Business Journal. https://hartfordbusiness.com/article/243m-projects-to-improve-circulationbag-screening-support-growth-at-bradley-more-than-50/

17 Rhode Island Airport Corporation. "Annual Report 2024." https://flyri.com/riac/annual-reports/

18 Rhode Island Wins Federal Funds for Cargo Scheme, Air Cargo News, August 2024. https://www.sobelnet.com/rhode-island-wins-federal-funds-for-major-cargo-project-at-tf-green-international-airport/

19 T.F. Green Gets $9M in Federal Grants for Airport Improvements, *PBN*, August 2024. https://pbn.com/t-f-green-gets-9m-in-federal-grants-for-airport-improvements/

20 RI Delegation Lands $10M for Concourse Upgrades at Rhode Island T.F. Green Airport, Magaziner.house.gov, October 2024. https://magaziner.house.gov/media/press-releases/ri-delegation-lands-10m-concourse-upgrades-rhode-island-tf-green-airport

- Despite this anticipated growth, departing seat capacity in 2024 decreased slightly, and 2024 was still 25 percent below passenger activity levels in 2019.
- Spirit's 76 percent reduction in operations at MHT compared to 2023 likely affected this change in passenger activity. Spirit was MHT's third-largest carrier in 2022, but has now been overtaken by Avelo and Breeze, both of which entered the market in 2024.
- MHT completed interior renovations in late 2024, including new flooring, lighting, Heating, Ventilation, and Air Conditioning (HVAC) improvements, and a modernized training center. Improvements at MHT aim to enhance customer and employee experience, create jobs, and attract new passengers and airlines.[21]

Portland International Jetport (PWM)

- Breeze added three new routes, bringing the total to 10, while Frontier introduced four new routes, increasing its total to six. Their expansion of flights has contributed significantly to PWM's passenger activity growth, now exceeding 2019 activity levels.
- In November 2024, PWM announced plans to invest nearly $5 million in upgrades to the passenger terminal building, parking garage, and flight path over residential neighborhoods. This investment will revitalize critical airport infrastructure, improving PWM's capacity to serve the region.[22]

Burlington International Airport (BTV)

- In 2023, seat capacity at BTV was 10 percent below 2019 levels, declining four percent from 2022. By 2024, capacity rebounded by 10 percent, ending 1 percent below 2019 levels.
- Growth in commercial operations and passengers in 2024 was partly driven by Breeze launching service at BTV, adding four new routes. However, this was offset by jetBlue discontinuing its service to John F. Kennedy International Airport (JFK), which accounted for 11 percent of BTV's departing seats in 2023, resulting in a significant loss of airline share.
- In late 2024, BTV announced a $11 million terminal expansion project aimed at enhancing passenger experience, including new gates, improved check-in areas, and upgraded facilities. Completion is expected by 2026.[23]

Bangor International Airport (BGR)

- Since 2019, Allegiant Air has significantly contributed to passenger growth, adding four new routes and increasing seat capacity. In 2024, Breeze entered the market, introducing three new routes to expand its service options further.

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21 Fulcrum NH, "Manchester-Boston Regional Airport Upgrades Completed by Fulcrum. https://fulcrum-nh.com/manchester-boston-regional-airport-upgrades-completed-by-fulcrum/

22 "Portland Jetport plans nearly $5 million in improvements," Portland Press Herald, November 2024. https://www.centralmaine.com/2024/11/02/portland-jetport-plans-nearly-5-million-in-improvements/

23 Burlington International Airport, Project NexT. https://www.btv.aero/about-btv/project-next

- As a result, passenger numbers at BGR have grown by 20 percent compared to 2019, highlighting BGR's continued expansion and increased airline presence.
- In November 2024, Bangor International Airport announced a $59 million investment in terminal and runway upgrades, with expected completion in 2025. The on-going and planned upgrades are in response to increased passenger activity and will enhance and optimize the passenger experience in the terminal, minimizing disruptions.[24]

Tweed-New Haven Regional Airport (HVN)

- In 2023, seat capacity increased by 31 percent compared to 2022, reflecting strong growth, with Avelo having added four new routes.
- By 2024, scheduled seat capacity grew another 30 percent, driven by Avelo launching 10 new non-daily routes and Breeze introducing four new daily routes as it commenced commercial service in December. These expansions continued to strengthen HVN's network and overall passenger capacity.
- Passenger volumes at HVN exceeded 1.16 million in 2024; an increase of over 1,110 percent from fewer than 100,000 passengers reported in 2019. This surge in growth was driven by Avelo's continued expansion connecting HVN with the eastern U.S. In 2019, HVN offered only two scheduled American Eagle regional jet flights and a single Southern Airways route to Nantucket.

Portsmouth International Airport (PSM)

- In 2024, Allegiant Air added one new route, and Breeze launched two new routes, increasing seat capacity at PSM, but by only 2 percent lower than 2019 seats on offer.
- The new 5,200-square-foot arrivals hall at PSM officially opened in November 2024, enhancing passenger flow and accessibility. The project was funded by a $7 million FAA Airport Terminal Program grant, awarded in 2023.[25]

5.3.5 Rail

As a part of the regional transportation system, Massport supports the growth and development of alternative means of travel to markets served by Logan Airport. The following sections describe the various rail offerings from the Boston area, the markets they serve, and the annual ridership trends.

24 "Bangor International Airport begins $59M of terminal, runway improvements," Mainebiz, March 2024. https://www.mainebiz.biz/article/bangor-international-airport-begins-59m-of-terminal-runway-improvements

25 The New Arrivals Hall is Officially Open, Portsmouth International Airport. https://flypsmairport.com/terminal-expansion/

5.3.5.1 Boston Amtrak Service

Amtrak operates regional rail service in and out of 13 stations in the state of Massachusetts, with three stations located in the City of Boston and four additional stations outside of Boston, serving the Greater Boston Metro Area. Amtrak operates the following four routes, as shown in **Figure 5-1**, out of stations in and around Boston:

- The **Northeast Regional** routes provide daily service along the Northeast Corridor with stops in major cities, including Providence, Rhode Island (RI); New Haven, Connecticut (CT); New York City, New York (NY); Newark, New Jersey (NJ); Philadelphia, Pennsylvania (PA); and Washington, D.C. Additionally, some operations offer service to Roanoke and Richmond, Virginia (VA).
- **Acela** also services the Northeast Corridor from Boston's South Station to Union Station in Washington, D.C. The Acela is a high-speed train that covers fewer stops than the Northeast Regional. The trip from Boston to New York City is approximately an hour shorter than the Northeast Regional, and travel to Washington, D.C. is two hours shorter.
- The **Lake Shore Limited** route provides daily service between Chicago's Union Station and Boston's South Station. This route splits into two lines in Albany, NY, with one end terminating at Penn Station in New York City and the other end terminating at Boston's South Station. The Lake Shore Limited route stops in several notable locations along the 22-hour journey, including South Bend, Indiana (IN); Cleveland, Ohio (OH); Erie, PA; Buffalo, NY; Rochester, NY; Syracuse, NY; Albany, NY; and Worcester, MA. As of October 2024, the route has daily service to South Station.[26]
- **The Downeaster** route offers five daily trips between Brunswick, Maine, and Boston's North Station, with additional services for major events and concerts at TD Garden in Boston. The route travels through New Hampshire, making stops in Exeter and Dover, and along the coast of Maine with notable stops in Portland, Freeport, and Brunswick.

Table 5-3 illustrates annual ridership along these routes as well as the total number of passengers arriving or departing at Boston area rail stations annually.

2023 Rail Ridership

Ridership for all four routes in the Greater Boston Metro Area increased compared to 2022 numbers. Of the total riders along the four routes offered at Greater Boston Metro Area stations, 24.3 percent of riders originated from or arrived at a station in the Greater Boston Metro Area in 2023. The Acela route experienced the most significant increase in ridership, with 38 percent more riders in 2023 compared to 2022. **Massachusetts Department of Transportation (MassDOT)** progressed planning for increased service between Boston and Albany, NY, along the Lake Shore Limited route, utilizing Federal Railroad Administration (FRA) Corridor Identification and Development Program (CIDP) grants in 2023. FRA CIDP grants will also be used to support planning efforts to improve rail service on the Downeaster Corridor.

26 Amtrak. 2024. Lake Shore Limited. https://www.amtrak.com/lake-shore-limited-train?msockid=19fc48beb5d26f1718985dffb4ce6e16

Table 5-3 Annual Ridership of Northeast Rail Serving the Boston Area, FY 2022-2024

Amtrak Route	FY 2022	FY 2023	FY 2024	2022-2023 Percent Change	2023-2024 Percent Change
Northeast Regional Annual Riders	7,091,351	9,163,082	10,814,407	29.2%	18.0%
Acela	2,144,369	2,959,384	3,238,130	38.0%	9.4%
Lake Shore Limited Annual Riders	319,255	351,049	398,420	10.0%	13.5%
Downeaster Annual Riders	444,684	542,639	591,948	22.0%	9.1%
New England (NE) Route Total Annual Riders	**9,999,659**	**13,016,154**	**15,042,905**	**30.2%**	**15.6%**
Boston Stations NE Routes Annual Riders	2,512,157	3,158,686	3,768,334	25.7%	19.3%
Percent of NE Route Annual Riders leaving from Boston Stations	**25.1%**	**24.3%**	**25.0%**	**-3.4%**	**3.2%**

Source: Amtrak ridership fact sheets, 2023 and 2024.

Note: FY: Fiscal Year

1 Boston Stations include Back Bay Station (BBY), North Station (BON), South Station (BOS), in Boston, MA, and Framingham (FRA), Haverhill (HHL), Route 128 (Westwood; RTE), and Woburn (WOB) in the Greater Boston Area.

2024 Rail Ridership

Rail ridership originating from Boston stations on Amtrak increased 19.3 percent over 2023 ridership, reaching over 3.7 million riders. In 2023, 79.2 percent of riders in Massachusetts rode to or from a station in the city of Boston, and 93.4 percent of Massachusetts riders rode to or from a station in the Greater Boston Metro Area. Ridership along the four routes operating out of Boston-area stations continued to increase in 2024 but grew at a lower rate, on average, compared to the change from 2022 to 2023. The Northeast Regional route increased by 18 percent, the most over the previous year, and ridership on the Lake Shore Limited route increased more in 2024 than in 2023, compared with the year before. In 2024, Amtrak achieved a record for annual rail passengers, primarily driven by a more than 15 percent increase in ridership in the Northeast Corridor in 2023. Significant upgrades to Amtrak's Northeast Corridor were on-going in 2024, and two new stops were added within the region.[27]

27 Amtrak, 2025. Amtrak Sets All-Time Ridership Record in Fiscal Year 2024. https://media.amtrak.com/2024/12/amtrak-sets-all-time-ridership-record-in-fiscal-year-2024/

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6. Ground Access

Massport continuously evaluates and plans for changes in air passenger activity, remaining committed to implementing a broad range of ground access and trip reduction strategies. Massport reviews both on- and off-airport ground transportation activity levels and adjusts ground access programs and **high-occupancy vehicle (HOV)** services to align with the needs of **air passengers** and employees. Ground access projects with regulatory mitigation requirements are discussed in Chapter 10, *Project Mitigation*.

Massport promotes the use of various high-occupancy modes, including transit and shared ride options, to enhance airport roadway and curbside operations, provide an improved experience for riders, alleviate demand on parking facilities, reduce personal vehicle passenger drop-off and pick-up activities which is impactful to airport operations, and improve customer service. These options offer passengers and employees convenient and reliable HOV choices, which reduce environmental and community impacts. Improving the Airport's multimodal connectivity reduces vehicle trips, congestion, **vehicle miles traveled (VMT)**, and **greenhouse gas (GHG)** emissions associated with travel to and from Logan Airport.

HOV modes includes public transit, Logan Express and other scheduled bus services, other shared-ride modes, and certain automobile modes that carry more than one air passenger (Massport defines taxis, black car limousines, and Ride App services that carry two or more air passengers per vehicle as HOV). This does not include shared private vehicles which Massport encourages over single occupancy vehicles.

This chapter reports on ground access conditions and activity levels observed in 2023 and 2024 and compares these conditions to both the prior 2022 reporting year and the 2019 benchmark year. The relationship between parking demand and the Airport's parking supply is also discussed. Logan Airport's relationship with other New England regional transportation entities and efforts to diversify transportation options are discussed in Chapter 5, *Regional Transportation*.

As discussed in the *2022 ESPR*, Massport began conducting dwell time studies to understand curbside better idling at the Terminals. Massport uses findings from these studies to inform curbside policy to

Logan Airport remains a top U.S. airport in terms of ground access HOV mode share passenger use.

reduce dwell times. For the development of the *2022 ESPR*, Massport conducted a dwell time study at Terminal A, and results from this study were discussed within Appendix A, *Certificate and Responses to Comments* and Appendix B, *Comment Letters and Responses to Comments* and utilized within air quality emissions modeling for the *2022 ESPR*. In 2025, a dwell time study was conducted at Terminal C. Massport continues to review the results of that study and will include findings, initiate new dwell studies, and report on the development of an idling reduction plan in future EDRs.

2023 and 2024 Ground Access Key Findings

The following details key findings for ground access at the Airport in 2023:

- Most HOV ground access services increased ridership in 2023 and 2024 compared to 2022.
- **Logan Express** use by both air passengers and Airport employees substantially increased over the reporting timeframe. It exceeded 2019 benchmarks, suggesting that pricing incentives, expanded service, increased hours, and service frequency are all initiatives that are effectively encouraging HOV use.
- Average weekday on-Airport VMT increased between 2023 and 2024, and the 2024 VMT was 8.3 percent less than the 2019 year.
- Based on the *2024 Air Passenger Ground Access Survey*, HOV mode share for passengers, including transit and shared ride modes, is 43.0 percent of ground access passenger trips to the Airport. Thus, Massport is ahead of its 2027 target of achieving a 40 percent HOV mode share.

2023 and 2024 Ground Access Key Initiatives

Key initiatives implemented or plans developed to promote sustainable transportation mode use, improve roadway and curbside operations, alleviate vehicle congestion, and meet parking demand in 2023 and 2024 included:

- Promoting the use of Logan Express by expanding parking at Logan Express sites, increasing trip frequency, investing in facility upgrades, and providing reduced fares for online ticket purchases;
- Implementing new remote park-and-ride lots with shuttle services for employees at Wonderland (Revere) and in Quincy.
- Purchasing ten replacement **Massachusetts Bay Transportation Authority (MBTA)** Silver Line hybrid electric buses to enhance service to Logan Airport terminals; and
- Continuing ***Ride App*** *Management Plan* implementation and improving Airport roadway function by improving ride **rematch** and promoting shared rides.[1]

1 Ride App: Ride-hailing services via a mobile device app, also known as transportation network companies (TNCs).

6.1 Ground Transportation Access Modes

This section summarizes recent ridership levels and trends; progress towards meeting Massport's ground access goals; and Massport's cooperative planning with other Massachusetts transportation agencies. Pedestrian facilities and bicycling parking remained unchanged in 2023 and 2024; these facilities are described in the **User's Guide, Section U6.2.5**.

User's Guide Section U6.2.5

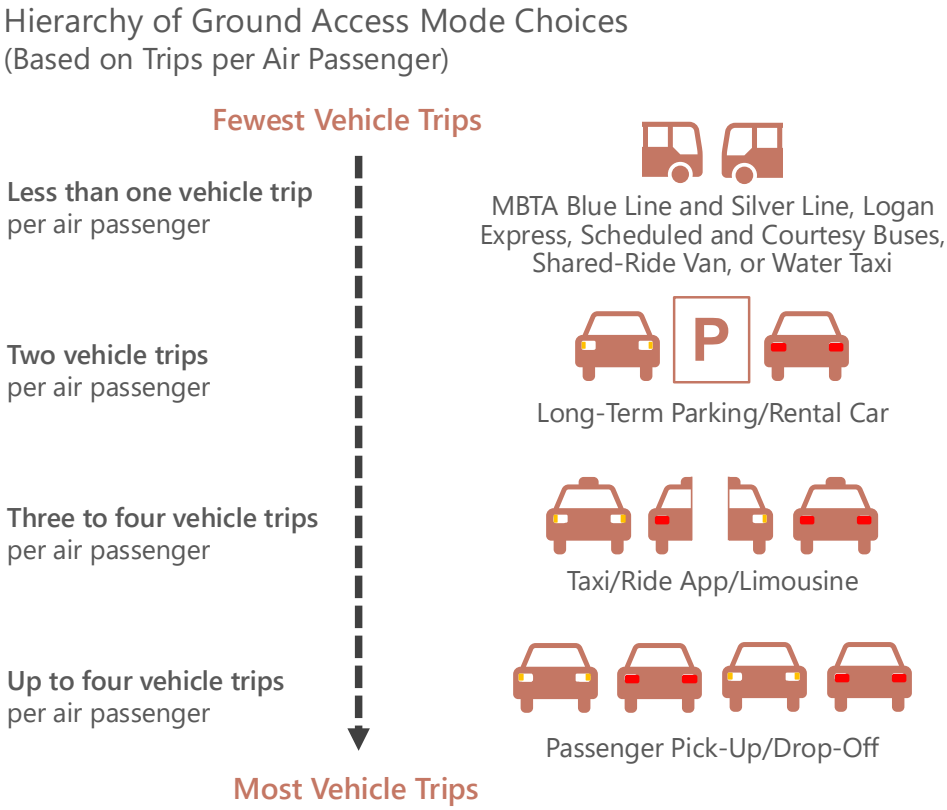
6.1.1 Ground Access Modes Overview

Air passengers and employees have various options for traveling to and from Logan Airport, as illustrated in **Figure 6-1.** The options differ in the number of vehicle trips required to transport an air passenger for both the arriving and departing air travel, which results in differences in emissions and vehicle congestion. Transit and shared-ride HOV modes (such as MBTA transit, Logan Express, and other public or private shared-ride services) are most efficient, as each service trip transports multiple passengers in a single vehicle. With higher occupancy rates, air passengers (and employees) using these HOV modes result in the equivalent of less than one vehicle trip for an air passenger who both departs and arrives at Logan Airport. Use of HOV modes reduces the number of vehicles on-Airport, improving air quality and mitigating vehicle congestion. As discussed in Chapter 4, *Airport Planning*, recent and on-going projects at the Airport have reconfigured terminal curbside allocation to prioritize access by HOV services at Terminal entrances.

Use of taxis, ride-hailing software application (Ride App) services, and black car limousines can result in as many as three to four trips to serve the ground access travel for each air passenger departing and arriving. These vehicle modes may arrive or depart Logan Airport without an air passenger customer in tow; these trips are known as **deadhead trips**. Massport is committed to reducing deadhead trips by Ride App vehicles through projects to consolidate Ride App passenger areas (see Section 6.4.1).

Air passengers arriving via private vehicles for a drop-off and pick-up (without parking for the duration of the air travel trip) result in four vehicle trips per air passenger departing and leaving the Airport, the most of any ground access mode to the Airport. While a departing air passenger arrives via a vehicle trip, that vehicle also departs the Airport without the passenger (essentially a deadhead trip); upon return, a deadhead vehicle trip is made to the Airport to pick up an arriving air passenger. Note that in this discussion, an air passenger may be a travel party of more than one individual.

Figure 6-1 Ground Access Mode Choice Hierarchy



Source: VHB, 2025.
Notes: Short-term parking is included under "Drop-off/Pick-up" because a vehicle does not remain at the Airport for the duration of the air passenger trip.

6.1.2 Transit: Logan Express, Blue Line, Silver Line, and Water Transportation Modes

The annual ridership levels for transit-related HOV services, including Massport's Logan Express scheduled bus service, private buses, MBTA transit, and water transportation modes, are summarized in **Table 6-1**. A discussion of these services follows.

Table 6-1 Annual Ridership and Activity Levels on Logan Express, MBTA, and Water Transportation Services, 2019, 2022-2024

Transit Mode	2019	2022	2023	2024	2022-2023 Percent Change	2023-2024 Percent Change
Logan Express						
Air Passengers	1,381,700	1,055,215	1,496,388	1,697,575	41.8%	13.4%
Employees	824,084	638,974	810,614	918,527	26.9%	13.3%
Total	2,205,784	1,694,189	2,307,002	2,616,166	36.2%	13.4%
MBTA Transit						
Blue Line[1]	2,482,524	1,754,144	2,265,657	2,295,089	29.2%	1.3%
Silver Line[2]	1,156,816	1,402,226	1,515,115	1,513,158	8.1%	-0.1%
Water Transportation						
MBTA Ferry[3]	7,467	5,613	30,052	33,841	167.7%	12.6%
Private Water Taxis[4]	61,071	23,214	16,800	10,469	-27.6%	-37.7%

Source: Massport, 2025.

Notes:

N/A Not available or not applicable.

1 Airport Station fare gate entrances only. Fare gate data do not distinguish ridership between Airport air passengers, Airport employees, and other riders.

2 Automatic passenger counters (APC) became available in 2019.Counts for 2019 represent total boardings at Logan Airport. In 2022, data including drop-offs became available for SL1 resulting in more accurate data reporting for SL1 ridership then in prior years.

3 Boardings at Logan Airport. MBTA Ferry is the Harbor Express F2/F2H service, Hingham/Hull-Logan and Long Wharf. Totals for 2023 and 2024 include boardings and drop-offs.

4 Private water taxis include Boston Water Taxi and Boston Harbor Cruises water bus service.

6.1.2.1 Logan Express Bus Service

Massport's Logan Express bus service is the most successful HOV mode for both air passengers and employees. Frequent and nearly 24-hour service gives travelers a convenient and inexpensive option to travel or commute to the Airport, avoiding the need to drive to the Airport. Logan Express consists of four suburban park-and-ride locations (Braintree, Framingham, Woburn, and Danvers) and the Back Bay Boston service. **Figure 6-2** depicts Logan Express bus locations with respect to the regional transportation network.

The North Shore service was relocated from Peabody to Danvers (Liberty Tree Mall) in August 2024 and operates with hourly service. Customer facilities and secure parking are provided at each of the four suburban Logan Express locations. Logan Express standard fare for an adult is $12 each way, or $9 each way with an advanced online ticket purchase. Parking at suburban lots is $7 per day.

The Back Bay Logan Express operates daily from 5:00 AM to 10:00 PM with pick-up and drop-off from two Back Bay locations: Prudential Center (Boylston Street) and MBTA Back Bay Station (Dartmouth Street). Customer parking is not provided at the Back Bay sites because these are transit-oriented, walkable urban locations. The Back Bay Logan Express service is free from Logan Airport, while the one-way fare to the Airport is $3 per rider.

Recent Initiatives

Logan Express service is important to help reduce on-Airport VMT, on and off-Airport vehicle congestion, and motor vehicle emissions. Recent Massport initiatives have successfully encouraged the use of Logan Express. The Braintree Logan Express service capacity for air passengers was increased in the short term by relocating employees to a new, dedicated park-and-ride lot in Quincy. Construction has begun for approximately 1,000 additional parking spaces at the Framingham site. Massport enhanced marketing efforts to increase ridership. A new, larger facility in Danvers now serves the relocated Peabody Logan Express. (Improvements to the Danvers, Braintree, and Framingham Logan Express facilities are discussed in Section 4.1 of Chapter 4.)

Massport continues to explore potential additional Logan Express locations, including urban locations. Furthermore, Massport has explored Ride App **Last Mile** connections and continues to monitor parking capacity across Logan Express sites.

2023 Logan Express Ridership Trends

Logan Express ridership in 2023 was substantially greater than in 2022 and exceeded 2019's ridership. **Table 6-1** summarizes year-over-year changes, and a more complete breakdown of Logan Express ridership is presented in Appendix H, *Ground Access Supporting Documentation*.

2024 Logan Express Ridership Trends

The 2024 ridership exceeded 2023 levels by over 13 percent and the 2019 levels by over 18 percent. A more complete breakdown of Logan Express ridership is presented in Appendix H, *Ground Access Supporting Documentation*.

Logan Express service experienced its highest ridership in 2024, exceeding previous levels for air passengers and airport employees.

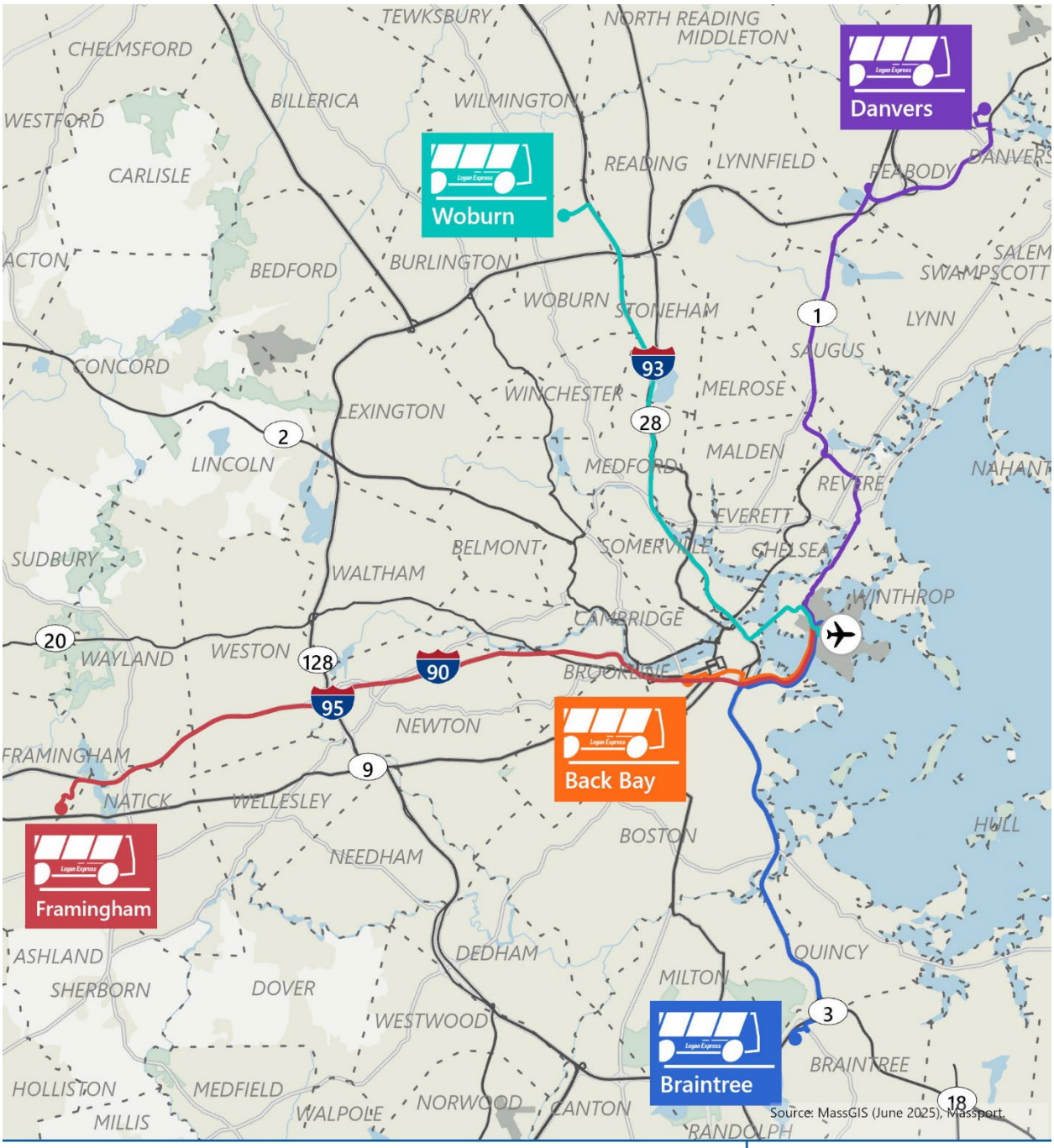


Figure 6-2 Logan Express Bus Locations and Routes

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Logan Express Routes
- Danvers
- Back Bay
- Braintree
- Framingham
- Woburn

Major Roadways

Municipalities

0 1.25 2.5 5 Miles

6.1.2.2 Rapid Transit

Passengers can use MBTA public transit to travel from Downtown Boston, Chelsea, Cambridge, Brookline, and Somerville core urban areas to the Airport via the Blue Line or Silver Line (SL1 route to the terminals or SL3 to Airport Station) transit options. The Blue Line is a rapid transit subway service with direct transfers to the MBTA's Orange and Green Lines. The Silver Line is a bus rapid transit (BRT) service with a mix of dedicated busways and mixed-traffic travel. The Silver Line offers direct connections to Seaport, South Boston Waterfront, and the Red Line and various commuter rail services at South Station. **Figure 6-3** shows public transportation access options. While not a rapid transit service, the MBTA began high frequency service along bus Route 104 in December 2024, which is expected to reduce travel time and bus transfers from Malden and other communities along its route. The service route is shown on **Figure 6-3** and more information will be provided in coming EDRs.

Over three-quarters of Blue Line and Silver Line SL1 passengers surveyed in 2019 indicated they would have used a taxi, Ride App service, or a private vehicle to be dropped off at the Airport if MBTA public transit was not available.

Both Blue Line and Silver Line services are important for reducing automobile travel to the Airport. The Blue Line subway service operates every 4 to 5 minutes in the peak periods and 7 to 12 minutes in the off-peak period. The Blue Line's Airport Station does not provide direct walkable access to Airport terminals. To provide this connection, Massport offers frequent, free shuttle bus service between the station, Airport terminals, and other Airport destinations. The Silver Line's SL1 service provides direct access to each Logan Airport terminal. Service frequency is every 9 to 13 minutes, depending on the time of day. Silver Line buses are articulated, 60-foot vehicles with on-board storage areas for luggage.

On-going Initiatives

Silver Line (SL1) service from Logan Airport is free, as are transfers to the Red Line subway service at South Station. Eliminating on-board fare collection allows passenger boarding via all three vehicle doors, which makes passenger boarding quicker and reduces curb dwell time. This improves Logan Airport's terminal curb operations, helps buses remain on schedule, and reduces idling, and provides a welcome mat to visitors to Boston eliminating the need for them to purchase a ticket Massport the free-fare program is expected to continue indefinitely. Massport owns ten Silver Line buses and pays the MBTA's operating costs for the SL1 buses directly serving the Airport terminals.

2023 Rapid Transit Ridership Trends

Table 6-1 compares 2023 ridership on the MBTA rapid transit services to 2022 and 2019. Blue Line Airport Station entries were modestly higher in 2023 than 2022, while remaining about 7.6 percent lower than 2019. MBTA Airport Station fare gate data do not distinguish between Airport passengers, Airport

employees, or East Boston neighborhood users; therefore, air passenger ridership levels on the Blue Line cannot be directly identified.[2]

Silver Line (SL1) ridership increased approximately 8 percent from 2022, and approximately 30 percent since 2019; as noted in **Table 6-1**.

2024 Rapid Transit Ridership Trends

Silver Line (SL1) ridership at Logan Airport and Airport Station boardings at Logan Airport remained roughly the same in 2023 and 2024.

6.1.2.3 Water Transportation

Logan Airport features a passenger ferry dock on Harborside Drive (south service area) for public and private water transportation and ferry services. Massport provides free shuttle bus service between the Logan Airport Water Transportation Dock, Airport terminals, and the MBTA Airport Station. Thus, air passengers and employees from coastal suburban and downtown Boston areas can use water-based services to access Airport facilities.

MBTA Ferry Connects Long Wharf and the Logan Airport Water Transportation Dock

Water transportation routes and boarding docks are shown in **Figure 6-3**. The MBTA Hingham/Hull ferry provides service to Long Wharf and destinations outside the Inner Harbor, including Hingham and Hull.[3] The MBTA took over the Winthrop/Quincy Ferry in July 2023 and provides service to both communities, in addition to Long Wharf and Fan Pier in the Seaport. Private operators offer on-demand services to inner harbor destinations like Boston downtown, Charlestown, East Boston, and the Seaport District. Currently, the one-way fare on the Hingham/Hull ferry to Logan Airport is $9.75 from Long Wharf or from Hingham/Hull. The Winthrop Ferry one-way fare is $6.50. Massport provides its employees with a subsidy for transit modes, including water transportation.

2023 Water Transportation Ridership Trends

Table 6-1 compares water transportation ridership among recent years. MBTA ferry activity reported in 2023 was higher than previous years, likely due to the Sumner Tunnel closure and improved data collection, which provides more detail on the number of boardings and alightings than previous reporting.

2 Based on automated fare gate entrance counts, approximately 50 percent of entrances occur via the Bremen Street Park fare gates at Airport Station. Based on Massport observations, approximately 45 percent of Airport Station entrances are attributable to Airport users.

3 The MBTA ferry from Hingham/Hull to the Logan Airport Water Transportation Dock runs less frequently and is less consistent than Blue Line and Silver Line services throughout the day. The number of scheduled trips varies by time of day. There are 14 MBTA ferries to and from Logan Airport on weekdays; however, there are no MBTA ferries direct to Logan Airport from the South Shore during morning commuting times.

Massport, as part of its HOV mode incentives, provides front-of-the-line Transportation Security Administration (TSA) screening vouchers for air passengers arriving via water transport. These incentives may have encouraged air passengers to use water transportation during the 2023 summer peak travel season, but private water taxi and water bus use in 2023 was noticeably less than in 2022 or 2019.

2024 Water Transportation Ridership Trends

As shown in **Table 6-1**, MBTA ferry use was greater in 2024 than in 2023. Private water taxi and water bus use in 2024 continued to decline from 2023 levels.

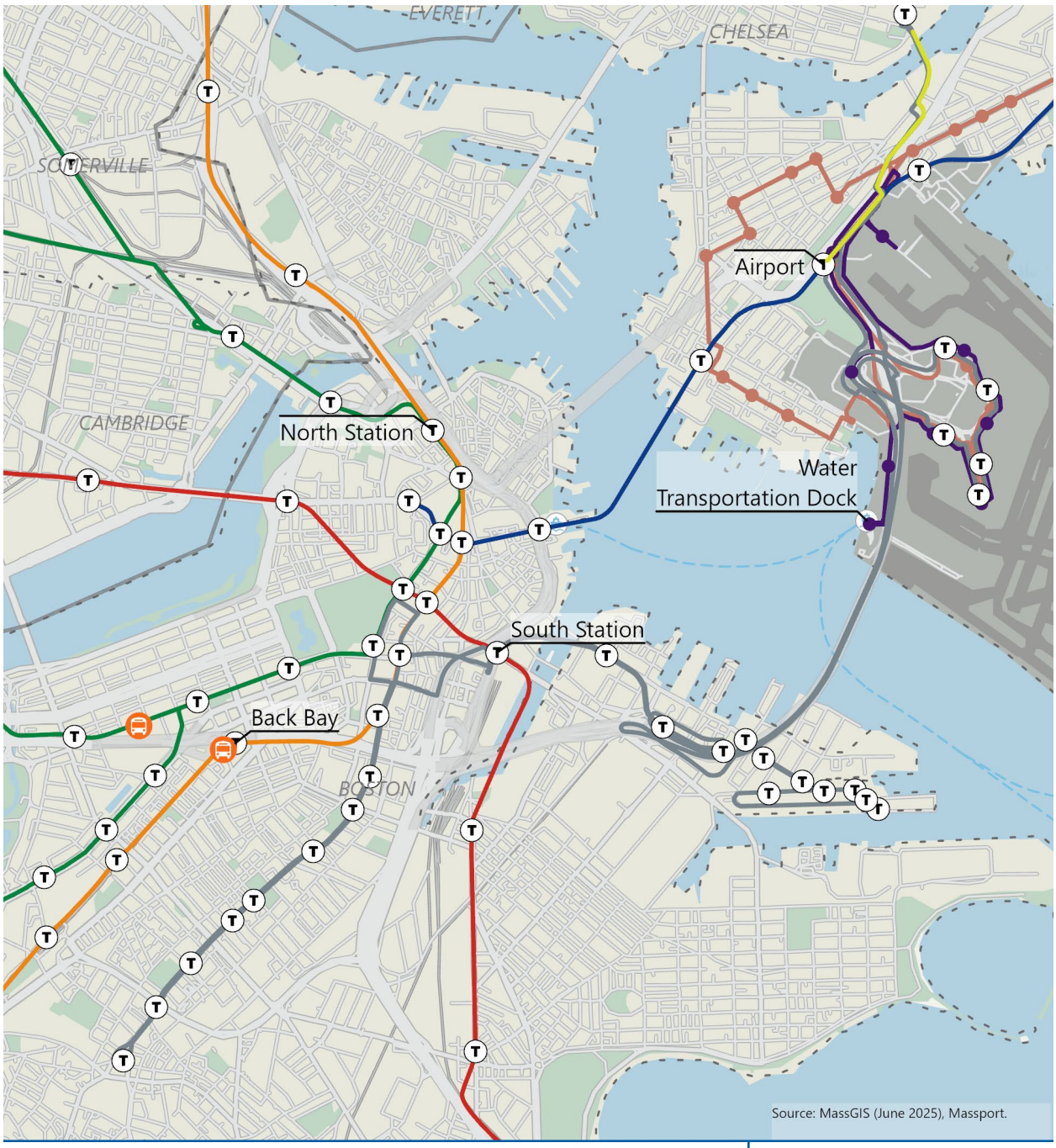


Figure 6-3 **Public Transportation Options**

2023/2024 Environmental Data Report

6.1.3 Other HOV Shared-Ride Modes

Massport provides priority, designated curb areas at Airport terminals to encourage use of transit and HOV/shared-ride services, including privately-operated scheduled (express) buses, charter buses, and shuttle buses or vans.

Several privately-operated carriers offer scheduled, express bus service from the Boston metropolitan area's outlying areas and neighboring states. Most scheduled shared-ride carriers use a combination of 15- to 40-passenger vehicles and buses with 50 or more passengers. Courtesy vehicle services include shuttle routes between Logan Airport and many hotels in the Greater Boston area. Shared-ride vans also provide service from central and western Massachusetts, as well as other regional points throughout New England. Details on other HOV shared-ride activity trends are shown in **Table 6-2**.

Table 6-2 Other Shared-Ride HOV Modes: Scheduled Buses, Shared-Ride Vans, Courtesy Vehicles, and Black Car Limousines, 2019, 2022–2024

Estimated Seats	2019	2022	2023	2024	2022-2023 Percent Change	2023-2024 Percent Change
Scheduled Buses	2,752,970	2,350,480	2,668,050	2,893,385	13.5%	8.4%
Scheduled Vans & Limousines	297,631	81,344	99,824	100,816	22.7%	1.0%
Courtesy Vehicles	3,125,865	2,006,220	1,562,520	1,584,645	-22.1%	1.4%
Limousines (unscheduled)	1,953,236	1,111,864	1,232,700	1,234,268	10.9%	0.1%

Source: Massport., 2025.
Notes: Estimated passenger seats based on annual trips.

2023 Other HOV Shared-Ride Activity Trends

Scheduled buses, vans, and limousines operated more seats for these HOV or shared-ride users in 2023 than in 2022. Fewer courtesy vehicle seats were provided in 2023, relative to 2022.

While Ride App use has increased over the past few years, the COVID-19 pandemic appears to have reduced demand for scheduled vans, black car limousines, and courtesy vehicles. Each of these HOV/shared-ride modes has experienced a decrease in ridership since 2019.

2024 Other HOV Shared-Ride Activity Trends

As shown in **Table 6-2**, the estimated total number of seats provided by HOV or shared-ride modes increased in 2024 compared to 2023. Although the number of seats offered among scheduled vans, black car limousines, and courtesy vehicles for Airport transportation increased in 2024 from 2023's levels, scheduled buses are the only private service that provided more passenger seat trips than in 2019, the benchmark year.

6.1.4 Automobile Modes

Logan Airport passengers also use several automobile modes, including private automobiles, taxis, Ride App services, and rental cars to access the Airport, and the data for the reporting years and 2019 benchmark are provided in **Table 6-3**. Vehicle volumes and VMT associated with vehicle trips are presented in Section 6.2. Taxi, Ride App, and limousine services are classified either as HOV or non-HOV modes, depending on the number of passengers carried. Private automobile access to the Airport by passengers is classified as either curbside drop-off/pick-up or parked on-Airport.

Table 6-3 Automobile Modes: Rental Cars, Taxis, Ride App, 2019, 2022–2024

Transaction Count	2019	2022	2023	2024	2022-2023 Percent Change	2023-2024 Percent Change
Rental Car Transactions	1,314,330	1,013,688	1,155,384	1,239,773	14.0%	7.3%
Taxi Dispatches	1,573,627	985,197	1,220,760	1,069,557	23.9%	-12.4%
Ride App Transactions: Pick-Up	3,410,475	2,867,560	3,573,498	4,055,534	24.6%	13.5%
Ride App Transactions: Drop-Off	4,769,967	3,681,897	4,522,594	5,111,639	22.8%	12.3%

Source: Massport, 2025.

6.1.4.1 Rental Cars

The following rental car brands served Logan Airport in 2024: Alamo, Avis, Budget, Dollar, Enterprise, Hertz, National, Thrifty, Payless, and Sixt. The car-sharing service, Zipcar, also provided services from the Rental Car Center. Peer-to-peer car sharing facilitated by Turo began in February 2023. Since 2024, Turo has spaces allocated within the Economy Garage.

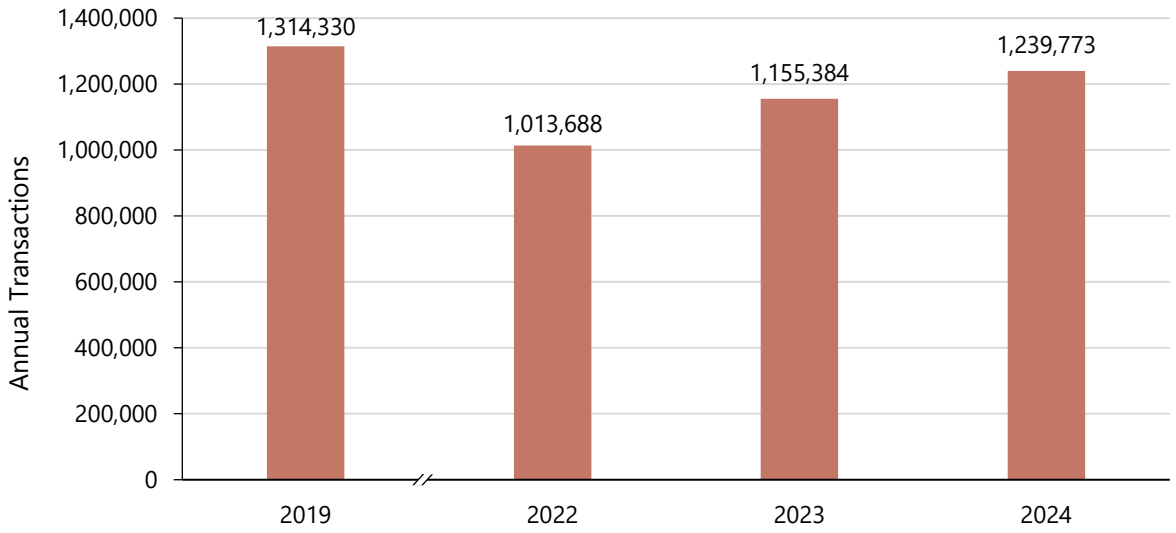
2023 Rental Car Activity Trends

Rental car transactions increased in 2023 from 2022, but remained 12 percent below the 2019 benchmark year levels, as shown in **Figure 6-4**.

2024 Rental Car Activity Trends

As shown in **Figure 6-4**, Rental car transactions continued to rebound in the post-pandemic years. As of 2024, the number of transactions was 5.6 percent below the 2019 benchmark year.

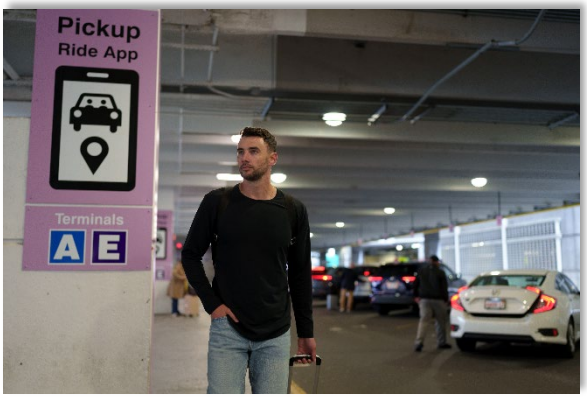
Figure 6-4 Annual Rental Car Transactions at Logan Airport, 2019, 2022–2024



Source: Massport, 2025.
Notes:
1 Excludes the COVID-19 pandemic years of 2020 and 2021, which disrupted travel and activity levels

6.1.4.2 Taxis and Ride App Services

According to the *2024 Logan Air Passenger Ground Access survey,* Ride App services, such as Uber™ and Lyft™, are used by over 28 percent of Logan Airport's air passengers. For several years Ride App services have become the mode of choice for air passengers seeking on-demand, ride hailing services. **Figure 6-5** depicts the annual activity for taxi services compared to Ride App services at Logan Airport.

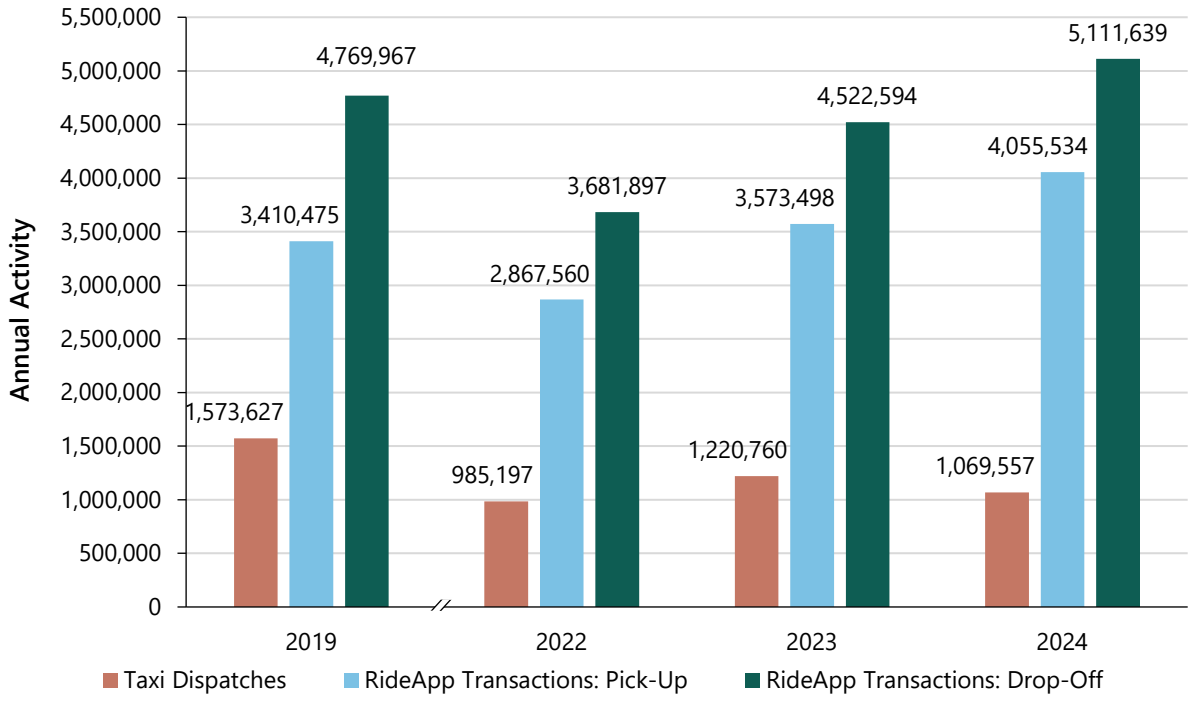


Ride App Pickup Area in Central Garage

Recent Initiatives

To address congestion issues caused by Ride App vehicles, Massport reconstructed the ground floor of the Central/West Parking Garage to facilitate passenger pick-up throughout the day and drop-off between 11:00 AM and 4:00AM. This service change was completed in December 2019. Ride App operations serving Terminal B, including rematch, were moved from the Central Garage to the Terminal B Garage in November 2022.

Figure 6-5 Annual Taxi Dispatches and Ride App Transactions at Logan Airport, 2019, 2022-2024



Source: Massport, 2025.

Notes: Excludes the COVID-19 pandemic years of 2020 and 2021, which disrupted travel and activity levels

1 Ride App drop-off was first authorized at Logan Airport in 2018.

2023 Activity Trends

Ride App activity is measured as passenger pick-up and drop-off transactions. Pick-up transactions in 2023 surpassed 2022 levels by about 24 percent and drop-off transactions by 22 percent. Taxi dispatches were approximately 22 percent below 2019 levels, yet still showed an approximately 24 percent increase in 2023 levels compared to 2022.

2024 Activity Trends

In 2024, Ride App activity surpassed the 2019 benchmark year's activity by about 19 percent for pick-up transactions and 7 percent for drop-off transactions. Taxi dispatches remained approximately 32 percent below 2019 levels, while showing a 12.4 percent decrease in 2024 from 2023 levels.

6.2 On-Airport Vehicle Activity

Ground transportation effects associated with Airport operations are measured in two ways: the number of vehicles that enter the Airport and their VMT while on Airport roadways. This section reports on Logan Airport's most recent vehicle-related activity in terms of gateway vehicle volumes at Airport access points and the estimated on-Airport VMT for those vehicles.

Vehicle miles traveled (VMT) refers to the number of miles a given vehicle travels within the Airport boundary.

Encouraging HOV modes for ground transportation access to and from Logan Airport is key to reducing gateway vehicle volumes and on-Airport VMT. Massport is committed to developing, implementing, and promoting a diverse range of environmentally responsible ground transportation modes for air travelers, employees, and other users to access the Airport. Reducing vehicle trips minimizes roadway and curb congestion and improves air quality.

6.2.1 Gateway Vehicle Volumes

Gateway roadways are defined as access points to and from Logan Airport, which primarily include:

- Route 1A to and from the north;
- Sumner and Callahan Tunnels (Route 1A to and from the south);
- Interstate 90 (I-90) Ted Williams Tunnel ramps (to and from east and west); and
- Frankfort Street/Neptune Road to Service Road to and from the northeast.

Figure 6-6 shows the primary gateway roadway access points at Logan Airport.

6.2.1.1 Data Collection and Annual Average Daily Calculation Method

The Airport's gateway roadways are equipped with permanent vehicle count stations as part of the Airport-wide **Automated Traffic Monitoring System (ATMS)**. These stations provide the data used to calculate:

- **Annual average daily traffic (AADT)**
- **Annual average weekday daily traffic (AWDT)**
- **Annual average weekend daily traffic (AWEDT)**

User's Guide Section U6.1.1

For further definition of these metrics and the calculation methodology, see the **User's Guide, Section U6.1.1**.

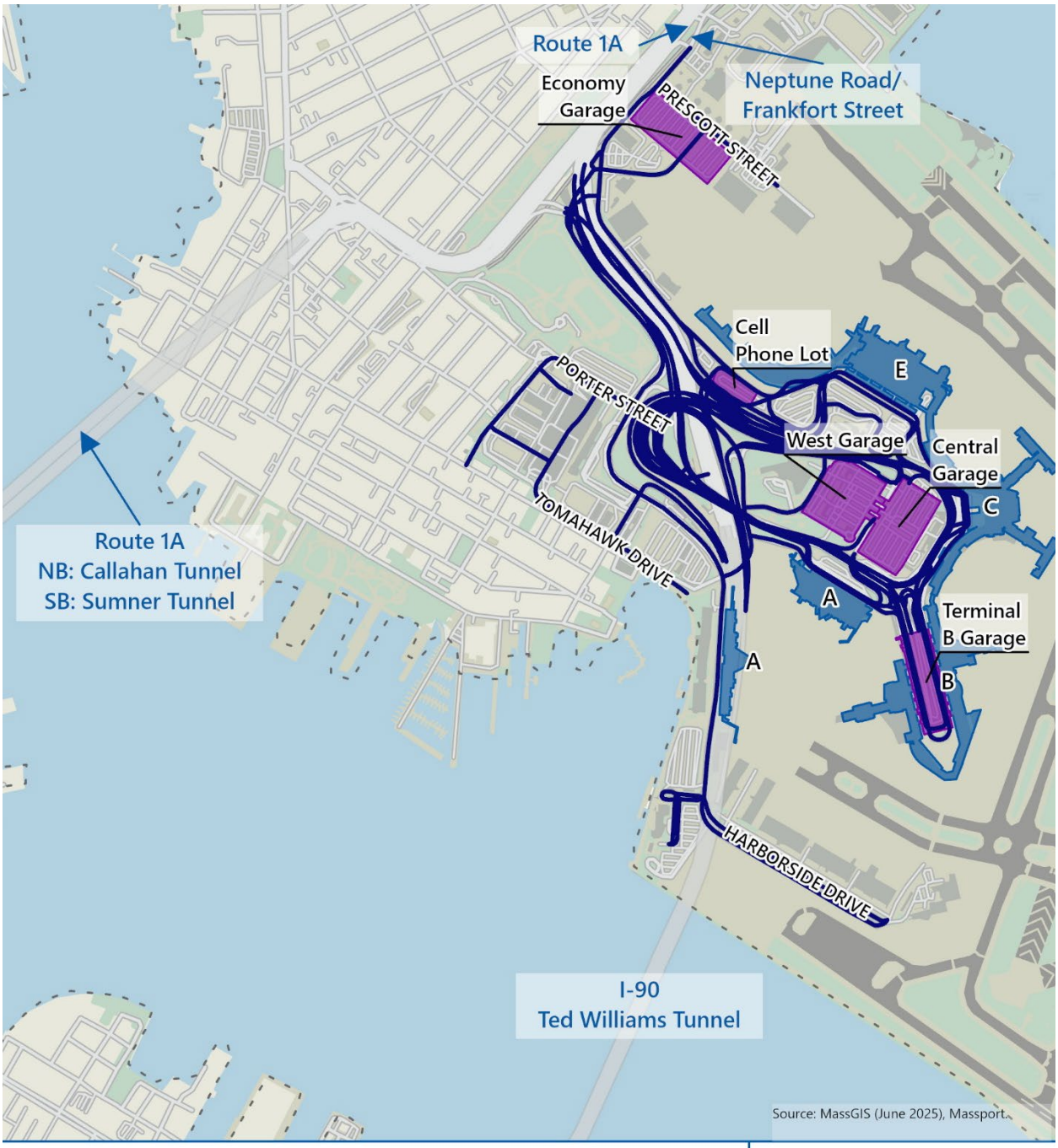


Figure 6-6 Logan Airport Roadways

2023/2024 Environmental Data Report

6.2.1.2 Average Daily Activity Levels

Table 6-4 summarizes the average daily gateway vehicle volumes for the current and prior reporting years and the 2019 benchmark year. Average annual daily vehicle volumes entering and departing Logan Airport by gateway roadways have increased since 2022; however, AADT and AWDT in 2024 remained below 2019 levels, despite increased air passenger activity, reflecting higher use of available HOV services.

Table 6-4 Logan Airport Gateways: Annual Average Daily Vehicle Volumes, 2019, 2022–2024

Volume	2019	2022	2023	2024	2022-2023 Percent Change	2023-2024 Percent Change
AADT	137,331	111,312	121,999	129,363	9.6%	6.0%
AWDT	143,189	114,690	124,315	131,107	8.4%	5.5%
AWEDT	122,678	101,948	114,942	124,431	12.7%	8.3%
Annual Air Passengers	42,522,411	36,090,716	40,833,978	43,500,033	13.1%	6.5%

Source: Massport.

Notes: Negative numbers indicate a decrease from the year being compared.
Percent change is relative to the preceding year or benchmark shown in the table, unless noted otherwise.
Gateway roadways include access to and from: Route 1A (including the Sumner and Callahan tunnels), I-90/Ted Williams Tunnel, Frankfort Street and Neptune Road, and Maverick Street.
Pandemic years are excluded.

AADT Annual average daily traffic.

AWDT Annual average weekday daily traffic.

AWEDT Annual average weekend daily traffic.

2023 Average Daily Activity Level Results

Passenger activity levels surged in 2023, reflecting a return to more typical pre-pandemic conditions. Logan gateway AADT volume growth was slower than air passenger activity growth, indicating that passengers were choosing HOV services more often, particularly during the prolonged and impactful Sumner Tunnel closure.

2024 Average Daily Activity Level Results

Passenger activity achieved record levels for the Airport in 2024; however, the annual growth rate slowed in 2024 compared to the previous years, where high annual growth rates were seen during the pandemic recovery. Despite the record high in passenger levels, vehicle volume growth rates remained similar to those in 2023, which could reflect a return to more typical travel patterns after the extended closures of the Sumner Tunnel in 2023. The Sumner Tunnel experienced additional closures in July 2024 and on intermittent weekends throughout the summer.

6.2.2 On-Airport VMT

On-Airport VMT is the cumulative number of miles traveled by vehicles on Logan Airport's roadways. VMT is based on the vehicle volume on specific roadway segments and each associated roadway segment's length. VMT is an important metric used to calculate on-Airport motor vehicle air quality emissions. On-Airport VMT is estimated using the VISSIM[4] microsimulation model and can be calculated for specific times of day. Absent any major shift in vehicle volumes entering the gateways, the change in VMT is expected to mirror the change in vehicle volume, or AADT generally. For more on on-Airport VMT estimation, see the **User's Guide, Section U6.1.2**.

User's Guide Section U6.1.2

6.2.2.1 Estimated VMT Calculations and Modeling Results

Consistent with previous years, the following specific time periods were analyzed:

- Morning peak hour
- Evening peak hour
- Highest consecutive 8-hour (High 8-Hour)
- Average weekday VMT

Table 6-5 summarizes the VMT estimates for 2022 to 2024 compared against the 2019 benchmark year.

Table 6-5 Airport Study Area Vehicle Miles Traveled (VMT) for Airport-Related Vehicle Volumes, 2019, 2022-2024

On-Airport VMT	2019[1]	2022	2023	2024	2022-2023 Percent Change	2023-2024 Percent Change
AM Peak Hour	9,477	7,555	8,610	9,616	14.0%	11.7%
PM Peak Hour	12,577	10,309	10,570	11,412	2.5%	8.0%
High 8-Hour	91,336	72,526	75,798	83,497	4.5%	10.2%
Average Weekday	209,900	164,625	171,340	192,655	4.1%	12.4%

Source: VHB and Massport, 2025.

Notes:

1 Data provided for 2022-2024 use the VISSIM model. Data from 2019 used a spreadsheet based VMT model.

2023 On-Airport VMT Results

Average weekday VMT increased in 2023 compared to 2022, but remained over 18 percent lower than 2019. The average weekday VMT decreased compared to 2019, while annual passenger volumes neared record levels seen in 2019. Some of this can be attributed to the Sumner Tunnel closure and higher reliance on HOV during the coinciding busy air travel season.

4 PTV America. 2021. Verkehr In Städen Simulationsmodell – VISSIM version 2021 [computer software].

Terminal B Garage.

2024 On-Airport VMT Results

Weekday VMT increased in 2024 compared to 2023, but was 8 percent lower than 2019. Consistent with 2023, average weekday VMT decreased, while 2024 annual passenger volumes exceeded all prior years. The VMT increase relative to the corresponding AADT likely reflects more normalized Airport travel patterns following the Sumner Tunnel's construction completion. Considering 2023 and 2024 together, as compared to 2022, VMT and AADT grew at approximately the same rate, which was generally expected.

6.3 Parking Conditions

Massport has a comprehensive parking monitoring and management program that tracks on-Airport parking conditions (including parking facilities and their supply (spaces), demand (use), and parking rates), parking programs, and preferred parking allocation for hybrid and electric vehicles (EVs) and EV charging station usage. Massport manages the on-Airport parking supply to promote long-term, rather than short-term, parking to reduce the number of daily vehicle trips to Logan Airport.

User's Guide Section U6.3.2

The **Logan Airport Parking Freeze** regulation sets an upper limit on the supply of commercial and employee parking spaces at Logan Airport; see the **User's Guide, Section U6.3.2**.[5] These limits, shown in **Table 6-6**, were not exceeded in 2023 or 2024. **Figure 6-2** shows Logan Airport parking facility locations.

Table 6-6 Allocation of On-Airport Parking Spaces, 2019, 2022-2024

Vehicle Parking Spaces	2019	2022	2023	2024	2022-2023 Percent Change	2023-2024 Percent Change
In-Service Commercial Spaces	17,041	16,584	16,456	16,456	-0.8%	0.0%
Commercial Spaces Allowed	23,640	23,640	23,640	23,640	0.0%	0.0%
In-Service Employee Spaces	2,445	2,256	2,360	2,304	4.6%	-2.4%
Employee Spaces Allowed	2,448	2,448	2,448	2,448	0.0%	0.0%

Source: Massport.

Notes: Commercial spaces and employee spaces represent the number of parking spaces Massport is allowed to have under the Logan Airport Parking Freeze. In-service parking spaces represent the total number of spaces available for users.
In 2017, MassDEP approved an additional 5,000 parking spaces, which are included in the total Parking Freeze count, but have not yet been constructed, and therefore, are not in service.

5 The number of commercial and employee parking spaces permitted at Logan Airport is regulated by the Logan Airport Parking Freeze (310 Code of Massachusetts Regulations 7.30), which is an element of the Massachusetts State Implementation Plan (SIP) under the Federal Clean Air Act (42 U.S.C. §7401 et seq. [1970]). As required, Massport submits semi-annual filings to the Massachusetts Department of Environmental Protection (MassDEP) demonstrating Massport's compliance with the Logan Airport Parking Freeze.

2023 Parking Conditions Results

In 2023, there were 16,456 total in-service commercial spaces (see **Table 6-6**), which is below the 23,640 parking spaces permitted on-Airport by the Parking Freeze. The commercial and employee space allotment remained the same from 2022, but there were 128 fewer in-service commercial spaces in 2023.

Massport periodically assesses its parking rate structure to support its ground access strategy. New rates became effective as of July 1, 2023. Both short-term and daily rates were increased for the terminal area garages and Economy Parking garage. For more on parking rates, see the **User's Guide, Section U6.3.1.**

User's Guide Section U6.3.1

2024 Parking Conditions Results

The allocation of on-Airport parking spaces remained the same as in 2023. The parking rate structure remained unchanged in 2024.

6.3.1 Daily Parking Occupancy

On-Airport commercial parking occupancy historically peaks mid-week (Tuesday through Thursday). Prior to the COVID-19 pandemic, constrained parking conditions regularly required vehicles to be diverted to alternative or overflow parking locations, as well as using valet parking operations during periods of peak parking demand. An inadequate supply of parking causes air passengers to circulate on Airport roadways in search of parking. Parking diversion operations decrease operational efficiency and compromise customer service; as well as increase on-Airport VMT and emissions by generating additional on-Airport trips that would otherwise be unnecessary under uncongested conditions. Some passengers who would have chosen to use on-airport parking shift to curbside drop-off or pick-up, which also generates additional trips to and from the Airport.

The number of parked vehicles in commercial spaces over the course of a typical 24-hour period was obtained from count data collected on Tuesdays, Wednesdays, and Thursdays throughout the year. Recent peak daily parking occupancy data are presented in **Table 6-7**. Limited space conditions are defined as peak commercial parking occupancy of between 15,000 and 16,210 vehicles. Operational capacity is exceeded at occupancy levels above 16,210, when diversions, overflow lots, and/or valet parking operations are deployed.

Table 6-7 Peak Parking Demand, Weeks Exceeding Operational Thresholds

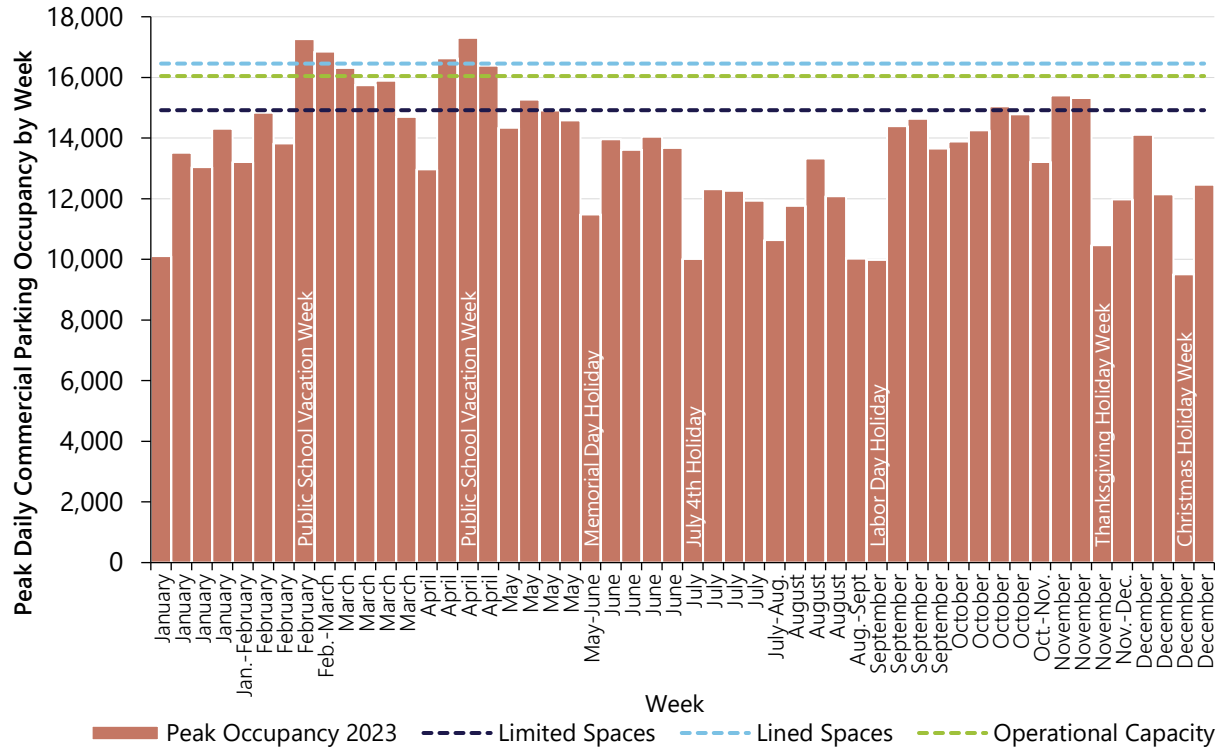
Parking Demand	2019	2022	2023	2024
Occupancy at 15,000 or fewer	19	38	40	39
Limited Spaces (Demand over 15,000 vehicles)	11	12	6	13
Operational Capacity (Demand over 16,210 vehicles)	20	2	6	0
Over Freeze (Demand over 23,640 vehicles)	0	0	0	0

Source: Massport, 2025.

2023 Daily Parking Occupancy Results

In 2023, operational capacity was exceeded in six different weeks, as shown in **Figure 6-7**. The weeks where peak operational capacity was exceeded occurred around the Massachusetts public schools' February and April school vacation weeks. Lower occupancy levels that occur during summer months was consistent with observed parking trends.

Figure 6-7 Commercial Parking: Weekly Peak Daily Occupancy, 2023

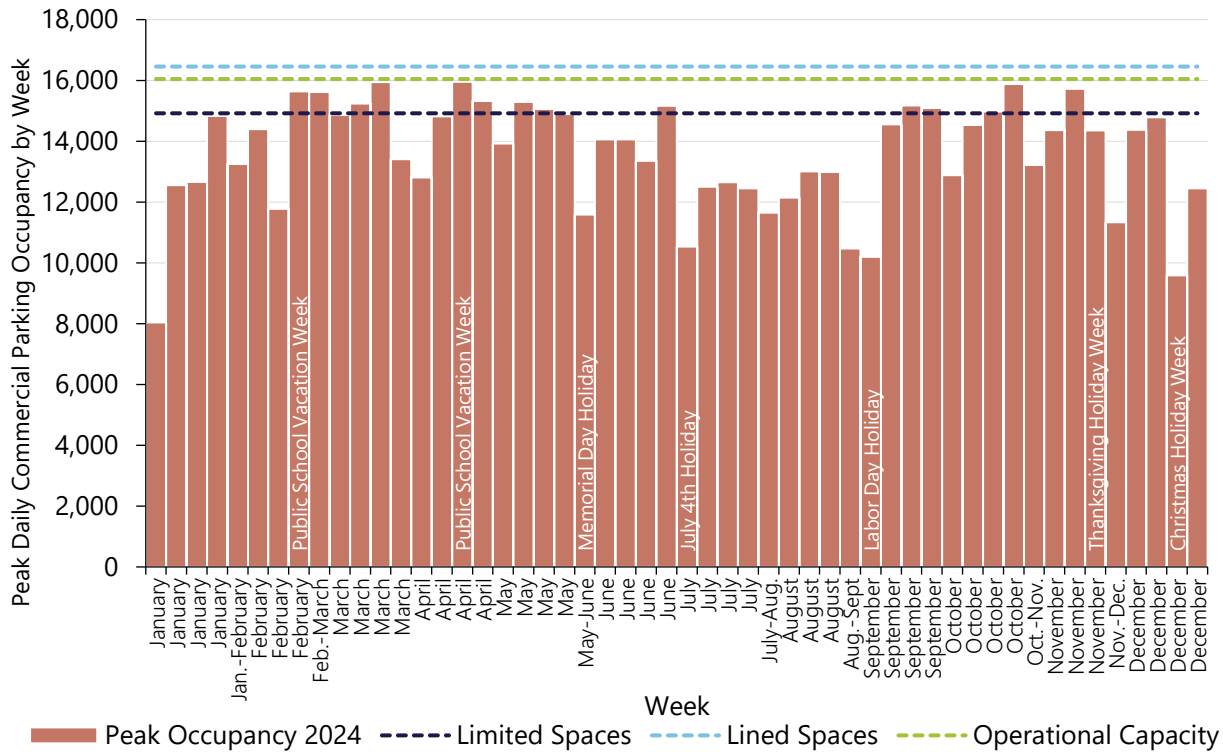


Source: Massport, 2025.
Notes: The chart shows the highest daily count for each week in 2023.

2024 Daily Parking Occupancy Results

As shown in **Figure 6-8**, peak demand did not exceed operational capacity in 2024, which contrasts with the high parking demand more regularly experienced in years prior to the pandemic. Although operational capacity was not exceeded, there were limited space conditions during peak travel weeks, coinciding with Massachusetts' school vacation weeks in February and April.

Figure 6-8 Commercial Parking: Weekly Peak Daily Occupancy, 2024



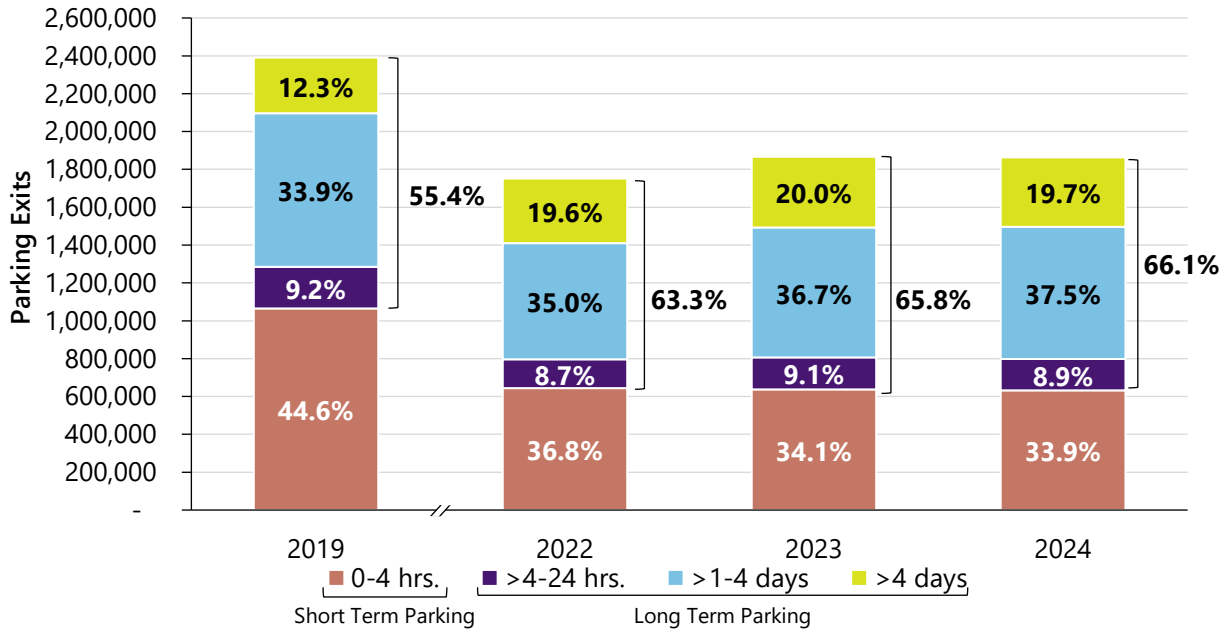
Source: Massport, 2025.

Notes: The chart shows the highest daily count for each week in 2024.

6.3.2 Parking Exits by Duration

Since 2019, parking activity has shown two trends: parking activity remains lower than the pre-pandemic level and the share of short-duration parking continues to diminish. See **Figure 6-9** for a breakdown of annual parking duration. Massport is proceeding with the construction of the Terminal E Garage partially in response to the loss of parking spaces in the Central Parking garage that occurred to accommodate HOV and Ride App initiatives in that space. For more on the project, see Section 4.1.1 of Chapter 4.

Figure 6-9 Annual Parking Exits by Length of Stay (Parking Duration), 2019, 2022–2024



Source: Massport, 2025.
Notes: Parking transactions are used to track revenue parking exits.
Parking stays between 0-4 hours are considered short-term parking. Long-term parking comprises of all lengths of stay greater than 4 hours.

2023 Parking Exits by Duration Results

Parking exits in 2023 increased from 2022 total parking exits, but were 22 percent below the activity in 2019. Furthermore, while short-term duration parking comprised about 45 percent of the share of activity in 2019, that share in 2023 was about 34 percent. This could be reflective of increased short-term parking fees and is reflected in increased Ride-app and private auto pick-up at the airport. Parking exits for visits between 1 and 4 days increased from 2022 to 2023, closely followed by stays between 4 and 24 hours.

2024 Parking Exits by Duration Results

Parking exits in 2024 remained about 22 percent below the activity in 2019, althouhg parking in access of four hours has returned to or exceeded benchmark levels.

6.4 Ground Access Initiatives

Massport promotes ridership on HOV, including transit and shared-ride modes, and maintains efficient transportation access and parking options in and around Logan Airport to reduce the reliance on single passenger occupancy automobile modes. Implemented measures include a blend of strategies related to pricing, including incentives and disincentives, service availability, service quality, marketing, and traveler

information. However, no single measure alone will accomplish the goal as Logan Airport passengers include various demographic groups in diverse locations.

6.4.1 Ride App Management Program

User's Guide Section U6.5.1

Ride App pick-up operations officially commenced in February 2017, and the **User's Guide, Section U6.5.1** outlines Massport's implemented policies to manage evolving Ride App operations. **Table 6-8** summarizes the Ride App Management Program's performance in 2023 and 2024. In 2024, Massport added four new level 3 EV charging stations within the Ride App pool with the support of a MassCEC grant to support a greater share of Ride App trips that use EV.

Table 6-8 Massport Ride App Management

Policy	Goal	2023/2024 Status
Rematch and Shared Ride	Implement Ride App Rematch Program so drivers dropping off can more easily leave with a passenger.	Fully Implemented
	Implement changes such that Ride App passengers will be dropped off or picked up at new dedicated areas in the Central Garage through climate-controlled walkways to and from the terminals, facilitating rematch and shared ride.	Fully Implemented
	Introduce Ride App shared ride incentives to reduce Ride App vehicles through gateways by increasing vehicle occupancies.	Fully Implemented. Both Uber and Lyft began offering shared ride services at Logan Airport.
Ride App Fee Structure	Adopt new Ride App fee structure to support high-occupancy vehicle (HOV) strategies, encourage shared rides, and reduce gateway congestion.	Fully Implemented. Massport implements a $3.25 per trip fee for Ride App. In March 2025, Massport increased the per trip fee to $5.50. Shared rides will be subject to a lower fee of $1.50 per trip.
Optimize Ride App Operations On-Airport	Introduce Ride App data reporting, new emerging Ride App products, new enforcement tools.	Ongoing. Massport maintains an internal dashboard tracking monthly Ride App statistics and trends, including the number of deadhead trips. The internal dashboard aids Massport in planning future Ride App operations policy.

Source: Massport, 2025

6.4.2 Parking Programs and Initiatives

Massport has established the programs and initiatives listed in **Table 6-9** to support all Logan Airport users, including those arriving to pick-up travelers, those traveling to Logan Airport frequently, and those who are driving in environmentally friendly vehicles.

Table 6-9 Parking Programs and Initiatives

Program/Initiatives	2023/2024 Updates
The **Cell Phone Waiting Lot** reduces vehicle emissions by minimizing idling and on-Airport VMT associated with private vehicle pick-up activity. Facility parking is free of charge, with a maximum wait time of 30 minutes. Cell Phone Waiting Lot users are required to adhere to the State's no idling law.	The Cell Phone Waiting Lot was moved next to Terminal E in 2023. Before the creation of the Cell Phone Waiting Lot, drivers waiting for arriving passengers would likely either use short-term parking, circulate around the Airport, or dwell at the curb until asked to move.
Parking PASSport is a frequent parker membership program that allows users to enter and exit Logan Airport's parking garages and lots with an access card linked to an established account for convenience. Parking fees are automatically charged to a registered credit card and the receipt is emailed to the account holder. **Parking PASSport Gold** eliminates the need for a motorist to circulate in the garage looking for available spaces by dedicating 12 percent of spaces in the Central/West Garage and 38 percent of spaces in the Terminal B Garage for customers enrolled in the program.	The Parking PASSport programs continued to be in effect during 2023 and 2024. In 2023, 101,999 people used PASSport Gold and in 2023 and increased to 112,057 in 2024.
Parking reservations can be made in advance of arriving at the Airport at a lower rate than the drive up rate. The service offers a limited number of parking spaces but allows the user to guarantee parking up to twelve months in advance. Parking cost is based on the lot chosen and duration of the customer's trip.	Parking reservations continued to be available in 2023 and 2024. A limited number of reservations are available at discounted rates in order to encourage diversion of airport rips from more impactful pick-up and drop-off.
Massport provides dedicated **hybrid, electric vehicles (EVs), and** Alternative Fuel Vehicle (AFV) **parking spaces** allocated among the Terminal and Economy Garage in preferred parking locations. While normal parking rates apply, there is currently no cost for electricity use.	Currently, more than 100 charging ports have been installed at Logan Airport and its Logan Express sites. Of these, 60 were available for public use in 2024, with 4 located at Framingham Logan Express, 46 located within the terminal area garages, and 10 located in the Economy Garage.

Source: Massport, 2025.

6.4.3 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. Massport manages the on-Airport parking supply at Logan Airport to:

- Promote long-term rather than short-term parking (thus reducing the number of daily trips to Logan Airport)
- Support efficient (balanced) use of parking facilities
- Improve the customer experience
- Comply with the provisions of the Logan Airport Parking Freeze.

User's Guide Section U6.5.2

The **User's Guide, Section U6.5.2** describes each parking plan element to manage the supply, pricing, and operation of parking that has been completed or is proposed for the near future, and Massport's progress to date. **Table 6-10** reports on 2023 and 2024 progress on the Long-Term Parking Management Plan.

Table 6-10 Long-Term Parking Management Plan Elements and Progress

Parking Plan Element	2023/2024 Progress
Parking Supply:	
Add parking spaces in the terminal area to meet projected demands and replace parking lost in the central garage and future Terminal B garage modifications.	As allowed by the amended Parking Freeze and the Logan Airport Parking Project (through Massachusetts Environmental Policy Act [MEPA] permitting), Massport is permitted to add new commercial spaces in a new Terminal E Garage. Preliminary design was on-going in 2023 and 2024, with construction anticipated to begin in 2025 (see Chapter 4, Table 4-2).
Increase the supply of available off-Airport parking at Logan Express sites.	Massport is currently constructing approximately 1,000 additional spaces at the Framingham Logan Express garage site. The Peabody Logan Express was relocated to Danvers in 2023 and a new Danvers Logan Express facility is scheduled for completion by 2028, providing more parking for both passengers and employees. In 2023, Massport opened a new employee park-and-ride lot in Quincy with shuttle service to the Airport opening up space for air passenger parking in Braintree
Parking Pricing:	
Encourage use of Massport off-airport parking and transit/HOV services by ensuring that the parking fees at Logan Express sites are less expensive than on-airport parking.	Massport reduced daily parking rates at Logan Express facilities from $11 to $7 in recent years. (the least expensive daily drive-up parking rate at Logan Airport in 2024 was $32 in the Economy Garage.

Table 6-10 Long-Term Parking Management Plan Elements and Progress

Parking Plan Element	2023/2024 Progress
Encourage more efficient use of available on-Airport parking by maintaining a meaningful price differential between rates at the Economy Parking Garage and terminal-area parking garages.	The Economy Garage drive-up daily rate was increased to $32 in 2023, the terminal area garage drive-up daily rate was increased to $41, maintaining a $9 differential.
Evaluate increased parking prices for terminal-area parking to encourage Airport passengers and visitors to consider transit and shared-ride alternatives.	Parking pricing review is continuous. New rates went into effect in July 2025.
Parking Demand:	
Increase the frequency and availability of alternative high-occupancy vehicle (HOV) mode options to decrease use of private vehicles.	Massport continues to evaluate opportunities to improve Logan Express service and ridership (as detailed in this chapter). Massport offers various promotional bus discount fares at Logan Express. Massport placed signage in all Terminals to help promote the use of the regional express bus carriers. Massport continues to sponsor free outbound (from Logan Airport) Silver Line SL1 service and Back Bay Logan Express service to provide easy access to downtown locations for visitors, employees, and local residents. Massport also continues to work with private carriers to provide HOV options to and from Logan Airport.
Employee Parking:	
Continue to work to reduce the number of Airport employees commuting by private automobile and parking at the Airport by providing off-Airport parking and shuttle services both near Logan Airport and at Logan Express sites and implementing measures to enhance employee commuting options.	Massport provides employee parking in Chelsea with free shuttle bus transportation to and from the Airport. Massport also provides employee parking at Wonderland, the Blue Line terminus in Revere, with both rail passes and free shuttles available to and from the Airport. In 2023, Massport opened a new employee park-and-ride lot within Quincy with free shuttle service to the Airport. Massport offers reduced employee rates to encourage the use of Logan Express facilities Massport also provides employees with a $300 monthly transit benefit. Massport added more early morning and late-night bus service to Logan Express sites to encourage use and better serve Logan Airport employee schedules. Massport supports the Sunrise Shuttle, which provides early morning bus service for employees from East Boston and parts of Winthrop and Revere; the service provides transportation outside of normal MBTA transit service hours.

Source: Massport, 2025.

6.4.4 Employee Ground Transportation Initiatives

Airport employee ground access needs are different from passenger transportation needs. Airport employees often have non-traditional, and sometimes unpredictable, working hours that are difficult to match to typical MBTA transit service hours of 5:00 AM to 1:00 AM. Due to the time-sensitive nature of airline operations, on-time reliability is important for employee transportation, as is flexibility during severe weather or other delays that may extend a typical employee workday or work shift.

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. A survey conducted with Massport employees in 2023 found that commuters driving alone declined 5 percent from the previous survey in 2021 to 69 percent. Outside of driving alone, the most common transit mode was transit (13.6 percent).[6] The **User's Guide, Section U6.5.4** outlines employee ground transportation initiatives. **Table 6-11** lists progress and updates on these initiatives for 2023 and 2024.

User's Guide Section U6.5.4

Table 6-11 Employee Ground Transportation Initiatives

Initiative	2023/2024 Progress and Updates
Provide off-Airport employee parking in Chelsea, which is served by frequent free shuttle bus service to the Terminals (Route 77) 24 hours per day, seven days per week.	Implemented. In addition to employee parking at Chelsea, Massport also provides employee parking at MBTA Wonderland Garage, the Blue Line terminus in Revere, with access to rail and shuttles to and from the Airport. In 2023, Massport opened a new employee park-and-ride lot within Quincy with shuttle service to the Airport to better serve employees on the South Shore. Massport offers reduced employee rates to encourage the use of Logan Express facilities.
Provide Massport employee subsidies for water transportation and transit use.	Implemented. Massport also provides employees with a $300 monthly transit benefit.
Run free employee shuttle buses between Airport Station and employment areas in the Southwest Service Area and the South Cargo Area locations (Routes 44, 66, and Logan Office Center).	Implemented.
Run free shuttle buses between Airport Station and Terminals (Routes 22, 33, 55 and 88).	Implemented.
Operate early morning and late-night Logan Express bus trips for Airport employees.	Implemented.
Support the Sunrise Shuttle for early morning bus service from East Boston, Winthrop, and Revere prior to the start of MBTA service.	Implemented.

6 Survey included over 1,000 Massport employees. This does not include other employees at Logan Airport who are contracted by tenants.

Table 6-11 Employee Ground Transportation Initiatives

Initiative	2023/2024 Progress and Updates
Expand and maintain a comprehensive sidewalk and walkway system at Logan Airport to facilitate pedestrian access.	Implemented
Provide bicycle racks.	Implemented.
Advise Airport employers on transit benefits, including transit subsidies, and provide information on available commuting alternatives, ride-matching services, and reduced-rate HOV and transit fare options.	Implemented.
Consistent with Logan Airport transportation management goals, Massport provides financial support for the Sunrise Shuttle and other benefits noted above.	Implemented.

Source: Massport, 2025.

6.5 Logan Airport 2024 Air Passenger Ground Access Survey

Massport periodically[7] administers an extensive survey of air passengers better to understand the ground access characteristics of air passengers traveling to and from Logan Airport. The survey results are used to track performance against Massport's air passenger mode share goal of achieving 40 percent HOV use by 2027.

The *2024 Logan International Airport Air Passenger Ground Access Survey is accessible on Massport's website*: https://www.massport.com/sites/default/files/2025-06/2024-Logan-Ground-Access-Survey-Final-Report.pdf

Based on the results of the 2024 *Logan International Airport Air Passenger Ground Access Survey*, the HOV mode share has reached 43 percent. HOV modes include public transit, Logan Express and other scheduled bus services, other shared-ride modes, plus certain automobile modes that carry two or more passengers (Massport defines taxis, black car limousines, and Ride App services that carry two or more air passengers per vehicle as HOV). Private automobiles are considered single occupant vehicles. Although it is acknowledged that they often carry multiple air passengers, it is not possible to collect statistics on average vehicle occupancy for the vast majority of private cars.

The survey also aids Massport in:

- understanding the changes in air passenger travel behavior, including ground access mode choices, travel patterns, and market characteristics;
- evaluating the effectiveness of transportation policies and services and the impacts on the regional transportation system;

7 Since 2004, a passenger survey has been administered every two to three years.

- directing Massport's planning efforts to encourage Logan Airport travelers to use transit and HOV and shared-ride modes instead of single occupancy vehicle (SOV) and vehicle modes.

A few key findings from the survey are discussed in more detail in the following section.

6.5.1 Ground Access Mode Share

Table 6-12 presents the air passenger ground access mode shares from the 2024 survey. Key findings from the survey include:

- Ride App services (such as Uber™ and Lyft™) continue to be the predominant air passenger ground access mode to Logan Airport; this mode is used by 28.5 percent of travelers.
- Traveling in a private vehicle and being dropped off at the Terminal Area remains the second most common mode, at a 22.7 percent share.
- The combined mode shares for transit modes (including the MBTA's services, Logan Express, and similar scheduled bus services) saw an approximately seven percentage point increase from 2022 survey data, with 18.4 percent of air passengers traveling by transit to the Airport. Both Logan Express and other scheduled bus services increased in mode share since the 2022 survey.

Table 6-12 Air Passenger Ground Access Mode Share, 2024

Ground Access Mode	All Trips
Private Vehicle and Automobile Modes with Single Occupant	**55.7%**
Private Vehicles	
Dropped Off	22.7%
Parked On-Airport	8.5%
Parked Off-Airport	1.1%
Other Automobile Modes	
Rental Vehicle	9.7%
Taxicab (1 occupant)	0.6%
Ride App (Uber™, Lyft™, and Fasten™) (1 occupant)	12.0%
Car Service (black car, private limousine, etc.) (1 occupant)	1.1%
HOV and Shared Ride Modes	**43.0%**
Public Transit	18.4%
Logan Express Bus	7.4%
Other Express Bus	7.1%
MBTA Blue Line Subway	2.0%
MBTA Silver Line 1 Bus	1.6%
Water Shuttle and Water Taxi	0.3%
Other Shared-Ride Vehicles	**24.6%**

Table 6-12 Air Passenger Ground Access Mode Share, 2024

Ground Access Mode	All Trips
Taxicab (2 or more occupants)	1.4%
Ride App (Uber™, Lyft™, and Fasten™) (2 or more occupants)	16.5%
Car Service (black car, private limousine, etc.) (2 or more occupants)	2.9%
Free Hotel and Courtesy Shuttle	3.4%
Charter Bus	0.5%
Other	**1.3%**
Total	**100.0%**

Source: Massport data from the Logan Airport Air Passenger Ground Access Survey, Spring 2024.
Notes: Numbers may not add up due to rounding.

6.5.2 Average Vehicle Occupancy (Air Passengers) by Ground Access Vehicle Modes

Table 6-13 presents the average vehicle occupancy and the percentage of passengers arriving in a SOV for each applicable vehicle mode derived from the *2024 Air Passenger Ground Access Survey*. Based on the 2024 survey data, among the vehicle modes, the average occupancy is highest for passengers arriving in other car service (e.g., limos), at 3.2 persons per respondent-trip. The average vehicle occupancy for private vehicles is slightly higher than taxis and Ride App services, but lower than rental cars.

Table 6-13 Air Passenger Ground Access Vehicle Modes: Vehicle Occupancy, 2024

	Mode	Average Vehicle Occupancy	% Single Occupancy (SOV)
Passenger Cars (Automobile)	Private Vehicle (drop-off)	2.8	17.8%
	Private Vehicle (parked on-airport)	2.5	34.5%
	Private Vehicle (parked off-airport)	2.2	25.3%
	Rental Vehicle	2.9	17.3%
	Taxicab	2.4	30.9%
	Ride App Services	2.1	42.2%
Other Car Service	Other Car Service (e.g., limos)	3.2	28.3%
Total		**2.53**	**30.1%**

Source: Massport 2024 Air Passenger Ground Access Survey data
Notes: The percent SOV is based on weighted shares of responses, based on number of vehicle mode respondents with valid party size. Thus, these are different than the values reported in the survey report Table 15.

7. Noise

This chapter describes the 2023 and 2024 noise levels associated with **aircraft operations** at Boston Logan International Airport (Logan Airport) in the areas surrounding the Airport and Massport's efforts to reduce the Airport's noise. Noise levels depend on the type of aircraft and engine, as well as landing and takeoff (LTO) activity, runway use, and the routes taken by aircraft during arrival and departure. Massport models annual noise levels surrounding the Airport using the Federal Aviation Administration's (FAA's) **Aviation Environmental Design Tool (AEDT).** Noise model inputs are summarized here with further details provided in Appendix I, *Noise Supporting Documentation*. Massport's overall Noise Abatement Management Plan goals and Massport's Noise Abatement Program activities and achievements in 2023 and 2024 are also reviewed in this chapter.

Background supporting information on noise model inputs, noise calculations, and the federal regulatory framework is provided in the **User's Guide, Section U7.2**. More details on Massport's extensive programs, studies, tools, and other efforts to minimize or abate aviation noise from Logan Airport are also provided in the **User's Guide, Section U7.5**.

User's Guide Section U7.2

User's Guide Section U7.5

2023 Noise Key Findings

The following details key findings on the noise environment at the Airport in 2023:

- The 2023 **Day-Night Average Sound Level (DNL)** contours are slightly larger in area than the 2022 DNL contours; primarily because more aircraft operations occurred in 2023.
- The number of people residing within the 2023 DNL 65 dB contour (8,797 people) was 7 percent above the 2022 level (8,158 people). The populated area within the 2023 DNL 65 dB contour is in Revere, Winthrop (Point Shirley), and Boston (Orient Heights).
- Nighttime aircraft operations represented approximately 15 percent of total operations. Eighty-two percent of nighttime operations occurred either before midnight or after 5:00 AM. The 165.7 average total nighttime flights (commercial and cargo) is a 15 percent increase over 2022's 143.5 average nighttime flights.

- Massport restarted the **Residential Sound Insulation Program (RSIP)** in late 2022 and began a pilot phase of sound insulation treatments with a group of 10 homes in Revere and Winthrop in 2023. To date, Massport has invested over $170 million and provided sound insulation for 36 schools and 11,515 residential units.

2024 Noise Key Findings

The following details key findings about the Airport noise environment in 2024:

- The 2024 DNL contours are similar in area to the 2023 contours, but the contour shape changed slightly due to differences in runway use.
- Nighttime aircraft operations accounted for 15 percent of total operations, with 83 percent occurring either before midnight or after 5:00 AM. The average total nighttime flights (171 commercial and cargo) was more than in prior years, but a slightly smaller proportion of overall flights than in 2023.
- Massport's collaborative noise reduction efforts were recognized with the 2025 Jay Hollingsworth Speas Airport Award. Recipients of the Jay Hollingsworth Speas Airport Award are considered to have made significant contributions in recent years to enhancing relationships between airports or heliports and their surrounding environments through exemplary innovation that can be replicated elsewhere.[1]

7.1 Noise Regulatory Framework and Metrics

The regulatory framework guiding **Environmental Status and Planning Report (ESPR)** and **Environmental Data Report (EDR)** noise analysis focuses on Logan Airport's Noise Abatement rules and several Federal Aviation Regulations (FAR). It relies on industry-standard key noise metrics, adopted by the FAA, to assess the impacts of noise exposure on humans.

7.1.1 Regulatory Framework

User's Guide Section U7.2

The **User's Guide, Section U7.2** provides the noise regulatory framework that guides the noise analysis. Regulations discussed include:

- *Logan Airport Noise Abatement Rules and Regulations (Noise Rules)*:[2] Massport's Noise Rules have been in effect since 1986. The Noise Rules impose restrictions on specific aircraft and ground operations based on the time of day and runway, subject to implementation by the FAA for the purpose of airport and airspace safety.
- *FAR Part 36*: The regulation specifies the metrics, methods, and reporting required for aircraft noise certification.

1 Aviation Pros. 2025. https://www.aviationpros.com/airports/press-release/55266745/boston-logan-international-airport-wins-prestigious-2025-jay-hollingsworth-speas-airport-award

2 Massachusetts Port Authority, Logan International Airport Noise Abatement Rules and Regulations, effective July 1, 1986, codified at 740 Code of Massachusetts Regulations (CMR) 24.01 et seq.

- *FAR Part 150*: The regulation provides a process and guidance for voluntary FAA-sponsored noise assessment and abatement programs at airports.
- *FAR Parts 91 and 161*: These regulations address noise-related restrictions on aircraft operations.

7.1.2 Noise Metrics

The following metrics are used to describe and evaluate aircraft noise:

- **Decibel (dB)** and **"A"-weighted decibel (dBA)**;
- Day-Night Average Sound Level (DNL);
- **Cumulative noise index (CNI)**;
- **Dwell and Persistence;** and
- **Time Above (TA)**.

For a more in-depth description of noise metrics, refer to the **User's Guide, Section U7.1**.

User's Guide Section U7.1

The DNL metric is the primary means for evaluating the annual noise environment around Logan Airport, presented as a series of contours of equal sound levels over a map. This EDR presents annual **noise contours** in 5 dB intervals between 60 and 75 dB and counts the populations in the areas within those contour intervals.

Noise at night can be more impactful than noise in the daytime. Hence, the calculation of DNL weights the noise associated with each nighttime operation (between 10 PM and 7 AM) by a factor of ten to adjust for more sensitivity during nighttime hours. As required by the *FAA Reauthorization Act of 2018*, the FAA evaluated alternative metrics to the DNL standard and reported the findings to Congress in 2020.[3] The report concluded the DNL metric still provides the most comprehensive way to consider the range of factors influencing exposure to aircraft noise. Still, it noted that using supplemental metrics is both encouraged and supported to disclose the extent of community noise impacts further.

Following the FAA's conclusions and guidance, Massport provides noise analysis results using DNL along with various supplemental metrics, such as CNI and TA, in this EDR and prior EDRs and ESPRs. More information on these supplemental metrics and the FAA's DNL standard evaluation studies is available in the **User's Guide, Section U7.1.2**.

User's Guide Section U7.1.2

3 U.S. Department of Transportation, Federal Aviation Administration. Report to Congress: FAA Reauthorization Act of 2018 (Pub. L. 115-254). Sec. 188 and Sec 173. April 14, 2020. https://www.congress.gov/115/plaws/publ254/PLAW-115publ254.pdf

7.2 Noise Model Inputs

The *2023/2024 EDR* noise assessment utilized the most recent release of the FAA-required noise model, AEDT version 3g, which was released on August 28, 2024. The noise exposure contour shapes represent the DNL, which show an average annual day's (AAD) cumulative noise events over 24 hours. Changes to any one of these factors, or inputs, can change the noise metric values and alter the noise contour shapes. These model inputs include:

- fleet mix and day-night split of operations;
- runway use; and
- the location and frequency of aircraft flight paths to and from the Airport.

User's Guide Section U7.3

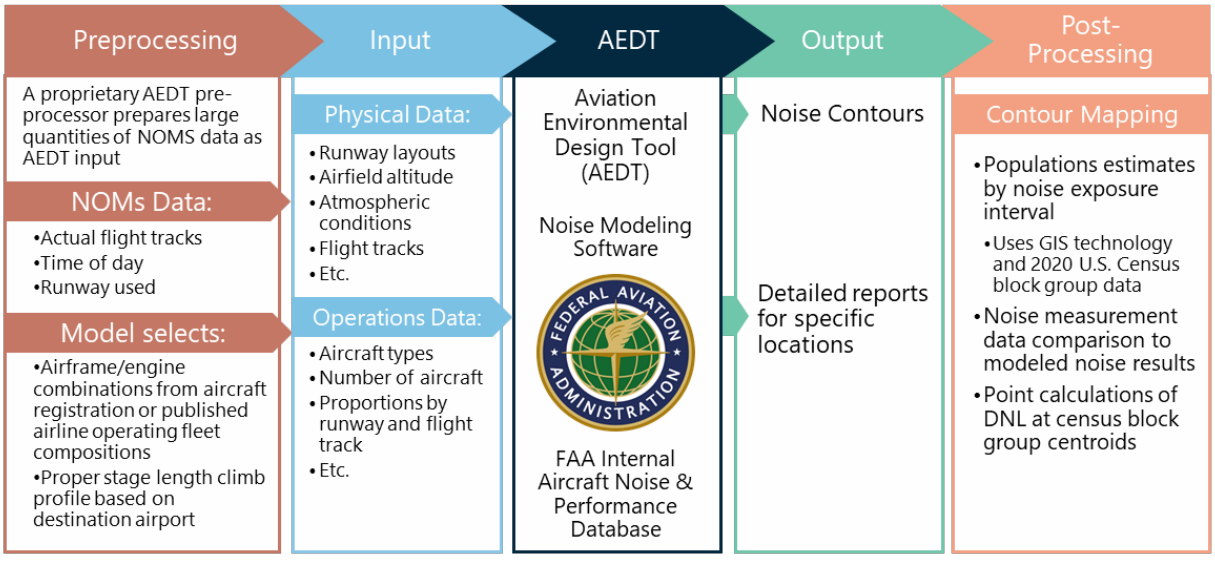
The *2023/2024 EDR* noise analysis methodology is consistent with previous years and as described in the **User's Guide, Section U7.3.** **Figure 7-1** provides a graphical summary of the process.

The following sections summarize the 2023 and 2024 noise model input data and compare these inputs to corresponding data from 2022 and 1998, the historical high year for noise which serves as the benchmark reference year. Appendix I, Section I.1.1 contains more detail on the 2023 and 2024 AEDT data inputs.

User's Guide Section U7.3

Additional information about the noise modeling process is provided in the **User's Guide, Section U7.3**.

Figure 7-1 Noise Analysis Methodology



The AEDT model accesses digital terrain data to evaluate each noise receptor location at its specific elevation.

Source: HMMH, 2025.

7.2.1 Fleet Mix and Operations Data

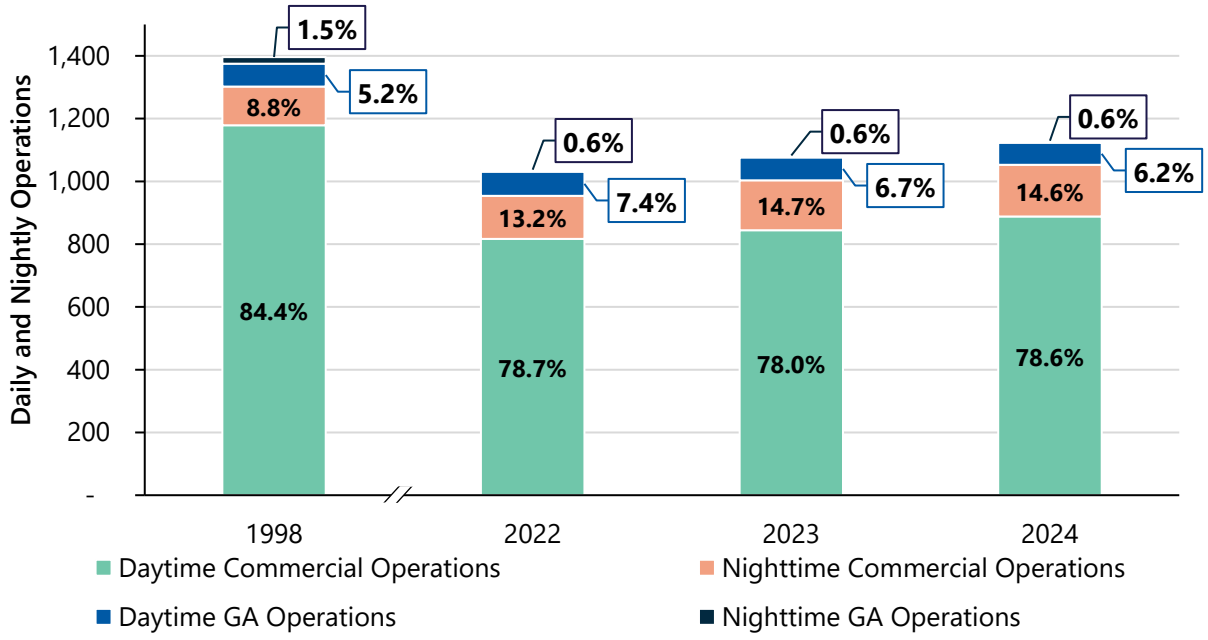
Massport relies on detailed flight track and operations data from its **Noise and Operations Monitoring System (NOMS)** as a basis for noise calculations. The NOMS can detect and distinguish between many unique aircraft types, including large passenger and cargo jets, as well as small corporate and propeller aircraft. The NOMS-generated list of aircraft types detected was matched to the AEDT 3g database for noise modeling, as detailed in the **User's Guide, Section U7.3**. Aircraft operations are categorized in different ways for reporting, including:

User's Guide Section U7.3

- commercial and **general aviation (GA)** operations;
- noise certification categories (for jets); and
- daytime vs. nighttime operations.

Massport tracks the number of operations occurring during the DNL nighttime period of 10:00 PM to 7:00 AM, when each modeled flight is weighted tenfold in calculations of noise exposure. **Figure 7-2** shows the split of daytime and nighttime activity of commercial and GA operations at Logan Airport in 2023 and 2024, in comparison to 2022 and 1998. The fleet mix of daily operations is presented in further detail in Appendix I, Table I-4.

Figure 7-2 Modeled Average Daily and Nightly Operations, 1998, 2022-2024



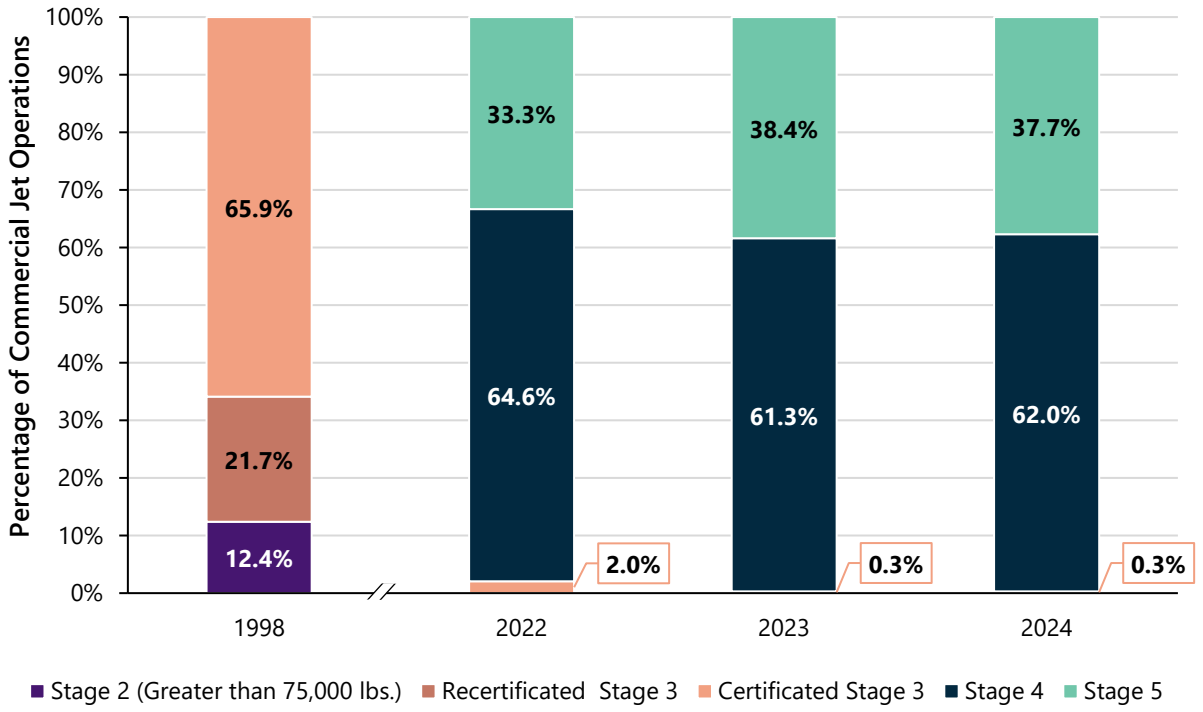
Source: HMMH, 2025.

Notes: Commercial Operations encompasses both passenger and cargo operations on air carrier jets, regional jets, and non-jet commercial aircraft. GA operations include jets and non-jets, including helicopters.
Nighttime operations are from 10:00 PM to 7:00 AM.

User's Guide Section U7.2

Aircraft noise standards for civilian jet aircraft in the U.S. are defined in 14 Code of Federal Regulations (CFR) Part 36, categorizing them into Stage 1, Stage 2, Stage 3, Stage 4, or Stage 5 based on *FAA Advisory Circular (AC) 36-1H*, where Stage 5 is the quietest classification. The noisiest categories, Stage 1 and Stage 2, no longer fly in the United States. Further definition on aircraft stages and examples of aircraft belonging to different categories can be found in the **User's Guide, Section U7.2**. The commercial jet operations at Logan Airport are categorized into noise certification stages, as shown in **Figure 7-3.**

Figure 7-3 Commercial Jet Operations by 14 CFR Part 36 Stage Category, 1998, 2022-2024



Source: Massport's Noise Monitoring System, Revenue Office, and HMMH 2025.

Notes: Totals and percentages may not add exactly due to rounding. Data beginning in 1998 is available in past EDRs and ESPRs.

Aircraft counted as Stage 4 are aircraft that are actually certificated Stage 4 or would qualify if recertificated. Stage 4 certification became available in 2006; however, the number of aircraft meeting Stage 4 requirements at Logan Airport was not determined until 2009.

Recertificated Stage 3 aircraft are aircraft manufactured initially as a certificated Stage 1 or 2 aircraft under Federal Aviation Regulation (FAR) Part 36 that either were retrofitted with hush kits or were re-engined to meet Stage 3 requirements.

Aircraft counted as Stage 5 are aircraft that are actually certificated Stage 5 or would qualify if recertificated. Stage 5 aircraft certification became available in 2018 for aircraft with a maximum certificated takeoff weight exceeding 121,254 pounds. The number of aircraft that meet Stage 5 requirements at Logan Airport was not determined before 2016.

The 2022 data presented does not match the values shown in Table 7-3 of the *2022 ESPR* because these values have been recalculated for Figure 7-3.

Figure 7-3 only includes commercial airlines that operated more than 100 jets in the reported year.

7.2.1.1 2023 Commercial Operations

Total operations in 2023 increased by approximately 4 percent over 2022. As shown in **Figure 7-2**, Logan Airport's operations primarily consist of commercial passenger and cargo flights, with commercial operations accounting for approximately 93 percent of total operations in 2023. Flights by GA aircraft made up the remaining portion. The share of commercial **regional jet (RJ)** operations declined from the high level seen in 2022, as shown in Appendix I, Table I-4, as the fleet has shifted to larger 90-seat jets from the 50-seat models have been used previously in recent years. Non-jet commercial operations represented a slightly smaller proportion of traffic in 2023 than in preceding years.

7.2.1.2 2024 Commercial Operations

The total number of 2024 operations, including both day and night shifts, increased by approximately 5 percent over 2023. Consistent with 2023 and previous years, the majority of operations at Logan Airport were commercial flights, accounting for roughly 93 percent of total operations in 2024. Flights by GA aircraft made up the remaining 7 percent of operations. Between 2022 and 2024, the number of commercial operations increased from 2023 while GA operations decreased each year. In 2024, the share of RJ operations increased over the previous year. Additionally, non-jet commercial operations represented a larger proportion of traffic in 2024 over 2023, due to a 15 percent increase in Cape Air operations. A more granular breakdown of the commercial fleet mix is shown in Appendix I, Table I-4.

7.2.1.3 2023 FAA Jet Aircraft Noise Categories

The number of operations by aircraft meeting Stage 5 requirements increased by 20 percent from 106,115 operations in 2022 to 126,939 operations in 2023. The number of Stage 3 aircraft operations decreased by 84 percent compared to 2022, comprising less than 1 percent of commercial jet operations in 2023. The observed changes in operations demonstrate industry-wide trends as airlines are increasingly purchasing, retrofitting, and operating quieter aircraft.

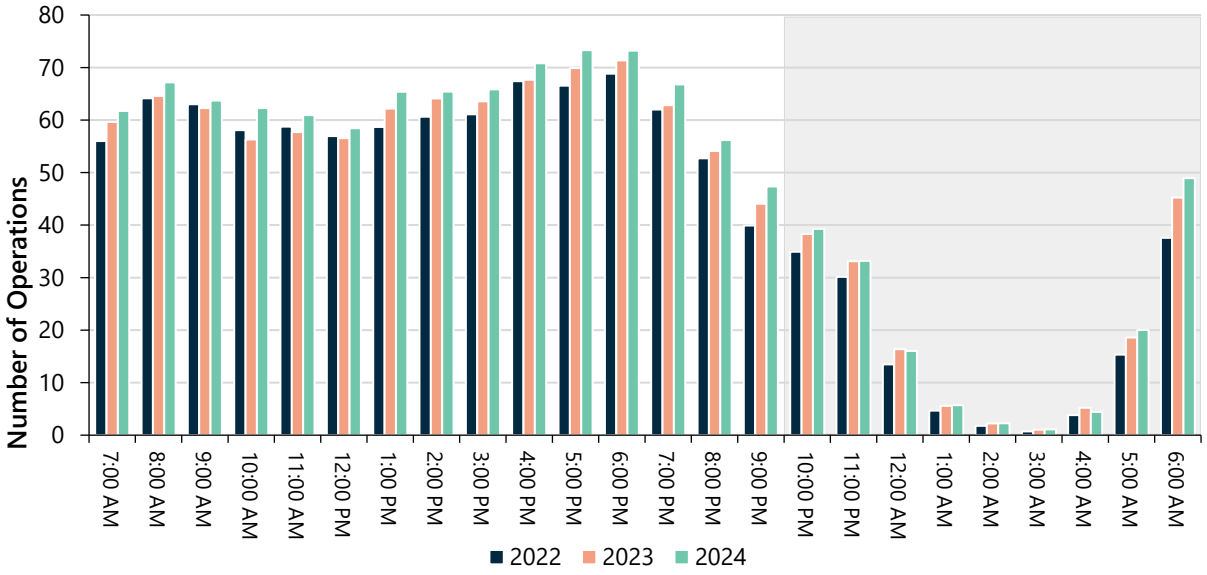
7.2.1.4 2024 FAA Jet Aircraft Noise Categories

In 2024, the number of aircraft operating out of Logan Airport meeting Stage 5 requirements increased by 2 percent over the previous year. The prevalence of Stage 3 aircraft continued to decrease from the previous year in 2024, while Stage 4 aircraft increased 6 percent over 2023.

7.2.1.5 2023 Nighttime Operations

In 2023, approximately 15 percent of operations occurred during nighttime hours, between 10:00 PM and 7:00 AM, representing a slight increase from the 14 percent share of nighttime operations in 2022. Approximately 82 percent of 2023 nighttime operations, between 10:00 PM and 7:00 AM, occurred either before midnight or after 5:00 AM, as shown in **Figure 7-4**, to accommodate connecting flights and international time zones.

Figure 7-4 Logan Airport Average Hourly Operations, 2022-2024



Source: HMMH, 2025.

Notes: The grey highlighted area represents nighttime hours, from 10:00 PM to 7:00 AM.
Hour labels in between tick marks represent the start of the hour (e.g. Columns labeled 7:00 AM represent the average daily operations for each year between 7:00 AM and 7:59 AM.

7.2.1.6 2024 Nighttime Operations

Annual nighttime operations increased by 2,086 operations in 2024 compared to 2023, representing a 3 percent increase. However, in 2024, the share of total operations at night compared to daytime operations decreased slightly from 2023. Most nighttime operations, 83 percent, occur before midnight or after 5:00 AM.

7.2.2 Runway Use

Figure 7-5 shows Logan Airport's runways. Runway use data tracks the number of times aircraft takeoff or land on a runway over a year. The choice of runway can depend on wind, weather, and the aircraft type and performance requirements. Runway selection can also depend on which runways are operational or available, current airport activity, and the discretion of air traffic control for safety reasons.

Figure 7-5 Logan Airport Runways

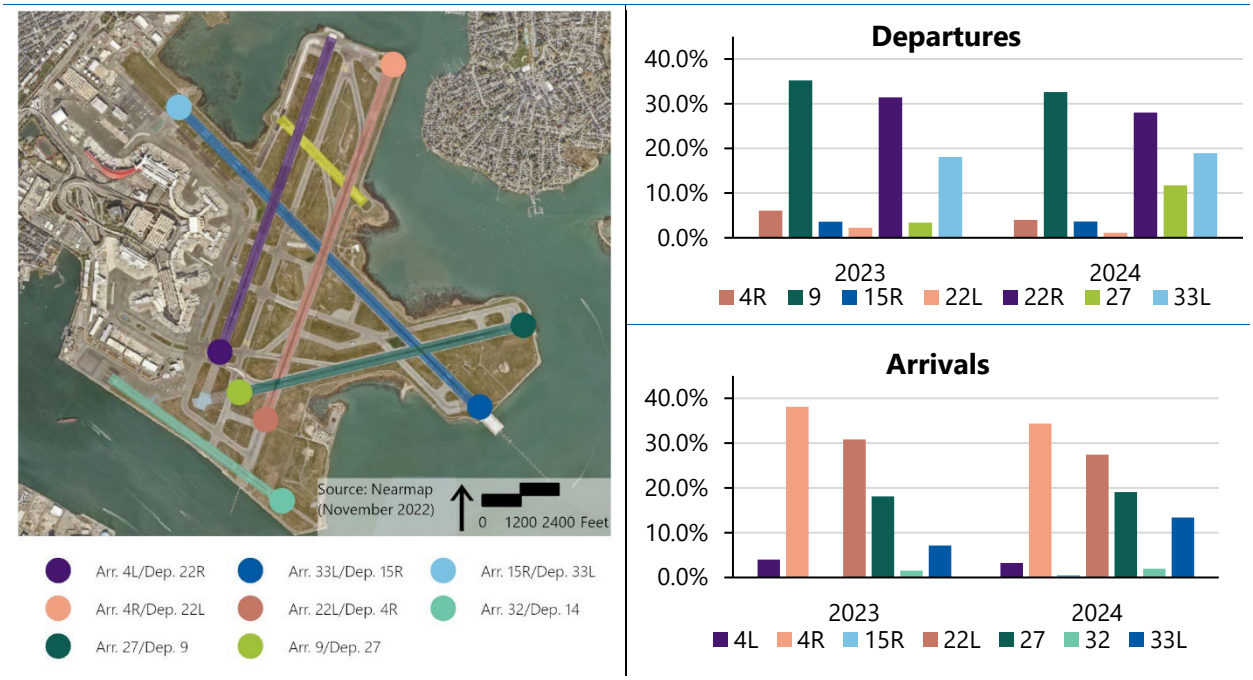
2023/2024 Environmental Data Report

Runway 14-32
Runway 4L-22R
Runway 15L-33R
Runway 4R-22L
Runway 15R-33L
Runway 9-27

0 600 1,200 2,400 Feet

Figure 7-6 summarizes runway use in 1998 and 2022-2024 for each departure and arrivals configuration. Detailed runway usage data, including arrival and departure information by aircraft type for Logan Airport from 2022 to 2024, is provided in Appendix I, Table I-7 to I-9.

Figure 7-6 Jet Aircraft Runway Use at Each Runway End, 1998, 2022-2024



Source: Massport L3Harris NOMS data and HMMH, 2025.

Notes: These data reflect actual percentages of jet aircraft operations on each runway. They should not be confused with effective runway use, which incorporates the 10 dB nighttime weighting.

7.2.3 Flight Tracks

AEDT flight tracks are modeled using NOMS data. The AEDT modeling incorporated 393,363 flight tracks to calculate the noise levels surrounding Logan Airport for the calendar year 2023. For calendar year 2024, a total of 410,507 flight tracks were input to AEDT. **Figure 7-7** provides samples of the flight tracks used in AEDT to develop the DNL contours.[4] The figures below show a ten percent random sample of the annual flight tracks recorded, representing arrivals and departures throughout 2023 and 2024 for each of three aircraft categories: air carrier jets, RJs, and non-jets. In addition, these figures also illustrate how flight paths are constrained by FAA **Area Navigation (RNAV)** procedures, which limit an aircraft's flight path area to a certain proximity to navigational aids. The **User's Guide, Section U7.3,** discusses AEDT flight tracks and RNAV procedures.

User's Guide Section U7.3

4 The flight tracks shown in these figures are a representative sample, selected uniformly from the complete track set to match the overall annual runway use.

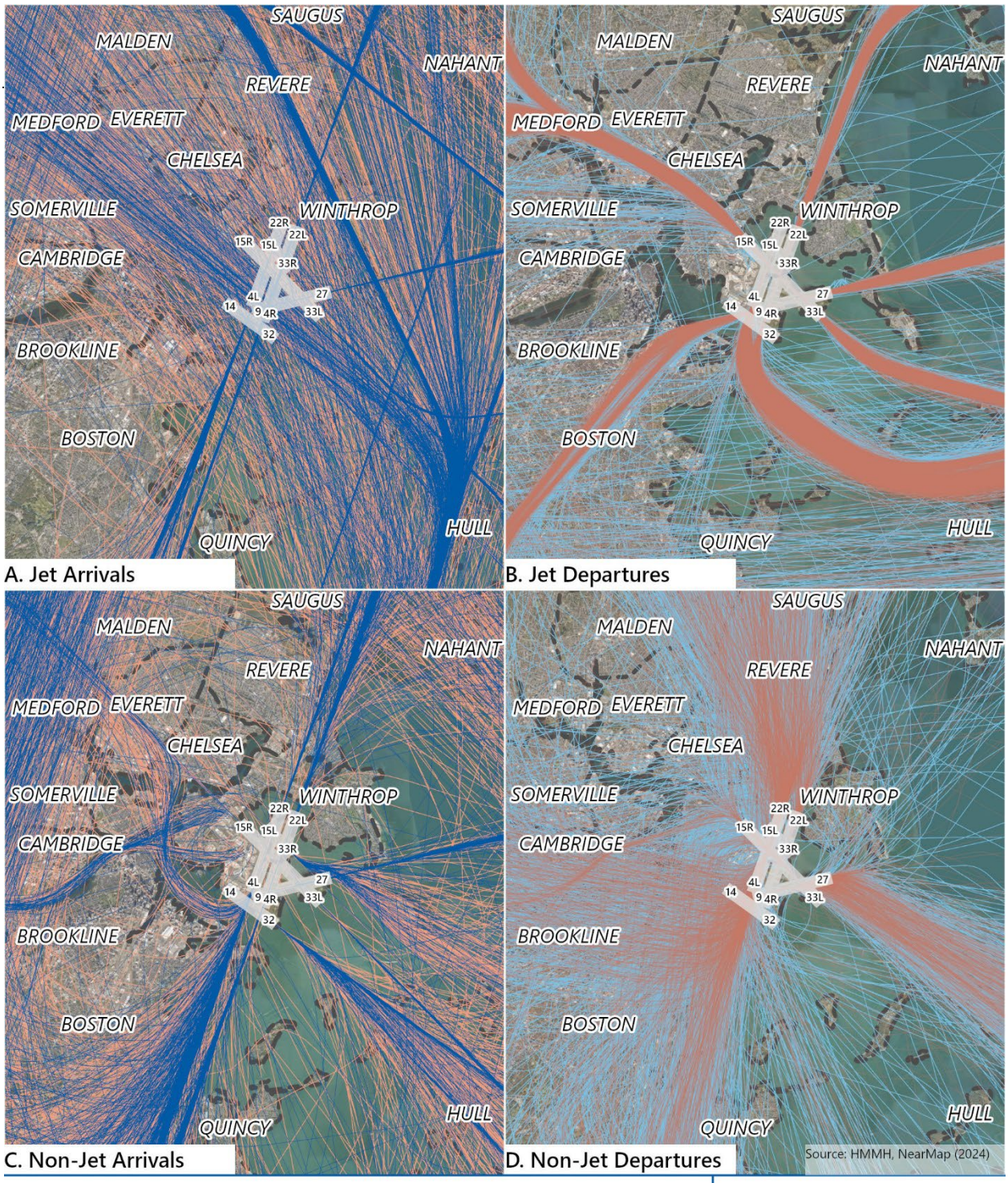


Figure 7-7 2023 and 2024 Arrivals and Departures Flight Tracks

2023/2024 Environmental Data Report

2023 Arrivals Flight Tracks
2024 Arrivals Flight Tracks
Municipalities
2023 Departures Flight Tracks
2024 Departures Flight Tracks

0 1.25 2.5 5 Miles

7.3 Noise Environment

This section describes the results of AEDT noise modeling for 2023 and 2024 and presents noise measurement data from Massport's permanent noise monitors around Logan Airport. The DNL contours are presented graphically, and the population living within the contour intervals is tabulated. DNL values computed by the model for the specific noise monitor locations are then compared to the measured noise levels. Historical data are also provided for context. DNL 65 dB is the focus of much noise analysis, as it represents the threshold for noise incompatibility with residential land use.[5,6] Under guidance from both the FAA and the U.S. Department of Housing and Urban Development (HUD). Massport's supplemental noise metric analyses data, including CNI, dwell, persistence, and TA, are provided in Appendix I, Section I.2.

7.3.1 DNL Contours

There is a demonstrated long-term trend of noise level reduction at Logan Airport, attributed to efforts by Massport, airlines, the FAA, and advancements in engine technologies. **Figure 7-8** and **Figure 7-9** display the DNL contour sets (DNL 60-, 65-, 70-, and 75-dB contours) for 2023 and 2024, with the outermost contours representing DNL 60 dB. **Figure 7-10** shows the DNL 65 dB contours for 2023 and 2024, superimposed with the previously published DNL 65 dB contours for 1998 and 2022, calculated with the FAA's noise modeling software.[7] The areas of particular interest are where the contour shows change, especially where contour lobes extend over the populated land.

5 14 Code of Federal Regulations Part 150, Appendix A to Part 150 Noise Exposure Maps, Sec. A150.101(d)).

6 24 Code of Federal Regulations Part 51, Subpart B Noise Abatement and Control, Sec. 51.103(c)).

7 The 2022 contours were calculated with AEDT version 3e. The differences between AEDT versions 3e and 3g for noise calculations are minimal, as those updates focused on air pollutant emission methodology rather than noise. The 1998 contours used the FAA's Integrated Noise Model (INM) version 5.0, with adjustments for purposes of Massport's noise analyses. There are significant noise algorithm differences between INM and AEDT, despite AEDT incorporating INM.

Figure 7-8 60-75 DNL Contours for 2023 Operations Using AEDT 3g

2023/2024 Environmental Data Report

2023 DNL Noise Contours (dB)

- 60
- 65
- 70
- 75

Municipal Boundary

Residential Sound Insulation Areas

0 0.125 0.5 Miles

Figure 7-9 60-75 DNL Contours for 2024 Operations Using AEDT 3g

2023/2024 Environmental Data Report

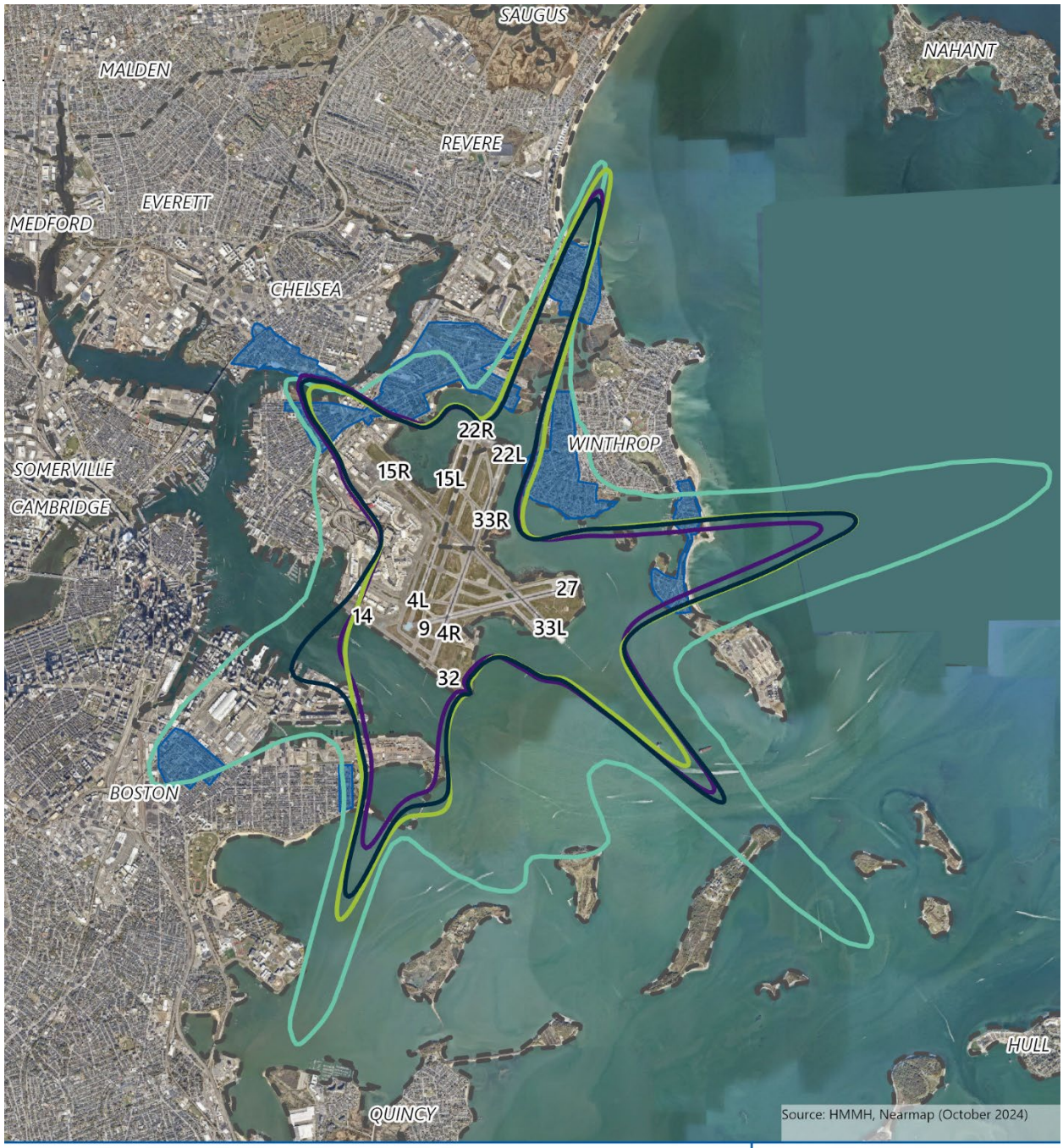


Figure 7-10 Comparison Between 1998 and 2022-2024 DNL 65 dB Contours

2023/2024 Environmental Data Report

7.3.2 Population within Noise Contours

Each year, the EDRs and ESPRs report on population counts within 5 dB increments of noise exposure. **Table 7-1** shows population counts for 1998, 2022, 2023, and 2024 by noise level and by community, based on U.S. Census data. Comparisons between consecutive years' DNL 65 dB contours are discussed below. **Figure 7-11** illustrates the contour changes over the populated areas exposed to DNL 65 dB or greater, and the population changes seen in **Table 7-1** reflect those contour changes.

Table 7-1 Population Exposed to DNL 65 dB or Greater, by Community, 1998, 2022-2024

Year	> 75 DNL	70-75 DNL	65-70 DNL	Total (65+) DNL	Year	> 75 DNL	70-75 DNL	65-70 DNL	Total (65+) DNL
Boston					**Revere**				
1998	58	580	10,877	11,515	1998	0	0	3,168	3,168
2022	0	0	3,862	3,862	2022	0	0	3,416	3,416
2023	0	7	3,215	3,222	2023	0	0	4,000	4,000
2024	0	0	3,373	3,373	2024	0	0	3,371	3,371
Chelsea					**Winthrop**				
1998	0	0	0	0	1998	519	1,522	6,572	8,613
2022	0	0	0	0	2022	0	27	880	907
2023	0	0	0	0	2023	0	205	1,370	1,575
2024	0	0	0	0	2024	0	192	1,044	1,236
Everett					**All Communities**				
1998	0	0	0	0	1998	577	2,102	20,617	23,296
2022	0	0	0	0	2022	0	27	8,158	8,185
2023	0	0	0	0	2023	0	212	8,585	8,797
2024	0	0	0	0	2024	0	192	7,788	7,980

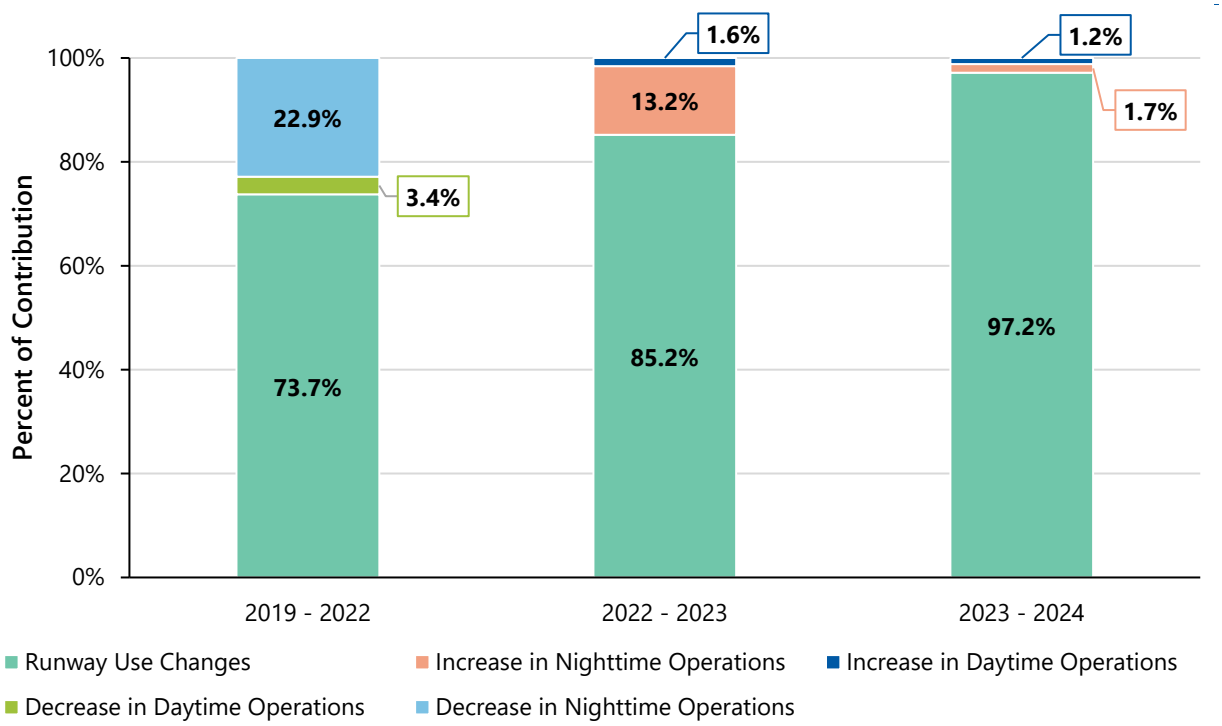
Source: Massport and HMMH, 2025.

Notes: Population counts for 2020 and later used the 2020 U.S. Census data; counts from 1998 used the 1990 U.S. Census data.

The then-current version of the FAA's noise model was used for each analysis: the 1998 contours utilized the FAA's Integrated Noise Model (INM) version 5.0, the 2022 contours were calculated with AEDT version 3e, and the 2023 and 2024 contours were calculated with AEDT version 3g. Specific model versions and data for years not shown here are available in past EDRs and ESPRs.

The Day-Night Average Sound Level (DNL) of 65 dB is the federally defined noise criterion used as a guideline to identify when residential land use is considered incompatible with aircraft noise.

Figure 7-11 Reason for Changes in Number of People Exposed to Day-Night Average Sound Level (DNL) Values Greater than or Equal to 65 dB, 2022-2024



Source: HMMH, 2025

7.3.2.1 2023 Population Counts within Noise Contours

The estimated population within the DNL 65 dB contour increased by approximately 7 percent from 2022 to 2023, rising from 8,185 to 8,797. This increase in the exposed population occurred in the communities of Revere and Winthrop and is attributable to shifts in runway use and an increase in nighttime operations, which are weighted tenfold in noise exposure calculations.

7.3.2.2 2024 Population Counts within Noise Contours

The estimated population within the DNL 65 dB contour decreased approximately 9 percent from 2023 to 2024, from 8,797 to 7,980, and remained lower than the population within the 2019 contour. The number of people within the 2024 DNL 70 dB also decreased compared to 2023. The reasoning behind the estimated changes is attributed to runway use shifts as described in the prior sections, and changes to contours over the previous year are summarized in **Figure 7-10.**

7.3.3 Noise Measurement Data

Massport Noise Monitor

Massport's permanent noise monitoring system consists of 30 noise monitors located in the communities around the Airport, as shown in **Figure 7-12.** During regular operation, the noise monitors continuously measure noise exposure levels as well as a variety of metrics associated with individual noise events that exceed preset threshold sound levels.

Noise monitoring data are transmitted back to Massport's Noise Office, where daily DNL values and other noise metrics are computed for each location and are summarized in various reports. Noise monitors collect sound data not only from aircraft noise events but also from the surrounding community, including roadway traffic and construction noise. Software algorithms identify aircraft noise events, which allows Massport to separately calculate total DNL, community noise DNL, and aircraft-only DNL. **Table 7-2** compares the measured 2022, 2023, and 2024 aircraft noise DNL values at each monitor location.

Table 7-2 Comparison of Measured Aircraft Noise Levels (DNL), 2022-2024

Site ID[1]	Location	Distance from Airport (miles)[2]	Measured Aircraft Noise Level (DNL)				
			2022	2023	2024	2022-2023	2023-2024
1[3]	South End – Union Park Street Playground	3.7	N/A	53.0	58.2	-	5.2
2	South Boston – B and Bolton	2.9	55.5	57.7	59.3	2.2	1.6
3	South Boston – Day Blvd. near Farragut	2.5	61.0	63.2	62.2	2.2	-1.0
4	Winthrop – Bayview and Grandview	1.6	72.5	73.1	73.1	0.6	0.0
5	Winthrop – Harborview and Faun Bar	1.9	64.8	66.3	65.7	1.5	-0.6
6	Winthrop – Somerset near Johnson	0.8	65.7	65.7	65.8	0.0	0.1
7	Winthrop – Loring Road near Court	1.0	66.7	67.4	66.0	0.7	-1.4
8	Winthrop – Morton and Amelia	1.6	60.7	63.0	61.0	2.3	-2.0
9	East Boston – Bayswater near Annavoy	1.3	68.2	69.5	68.0	1.3	-1.5
10[4]	East Boston – Bayswater near Shawsheen	1.3	65.9	66.8	64.6	0.9	-2.2
11[4]	East Boston – Selma and Orient	1.8	65.6	60.7	57.0	-4.9	-3.7
12[4]	Coleridge Street, East Boston	1.2	64.4	64.2	63.8	-0.2	-0.4

Table 7-2 Comparison of Measured Aircraft Noise Levels (DNL), 2022-2024

Site ID[1]	Location	Distance from Airport (miles)[2]	Measured Aircraft Noise Level (DNL)				
			2022	2023	2024	2022-2023	2023-2024
13[4]	East Boston High School	1.9	62.9	62.2	63.2	-0.7	1.0
14[4]	East Boston – Jeffries Point Yacht Club	1.2	57.6	56.0	58.8	-1.6	2.8
15	Chelsea – Admiral's Hill	2.8	62.6	61.6	61.6	-1.0	0.0
16	Revere – Bradstreet and Sales	2.4	70.3	70.3	69.7	0.0	-0.6
17	Revere – Carey Circle	5.3	62.2	62.6	62.0	0.4	-0.6
18	Nahant – U.S.C.G. Recreational Facility	5.9	39.8	41.2	43.4	1.4	2.2
19[4]	Swampscott – Smith Lane	8.7	40.0	42.8	40.7	2.8	-2.1
20	Lynn – Pond and Towns Court	8.4	55.0	55.3	55.6	0.3	0.3
21	Everett – Tremont near Prescott	4.5	55.6	54.5	53.4	-1.1	-1.1
22	Medford – Magoun near Thatcher	6.0	54.1	53.2	53.1	-0.9	-0.1
23	Dorchester – Myrtlebank near Hilltop	6.3	53.8	58.2	58.0	4.4	-0.2
24	Milton – Cunningham Park near Fullers	8.1	49.7	52.9	51.6	3.2	-1.3
25[5]	Quincy – Squaw Rock Park	4.2	52.5	39.2	36.5	-13.3	-2.7
26[4]	Hull – Hull High School near Channel St.	6.0	59.5	59.1	58.4	-0.4	-0.7
27	Roxbury – Boston Latin Academy	5.3	51.3	50.4	55.4	-0.9	5.0
28	Jamaica Plain – Southbourne Road	7.7	46.2	44.9	50.3	-1.3	5.4
29	Mattapan – Lewenburg School	7.3	39.0	40.1	40.7	1.1	0.6
30	East Boston – Piers Park	1.5	50.2	52.2	55.3	2.0	3.1
Arithmetic Average			**57.7**	**58.2**	**58.5**	**0.5**	**0.3**

Source: HMMH, 2025.

Notes: DNL means Day-Night Average Sound Level; N/A means data not available.
Negative values represent a decrease in the measured noise level.

1 Site numbers correlate with the Figure 7-12 map.

2 Distance from Logan Airport calculated from the Airport Reference Point, which is located along Runway 4L-22R near its intersection with Runway 15R-33L. This location is shown in Figure 7-12.

3 The monitor at Site 1 was removed in May 2017; In collaboration with the South End community, Massport relocated Site 1 to the Union Park Street Playground in April 2023.

4 The data collected from Sites 10, 11, and 26 showed signs of equipment malfunction for some of the days in 2022; Massport investigated and recalculated DNL manually. Similar adjustments were made for Sites 10, 14, and 19 for days in 2023 and for Sites 12 and 13 for days in 2024.

5 Site 25's noise event identification threshold was set too high for 2023 and 2024; a lower threshold was implemented as of Jan. 1, 2025. The site's data, which appear artificially low, are not included in the averaging.

Figure 7-12 Noise Monitor Locations

2023/2024 Environmental Data Report

Airport Reference Point

Noise Monitors

Municipal Boundary

0 1 2 4 Miles

7.3.3.1 2023 Noise Measurement Data

For 2023, 18 locations had measured average annual DNL values equal to or greater than the corresponding 2022 value, and 11 sites had lower values. The most considerable difference of -13.3 dB at site 25 was due to an error in the site's noise event identification threshold and, therefore, was not included in the averages for 2023 or 2024. Sites 19, 23, and 24 showed the following most significant increases over the previous year: 2.8, 4.4, and 3.2 dB, respectively. The 11 sites with a decrease in measured noise levels as compared to 2022 ranged from a difference of -0.2 dB to -4.9 dB.

7.3.3.2 2024 Noise Measurement Data

For 2024, 13 locations had measured average annual DNL values greater than the corresponding 2023 value, and 17 sites had lower annual DNL values. The largest increase of 5.4 was observed at site 28. Sites 1 and 27 also showed notable increases of 5.2 dB and 5.0 dB, respectively. The 17 sites with a decrease in measured noise levels as compared to 2023 ranged from a difference of -0.1 dB to -3.7 dB.

7.3.4 Comparing Measured and Modeled Noise Levels

On an annual basis, Massport reports a comparison of measured noise levels to the computer model results for the specific monitor locations, as shown in **Table 7-3**. Differences between measured and modeled values have narrowed over the years as both the noise monitoring and modeling processes have been refined.

Table 7-3 Comparison of Measured Aircraft DNL Values to AEDT Modeled DNL Values, 2022-2024

Site ID[1]	2022		2023		2024		Difference: Modeled minus Measured		
	Measured Aircraft – Only DNL	Modeled (AEDT) DNL	Measured Aircraft – Only DNL	Modeled (AEDT) DNL	Measured Aircraft – Only DNL	Modeled (AEDT) DNL	2022	2023	2024
1[2]	N/A	52.4	53.0	51.7	58.2	55.2	N/A	-1.3	-3.0
2	55.5	56.2	57.7	54.8	59.3	59.5	0.6	-2.9	0.2
3	61.0	60.5	63.2	62.4	62.2	61.8	-0.5	-0.8	-0.4
4	72.5	71.2	73.1	72.2	73.1	72.2	-1.3	-0.9	-0.9
5	64.8	64.6	66.3	66.2	65.7	66.0	-0.2	-0.1	0.3
6	65.7	61.7	65.7	62.4	65.8	61.9	-4.0	-3.3	-3.9
7	66.7	65.4	67.4	67.0	66.0	65.2	-1.3	-0.4	-0.8
8	60.7	61.2	63.0	62.9	61.0	61.4	0.5	-0.1	0.4
9	68.2	67.9	69.5	68.9	68.0	67.9	-0.3	-0.6	-0.2
10[3]	65.9	61.8	66.8	63.1	64.6	61.7	-4.1	-3.7	-2.9
11[3]	65.6	56.7	60.7	57.8	57.0	56.7	-8.9	-2.9	-0.3

Table 7-3 Comparison of Measured Aircraft DNL Values to AEDT Modeled DNL Values, 2022-2024

Site ID[1]	2022		2023		2024		Difference: Modeled minus Measured		
	Measured Aircraft – Only DNL	Modeled (AEDT) DNL	Measured Aircraft – Only DNL	Modeled (AEDT) DNL	Measured Aircraft – Only DNL	Modeled (AEDT) DNL	2022	2023	2024
12[3]	64.4	64.7	64.2	64.7	63.8	64.5	0.3	0.5	0.7
13[3]	62.9	64.2	62.2	63.7	63.2	63.9	1.3	1.5	0.6
14[3]	57.6	60.2	56.0	60.1	58.8	60.8	2.6	4.1	2.0
15	62.6	61.1	61.6	60.6	61.6	61.0	-1.5	-1.0	-0.6
16	70.3	68.7	70.3	69.2	69.7	68.6	-1.6	-1.1	-1.2
17	62.2	61.0	62.6	61.5	62.0	60.9	-1.2	-1.1	-1.1
18	39.8	45.0	41.2	46.8	43.4	45.0	5.2	5.6	1.6
19[3]	40.0	44.7	42.8	46.4	40.7	44.4	4.7	3.6	3.7
20	55.0	55.5	55.3	55.9	55.6	55.5	0.5	0.6	-0.1
21	55.6	54.8	54.5	54.1	53.4	54.0	-0.8	-0.4	0.6
22	54.1	53.8	53.2	53.1	53.1	53.1	-0.3	-0.1	0.0
23	53.8	54.7	58.2	57.0	58.0	56.4	0.9	-1.3	-1.6
24	49.7	52.9	52.9	55.0	51.6	54.5	3.2	2.1	2.9
25[4]	52.5	48.9	39.2	50.1	36.5	49.4	-3.6	10.9	12.9
26[3]	59.5	58.3	59.1	57.3	58.4	58.0	-1.2	-1.8	-0.4
27	51.3	50.9	50.4	49.2	55.4	54.2	-0.4	-1.2	-1.2
28	46.2	47.9	44.9	46.2	50.3	51.3	1.7	1.3	1.0
29	39.0	45.4	40.1	44.5	40.7	49.0	6.4	4.4	8.3
30	50.2	57.3	52.2	57.0	55.3	57.8	7.1	4.8	2.5
Avg	**57.7**	**57.8**	**58.2**	**58.3**	**57.7**	**58.4**	**0.1**	**0.1**	**0.2**

Source: HMMH, 2025.

Notes: Modeled results were computed for the whole year

DNL – Day-Night Average Sound Level

N/A – not available.

1 Site numbers correlate with the Figure 7-12 map and the addresses and distance from Logan Airport listed in Table 7-2.

2 The monitor at Site 1 was removed in May 2017; In collaboration with the South End community, Massport relocated Site 1 to the Union Park Street Playground in April 2023.

3 The data collected from Sites 10, 11, and 26 showed signs of equipment malfunction for some of the days in 2022; Massport investigated and recalculated DNL manually. Similar adjustments were made for Sites 10, 14, and 19 for days in 2023 and for Sites 12 and 13 for days in 2024.

4 Site 25's noise event identification threshold was set too high for 2023 and 2024; a lower threshold was implemented as of Jan. 1, 2025. The data from this site are not included in the averaging for those years.

7.3.4.1 2023 Comparison of Measured and Modeled

For 2023, the average difference between the measured and modeled DNL was 0.1 dB. Of the 30 monitor locations, 19 of the sites recorded higher measured noise levels than the corresponding model-computed noise levels. The agreement between measured and modeled DNL is within 1 dB at 11 of the sites for 2023. It is not unusual to experience larger differences between measured and modeled levels at the locations with measured DNL below 60 dB. At those locations, the monitor system's identification of aircraft noise events becomes more difficult to differentiate from other noise sources, and long-distance noise attenuation effects can reduce actual aircraft noise levels in a way that the model cannot duplicate.

7.3.4.2 2024 Comparison of Measured and Modeled

For 2024, the difference between the average measured and modeled DNL was 0.2 dB. Of the 30 monitor locations, 15 of the sites recorded higher measured noise levels than the corresponding model-computed noise levels. The agreement between measured and modeled DNL is within 1 dB at 16 of the sites for 2024. As with 2023, larger differences occurred primarily at locations where the measured DNL was below 60 dB, for the same reasons as described in the previous section.

7.4 Noise Abatement Management Plan

Massport achieves its noise abatement goals through the implementation of multiple noise abatement measures. **Table 7-4** reports on progress toward achieving these goals. A complete list of the Noise Abatement Management Plan goals is included within the **User's Guide, Section U7.5**. Massport's noise abatement program continues to play a crucial role in mitigating and monitoring noise impacts. Massport's emphasis on noise abatement has focused on the benefits of better analysis tools, involvement in noise research projects, and improved modeling techniques to identify the causes of noise problems. Massport continues to coordinate with the FAA and the **Massport Community Advisory Committee (Massport CAC)** on matters related to runway use and the completion of the RNAV Pilot project. The Logan Airport Noise Mitigation Program includes operational restrictions on certain runways, limits to engine runup locations, late-night runway preference, and noise-abatement turns. Other continuing elements of Massport's Noise Mitigation Program are discussed in the following sections.

User's Guide Section U7.5

Table 7-4 Noise Abatement Management Plan, 2023 & 2024 Updates

Noise Abatement Goal	Plan Elements	2023 and 2024 Progress Report
Limit total aircraft noise	Limit on Cumulative Noise Index (CNI)	As discussed in Appendix I, Section I.2.2, the CNI value for 2023 was 151.8 Effective Perceived Noise in Decibels (EPNdB) and increased to 152.8 EPNdB in 2024, which is well below the cap of 156.5 EPNdB.
	Stage 3 Percentage Requirement in Noise Rules	In 2023 and 2024, 100 percent of Logan Airport's total commercial jet traffic satisfied Stage 3 noise criteria or better. The newest Stage 5 category comprised approximately 38 percent of jet operations in 2023 and 2024.
Mitigate noise impacts	Residential Sound Insulation Program (RSIP)	In 2023, acoustic pre-testing was conducted for the 10 homes included in a pilot study group. Following the pilot study group, construction designs were developed for eligible structures in 2024. Bid set engineering design drawings were completed by January 2024, and Massport began soliciting bids for contractors to support the RSIP's implementation in 2024. A community meeting was held in 2024 for expanding the pilot in East Boston.
	School Sound Insulation Program	Massport has sound-insulated thirty-six eligible schools since this program began.
	Noise Abatement Arrival and Departure Procedures	Flight track monitoring and data analysis continued to be used in 2023 and 2024 to verify adherence to noise-abatement flight procedures.
	Runway Restrictions	Noise-based use restrictions 24 hours per day on departures from Runway 4L and arrivals on Runway 22R were continued through 2023 and 2024.
	Reduced-Engine Taxiing	Voluntary use of reduced-engine taxiing (shutting one engine off) is encouraged when appropriate and safe.
Continue to improve the Noise Monitoring System	Evaluate the current system and update the system as needed	All 30 permanent noise monitors were replaced in recent years. In 2024, at the end of the current support contract, Massport selected a contractor for system upgrade and on-going support.
Minimize nighttime noise	Nighttime Stage 2 Aircraft Prohibition	With the FAA's ban on all Stage 2 operations after December 31, 2015, this prohibition is no longer necessary.
	Nighttime Runway Restrictions	Prohibitions on the use of Runway 4L for departures and Runway 22R for arrivals between 11:00 PM and 6:00 AM continued through 2023 and 2024.
	Maximization of Late-Night Over-Water Operation	Efforts to maximize late-night over-water operations were continued. Preferential use of Runway 15R for departures and Runway 33L for arrivals continued through 2023 and 2024.
Minimize nighttime noise (continued)	Nighttime Engine Run-up and Auxiliary Power Unit (APU) Restrictions	Restriction on nighttime engine run-ups and use of APUs was continued through 2023 and 2024.

Table 7-4 Noise Abatement Management Plan, 2023 & 2024 Updates

Noise Abatement Goal	Plan Elements	2023 and 2024 Progress Report
Address/respond to noise issues and complaints	Noise Office	Massport's Noise Office was established in 1977. Noise Office staff participate in all elements of Logan Airport's noise abatement efforts.
	Noise Complaint Line and website	Massport continued operation of its Noise Complaint Line, (617) 561-3333 and website (https://www.massport.com/logan-airport/about-logan/noise-abatement/complaints/).
	Special Studies	Massport continues to provide technical assistance and analysis using noise monitoring systems to support the FAA and others in monitoring jet departure tracks from Runway 27 and Runway 33L. Massport is collaborating with the Aviation Sustainability Center (ASCENT) on two research projects focused on aircraft noise and flight procedures. Massport continues to support research at the federal level, including Boston University/Tufts University FAA ASCENT research.

Source: Massport, 2025.
Notes: Massport continues to report on effective runway use and these goals are discussed in the User's Guide, Section U7.5.1.

User's Guide Section U7.5.1

7.4.1 RNAV Procedures

Massport, the FAA, the Massport CAC, and the Massachusetts Institute of Technology (MIT) have continued to collaborate on designing and implementing RNAV procedures that comply with the 2016 Memorandum of Understanding (MOU) between Massport and the FAA, implementing the Block 1 and 2 procedures requested by the Massport CAC and affected communities, which confines flight tracks to within a defined noise abatement corridor area of more compatible land use.

The FAA completed a Noise Screening Analysis Report for Logan Airport's Runway 27 RNAV Standard Instrument Departure (SID) update in May 2024. This Report concluded that there were no reportable or significant noise impacts, and the RNAV SID update meets **National Environmental Policy Act (NEPA)** compliance requirements. In a presentation to the Massport CAC in August 2024, the FAA also confirmed that the Runway 27 SID update, resulting from the implementation of Block 1 and 2 community-requested procedures, has achieved the MOU goal of confining at least 68 percent of flight tracks to within a defined noise-abatement corridor area with more compatible land use. See Appendix I, Section I.7 for materials from the August coordination.

In December 2021, Block 1 **performance-based navigation (PBN)** procedures for Runway 33L RNAV were published, along with changes to relocate the Runway 15R departure flight path north of Hull Peninsula. Block 2 departure procedures were published on November 30, 2023, following FAA-required changes to accommodate minimum distance requirements. These procedures modified the RNAV departures to include a speed restriction, which enables aircraft to turn to the east earlier in their

departures and shifts aircraft tracks to the north and away from Hull. The Block 2 procedures also included implementing a new overwater RNAV approach for Runway 22L, which crosses the Nahant Causeway from the east before beginning the final approach for landing.

In 2025, Massport won the 2025 Jay Hollingsworth Speas Airport Award for Logan Airport for, "excellent collaborative work by MIT and Massport to reduce aircraft noise for residents under Boston Logan International Airport approach paths while simultaneously reducing fuel burn and distance traveled". The award recognizes the collaborative effort between the FAA, Massport, and MIT to identify potential modifications to RNAV procedures, conduct outreach with community groups and operational stakeholders, and implement the procedures following FAA review.[8]

7.4.2 Residential Sound Insulation Program (RSIP)

To date, Massport has installed sound insulation in 5,479 residences, including 11,535 dwelling units, and 36 schools in East Boston, Roxbury, Dorchester, Winthrop, Revere, Chelsea, and South Boston.

Massport has one of the most extensive residential and school sound insulation programs in the nation. Historically, the percentage of eligible homeowners who have responded and whose dwellings are treated varies significantly by community, from a high of approximately 90 percent in Revere to a low of approximately 50 percent in South Boston. Approximately 80 to 85 percent of homeowners in East Boston and Winthrop have historically participated. Approximately 8 percent of applicants also choose the Room of Preference option, which allows the owner to identify a specific room (usually a bedroom or living room) for extra acoustic treatment.

In 2022, Massport restarted its RSIP, with the primary goals of achieving interior noise levels of less than 45 DNL and reducing the existing interior noise levels by 5 dB for homes within the program areas. The RSIP will provide sound insulation treatments for each eligible home with no direct costs for the homeowner, which could include the following, based on the site conditions:

- Door and window replacements;
- New heating, ventilation, and air circulation (HVAC) or air refurbishment system installations;
- Sheetrock installation;
- Hazardous materials abatement; or
- Finish carpentry and painting.

The RSIP has been funded through an FAA Airport Improvement Program (AIP) grant, which covers 80 percent of the program's costs, with the remaining 20 percent of the necessary funds provided by Massport. Massport submits annual **Noise Exposure Maps (NEMs)** to the FAA based on the DNL

8 Aviation Pros, 2025. https://www.aviationpros.com/airport-business/airport-infrastructure-operations/press-release/55266745/boston-logan-international-airport-wins-prestigious-2025-jay-hollingsworth-speas-airport-award

contours produced during the EDR and ESPR process. The maps inform the prioritization of homes to be treated.

Massport initiated a pilot phase of the sound insulation treatments in 2023, involving a group of 10 homes in Revere and Winthrop. This pilot phase involved conducting acoustic pre-testing to determine the eligibility and effectiveness of the proposed sound insulation treatment against noise reduction performance standards, developing bid set engineering design drawings, and soliciting contractors to support the RSIP's implementation. Following the pilot testing, construction designs were created for eligible structures in 2024. Bid set engineering design drawings were completed by January 2024, and Massport began soliciting bids for contractors to support the RSIP's implementation in 2024. Construction began on ten pilot homes in February 2025.

Sound insulation acoustic testing around Logan Airport

In November 2024, a preliminary community meeting for RSIP was held during the Eagle Hill Neighborhood Association Meeting. The meeting announced the restarting of RSIP. An additional 11 homes in East Boston will be selected for soundproofing design in 2025.

7.4.3 Massport Noise Complaint Line

Table 7-5 presents a summary of noise complaints received by the Massport Noise Abatement Office. The summary table presents the 18 communities with the most significant number of complaints for the years 2022, 2023, and 2024. Massport is a Partnering Airport with the FAA's Noise Portal[9], and has a link to that portal on the noise complaint section of the Massport website.[10] For more data on noise complaints received, refer to Appendix I, Section I.3.2.

Table 7-5 Noise Complaint Line Average Complaints per Complainant, 2022-2024

Town	2022	2023		2024	
	Average Complaints per Complainant	Average Complaints per Complainant	2022-2023 Percent Change	Average Complaints per Complainant	2023-2024 Percent Change
Winthrop	823	962	17.0%	1,311	36.3%
Somerville	260	330	26.7%	438	32.7%
South End	478	1,581	230.7%	4,157	163.0%
Medford	350	198	-43.4%	163	-17.8%

9 Federal Aviation Administration. FAA Noise Portal. https://noise.faa.gov/noise.

10 Massport. Noise Complaints. https://www.massport.com/logan-airport/about-logan/noise-abatement/complaints/.

Table 7-5 Noise Complaint Line Average Complaints per Complainant, 2022-2024

Town	2022	2023		2024	
	Average Complaints per Complainant	Average Complaints per Complainant	2022-2023 Percent Change	Average Complaints per Complainant	2023-2024 Percent Change
Milton	158	217	37.0%	247	14.0%
Arlington	194	248	27.7%	279	12.2%
Winchester	941	1,008	7.2%	325	-67.8%
Chelmsford	1,093	1,982	81.3%	3,521	77.6%
Belmont	20	23	18.1%	108	368.0%
Cambridge	18	65	264.8%	53	-18.8%
Woburn	269	200	-25.6%	504	151.7%
Watertown	131	101	-23.1%	245	143.9%
Malden	363	242	-33.3%	139	-42.7%
Boston	15	19	28.8%	110	476.1%
Roxbury	264	71	-73.2%	40	-43.2%
Marblehead	468	196	-58.1%	67	-65.7%
Melrose	504	408	-19.0%	123	-69.9%
Revere	378	3	-99.2%	3	3.1%
Total Complaints (from top 15 towns listed above)	**267,071**	**215,896**	**-24.1%**	**208,860**	**-3.3%**
Total Complaints from other towns	**5,872**	**2,934**	**-50.0%**	**3,563**	**21.4%**
Overall Total Complaints	**272,943**	**218,830**	**-19.8%**	**212,423**	**-2.9%**

Source: Massport, 2025.

Notes: Negative percentages represent a decrease over the previous year.
The 18 towns listed in the table represent the top 15 communities with the most noise complaints each year from 2022 to 2024. The complete list of complaints is in Appendix I, Section I.3.2.
In late 2018, Massport added the option to submit complaints through the Airnoise Button, which has dramatically increased complaints logged in the system.

7.4.3.1 2023 Noise Complaint Line Summary

In 2023, Massport received 218,830 noise complaints from 71 communities, a 20 percent decrease from the 272,943 complaints received from 80 communities in 2022. The community of Winthrop generated the largest share of complaints, with 90,458 complaints, or approximately 41 percent of all complaints in 2023. The community of Medford had the most individual complainants in 2023, with 143 distinct individuals logging complaints, followed by Somerville, which had 113 complainants. Overall, 1,108 individuals submitted complaints in 2023, representing a decrease from 1,301 complainants in 2022.

7.4.3.2 2024 Noise Complaint Line Summary

In 2024, Massport received 212,423 noise complaints from 70 communities, a decrease of about 22 percent from the prior year. The community of Winthrop continued to account for the highest number of complaints in 2024, generating about 34 percent of the total. Medford had the most individual complainants in 2024, accounting for approximately 13 percent of the total complainants, but fewer total complaints than Somerville and the South End.

7.4.4 Other Noise Initiatives

User's Guide Section U7.5.8

Massport stays current with noise-related studies and requirements established by the FAA, academia, and other relevant entities. For background on these studies, see the **User's Guide, Section U7.5.8**. The *FAA Reauthorization Act of 2024*[11] was signed into law in May 2024, superseding the *FAA Reauthorization Act of 2018*. In each reauthorization act, the FAA was directed to address issues related to aviation noise research. Specifically, the 2024 FAA Reauthorization Act included the following directives:

- Sec. 786. Part 150 Noise Standards Update: The FAA is to review and revise Parts 150 and 161 of Title 14 CFR. The FAA is required to seek feedback from airports, airport users, and individuals living in the vicinity of airports and in airport-adjacent communities before implementing any changes to any noise policies or standards.
- Sec. 787. Reducing Community Aircraft Noise Exposure: The FAA must take actions to mitigate undesirable aircraft noise when implementing or revising flight procedures, and it must collaborate with airport sponsors and impacted communities to address noise.
- Sec. 792. Aircraft Noise Advisory Committee: The FAA is required to establish an Aircraft Noise Advisory Committee to advise the FAA on issues facing the aviation community related to aircraft noise exposure.
- Sec. 795. Mechanisms to Reduce Helicopter Noise: The Comptroller General is required to initiate a study to examine ways in which a State, territorial, or local government may mitigate the negative impacts of commercial helicopter noise.

The FAA has several on-going research studies to support policymaking around aviation noise:

11 FAA Reauthorization Act of 2024 (Public Law 118-63). May 13, 2024. https://www.congress.gov/bill/118th-congress/house-bill/3935/text

- The Neighborhood Environmental Survey:[12] This is the study referenced in Section 187 of the FAA Reauthorization.
- ASCENT research on sleep disturbance:[13] This project's researchers are investigating the use of actigraphy and electrocardiography as a cost-effective tool for studying large cohorts of people.
- Review the Civilian Aviation Noise Policy:[14] Massport responded to the FAA's request for comments seeking input regarding its review of four key considerations of its civil aviation noise policy, in the context of noise metrics and noise thresholds.

In addition to tracking FAA-related studies, Massport is also closely following international research on the state of the science around effects of aircraft noise on people, including:

- The International Civil Aviation Organization's (ICAO) Committee on Aviation Environmental Protection (CAEP). Massport is reviewing on-going research and information as part of each CAEP cycle, including the ICAO Guidance Document on *Operational Opportunities to Reduce Aircraft Noise*.
- The United Kingdom Civil Aviation Authority publishes periodic update documents following on-going research into aircraft noise.

12 Federal Aviation Administration. Neighborhood Environmental Survey. https://www.faa.gov/regulations_policies/policy_guidance/noise/survey.

13 Ascent. Pilot Study on Aircraft Noise and Sleep Disturbance. https://ascent.aero/project/noise-exposure-response-sleep-disturbance/.

14 The comment period to the request for comments published on May 1, 2023, was extended to September 29, 2023. https://www.federalregister.gov/documents/2023/07/11/2023-14597/request-for-comments-on-the-federal-aviation-administrations-review-the-civil-aviation-noise-policy

8. Air Quality and Greenhouse Gas Emissions

This chapter describes **air quality** and **greenhouse gas (GHG)** emissions at Logan Airport for 2023 and 2024, comparing them with emission levels in 2022 and with historical air quality benchmark years. These comparisons provide a contextual framework for assessing trends over time. These findings also demonstrate Massport's continued progress in improving air quality in and around Logan Airport by reducing emissions from those sources under Massport's control and encouraging owners of other emissions sources not controlled by Massport to take action to reduce emissions.

Specifically, this 2023/2024 **Environmental Data Report (EDR)** documents Massport's continued efforts in implementing and promoting energy efficiency, emissions reduction, and clean energy initiatives. Many of these initiatives are part of a strategic plan aimed at achieving net zero GHG emissions by 2031, specifically for sources under Massport's direct control. This strategic plan coincides with the organization's 75th anniversary and is outlined in Massport's *Roadmap to Net Zero by 2031*.

The most significant indicators of changes in emissions are directly linked to fluctuations in airport activity levels, primarily the number of passengers utilizing Logan Airport and the volume of **aircraft operations**. In 2023 and 2024, both key metrics increased relative to prior years. These trends in increasing passenger traffic and aircraft movements are directly correlated with the observed changes in emissions levels.

With increased airport activity levels, overall emissions associated with Logan Airport have risen for most pollutants analyzed, as detailed in the following sections. However, Massport's proactive initiatives, such as **sustainability** programs, operational efficiencies, and infrastructure improvements, have helped mitigate the potential environmental impacts of these increases. It is also important to note that the regulatory models applied in the *2023/2024 EDR* are subject to on-going revisions, reflecting the latest research findings and technological advancements. These updates ensure that emissions estimates remain

Scope 1 emission sources are owned or controlled by Massport, including:

- Gound support vehicles
- Massport shuttles
- Stationary sources, like boilers

Scope 2 emissions are from using electricity generated off-Airport at power plants.

Scope 3 emissions come from aircraft, ground service equipment (GSE) and auxiliary power units (APUs), and vehicles traveling to and from the Airport.

accurate and aligned with current scientific understanding. These model changes are further discussed in Section 8.2.2.

Massport's annual emissions inventory estimates air emissions from a wide variety of airport-related sources, which are then compared to levels computed in previous years. The inventoried emissions include the **U.S. Environmental Protection Agency (U.S. EPA) criteria air pollutants** and their precursors, as well as GHGs. Data used to develop this chapter's content is provided in Appendix J, *Air Quality and Greenhouse Gas Emissions Supporting Documentation*, and analyses, assumptions, and modeling methodologies are more thoroughly described in the **User's Guide, Section U8**.

User's Guide Section U8

Massport remains committed to implementing its longstanding emissions reduction strategies as described in previous EDR and Environmental Status and Planning Report (ESPRs) publications, the **User's Guide, Section U8.5**, this chapter, and Chapter 10, *Project Mitigation*.

User's Guide Section U8.5

2023 Air Quality and GHG Key Findings

The following details key findings for air quality and GHG emissions at the Airport in 2023:

- In 2023, total modeled airport-related emissions of volatile organic compounds (VOCs) and nitrogen oxides (NO_X) increased from 2022 levels, while particulate matter (PM_{10}/$PM_{2.5}$) decreased. Carbon monoxide (CO) emissions from aircraft and GSE sources increased in 2023, while motor vehicle sources and total other sources decreased.

Brake dust from brake pads on vehicles and aircraft, as well as particulates in engine exhaust, are primary sources for PM_{10}/$PM_{2.5}$ emissions.

However, motor vehicle technology advancements have been made over the last 10+ years to reduce brake pad wear and produce cleaner emissions.

  - Air travel demand continued to increase throughout 2023, which meant more passenger vehicles traveling to the Airport and more flights taking off and landing throughout the year, and as a result, emissions increased. Although Massport implemented ground access initiatives to reduce emissions, reducing emissions associated with increased demand for air travel is beyond Massport's direct control.
  - The latest MOtor Vehicle Emission Simulator (MOVES) (version 5) model includes updated data on motor vehicle technology advancements that more accurately capture current conditions, so model results showed a significant decrease in PM_{10}/$PM_{2.5}$ emissions as vehicles have become cleaner in recent

years. Prior model versions likely overestimated Airport vehicle emissions by assuming older, less efficient technologies or vehicles were still in use.

- GHG emissions results for 2023 were generally unaffected by model version changes, but increased from 2022. These were primarily Scopes 2 and 3 emissions not under Massport's direct control resulting from increased aircraft operations, or more flights; more passengers traveling to and from the airport; and more electricity used after the Terminal E modernization and expansion project completed in August 2023.

2023 vs 2022: passenger activity levels increased by 13% and aircraft operations increased by 4%.

2024 vs 2023: passenger activity levels increased by 7% and aircraft operations increased by 5%.

- Logan Airport's total GHG emissions in 2023 were 1 percent of the most recent statewide total emissions estimates and 12 percent of Boston's citywide emissions.[1,2]

2024 Air Quality and GHG Key Findings

The following details key findings for air quality and GHG emissions at the Airport in 2024:

- Total modeled airport-related emissions of VOCs, NO_X, CO, and $PM_{10}/PM_{2.5}$ increased on average from 2023 to 2024 when the most recent model versions of **Aviation Environmental Design Tool (AEDT)** (version 3g) and MOVES5 were used.
  - Although this continuing trend was also primarily due to more passengers seeking air transportation and the increasing number of flights associated with that demand, the airlines serving Logan Airport also made changes to their aircraft fleets, which are the airplane and engine models put into service by the airlines, between 2023 and 2024.
- Similarly, Logan Airport's 2024 total GHG emissions increased from 2023 to 2024, but Logan Airport's total GHG emissions in 2024 were 1 percent of the most recent statewide total emissions estimates and 13 percent of Boston's citywide emissions.[3,4]

1 Based on 2022 data sources. Percentage based on relative amount of total emissions to 2022 (latest available) statewide total from MassDEP, 2nd Addendum to the Statewide Greenhouse Gas Emissions Level: 1990 Baseline Update, June 2022, available at https://www.mass.gov/doc/2nd-addendum-to-statewide-ghg-level-proposed-1990-baseline-update-june-2022/download.

2 Based on 2022 emissions. City of Boston, Boston Community GHG Emissions, updated July 09, 2025, https://www.boston.gov/departments/environment/bostons-carbon-emissions; and City of Boston, Boston Community GHG Emissions, updated March 21, 2022, https://www.boston.gov/departments/environment/bostons-carbon-emissions.

3 Based on 2022 data sources. Percentage based on relative amount of total emissions to 2022 (latest available) statewide total from MassDEP, 2nd Addendum to the Statewide Greenhouse Gas Emissions Level: 1990 Baseline Update, June 2022, available at https://www.mass.gov/doc/2nd-addendum-to-statewide-ghg-level-proposed-1990-baseline-update-june-2022/download.

4 Based on 2022 emissions. City of Boston, Boston Community GHG Emissions, updated July 09, 2025, https://www.boston.gov/departments/environment/bostons-carbon-emissions; and City of Boston, Boston Community GHG Emissions, updated March 21, 2022, https://www.boston.gov/departments/environment/bostons-carbon-emissions.

Air Quality Management and Key Initiatives Progress Summary

Massport is a national leader in studying, tracking, and reporting on Logan Airport's air quality environment, as well as promoting and implementing measures to reduce emissions. Massport's air quality management strategy and key initiatives to reduce air pollutants and GHG emissions from Airport operations are thoroughly discussed within Chapter 11, *Sustainability and Climate Resilience*, and within the **User's Guide, Section U8.5**, but initiatives that made substantive progress in 2023 and 2024 include:

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- Continued efforts to secure **Sustainable Aviation Fuel (SAF)** supplies in the Northeast and supported the **Zero Impact Aviation Alliance (ZIAA)** to promote net zero operations and SAF adoption.
- Initiated a fleet decarbonization assessment to identify **electric vehicle (EV)** replacements for its on-road fleet and explore electric alternatives for off-road equipment and continued expanding EV charging infrastructure.
- Collaborated with **Massachusetts Clean Energy Center (MassCEC)** to enable conversion of ride-for-hire fleets to EVs, supported by a 2022 grant.
- Promoted **high-occupancy vehicle (HOV)** services and achieved or exceeded HOV ridership goals for 2022, 2023, and 2024.
- Provided extensive commuting options for Airport employees, including 24/7 free shuttle services, extended **Logan Express** services, subsidies for alternative transit, and bike infrastructure at facilities.
- Implemented Clean Air Construction Initiative (CACI) requirements for diesel particulate filters or oxidation catalysts on heavy equipment for large construction projects.
- Operated fuel storage and distribution systems to reduce vapor loss and minimize emissions from mobile fueling trucks.
- Employed Reasonable Available Control Technologies (RACT) for NO_X at the Central Heating Plant (CHP) while studying options to transition away from fossil fuels.
- Piloted renewable diesel use in snow melters to reduce GHGs, PM, NO_X, CO, total hydrocarbons (THC), polycyclic aromatic hydrocarbons (PAHs), and VOCs.
- Pursued green building certifications, including **Leadership in Energy and Environmental Design®**, **Envision™**, and **ParkSmart™**, for new and existing projects.
- Worked with the **Federal Aviation Administration (FAA)** and MIT to promote single-engine taxiing and operational improvements to reduce aircraft emissions and airfield congestion, and managed aircraft run-up locations away from adjacent communities.
- Increased the portion of energy generated from renewable sources and implemented energy efficiency upgrades, including LEED® projects and heating, ventilation, and air conditioning (HVAC) improvements.

8.1 Regulatory Framework

Federal and state requirements govern air quality and GHG emissions associated with Logan Airport activities. Massport voluntarily reports on GHG emissions in the ESPRs and EDRs. For more information on Logan Airport's regulatory framework, see **User's Guide, Section U8.2**. Additional information on statewide, national, and international initiatives and regulations to improve air quality is provided in the **User's Guide, Section U8.2.4**.

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- The federal Clean Air Act (CAA), **National Ambient Air Quality Standards (NAAQS)** administered by the U.S. EPA, and similar state laws administered by the **Massachusetts Department of Environmental Protection (MassDEP)** govern air quality issues in Massachusetts.
- The NAAQS and the *Massachusetts State Implementation Plans*, collectively referred to as *MassSIP*, describe measures to attain and maintain compliance with the NAAQS, regulate air quality in the Boston Metropolitan Area and other areas of the State.
- In May 2010, the **Massachusetts Environmental Policy Act Office (MEPA) Executive Office of Energy and Environmental Affairs (EEA)** revised the MEPA Greenhouse Gas Emissions Policy and Protocol.[5] Under the revised policy, specific projects are subject to review under MEPA (though not annual EDR and ESPR filings). As part of **MEPA review**, projects are required to quantify GHG emissions generated by a proposed project and identify measures to avoid, minimize, or mitigate such emissions.
- In 2021, the Massachusetts EEA released a revised MEPA GHG Emissions Policy and Protocol to align with the "*Next-Generation Roadmap for Massachusetts Climate Policy*."

8.2 Assessment Methodology

The following sections provide a brief overview of the emission sources and pollutants inventoried, as well as the modeling tools used to estimate emissions for reporting years 2023 and 2024 as well as to compare those estimates to emissions results from the prior reporting year (2022) and benchmark years. The benchmark year was 1990 with the exception of particulate matter, which is 2005 as that was the first year it was tracked. A thorough discussion of modeling tools, assumptions, and methodologies is provided in the **User's Guide, Section U8.3**.

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8.2.1 Sources and Pollutants

As with prior EDRs and ESPRs, for the *2023/2024 EDR,* the Logan Airport-related sources inventoried are aircraft engines, **ground support equipment (GSE)**, including auxiliary power units (APUs), motor

5 EEA. Revised MEPA Greenhouse Gas Emissions Policy and Protocol. Effective May 5, 2010, https://www.mass.gov/doc/greehouse-gas-emissions-policy-and-protocol/download.

Operational time-in-mode (TIM) refers to the amount of time a vehicle operates under certain conditions.

Some examples of vehicle modes are:

- Starting the vehicle;
- Acceleration or deceleration; and
- Idling.

vehicles, and an "other" category that includes a variety of stationary sources, fuel storage, and handling facilities that are owned and operated by Massport.

Aircraft-related sources are modeled based on the actual number of aircraft operations for each aircraft and engine type, fleet mix, and operational times-in-mode (TIM) at Logan Airport. Aircraft emissions are computed from ground level up to the mixing height of 3,000 feet. GSE and APU emissions are based on the latest Logan Airport-specific TIM survey, fuel type, and fleet mix from Massport's Vehicle Aerodrome Permit Application Program for Logan Airport and AEDT's aircraft-specific default data. Motor vehicles and other sources are modeled based on activity levels or material throughput rates (fuel usage, **vehicle-mile-traveled [VMT]**, electricity consumption, etc.).

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Sources of emissions modeled (i.e., aircraft, GSE/APUs, and other) are further discussed within the **User's Guide, Section U8.4**. The input data for the *2023/2024 EDR*, such as landing and takeoff (LTO) cycle operations, GSE/APU TIM data, and fuel storage/handling and stationary source fuel throughputs, are presented in Appendix J. Chapter 6, *Ground Access*, Section 6.4 provides detailed information on Massport's ground access VMT data.

Inventoried emissions include U.S. EPA defined criteria air pollutants and their precursors, including VOCs, NO_X, CO, and $PM_{10}/PM_{2.5}$.

There are no source emission rates for the air pollutant ozone (O_3) because it is formed through the interaction between VOCs and NO_X in the presence of sunlight and is considered a regional pollutant. Airport emission sources are minimal generators of lead (Pb) and sulfur dioxide (SO_2), two U.S. EPA criteria air pollutants, so these emissions are not computed. This is because very few aircraft use leaded fuel, and SO_2 is primarily generated by fuel combustion at power plants and other industrial facilities not affiliated with Logan Airport. U.S. EPA research has correlated adverse health effects with exposure to high levels of criteria air pollutants, and as a result, has set regulatory thresholds.

Estimates of primary GHGs, including carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), associated with Logan Airport operations were also modeled. The results of the *2023/2024 EDR* GHG emissions inventories are reported in units of **metric tons (MT) of CO_2 equivalents (CO_2e),** or **MT CO_2e**, based on the appropriate Global Warming Potentials (GWPs). The GWPs and emission factors used to prepare the GHG estimates were obtained from the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) and the U.S. EPA. For more information on sources of airport emissions and pollutant types, see **User's Guide, Section U8.1.**

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8.2.2 Models and Databases

The modeling tools and emission factor databases used to estimate emissions for calendar years 2023 and 2024 include the following:

- FAA **Aviation Environmental Design Tool, Version 3g (AEDT3g)**,
- U.S. EPA **MOtor Vehicle Emission Simulator, Version 5 (MOVES5)**,
- U.S. EPA GHG Emission Factors Hub for 2023 (modified on September 12, 2023),
- U.S. EPA GHG Emission Factors Hub for 2024 (modified on June 5, 2024), and
- Independent System Operator New England (ISO-NE) CO_2 emission factor data.

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For more information on the modeling tool, see the **User's Guide, Section U8.3**. As stated in the User's Guide, the primary modeling tool for aircraft-related emissions is AEDT, and the modeling tool for motor vehicles is MOVES.

8.2.3 Emissions Inventory Model Updates

In 2023, emissions were modeled using the latest version of AEDT (version 3g) and MOVES (version 5), whereas the 2022 emissions were modeled with the prior versions available at the time of analysis (i.e., AEDT version 3e and MOVES version 3.1). To better understand and highlight the effects of AEDT's and MOVES' model version changes on emission results, the *2023/2024 EDR* presents estimates for 2023 emissions using both current (i.e., AEDT3g and MOVES5) and prior model versions (i.e., AEDT3e and MOVES3.1). The 2024 emissions are only estimated using the current model versions.

Emissions Factors represent the average emission rate of a pollutant for a given airport activity, like the amount of VOCs released during a single aircraft operation or CO released from running a diesel engine for one hour.

The AEDT model contains a database of **Emissions Factors**, which are specific to each aircraft type and airplane engine, since each engine type will produce different emissions in different quantities.

For example, the smaller Boeing 737 has different emissions factors than the larger Boeing 777 Dreamliner.

8.2.3.1 AEDT Model Changes and Output Effects

Since its initial release, the FAA has continuously improved the AEDT model by expanding its capabilities, correcting computational errors, and enhancing user accessibility. Updated versions are regularly released for future use. For more information on the FAA's AEDT model and emissions factors, refer to the **User's Guide, Section U8.3.1**. AEDT 3g includes the following air quality-related updates and improvements from AEDT 3e: [6]

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- Comprehensive update of emissions factors for GSE and stationary sources, like emergency generators.

6 FAA, AEDT3g Release Notes, https://aedt.faa.gov/3g_information.aspx.

Table 8-1 Aircraft Emissions Inventory AEDT3e and AEDT3g Model Comparison

Year	Model Version	Pollutant (kg/day)			
		VOCs	NO_X	CO	$PM_{10}/PM_{2.5}$
2023	AEDT3e	677	5,989	5,748	46
2023	AEDT3g	727	6,063	6,524	50
% Difference between 2023 AEDT3g versus 2023 AEDT3e:		**7.4%**	**1.2%**	**13.5%**	**8.7%**

Source: Massport and CMT, 2025.
Notes: Modeled emissions totals are rounded numbers. Percent calculations are based on exact numbers.
CO – carbon monoxide; NO_X – oxides of nitrogen; $PM_{10}/PM_{2.5}$ – particulate matter with a diameter that is 10 micrometers and smaller (PM_{10}) which is inclusive of particulate matter with a diameter that is 2.5 micrometers and smaller ($PM_{2.5}$); VOCs – volatile organic compounds

- Adjust fuel flow rates for emissions associated with aircraft taxiing procedures to and from gates and runways (SAE AIR-8035 implementation).
- Update airport, aircraft fleet, and other model databases and emissions factors for greater data accuracy and to reflect changes in aircraft and engine model types and their associated emissions.

Table 8-1 presents pollutant-specific differences resulting from model version changes from AEDT3e to AEDT3g for analysis year 2023. When comparing the 2023 aircraft emissions inventory using AEDT3g to the same year's aircraft emissions inventory using AEDT3e, emissions for all pollutants are greater, illustrating the effect of AEDT's model version updates.

Specifically, the fuel flow adjustments in model version AEDT3g had the most notable effects on CO emissions during aircraft taxiing operations, which are when aircraft are driving around the airfield under their own engine power (i.e. not being towed or pulled by GSE vehicles) to get between the runway and the terminal aprons or terminal gates. These model updates contribute to differences in VOC, NO_X, CO, and $PM_{10}/PM_{2.5}$ emission results between analysis years.

8.2.3.2 AEDT Model Version Analysis Year Comparisons

While changes between AEDT model versions can affect the output results based on updates to later model versions, when data from different reporting years are analyzed using the same model version, the differences between the results for the reporting years reflect changes in conditions at Logan Airport rather than differences between the models.

Comparing emissions data using the same model version for two or more reporting years will show the differences in air quality conditions and emissions from Logan Airport sources since the same model version was used in both scenarios.

Table 8-2 presents pollutant-specific differences due to changes in conditions, operations, and passenger air travel demand at Logan Airport for the reporting years by using the same model version to analyze the data from both reporting years being compared. changes in aircraft fleet mix among the airlines, where different airplane types are brought into service and others are taken out

Table 8-2 Aircraft Emissions Inventory Comparison between Analysis Years

Year	Model Version	Pollutant (kg/day)			
		VOCs	NO_X	CO	$PM_{10}/PM_{2.5}$
2022	AEDT3e	681	5,650	5,586	47
2023	AEDT3e	677	5,989	5,748	46
% Difference between 2023 AEDT3e versus 2022 AEDT3e:		**-0.6%**	**6.0%**	**2.9%**	**-2.4%**
2023	AEDT3g	727	6,063	6,524	50
2024	AEDT3g	714	6,465	6,959	54
% Difference between 2024 AEDT3g versus 2023 AEDT3g:		**-1.8%**	**6.6%**	**6.7%**	**8.0%**

Source: Massport and CMT, 2025.

Notes: Modeled emissions totals are rounded numbers. Percent calculations are based on exact numbers.
CO – carbon monoxide; NO_X – oxides of nitrogen; $PM_{10}/PM_{2.5}$ – particulate matter with a diameter that is 10 micrometers and smaller (PM_{10}) which is inclusive of particulate matter with a diameter that is 2.5 micrometers and smaller ($PM_{2.5}$); VOCs – volatile organic compounds

of service, or changes in operations and flight frequencies between analysis years. For more information on how aircraft engine technology can affect emissions, refer to the **User's Guide, Section U8.1.3**.

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2022 and 2023 Reporting Year Comparisons Using AEDT 3e

When comparing 2023 to 2022 using the same mode version (i.e., AEDT 3e), 2023 aircraft emissions increased for NO_X and CO, but decreased for VOCs and $PM_{10}/PM_{2.5}$ compared to the 2022 inventory. These results are discussed in greater detail in Section 8.3, but factors contributing to the differences between results using the same AEDT model for different years include changes in the airline's aircraft fleet composition operating out of Logan Airport and the frequency of their operations. Specifically, the observed decrease in VOC and $PM_{10}/PM_{2.5}$ emissions is attributed to airlines introducing aircraft in 2023 with lower VOC and $PM_{10}/PM_{2.5}$ emission profiles into service within the aircraft fleet compared to the 2022 fleet.

2023 and 2024 Reporting Year Comparisons Using AEDT 3g

When comparing 2024 to 2023, using the same mode version (i.e., AEDT 3g), aircraft emissions of NO_X, CO, and $PM_{10}/PM_{2.5}$, increased and VOC emissions decreased, compared to the 2023 inventory. These changes are primarily driven by increased operational activity and fleet changes. Similarly, the observed decrease in VOC emissions is attributed to the introduction of aircraft with lower VOC emission profiles in the 2024 aircraft fleet mix compared to the 2023 fleet.

8.2.3.3 MOVES Model Changes and Output Effects

MOVES5 introduced several significant updates compared to prior versions (i.e., MOVES4 and MOVES3), including updated assumptions based on new vehicle performance enhancements and emissions

reduction technologies.[7] These enhancements more accurately capture current conditions, whereas prior model versions likely overestimated emissions by assuming older, less efficient technologies or vehicles were still in use. The following is an expanded summary of these key enhancements in the new model versions:

- Incorporates U.S. EPA's *Light- and Medium-Duty Multi-Pollutant Rule*, which includes:
  - Higher projected EV fractions.
  - More stringent standards for CO_2, PM, NO_X, and non-methane organic gases.
- Includes U.S. EPA's *Heavy-Duty GHG Emissions Phase 3 Rule*, with:
  - Updated energy consumption estimates for heavy-duty EVs.
  - Higher projected EV fractions for heavy-duty vehicles.
- Emissions calculations now include vehicles up to 40 years old, whereas prior versions were only able to compare vehicles up to 30 years old.
- Incorporates new data on brake wear of brake dust $PM_{2.5}/PM_{10}$ emissions for both light-duty and heavy-duty vehicles.
- Updates to on-road and off-road fuel properties for calendar year 2021 and beyond.
- Updates to historic and forecasted default VMT, vehicle populations, age distributions, and fuel distributions.

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For more information on the U.S. EPA's MOVES, see the **User's Guide, Section U8.3.2**, or visit the U.S.EPA website at https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves.

As shown in **Table 8-3**, the 2023 motor vehicle emissions inventory developed using MOVES5 indicates increased emissions of NO_X, CO, and VOCs, along with a notable decrease in $PM_{10}/PM_{2.5}$ emissions compared to the same inventory modeled with MOVES3.1.

Table 8-3 Motor Vehicle Emissions Inventory MOVES3.1 and MOVES5 Model Comparison

Year	Model Versions	Pollutant (kg/day)			
		VOCs	NO_X	CO	$PM_{10}/PM_{2.5}$
2023	MOVES3.1	20.9	5.2	309.7	41.1
2023	MOVES5	25.4	9.6	504.1	3.0
% Difference 2023 (MOVES5) to 2023 (MOVES3.1)		**21.4%**	**85.3%**	**62.7%**	**-92.7%**

Source: Massport and CMT, 2025.

Notes: Modeled emissions totals are rounded numbers. Percent calculations are based on exact numbers.
MOVES – MOtor Vehicle Emission Simulator; VOCs – volatile organic compounds; NO_X – oxides of nitrogen; CO – carbon monoxide; $PM_{10}/PM_{2.5}$ – particulate matter with a diameter of 10 micrometers or smaller (PM_{10}) which is inclusive of particulate matter with a diameter of 2.5 micrometers or smaller ($PM_{2.5}$).

7 U.S. EPA, Latest Version of MOtor Vehicle Emission Simulator (MOVES), September 2025, https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves.

These differences are primarily attributed to updates in MOVES5, including revised on-road fuel properties and other changes which now reflect more vehicle acceleration and less braking, which are reflected in the model outputs as increased NO_X, CO, and VOCs emissions and decreased $PM_{10}/PM_{2.5}$ emissions. For example, more fuel efficient engines burn less fuel, but combustion temperatures in the engine are greater with more oxygen available for combustion, so more NO_X emissions are produced, even though less fuel overall is burned. Conversely, better transmissions capable of engine braking or regenerative braking in electric vehicles to charge the batteries are examples of new technologies that use the engine to slow down the vehicle, thereby reducing the need to apply the brakes, which creates particulate emissions as brake dust when brake pads wear down. The result is a significant reduction in $PM_{10}/PM_{2.5}$ emissions is attributed to updated assumptions in MOVES5 regarding brake system technologies and materials, which have resulted in lower emissions.

8.2.3.4 MOVES Model Version Analysis Year Comparisons

Similar to the AEDT discussion in Section 8.2.3.2 above, changes between MOVES model versions can be distinguished from changes in conditions at the Airport when data from different reporting years are analyzed using the same model version. The results from these comparisons reflect changes in conditions at Logan Airport between reporting years rather than differences between the model versions. **Table 8-4** presents pollutant-specific differences due to changes in motor vehicle fleet mix and VMT between analysis years using the same model versions.

2022 and 2023 Reporting Year Comparisons Using MOVES3.1

When comparing 2023 to 2022, using the same mode version (i.e., MOVES3.1), emissions decreased for all criteria air pollutants compared to the 2022 inventory. Although VMT increases between the two analysis years, in other words, more vehicles were driven on the Airport property more often, emissions decrease due to advancements in engine efficiency and the introduction of cleaner vehicle technologies which produce fewer emissions.

Table 8-4 Motor Vehicle Emissions Inventory Comparison between Analysis Years

Year	Model Versions	Pollutant (kg/day)			
		VOCs	NO_X	CO	$PM_{10}/PM_{2.5}$
2022	MOVES3.1	22.2	6.5	322.0	50.4
2023	MOVES3.1	20.9	5.2	309.7	41.1
% Difference 2023 (MOVES3.1) and 2022 (MOVES3.1)		**-5.6%**	**-20.4%**	**-3.8%**	**-18.5%**
2023	MOVES5	25.4	9.6	504.1	3.0
2024	MOVES5	26.8	15.9	531.0	3.0
% Difference 2024 (MOVES5) and 2023 (MOVES5)		**5.5%**	**64.4%**	**5.3%**	**-1.4%**

Source: Massport and CMT, 2025.

Notes: Modeled emissions totals are rounded numbers. Percent calculations are based on exact numbers.
MOVES – MOtor Vehicle Emission Simulator; VOCs – volatile organic compounds; NO_X – oxides of nitrogen; CO – carbon monoxide; $PM_{10}/PM_{2.5}$ – particulate matter with a diameter that is 10 micrometers and smaller (PM_{10}) which is inclusive of particulate matter with a diameter that is 2.5 micrometers and smaller ($PM_{2.5}$).

The change in emissions from year to year is a function of several variables. These include:

- Number of aircraft operations and changes in aircraft fleet mixes
- Advancements in aircraft engine technologies
- Improved airfield efficiencies
- GSE and APU TIM data
- Changes in VMT data
- Massport's emission reduction measures, such as the GSE replacement initiatives

2023 and 2024 Reporting Year Comparisons Using MOVES5

When comparing 2024 to 2023, using the same model version (i.e., MOVES5), emissions of VOC, NO_X, and CO increased, with minimal changes in $PM_{10}/PM_{2.5}$ levels compared to 2023. These increases were primarily driven by increased passenger VMT, or passengers traveling to or from the Airport, as well as updates to the motor vehicle mode share to reflect the number of passengers taking HOV options, like Logan Express, versus driving their own vehicles or being dropped off and picked up. These changes are discussed further in Section 8.3, and the MOVES5 input and output example files are presented in Appendix J, Section J.1.3.

8.3 Criteria Air and Precursor Pollutants Emission Inventory Results

This section provides the results of the 2023 and 2024 Logan Airport emissions inventories for the criteria air pollutants and precursor pollutants (VOC, NO_X, CO, and $PM_{10}/PM_{2.5}$) using the AEDT3g and MOVES5 models and standard U.S. EPA emission factors for other sources (i.e., stationary and non-mobile sources).

As in previous EDRs and ESPRs, the 2023 and 2024 emissions inventories for Logan Airport are compared to the previous year's inventory results, extending back to the benchmark year when emissions were at their highest.

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Another variable contributing to annual changes is the continuous evolution of air quality models and emission factor databases as described in Section 8.2.2 of this report and within **User's Guide, Section U8.3**. Information on the data inputs and assumptions used to estimate the 2023 and 2024 Logan Airport emissions is provided in Appendix J.

8.3.1 Volatile Organic Compounds (VOCs)

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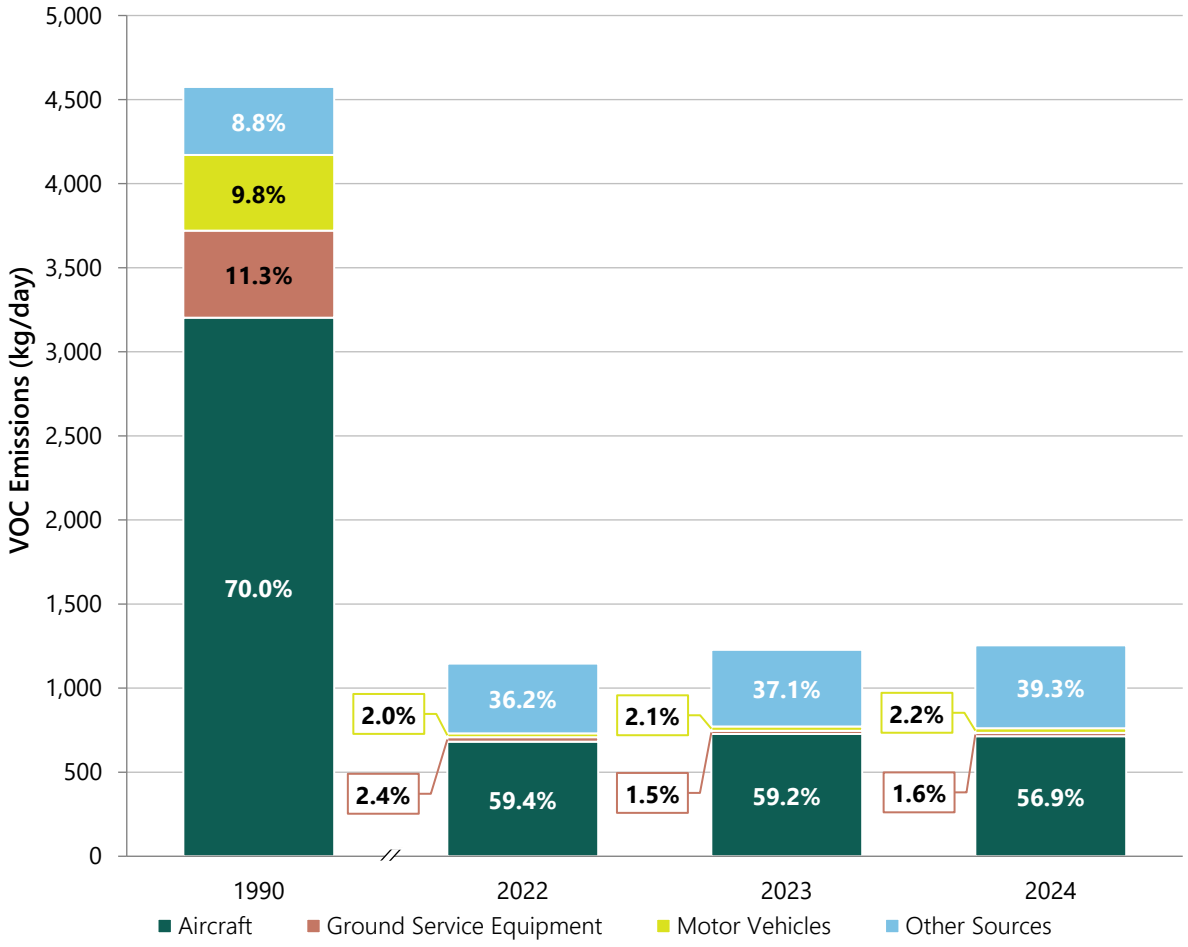
VOCs are precursors to O_3, which is a regional-scale criteria air pollutant. While VOCs themselves are not regulated as criteria air pollutants, they are regulated under other U.S. EPA programs. For additional information on O_3, see **User's Guide, Section U8.1**.

Figure 8-1 Modeled Emissions of VOCs at Logan Airport, 1990, 2022-2024



Source: Massport and CMT, 2025.

Figure 8-1 illustrates VOC emissions for Logan Airport for the benchmark year 1990, and 2022 through 2024, showing the percentage contribution of each emission source category (i.e., aircraft, GSE, motor vehicles, and other sources) over the same period.

Table 8-5 provides the computed total VOC emissions for each emission source category modeled at Logan Airport for the years 1990 and 2022 through 2024. For comparison purposes, the prior model versions of AEDT and MOVES are also presented. The VOC emission results for 2023 and 2024 are presented in Section 8.3.1.2 and Section 8.3.1.3, respectively.

Table 8-5 Estimated VOC Emissions (kg/day) at Logan Airport, 1990, 2022-2024[1]

Year	1990	2022	2023	2023	2024
Aircraft/GSE Model:	**LDMS**	**AEDT Version 3e**	**AEDT Version 3e**	**AEDT Version 3g**	**AEDT Version 3g**
Total Aircraft Sources	3,203	681	677	727	714
Ground Service Equipment (GSE)[2]	518	27	21	19	20
Motor Vehicle Model:	**MOBILE 5a**	**MOVES3.1**	**MOVES3.1**	**MOVES5**	**MOVES5**
Total Motor Vehicle Sources	450	23	21	25	27
Total Other Sources[3]	404	415	456	456	493
Total Airport Sources	**4,575**	**1,145**	**1,175**	**1,226**	**1,254**

Source: Massport and CMT, 2025.

Notes: Values may reflect rounding.
LDMS – Logan Dispersion Modeling System
AEDT – Aviation Environmental Design Tool
MOVES – Motor Vehicle Emission Simulator
kg/day - kilograms per day. 1 kg/day is equivalent to approximately 0.40234 tons per year (tpy).

1 See the *Boston Logan International Airport 2022* Environmental Status and Planning Report (ESPR), published in May 2024, for historical emission inventory results.

2 GSE emissions include aircraft auxiliary power units (APUs) as well as vehicles and equipment converted to alternative fuels.

3 Includes the Central Heating Plant, emergency generators, snow melters, and other stationary sources.

The source categories of aircraft, motor vehicles and other sources are further broken down by more specific emission source types. **Table 8-6** summarizes VOC emissions for air carriers, commuter aircraft, cargo aircraft, and **general aviation (GA)**, under the aircraft category.

Table 8-6 Estimated Aircraft VOC Emissions (kg/day) at Logan Airport, 1990, 2022-2024[1]

Year	1990	2022	2023	2023	2024
Model	**LDMS**	**AEDT Version 3e**	**AEDT Version 3e**	**AEDT Version 3g**	**AEDT Version 3g**
Air Carriers	2,175	422	476	508	500
Commuter Aircraft	681	93	94	103	112
Cargo Aircraft	303	85	31	34	31
General Aviation (GA)	44	80	76	82	70
Total Aircraft Sources	**3,203**	**681**	**677**	**727**	**714**

Source: Massport and CMT, 2025.

Notes: Values may reflect rounding.
LDMS – Logan Dispersion Modeling System
AEDT – Aviation Environmental Design Tool
MOVES – Motor Vehicle Emission Simulator
kg/day - kilograms per day. 1 kg/day is equivalent to approximately 0.40234 tons per year (tpy).

1 See the Boston Logan International Airport 2022 Environmental Status and Planning Report (ESPR), published in May 2024, for historical emission inventory results. .

Table 8-7 Estimated Motor Vehicles VOC Emissions (kg/day) at Logan Airport, 1990, 2022-2024[1]

Year	1990	2022	2023	2023	2024
Model	MOBILE 5a	MOVES3.1	MOVES3.1	MOVES5	MOVES5
Parking / curbside	192	4	3	4	4
On-Airport vehicles	258	19	18	22	23
Total Motor Vehicle Sources	**450**	**23**	**21**	**25**	**27**

Source: Massport and CMT, 2025.

Notes: Values may reflect rounding.
LDMS – Logan Dispersion Modeling System
AEDT – Aviation Environmental Design Tool
MOVES – Motor Vehicle Emission Simulator
kg/day - kilograms per day. 1 kg/day is equivalent to approximately 0.40234 tons per year (tpy).

1 See the Boston Logan International Airport 2022 Environmental Status and Planning Report (ESPR), published in May 2024, for historical emission inventory results.

Table 8-7 presents VOC emissions from motor vehicles idling at parking areas and terminal curbsides, as well as vehicles traveling on airport roadways under the motor vehicle category. **Table 8-8** details VOC emissions from other sources, including fuel storage and handling facilities, and stationary sources such as boilers, emergency generators, and snow melters. VOC emissions from GSE are reported only in **Table 8-5**, as this category is not broken down into specific emission source types. For comparison, emissions estimates from prior versions of AEDT and MOVES are also included in the tables.

Table 8-8 Estimated Other Sources VOC Emissions (kg/day) at Logan Airport, 1990, 2022-2024[1]

Year	1990	2022	2023	2024
Fuel storage / handling	400	410	452	489
Miscellaneous sources[2]	4	5	3	4
Total Other Sources	**404**	**415**	**456**	**493**

Source: Massport and CMT, 2025.

Notes: Values may reflect rounding.
LDMS – Logan Dispersion Modeling System
AEDT – Aviation Environmental Design Tool
MOVES – Motor Vehicle Emission Simulator
kg/day - kilograms per day. 1 kg/day is equivalent to approximately 0.40234 tons per year (tpy).

1 See the Boston Logan International Airport 2022 Environmental Status and Planning Report (ESPR), published in May 2024, for historical emission inventory results.

2 Includes the Central Heating Plant, emergency generators, snow melters, and other stationary sources.

8.3.1.2 2023 Volatile Organic Compounds (VOCs)

In 2023, total VOC emissions at Logan Airport were estimated at 493 tons per year (tpy), equivalent to approximately 1,226 kilograms per day (kg/day). As shown in **Figure 8-1**, aircraft were the largest source of VOC emissions at Logan Airport in 2023, accounting for approximately 59 percent of the total. Other emission sources contributed around 37 percent, while GSE, APU, and motor vehicles made up the remaining 2 percent. The 2023 VOC emission results are compared to the 2022 levels in the following sections, categorized by source.

Aircraft

As shown in **Table 8-6**, total aircraft-related VOC emissions increased by 7 percent in 2023 (modeled using AEDT3g) compared to 2022 (modeled using AEDT3e). This change is attributable primarily to updates to the AEDT model version in combination of higher aircraft operations and changes in the aircraft fleet.

However, it is notable that when emissions are compared using the same model versions (i.e., AEDT 3e) from 2022 to 2023, VOC emissions decreased slightly directly due to the changes in aircraft fleet mix between the two analysis years. Specifically, the observed decrease in VOC emissions is attributed to the introduction of aircraft with lower VOC emission profiles in the 2023 aircraft fleet mix compared to the 2022 fleet.

GSE

As shown in **Table 8-5**, GSE-related VOC emissions, including emissions from APUs, were 30 percent lower in 2023 (modeled using AEDT3g) compared to 2022 (modeled using AEDT3e). There is a similarly significant reduction seen when the same model version is applied in 2023 as in 2022 (i.e., AEDT3e), indicating that this reduction is primarily due to comprehensive updates to the GSE fleet mix operating at Logan Airport.

Motor Vehicles

As shown in **Table 8-7**, VOC emissions from motor vehicles in 2023 (modeled using MOVES5) increased by 15 percent compared to 2022 levels (modeled using MOVES3.1). When comparing 2022 to 2023 with the same model version (i.e., MOVES3.1), VOC emissions decreased slightly. Therefore, the increase seen in 2023 with MOVES5 is primarily attributable to the updates to the newer model version.

Other Sources

As shown in **Table 8-8**, VOC emissions from stationary and other non-mobile sources, including fuel storage and handling, Central Heating Plant (CHP) operations, snow melter usage, and firefighter training activities, increased by 10 percent in 2023 compared to 2022. This increase is due to changes in fuel throughputs associated with Massport's fuel storage and handling activities.

8.3.1.3 2024 Volatile Organic Compounds (VOCs)

In 2024, total VOC emissions at Logan Airport were estimated at 505 tpy, equivalent to approximately 1,254 kg/day. As shown in **Figure 8-1**, aircraft were the largest source of VOC emissions at Logan Airport in 2024, accounting for approximately 57 percent of the total. Other emission sources, specifically fuel storage and handling, contributed 39 percent, while GSE, APU, and motor vehicles made up the remaining 4 percent, with 2 percent each. The 2024 VOC emission results are compared to the 2023 levels in the following sections, categorized by source.

Aircraft

Total aircraft-related VOC emissions decreased by 2 percent in 2024 compared to 2023, based on modeling with AEDT3g for both years. This reduction is primarily attributable to the introduction of more aircraft operations with lower VOC emission profiles in the 2024 aircraft fleet mix compared to the 2023 fleet.

GSE

GSE-related VOC emissions, including those from APUs, were 9 percent higher in 2024 compared to 2023, based on modeling using AEDT3g for both years. This increase is attributable primarily to changes in aircraft operations between the two analysis years, which in turn influenced the assignment of GSE and APU usage to individual aircraft.

Motor Vehicles

VOC emissions from motor vehicles in 2024 (modeled using MOVES5) increased by 6 percent compared to 2023 levels, also modeled with MOVES5. This increase is primarily attributable to an increase in VMT data in 2024.

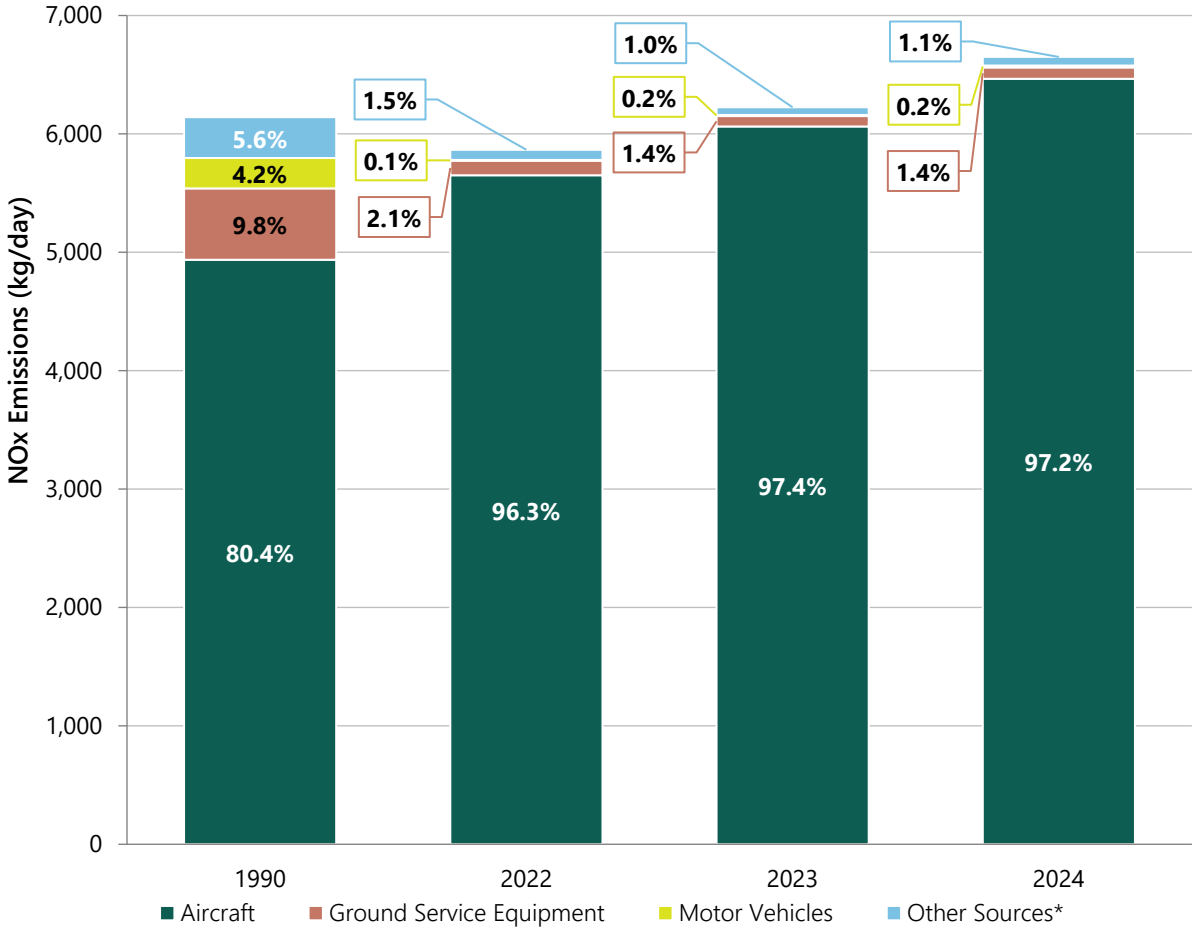
Other Sources

VOC emissions from stationary sources and other non-mobile sources increased by 8 percent in 2024 compared to 2023, primarily due to increased fuel throughputs associated with Massport's fuel storage and handling activities.

8.3.2 Oxides of Nitrogen (NO_X)

Figure 8-2 illustrates NO_x emissions for Logan Airport for the benchmark year 1990, and 2022 through 2024, showing the percentage contribution of each emission source category (i.e., aircraft, GSE, motor vehicles, and other sources) over the same time period.

Figure 8-2 Modeled Emissions of NO_X at Logan Airport, 1990, 2022-2024



Source: Massport and CMT, 2025.

Table 8-9 shows the NO_X contribution for each emission source category at Logan Airport for each emission source in 1990 and 2022 through 2024. For comparison purposes, the prior model versions of AEDT and MOVES are also presented. The 2023 and 2024 NO_x emission results are presented in Section 8.3.2.2 and Section 8.3.2.3, respectively.

Table 8-9 Estimated NO_X Emissions (kg/day) at Logan Airport, 1990, 2022-2024[1]

Year	1990	2022	2023	2023	2024
Aircraft/GSE Model:	LDMS	AEDT Version 3e	AEDT Version 3e	AEDT Version 3g	AEDT Version 3g
Total Aircraft Sources	4,937	5,650	5,989	6,063	6,465
Ground Service Equipment (GSE)[2]	603	123	106	87	96
Motor Vehicle Model	MOBILE 5a	MOVES3.1	MOVES3.1	MOVES5	MOVES5
Total Motor Vehicle Sources	257	7	5	10	16
Total Other Sources[3]	344	86	65	65	73
Total Airport Sources	**6,141**	**5,866**	**6,165**	**6,225**	**6,650**

Source: Massport and CMT, 2025.

Notes: Values may reflect rounding.
LDMS – Logan Dispersion Modeling System
AEDT – Aviation Environmental Design Tool
MOVES – Motor Vehicle Emission Simulator
kg/day - kilograms per day. 1 kg/day is equivalent to approximately 0.40234 tons per year (tpy).

1 See the Boston Logan International Airport 2022 Environmental Status and Planning Report (ESPR), published in May 2024, for historical emission inventory results.

2 GSE emissions include aircraft auxiliary power units (APUs) as well as vehicles and equipment converted to alternative fuels.

3 Includes the Central Heating Plant, emergency generators, snow melters, and other stationary sources.

Similar to the previous pollutant section, the source categories of aircraft, motor vehicles, and other sources are further broken down by more specific emission source types. **Table 8-10** and **Table 8-11** present the computed NO_X emissions for each of these emission source types at Logan Airport for the years 1990 and 2022 through 2024. Notably, NO_X emissions from GSE and other sources are reported only in **Table 8-9**, as these categories are not broken down into specific emission source types for this pollutant. For comparison, emissions estimates from prior versions of AEDT and MOVES are also included in the tables.

Table 8-10 Estimated Aircraft NO_X Emissions (kg/day) at Logan Airport, 1990, 2022-2024[1]

Year	1990	2022	2023	2023	2024
Model	LDMS	AEDT Version 3e	AEDT Version 3e	AEDT Version 3g	AEDT Version 3g
Air carriers	4,554	4,834	5,182	5,244	5,688
Commuter aircraft	133	322	309	317	342
Cargo aircraft	237	423	426	432	369
General aviation (GA)	13	71	72	71	65
Total Aircraft Sources	**4,937**	**5,650**	**5,989**	**6,063**	**6,465**

Source: Massport and CMT, 2025.

Notes: Values may reflect rounding.
LDMS – Logan Dispersion Modeling System
AEDT – Aviation Environmental Design Tool
MOVES – Motor Vehicle Emission Simulator
kg/day - kilograms per day. 1 kg/day is equivalent to approximately 0.40234 tons per year (tpy).

1 See the Boston Logan International Airport 2022 Environmental Status and Planning Report (ESPR), published in May 2024, for historical emission inventory results.

Table 8-11 Estimated Motor Vehicles NO_X Emissions (kg/day) at Logan Airport, 1990, 2022-2024[1]

Year	1990	2022	2023	2023	2024
Model	MOBILE 5a	MOVES3.1	MOVES3.1	MOVES5	MOVES5
Parking / curbside	25	2	1	1	2
On-Airport vehicles	232	5	4	8	14
Total Motor Vehicle Sources	**257**	**7**	**5**	**10**	**16**

Source: Massport and CMT, 2025.

Notes: Values may reflect rounding.
LDMS – Logan Dispersion Modeling System
AEDT – Aviation Environmental Design Tool
MOVES – Motor Vehicle Emission Simulator
kg/day - kilograms per day. 1 kg/day is equivalent to approximately 0.40234 tons per year (tpy).

1 See the Boston Logan International Airport 2022 Environmental Status and Planning Report (ESPR), published in May 2024, for historical emission inventory results.

8.3.2.2 2023 Oxides of Nitrogen (NO_X)

The 2023 total NO_X emissions from all Airport-related sources were estimated to be 2,505 tpy (6,225 kg/day). As shown in **Figure 8-2**, aircraft continues to represent the largest source of NO_X emissions at Logan Airport in 2023, accounting for approximately 97 percent of the total; while GSE and APU, other sources and motor vehicles made up the remaining 3 percent. The 2023 NO_X emission results are compared to the 2022 levels in the following sections, categorized by source.

Aircraft

As shown in Table 8-10, total aircraft-related NO_X emissions (modeled using AEDT3g) in 2023 were 7 percent higher than 2022 levels (modeled using AEDT3e). A similar increase in emissions is seen from 2022 to 2023 when the same model version is applied. Therefore, the increase in emissions is attributable primarily to a combination of higher aircraft operations, changes in the aircraft fleet, and updates to the AEDT3g model version. For more information on how aircraft fleet changes, including aircraft sizes and engine technology, can effect NO_X emissions and other pollutant emissions types, see **User's Guide, Section U8.1.2.**

GSE

As shown in **Table 8-9**, total GSE-related NO_X emissions, including emissions from APUs, decreased by 29 percent in 2023 (modeled using AEDT3g) compared to 2022 (modeled using AEDT3e). There is also a significant reduction seen when the same model version is applied in 2023 as in 2022 (i.e., AEDT3e), indicating that this reduction is primarily due to Massport's continued efforts to implement the use of GSE alternative-fueled vehicles (AVFs) at Logan Airport. These reductions in GSE emissions are further discussed in Section 8.6.

Motor Vehicles

As shown in **Table 8-11**, NO_X emissions from motor vehicles in 2023 (modeled using MOVES5) increased by 47 percent compared to 2022 levels (modeled using MOVES3.1). When comparing 2022 to 2023 with the same model version (i.e., MOVES 3.1), NOx emissions decreased slightly. Therefore, the increase seen in 2023 with MOVES5 is primarily attributable to the updates to the newer model version.

Other Sources

As shown in **Table 8-9**, NO_X emissions from stationery and other non-mobile sources decreased by 24 percent in 2023 compared to 2022. This reduction is primarily due to lower fuel usage from stationary sources, with the most significant decreases observed in generator and snow melter operations.

8.3.2.3 2024 Oxides of Nitrogen (NO_X)

In 2024, total NO_X emissions from all airport-related sources were estimated at 2,675 tpy, or approximately 6,650 kg/day. As shown in **Figure 8-2**, aircraft continue to be the largest source of NO_X emissions at Logan Airport in 2024, accounting for approximately 97 percent of the total, while GSE, APU, other sources, and motor vehicles make up the remaining 3 percent.

Aircraft

Total aircraft-related NO_X emissions increased by 7 percent in 2024 compared to 2023, based on modeling with AEDT3g for both years. This increase is primarily attributable to the increase in aircraft operations between the two analysis years.

GSE

Total GSE-related NO_X emissions, including emissions from APUs, increased by 10 percent in 2024 compared to 2023, based on modeling with AEDT3g for both years. As in previous years, this increase is primarily due to changes in aircraft operations, which directly impact the assignment and usage of GSE and APUs across the fleet.

Motor Vehicles

NO_X emissions from motor vehicles in 2024 (modeled using MOVES5) increased by 65 percent compared to 2023 levels, also modeled using MOVES5. This increase is primarily attributable to a 12 percent rise in passenger VMT, driven by changes in passenger activity levels between the two analysis years.

Additionally, the motor vehicle mode share distribution in 2024 differed from that of 2023, with a higher proportion of transit buses, which typically emit higher amounts of NO_X, contributing to overall higher emissions.

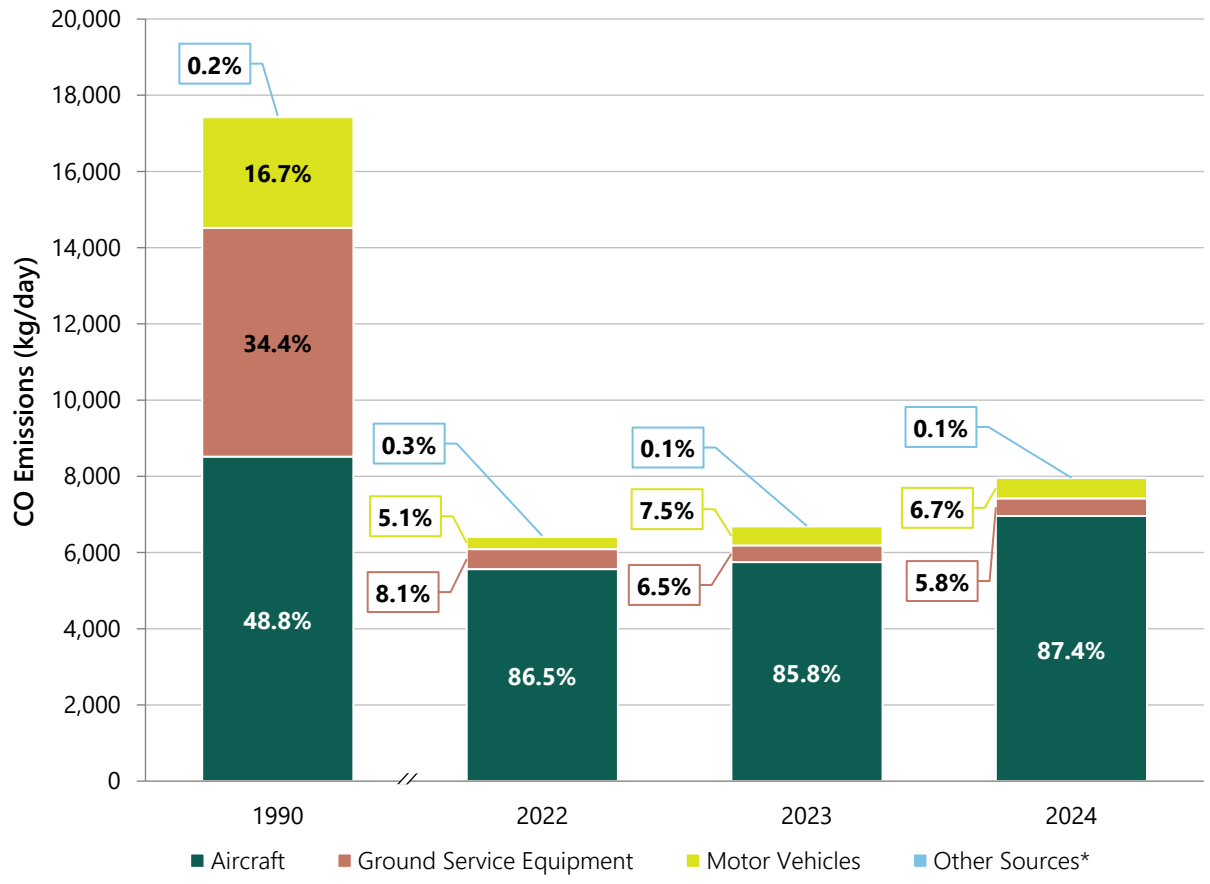
Other Sources

NO_X emissions from stationary and other non-mobile sources increased by 12 percent in 2024 compared to 2023. This increase is primarily due to greater usage of stationary equipment, particularly snow melters, during the analysis year.

8.3.3 Carbon Monoxide (CO)

Figure 8-3 illustrates CO emissions for Logan Airport for the benchmark year 1990, and 2022 through 2024, showing the percentage contribution of each emission source category (i.e., aircraft, GSE, motor vehicles, and other sources) over the same period.

Figure 8-3 Modeled Emissions of CO at Logan Airport, 1990, 2022-2024



Source: Massport and CMT, 2025.

Table 8-12 Estimated CO Emissions (kg/day) at Logan Airport, 1990, 2022-2024[1]

Year	1990	2022	2023	2023	2024
Aircraft/GSE Model:	LDMS	AEDT Version 3e	AEDT Version 3e	AEDT Version 3g	AEDT Version 3g
Total Aircraft Sources	8,518	5,586	5,748	6,524	6,959
Ground Service Equipment (GSE)[2]	6,001	522	332	436	462
Motor Vehicle Model	MOBILE 5a	MOVES3.1	MOVES3.1	MOVES5	MOVES5
Total Motor Vehicle Sources	2,907	328	310	504	531
Total Other Sources[3]	31	20	10	10	10
Total Airport Sources	**17,457**	**6,456**	**6,410**	**7,474**	**7,962**

Source: Massport and CMT, 2025.

Notes: Values may reflect rounding.
LDMS – Logan Dispersion Modeling System
AEDT – Aviation Environmental Design Tool
MOVES – Motor Vehicle Emission Simulator
kg/day - kilograms per day. 1 kg/day is equivalent to approximately 0.40234 tons per year (tpy).

1 See the Boston Logan International Airport 2022 Environmental Status and Planning Report (ESPR), published in May 2024, for historical emission inventory results.

2 GSE emissions include aircraft auxiliary power units (APUs) as well as vehicles and equipment converted to alternative fuels.

3 Includes the Central Heating Plant, emergency generators, snow melters, and other stationary sources.

Table 8-12 presents the breakdown of CO emissions for Logan Airport by source category for the years 1990 and 2022 through 2024. For comparison purposes, the prior model versions of AEDT and MOVES are also presented. The 2023 and 2024 CO emission results are presented in Sections 8.3.3.2 and 8.3.3.3, respectively. Similar to the previous pollutant sections, the source categories of aircraft, motor vehicles, and other sources are further broken down by more specific emission source types. **Table 8-13** and **Table 8-14**

Table 8-13 Estimated Aircraft CO Emissions (kg/day) at Logan Airport, 1990, 2022-2024[1]

Year	1990	2022	2023	2023	2024
Model	LDMS	AEDT Version 3e	AEDT Version 3e	AEDT Version 3g	AEDT Version 3g
Air carriers	6,613	3,042	3,410	3,721	3,860
Commuter aircraft	977	1,849	1,816	2,230	2,584
Cargo aircraft	576	393	241	263	238
General aviation (GA)	352	302	281	310	277
Total Aircraft Sources	**8,518**	**5,586**	**5,748**	**6,524**	**6,959**

Source: Massport and CMT, 2025.

Notes: Values may reflect rounding.
LDMS – Logan Dispersion Modeling System
AEDT – Aviation Environmental Design Tool
MOVES – Motor Vehicle Emission Simulator
kg/day - kilograms per day. 1 kg/day is equivalent to approximately 0.40234 tons per year (tpy).

1 See the Boston Logan International Airport 2022 Environmental Status and Planning Report (ESPR), published in May 2024, for historical emission inventory results.

Table 8-14 Estimated Motor Vehicles CO Emissions (kg/day) at Logan Airport, 1990, 2022-2024[1]

Year	1990	2022	2023	2023	2024
Model	MOBILE 5a	MOVES3.1	MOVES3.1	MOVES5	MOVES5
Parking / curbside	1,218	10	8	8	9
On-Airport vehicles	1,689	319	302	496	522
Total Motor Vehicle Sources	**2,907**	**328**	**310**	**504**	**531**

Source: Massport and CMT, 2025.

Notes: Values may reflect rounding.
LDMS – Logan Dispersion Modeling System
AEDT – Aviation Environmental Design Tool
MOVES – Motor Vehicle Emission Simulator
kg/day - kilograms per day. 1 kg/day is equivalent to approximately 0.40234 tons per year (tpy).

1 See the Boston Logan International Airport 2022 Environmental Status and Planning Report (ESPR), published in May 2024, for historical emission inventory results.

present the computed CO emissions for each of these emission source types at Logan Airport for the years 1990 and 2022 through 2024. Notably, CO emissions from GSE and other sources are reported only in **Table 8-12**, as these categories are not broken down into specific emission source types for this pollutant. For comparison, emissions estimates from prior versions of AEDT and MOVES are also included in the tables.

8.3.3.2 2023 Carbon Monoxide (CO)

Total CO emissions at Logan Airport in 2023 were estimated at 3,007 tpy, or approximately 7,474 kg/day. As shown in **Figure 8-3**, aircraft continue to represent the largest source of CO emissions at Logan Airport in 2023, accounting for approximately 87 percent of the total. Motor vehicle, GSE, and APU sources contributed nearly 13 percent, while other sources made up the remaining, less than 1 percent. The 2023 CO emission results are compared to the 2022 levels in the following sections, categorized by source.

Aircraft

As shown in **Table 8-13**, total aircraft-related CO emissions (modeled in AEDT3g) increased 17 percent in 2023 compared to 2022 levels (modeled in AEDT3e). When the same model version (i.e., AEDT3e) is applied to both years, the increase was not as significant. This indicates that the increase between 2023 (modeled in AEDT 3g) and 2022 (modeled in AEDT 3e) is primarily due to updates to the AEDT 3g model version and secondarily due to increases in aircraft operations.

GSE

As shown in **Table 8-12**, GSE-related CO emissions, including APUs, were 16 percent lower in 2023 (modeled using AEDT3g) than in 2022 (modeled using AEDT3e). A reduction is also observed when the same model version is applied in 2023 as in 2022 (i.e., AEDT3e), indicating that this reduction is primarily

due to Massport's continued efforts to implement the use of GSE AVFs at Logan Airport. These reductions in GSE emissions are further discussed in Section 8.6.

Motor Vehicles

As shown in **Table 8-14**, in 2023, CO emissions from motor vehicles (modeled in MOVES5) increased by 57 percent compared to 2022 levels (modeled in MOVES3.1). When comparing 2022 to 2023 with the same model version (i.e., MOVES3.1), CO emissions decreased, despite an increase in VMT. Therefore, the increase seen in 2023 with MOVES5 is due to the updates to the newer model version.

Other Sources

As shown in **Table 8-12**, In 2023, stationary and other non-mobile sources experienced a 48 percent decrease in CO emissions compared to 2022 levels. This decline was mainly driven by reduced fuel consumption, particularly from generators and snow melters.

8.3.3.3 2024 Carbon Monoxide (CO)

In 2024, Logan Airport recorded 3,203 tpy CO emissions, averaging 7,962 kg/day. Similar to 2023, and as shown in **Figure 8-3**, aircraft continue to represent the largest source of CO emissions at Logan Airport in 2023, accounting for approximately 87 percent of the total. Motor vehicle and GSE and APU sources contributed nearly 13 percent, while other sources made up the remaining, less than 1 percent.

Aircraft

Total aircraft-related CO emissions increased by 7 percent in 2024 (modeled using AEDT3g) compared with 2023 (modeled using AEDT3g). This increase is primarily attributable to the increase in aircraft operations between the two analysis years.

GSE

GSE-related CO emissions, including APUs, were 6 percent higher in 2024 (modeled using AEDT3g) than in 2023 (modeled using AEDT3g). Again, the differences in emissions between 2024 and 2023 are attributable primarily to changes in aircraft operations, which directly influence the assignment and usage of GSE and APUs across the fleet.

Motor Vehicles

In 2024, CO emissions from motor vehicles increased by 5 percent compared to 2023 levels. Both years were modeled using MOVES5, so the year-over-year change is primarily attributed to differences in passenger VMT between the two analysis years.

Other Sources

CO emissions from stationary sources and other non-mobile sources at Logan Airport decreased by 3 percent in 2024 compared to 2023. While snow melters continued to show an increase in operational

activity, this reduction is due to lower overall usage of other stationary equipment, including boilers, emergency generators, space heaters, and fire training activities.

8.3.4 Particulate Matter (PM)

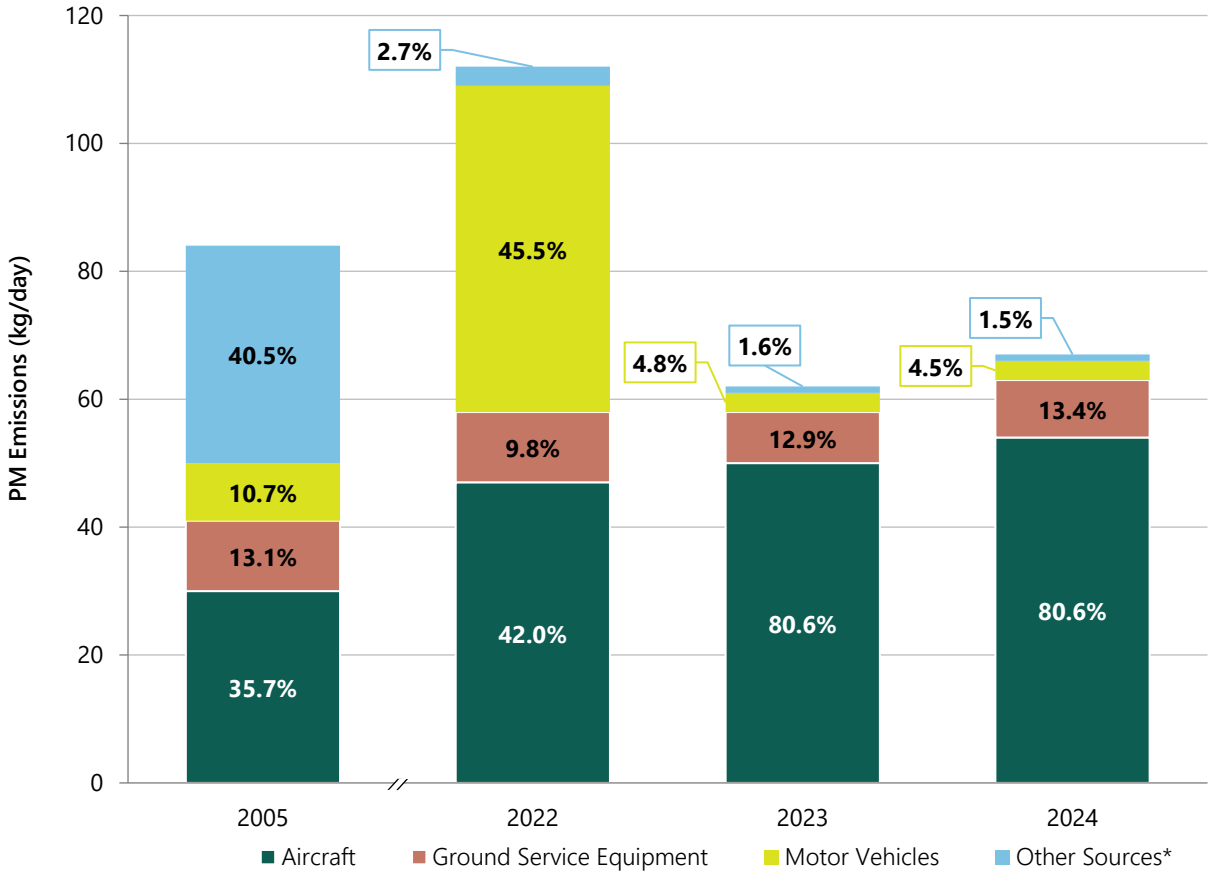
Figure 8-4 shows the $PM_{10}/PM_{2.5}$ contribution by source category (i.e., aircraft, GSE, motor vehicles, and other sources) for 2005, and from 2022 through 2024. Notably, for $PM_{10}/PM_{2.5,}$ the benchmark year is 2005, as it was the first year that these emissions were included in the Logan Airport ESPR/EDR emission inventories.

Notably, as discussed in the *2022 ESPR*, published in May 2024, the contribution of $PM_{10}/PM_{2.5}$ emissions in 2022 was significant due to the differences in database servers, specifically, MariaDB versus MySQL, used in MOVES3 and earlier versions. These database discrepancies led to elevated $PM_{10}/PM_{2.5}$ emission outputs. In subsequent modeling with MOVES5, further revisions were implemented related to brake system technologies and materials, resulting in significantly lower $PM_{10}/PM_{2.5}$ emissions.

Particulate Matter and Hazardous Air Pollutant Research

Conducted by the ICAO, FAA, U.S. EPA, and others, research continues to better characterize $PM_{10}/PM_{2.5}$ and HAPs emissions (including Pb) from aircraft engines. Similarly, air quality monitoring efforts at other airports were also conducted at various locations to advance what is known about ambient levels of these air pollutants in the vicinities of airports. Massport continues to closely track these issues through its involvement in aviation industry organizations such as ACI-NA and AAAE.

Figure 8-4 Modeled Emissions of $PM_{10}/PM_{2.5}$ at Logan Airport, 2005, 2022-2024



Source: Massport and CMT, 2025.

Table 8-15 shows the $PM_{10}/PM_{2.5}$ contribution for each emission source category at Logan Airport for each emission source in 2005 and 2022 through 2024. For comparison purposes, the prior model versions of AEDT and MOVES are also presented. The 2023 and 2024 $PM_{10}/PM_{2.5}$ emission results are presented in Sections 8.3.4.2 and 8.3.4.3, respectively.

Table 8-15 Estimated $PM_{10}/PM_{2.5}$ Emissions (kg/day) at Logan Airport, 2005, 2022-2024[1]

Year	2005	2022	2023	2023	2024
Aircraft/GSE Model:	LDMS v4.5	AEDT Version 3e	AEDT Version 3e	AEDT Version 3g	AEDT Version 3g
Total Aircraft Sources	30	47	46	50	54
Ground Service Equipment (GSE)[2]	11	11	10	8	9
Motor Vehicle Model	Mobile 6.2.03	MOVES3.1	MOVES3.1	MOVES5	MOVES5
Total Motor Vehicle Sources	9	51	41	3	3
Total Other Sources[3]	34	3	1	1	1
Total Airport Sources	**84**	**113**	**99**	**63**	**68**

Source: Massport and CMT, 2025.

Notes: Values may reflect rounding.
LDMS – Logan Dispersion Modeling System
AEDT – Aviation Environmental Design Tool
MOVES – Motor Vehicle Emission Simulator
kg/day - kilograms per day. 1 kg/day is equivalent to approximately 0.40234 tons per year (tpy).

1 See the Boston Logan International Airport 2022 Environmental Status and Planning Report (ESPR), published in May 2024, for historical emission inventory results.

2 GSE emissions include aircraft auxiliary power units (APUs) as well as vehicles and equipment converted to alternative fuels.

3 Includes the Central Heating Plant, emergency generators, snow melters, and other stationary sources.

Similar to the previous pollutant sections, the source categories of aircraft, motor vehicles and other sources are further broken down by more specific emission source types. **Table 8-16** and **Table 8-17** present the computed $PM_{10}/PM_{2.5}$ emissions for each of these emission source types at Logan Airport for the years 1990 and 2022 through 2024. For comparison, emissions estimates from prior versions of AEDT and MOVES are also included in the tables. Notably, $PM_{10}/PM_{2.5}$ emissions from GSE and other sources are reported only in **Table 8-15**, as these categories are not broken down into specific emission source types for this pollutant.

Table 8-16 Estimated Aircraft $PM_{10}/PM_{2.5}$ Emissions (kg/day) at Logan Airport, 2005, 2022-2024[1]

Year	2005	2022	2023	2023	2024
Model	LDMS v4.5	AEDT Version 3e	AEDT Version 3e	AEDT Version 3g	AEDT Version 3g
Air carriers	25	39	39	42	46
Commuter aircraft	1	3	3	4	4
Cargo aircraft	2	3	2	2	2
General aviation (GA)	2	2	2	2	2
Total Aircraft Sources	**30**	**47**	**46**	**50**	**54**

Source: Massport and CMT, 2025.

Notes: Values may reflect rounding.
LDMS – Logan Dispersion Modeling System
AEDT – Aviation Environmental Design Tool
MOVES – Motor Vehicle Emission Simulator
kg/day - kilograms per day. 1 kg/day is equivalent to approximately 0.40234 tons per year (tpy).

1 See the Boston Logan International Airport 2022 Environmental Status and Planning Report (ESPR), published in May 2024, for historical emission inventory results.

Table 8-17 Estimated Motor Vehicles $PM_{10}/PM_{2.5}$ Emissions (kg/day) at Logan Airport, 2005, 2022-2024[1]

Year	2005	2022	2023	2023	2024
Model	Mobile 6.2.03	MOVES3.1	MOVES3.1	MOVES5	MOVES5
Parking / curbside	1	1	1	<1	<1
On-Airport vehicles	8	50	40	3	3
Total Motor Vehicle Sources	**9**	**51**	**41**	**3**	**3**

Source: Massport and CMT, 2025.

Notes: Values may reflect rounding.
LDMS – Logan Dispersion Modeling System
AEDT – Aviation Environmental Design Tool
MOVES – Motor Vehicle Emission Simulator
kg/day - kilograms per day. 1 kg/day is equivalent to approximately 0.40234 tons per year (tpy).

1 See the Boston Logan International Airport 2022 Environmental Status and Planning Report (ESPR), published in May 2024, for historical emission inventory results.

8.3.4.2 2023 Particulate Matter ($PM_{10}/PM_{2.5}$)

In 2023, total $PM_{10}/PM_{2.5}$ emissions from all airport-related sources at Logan Airport were estimated at 25 tpy, or approximately 63 kg/day. As shown in **Figure 8-4**, aircraft represent the largest source of $PM_{10}/PM_{2.5}$ emissions at Logan Airport in 2023, accounting for approximately 80 percent of the total. GSE and APU sources contributed approximately 13 percent, while motor vehicles and other sources made up the remaining 7 percent. The 2023 $PM_{10}/PM_{2.5}$ emission results are compared to the 2022 levels in the following sections, categorized by source.

Aircraft

As shown in **Table 8-16**, total aircraft-related $PM_{10}/PM_{2.5}$ emissions increased by 6 percent in 2023 (modeled using AEDT3g) compared to 2022 (modeled using AEDT3e). However, it is notable that when emissions are compared using the same model versions (i.e., AEDT 3e), $PM_{10}/PM_{2.5}$ emissions decreased slightly. Therefore, this 6 percent increase is attributable primarily to updates to AEDT3g and secondarily due to higher aircraft operations.

GSE

As shown in **Table 8-15**, GSE-related $PM_{10}/PM_{2.5}$ emissions, including APUs, were 24 percent lower in 2023 (modeled using AEDT3g) than in 2022 (modeled using AEDT3e). A reduction is also observed when the same model version is applied in 2023 as in 2022 (i.e., AEDT3e), indicating that this reduction is due to Massport's continued efforts to implement the use of GSE AVFs at Logan Airport.

Motor Vehicles

As shown in **Table 8-17**, in 2023, $PM_{10}/PM_{2.5}$ emissions (modeled using MOVES5) from motor vehicles at Logan Airport decreased by 94 percent compared to 2022 levels (modeled in MOVES3.1). This sharp decline is primarily due to the transition from MOVES3.1 to MOVES5. Specifically, in MOVES5, the U.S. EPA

incorporated revisions to passenger vehicles and trucks' brake system technologies and materials, which have led to lower $PM_{10}/PM_{2.5}$ emissions.

Other Sources

As shown in **Table 8-15,** in 2023, $PM_{10}/PM_{2.5}$ emissions from stationery and other non-mobile sources at Logan Airport decreased by 53 percent compared to 2022 levels. This reduction is primarily due to lower fuel usage, with the most significant decreases observed in generators and snow melter operations.

8.3.4.3 2024 Particulate Matter ($PM_{10}/PM_{2.5}$)

The 2024 total $PM_{10}/PM_{2.5}$ emissions from all airport-related sources at Logan Airport were estimated at 68 tpy, or approximately 27 kg/day. As shown in **Figure 8-4**, aircraft continue to represent the largest source of $PM_{10}/PM_{2.5}$ emissions at Logan Airport in 2024, accounting for approximately 79 percent of the total. GSE and APU sources contributed approximately 14 percent, while motor vehicles and other sources accounted for the remaining 7 percent.

Aircraft

Total aircraft-related $PM_{10}/PM_{2.5}$ emissions increased by 7 percent in 2024 compared to 2023, based on modeling with AEDT3g for both years. This increase was primarily due to the rise in aircraft operations and adjustments to fleet mixes.

GSE

In 2024, $PM_{10}/PM_{2.5}$ emissions from GSE, including APUs, were 11 percent higher than in 2023, based on modeling with AEDT3g. This increase is attributed mainly to changes in aircraft operations and fleet mix between the two analysis years, which directly influence GSE and APU assignments to aircraft.

Motor Vehicles

In 2024, $PM_{10}/PM_{2.5}$ emissions from motor vehicles at Logan Airport increased by 1 percent compared to 2023, based on modeling using MOVES5. This increase is primarily attributable to an increase in VMT data in 2024.

Other Sources

In 2024, $PM_{10}/PM_{2.5}$ emissions from stationary and other non-mobile sources at Logan Airport increased by 7 percent compared to 2023. This rise is primarily due to higher activity levels among stationary equipment, with the most significant increases observed in boilers, generators, and snow melters.

8.4 Greenhouse Gas Emissions Inventory Results

Massport continues to voluntarily report on GHG emissions associated with airport activities in EDRs and ESPRs. GHG emission inventories computed for this *2023/2024 EDR* are consistent, wherever applicable, with the data provided by Massport for the MassDEP and U.S. EPA GHG inventories for Logan Airport for 2023/2024.

The *2023/2024 EDR* emissions inventories presented are more comprehensive, as they cover all three scopes of GHG emissions, including those from tenants and the public. In contrast, the MassDEP and U.S. EPA GHG Reporting Programs cover only stationary sources (Scope 1 sources) such as buildings, the CHP, snow melters, and emergency generators.

Logan Airport recently entered the ACA program and has achieved Level 1 – Mapping.

The *2023/2024 EDR* GHG inventories are consistent with the Airport Carbon Accreditation (ACA) Program administered by Airports Council International (ACI). For more information on Massport's ownership categorization and Logan Airport's GHG emission sources by Scope, see **User's Guide, Section U8.2.5.**

User's Guide Section U8.2.5

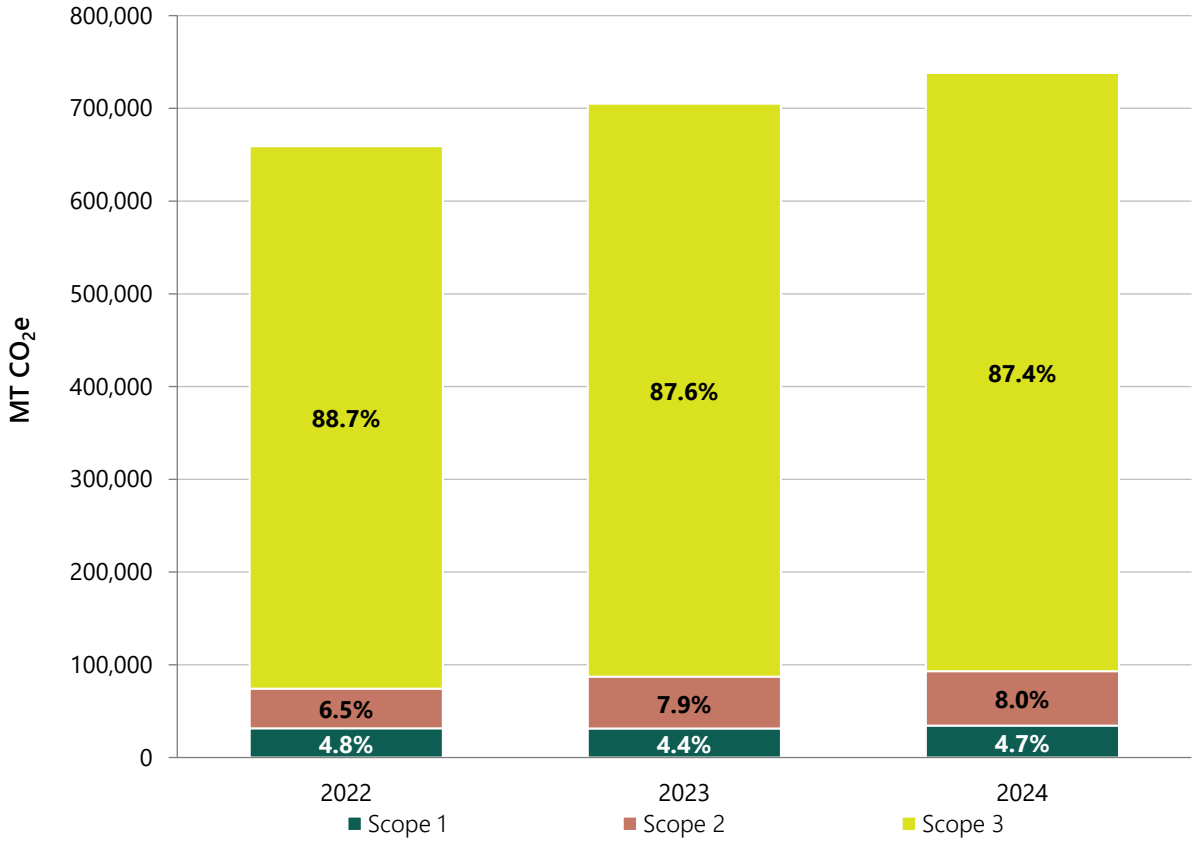
8.4.1 GHG Emissions

Table 8-18 presents 2022 to 2024 GHG emissions inventories. The emissions are broken out by Scopes 1, 2, and 3 and are reported in MT CO_2e.[8] Data inputs and emission factors used to estimate GHG emissions are found in Appendix J, Section J.1.5.

Figure 8-5 and **Table 8-19** present the share of GHG emissions for Logan Airport by scope for the years 2022 through 2024. Additionally, **Table 8-19** provides a comparison of the GHG emissions to statewide and Boston citywide totals, in MT CO_2e for years 2022 through 2024. Increased GHG emissions for Scopes 1, 2, and 3 are generally attributed to an increase in aircraft and passenger activity levels, as well as updates to air quality models and revised methodologies. Estimated total GHG emissions at Logan Airport from 2017 through 2022 are provided in the *2022 ESPR*, published in May of 2024.

8 CO_2 equivalent values are based upon the GWP values of 1 for CO_2, 29.8 for CH_4, and 273 for N_2O (based on a 100-year period) as presented in the IPCC Sixth Assessment Report (2023).

Figure 8-5 Figure 8-5 Sources of GHG Emissions by Scopes, 2022-2024



Source: Massport and CMT, 2025.

Notes: Scope 1 emissions are from sources that are owned or controlled by Massport (i.e., ground support vehicles, Massport shuttles, on-Airport traffic, and stationary sources), Scope 2 emissions are from electricity consumption (both Massport and tenant), which are generated off-Airport at power generating plants, and Scope 3 emissions are from aircraft, ground service equipment (GSE) including auxiliary power units (APUs), and ground transportation to and from the Airport.

Table 8-18 Estimated Greenhouse Gas Emissions (GHG) Inventory (in MT of CO_2e) by Scope at Logan Airport, 2022 through 2024

Scope	Source	2022				2023				2024			
		CO_2	N_2O	CH_4	Total	CO_2	N_2O	CH_4	Total	CO_2	N_2O	CH_4	Total
Scope 1	Massport ground service equipment[1]	4,523	10	5	4,538	4,692	11	6	4,709	4,932	12	6	4,950
	Massport shuttle bus	1,483	4	2	1,488	1,797	4	2	1,804	2,238	6	3	2,246
	Massport Logan Express bus	4,086	8	5	4,099	4,685	10	6	4,701	4,896	10	6	4,912
	Stationary sources[2]	21,298	14	12	21,324	19,982	11	11	20,004	22,209	12	13	22,234
	Fire training	56	<1	<1	57	38	<1	<1	38	29	<1	<1	29
Total Scope 1 by Emission Type		**31,446**	**36**	**24**	**31,506**	**31,194**	**36**	**25**	**31,256**	**34,304**	**40**	**28**	**34,371**
Total Scope 1 Emissions in MT of CO_2e		**31,506**				**31,256**				**34,371**			
Scope 2	Massport	4,524	23	18	4,564	--	--	--	46,081	--	--	--	48,301
	Tenant/Common area	37,950	190	149	38,289	--	--	--		--	--	--	
Total Scope 2 by Emission Type		**42,474**	**213**	**167**	**42,853**	**--**	**--**	**--**	**46,081**	**--**	**--**	**--**	**48,301**
Total Scope 2 Emissions in MT of CO_2e[3]		**42,853**				**46,081**				**48,301**			
Scope 3	Aircraft – Ground[4]	190,267	1,549	12	191,828	230,053	1,930	13	231,997	230,373	1,934	14	232,321
	Aircraft – Ground to 3,000 feet[5,6]	231,360	1,883	18	233,260	247,856	2,076	31	249,963	257,172	2,157	25	259,354
	Aircraft – Engine Startups	4,492	37	5	4,534	5,288	44	7	5,339	4,918	41	6	4,965
	APU	10,439	85	12	10,536	11,032	93	14	11,139	15,808	133	20	15,960
	GSE	13,362	192	28	13,582	14,482	451	65	14,998	14,712	456	66	15,234
	Passenger/Employee transportation[7]	50,029	131	34	50,194	98,173	164	68	98,405	110,987	197	72	111,255
	On-Airport parking lots[8]	6,465	28	2	6,496	5,980	27	2	6,009	6,044	26	2	6,073
Total Scope 3 by Emission Type		**506,414**	**3,905**	**111**	**510,430**	**612,864**	**4,785**	**200**	**617,850**	**640,014**	**4,944**	**205**	**645,162**
Total Scope 3 Emissions in MT of CO_2e		**510,430**				**617,851**				**645,163**			
Total Logan Airport Emissions in MT of CO_2e		**584,790**				**695,188**				**727,834**			

Source: Massport and CMT, 2025.

Notes: MT - metric tons of CO_2 equivalents (1 MT = 1.1 Short Tons). CO_2 equivalents (CO_2e) are bases for reporting the three primary GHGs (e.g., CO_2, N_2O, and CH_4) in common units. Quantities are reported as "rounded" and truncated values for ease of addition. CO – carbon monoxide, NO_X – oxides of nitrogen, and CH_4 – methane, APU - Auxiliary power units, and GSE - Ground service equipment.

1 Ground service equipment includes Massport-owned ground service vehicles.

2 Stationary sources include Central Heating Plant, emergency generators, snow melters, and the distributed building heating and cooling network.

4 Aircraft – Ground emissions include taxi-in, taxi-out, and ground-based delay emissions based on AEDT fuel usages.

5 Aircraft – Ground to 3,000 feet include takeoff, climb out, and approach emissions up to a height of 3,000 feet based on AEDT fuel usages.

6 The U.S. EPA published that: "…methane is no longer considered to be an emission from aircraft gas turbine engines burning Jet A at higher power settings and is, in fact, consumed in net at these higher powers. https://nepis.epa.gov/Exe/ZyPDF.cgi/P1003YX3.PDF?Dockey=P1003YX3.PDF.

7 Passenger and Employee Transportation includes off- and on-Airport employee/tenant/public vehicle trips.

8 The On-Airport parking lots category represents vehicles idling at terminal curbsides and parking garages/lots/areas.

Table 8-19 Comparison of Estimated Total Greenhouse Gas (GHG) Emissions (MT CO_2e) by Scope at Logan Airport – 2022 through 2024

Scope	2022		2023		2024	
	MT CO_2e	Percent Total	MT CO_2e	Percent Total	MT CO_2e	Percent Total
Scope 1 Emissions	31,506	5%	31,256	4%	34,371	5%
Scope 2 Emissions	42,853	7%	46,081	7%	48,301	7%
Scope 3 Emissions	510,430	87%	617,851	89%	645,163	89%
Total Emissions[1]	**584,790**	**100%**	**695,188**	**100%**	**727,834**	**100%**
Percent of State Totals[2]	**<1%**		**1%**		**1%**	
Percent of Boston's Citywide[3]	**9%**		**12%**		**13%**	

Source: Massport and CMT, 2025.

Notes: Totals may not add exactly due to rounding.

MT – metric tons of CO_2 equivalents (1 MT = 1.1 Short Tons). CO_2 equivalents (CO_2e) are bases for reporting the three primary GHGs (e.g., CO_2, N_2O, and CH_4) in common units. Quantities are reported as "rounded" and truncated values for ease of addition.

1 Total Emissions = Scope 1 + Scope 2+ Scope 3.

2 Percentage based on relative amount of total emissions to 2022 (latest available) statewide total from MassDEP, 2nd Addendum to the Statewide Greenhouse Gas Emissions Level: 1990 Baseline Update, June 2022, available at https://www.mass.gov/doc/2nd-addendum-to-statewide-ghg-level-proposed-1990-baseline-update-june-2022/download.

3 City of Boston, Boston Community GHG Emissions, updated July 09, 2025, https://www.boston.gov/departments/environment/bostons-carbon-emissions; and City of Boston, Boston Community GHG Emissions, updated March 21, 2022, https://www.boston.gov/departments/environment/bostons-carbon-emissions.

8.4.1.2 2023 GHG Emissions

As in previous years, the 2023 GHG emission inventories Scope 3 (e.g., aircraft, GSEs, and APUs) represented the largest source of Logan Airport emissions, followed by Scope 2 (i.e., electricity consumption), and Scope 1 (e.g., stationary sources, airport fleet vehicles), as shown in **Figure 8-5** and **Table 8-18**. Overall, total GHG emissions in 2023 increased by 19 percent from 2022 levels. The changes in GHGs are attributable to increases in operational and passenger activity levels, air quality model updates, as well as an increase in electrical usage due to the modernization and the expansion of Boston-Logan's Terminal E, which started in 2019 and concluded in August 2023. Furthermore, as shown in **Table 8-18**, GHG emissions associated with Logan Airport in 2023 represent 1 percent of the most recent statewide emissions estimates,[9] and approximately 12 percent of Boston's citywide emissions.[10] Massport plans to continue updating its GHG emissions inventory for Logan Airport annually.

9 2023 statewide totals are derived from Massachusetts Annual Greenhouse Gas emissions inventory 1990-2022, available at https://www.mass.gov/lists/massdep-emissions-inventories

10 City of Boston, Boston Community GHG Emissions, updated July 09, 2025, https://www.boston.gov/departments/environment/bostons-carbon-emissions.

8.4.1.3 2024 GHG Emissions

As in previous years, the 2024 GHG emission inventories Scope 3 (e.g., aircraft, GSEs and APUs) represented the largest source of Logan Airport emissions, followed by Scope 2 (i.e., electricity consumption), and Scope 1 (e.g., stationary sources, airport fleet vehicles), as shown in **Figure 8-9**.

In 2024, total GHG emissions at Logan Airport increased by 5 percent compared to 2023 levels. This rise is primarily attributed to a 5 percent increase in aircraft operational activity and a 7 percent increase in passenger volumes.

Furthermore, as shown in **Table 8-18**, GHG emissions associated with Logan Airport in 2024 represent 1 percent of the most recent statewide emissions estimates,[11] and approximately 13 percent of Boston's citywide emissions.[12] Massport plans to continue updating its GHG Emissions Inventory for Logan Airport on an annual basis.

8.5 Air Quality and GHG Emission Reduction Efforts

Massport aims to achieve Net Zero GHG emissions by 2031. The Roadmap to Net Zero focuses on reducing GHG emissions from Scope 1 sources directly controlled by Massport, such as Massport-owned facilities and equipment, and Scope 2 sources, namely purchased electricity. However, Massport will continue to influence Scope 3 sources, which are areas where Massport does not have direct or indirect control.

As part of implementing and advancing its on-going air quality management strategy for Logan Airport, Massport has established goals and objectives to address air emissions from Airport operations, including the minimization of Airport-related emissions through the reduction of GSE and Massport vehicle fleet emissions. This section presents an update on these initiatives at Logan Airport and highlights the progress made with other on-going Logan Airport-related air quality and emission reduction efforts as well as current studies on aviation-related air quality and public health issues.

Sustainable Aviation Fuel (SAF)

As part of the Roadmap to Net Zero effort and to support the federal goal of 3 billion gallons of Sustainable Aviation Fuel (SAF) use by 2030 for the aviation industry nationwide, Massport is collaborating with fuel vendors, airlines, and state and federal entities to secure SAF supplies in the Northeast. Massport is a founding member of the Zero Impact Aviation Alliance (ZIAA), which is a consortium of airports, aviation industry businesses, aircraft manufacturers, and academic institutions focused on achieving net zero for airport operations, including promoting SAF use. ZIAA is spearheaded by the Massachusetts Institute of Technology (MIT) through the Department of Aeronautics and Astronautics, and with their

11 2024 statewide totals are derived from Massachusetts Annual Greenhouse Gas emissions inventory 1990-2022, available at https://www.mass.gov/lists/massdep-emissions-inventories

12 City of Boston, Boston Community GHG Emissions, updated March 21, 2022, https://www.boston.gov/departments/environment/bostons-carbon-emissions.

support, ZIAA provides research-driven thought leadership across the aviation system to reduce environmental impacts. For more on the Roadmap to Net Zero and SAF, refer to Chapter 11, Section 11.2.

Single-Engine Taxiing

Single-engine taxiing is one measure being used by air carriers to help reduce fuel consumption and emissions. Prior studies have shown single-engine taxiing to be a crucial operational measure used by airlines to conserve fuel, which is widely employed at Logan Airport. However, some single-engine taxi challenges noted in prior studies include:

- Excessive thrust and associated issues;
- Maneuverability problems, particularly related to tight taxiway turns and weather;
- Problems starting the second engine; and
- Distractions and workload issues.

As a result, Massport supports the use of single-engine taxiing when it can be done safely, voluntarily, and at the pilot's discretion, but Massport continues to encourage the practice of single or reduced-engine taxiing and the use of idle reverse thrust. For more information on single-engine taxiing and effects on air quality and emissions, see the **User's Guide, Section U8.5.3**.

User's Guide Section U8.5.3

Ground Access Management Strategies

A comprehensive ground access strategy is essential to diversify and enhance passenger and employee transportation options while efficiently moving vehicles on the Airport property, thereby supporting Massport's emissions reduction initiatives. Massport is committed to reducing on-Airport VMT and emissions associated with airport roadways and curbsides, parking facilities, and vehicle staging areas, as well as reducing the VMT by Airport users traveling to and from the Airport. Chapter 6, Section 6.5 provides updates on Massport's ground access management strategies and their implementation over the 2023 and 2024 reporting years. In addition, the **User's Guide, Section U6.2** offers more detailed information on Massport's ground access, HOV, and parking management strategies.

User's Guide Section U6.2

8.5.1 Alternative Fuel Vehicles (AFV) Program and GSE Conversion

A component of Massport's Air Quality Management Program is the Alternative Fuel Vehicles (AFV) Program. The AFV Program is designed to replace Massport's conventionally fueled fleet with alternatively fueled or powered vehicles, when feasible, to help reduce emissions associated with Logan Airport operations. Massport operates more than 100 vehicles powered by alternative fuels like propane, E85 flex fuel, and electricity, or which use both alternative and traditional fuels, like diesel-electric hybrids and gasoline-electric hybrids. Future EDRs and ESPRs will provide a detailed inventory within Appendix J.

Table 8-20 presents the criteria air and precursor pollutant emissions reductions achieved by using AVF GSEs for 2023 and 2024 as well as what emissions would have been if these same GSE still had traditional, fossil fuel combustion engines.

Table 8-20 GSE Alternative Fuel Conversion Summary (kg/day)

Year	Pollutant	Emissions without AFV Use	Emissions Reduction with AFV Use	Emissions with AFV Use	Percent Reduction
2023	VOCs	13.2	3.6	9.6	-27.3%
	NO_X	19.7	5.3	14.4	-26.9%
	CO	505.5	136.5	369.0	-27.0%
	$PM_{10}/PM_{2.5}$	1.1	0.3	0.8	-27.3%
2024	VOCs	13.7	3.7	10.0	-27.0%
	NO_X	19.7	5.3	14.4	-26.9%
	CO	529.2	142.9	386.3	-27.0%
	$PM_{10}/PM_{2.5}$	1.1	0.3	0.8	-27.3%

Source: CMT and Massport, 2025.

Notes: Emission reductions may reflect rounding.

VOC – volatile organic compounds; NO_X – nitrogen oxides; CO – carbon monoxide; $PM_{10}/PM_{2.5}$ – particulate matter equal to or less than 10 microns in diameter (PM_{10}) and equal to or less than 2.5 microns in diameter ($PM_{2.5}$); and AFVs – alternative fuel vehicles.

8.5.2 Air Quality and GHG Management Plan

Massport's air quality and GHG management strategy for Logan Airport focuses on decreasing emissions from Airport-related sources, in addition to furthering innovative means to achieve emissions reductions Airport-wide. Massport's air quality and GHG improvement goals, the measures proposed to accomplish them, and some of the 2023 and 2024 milestones are listed in **Table 8-21**.

Table 8-21 Air Quality Management Strategy Status

Air Quality Emissions Reduction Goals	Plan Elements	2023 and 2024 Updates
Reduce emissions from Massport/Tenant fleet vehicles	Convert Massport and Tenant fleet vehicles to electric, hybrid, or other alternative fuel by retrofitting or through new procurements.	Massport initiated a fleet decarbonization assessment to review the Authority's existing on-road fleet inventory and identify recommendations for electric vehicle (EV) replacements over the next 15 years, beginning in 2024, while examining the financial and environmental benefits of such transitions. The assessment is also identifying electric alternatives for Massport's off-road equipment. Refer to Section 11.2.3.3 for more information.

Table 8-21 Air Quality Management Strategy Status

Air Quality Emissions Reduction Goals	Plan Elements	2023 and 2024 Updates
Encourage use of alternative fuel and alternative power vehicles by private fleet and airside service vehicle owners	Provide infrastructure to support alternative fuels including electricity and green hydrogen.	Massport continues to operate one of New England's largest retail compressed natural gas (CNG) stations, which is open to the public. Massport continued to expand upon the existing charging structure in 2023 and 2024. See Section 11.2.3.3 for more information.
Encourage use of alternative fuel and alternative power vehicles by private fleet and airside service vehicle owners	Work with ground access fleet and airside service vehicle owners to encourage conversion.	Massport is collaborating with the Massachusetts Clean Energy Center (MassCEC) to study opportunities to enable the conversion of ride-for-hire fleets serving Logan Airport to EVs. Massport received a grant in 2022 for further developing this infrastructure. See Section 11.2.3.3 for more information.
Minimize emissions from motor vehicles	Implement a program to increase high-occupancy vehicle (HOV) ridership by air passengers and employees.	As described in detail in Chapter 6, *Ground Access*, Section 6.5, there are numerous HOV services at Logan Airport that are aimed at air passengers, including the Massachusetts Bay Transportation Authority (MBTA) Blue Line and Silver Line, Massport's Logan Express, and water transportation. Massport promotes the use of these services by employees and passengers, primarily through various pricing incentives. Massport has developed a robust strategy to increase HOV options and use. Massport has a goal of reaching 35.5 percent HOV by 2022 and 40 percent HOV by 2027. Massport achieved the 2022 goal and continued to exceed it in 2023 and 2024.
	Expand HOV options for Airport employees.	Massport continues to provide commuting information to all Airport employees, including Sunrise and Logan Express Shuttles in 2023 and 2024. Logan Express offers extended service, providing nearly 24-hour service at several Logan Express locations, with significant discounts available to Airport-wide and Massport employees. Refer to Section 6.4 for more information.

Table 8-21 Air Quality Management Strategy Status

Air Quality Emissions Reduction Goals	Plan Elements	2023 and 2024 Updates
	Encourage employees to use alternative transportation to commute.	Massport encourages employees to utilize public transit through a comprehensive employee transportation system. The system includes a 24/7 free shuttle bus service to the Terminals with off-Airport employee parking in Chelsea; shuttle buses connecting Airport Station to Southwest Service Area, South Cargo Area locations, and Terminals; early morning and late-night Logan Express bus trips; the Sunrise Shuttle that offers early morning services from East Boston, Winthrop, and Revere before the commencement of MBTA operations; subsidies for water transportation, transit use, and financial support for the Sunrise Shuttle; and discounted HOV and transit fare options. The MBTA introduced the Route 104 bus in 2024, providing a connection from Malden Center to Airport Station. Massport includes bike racks or posts for securing bikes at all new facilities and at appropriate existing facilities to promote employees biking to work. Bicycle racks or posts for securing bikes are currently provided at the Rental Car Center (RCC), Terminal A, Terminal E, Logan Office Center, MBTA's Airport Station, Economy Parking Garage, Signature General Aviation Facility, and the Green Bus Depot (Bus Maintenance Facility) for authorized personnel.
Minimize emissions from Construction Equipment	Incorporate Clean Air Construction Initiative (CACI) into major earthwork construction projects.	For all large construction projects, heavy construction equipment must continue to be equipped with diesel particulate filters or diesel oxidation catalysts in accordance with CACI.
Reduce emissions from fuel vapor loss	Provide state-of-the-art fuel storage and distribution equipment.	The Fuel Storage and Distribution System continued to be in operation to reduce the use of mobile fueling trucks and associated vapor losses.
	Implement Tank Management Program.	Refer to Chapter 9, Water Quality, which provides details regarding tank management and focuses on proper maintenance.
Reduce emissions from stationary sources	Employ Reasonable Available Control Technologies (RACT) for NO_X at the Central Heating Plant.	RACT policies have been implemented before 2023 and 2024. The focus of Massport's Net Zero by 2031 program is studying options for transitioning the Logan Central Heating Plant from fossil fuel-burning technologies. The Central Heating Plant is the largest single source of stationary emissions at Logan Airport.

Table 8-21 Air Quality Management Strategy Status

Air Quality Emissions Reduction Goals	Plan Elements	2023 and 2024 Updates
	Use alternative fuels in snow melters.	At the time of this filing, Massport is piloting the use of renewable diesel, a sustainable fuel alternative to fossil-fuel-based diesel. This will primarily result in GHG emissions benefits; renewable diesel has also been shown to reduce PM, NO_X, CO, total hydrocarbons (THC), polycyclic aromatic hydrocarbons (PAHs), and VOCs.[3] See Section 11.2.3.2 for more details.
Reduce emissions from stationary sources	Incorporate green building technologies and energy use reduction strategies.	Massport continues to pursue LEED® certification, Envision™ Verification, and ParkSmart® Certification for relevant projects. See Section 11.1.2.1. for more details.
	Install diesel particulate filters on large emergency generators.	Since 2011, Massport has voluntarily installed diesel particulate filters on all large (>500 kilowatts) stationary emergency generators.
Reduce aircraft emissions	Use of pre-conditioned air (PCA) at new and renovated terminals and terminal gates.	All contact gates have PCA and/or 400-Hz power. This reduces the time-in-mode (TIM) of auxiliary power units (APUs) and consequently reduces associated emissions. The recent improvements at Terminal B and the Terminal B-C Connector project and the new gates at Terminal E included the installation of PCA at all new/renovated gates.

Table 8-21 Air Quality Management Strategy Status

Air Quality Emissions Reduction Goals	Plan Elements	2023 and 2024 Updates
	Work with FAA to study and implement airfield-improvement concepts and operational changes that may have air quality benefits.	Massport promoted such concepts through the Logan Airside Improvements Planning Project, which recommended physical and operational improvements to Logan Airport. • Massport conducted surveys to understand the extent of single-engine taxiing at Logan Airport and supported a more detailed study by MIT in 2009. The surveys found that single-engine taxiing is an important measure used by airlines to conserve fuel • To better understand single-engine taxiing use, FAA issued a paper in March 2010. In January 2011, MIT published a paper on aircraft pushback control strategies aimed at reducing congestion and taxi delays. • In addition to the MIT study on single-engine taxiing, Massport continues to: • Promote single-engine taxiing directly to chief pilots and airlines when safe. • Collaborate with MIT on national research on reducing departure queues on the airfield. Logan Airport-related work is complete and is now being tested at other airports. • Conduct a runway incursion mitigation study to include the potential for holding pads at appropriate locations to reduce aircraft queues at runway ends (closer to communities). • Manage an engine run-up location at the end of Runway 14-32 away from communities.
Reduce energy intensity and greenhouse gas (GHG) emissions while increasing portion of Logan Airport's energy generated from renewable sources	Increase the portion of Massport's energy generated from renewable sources. Reduce overall GHG emissions from Massport-operated mobile sources and energy consumed in Massport-operated facilities.	This goal was identified as part of the Logan Airport's Sustainability Management Plan (SMP), [2] which was released in April 2015. In the *2018 Annual Sustainability &Resiliency Report*, Massport identified several policies and initiatives it is implementing to achieve this goal, including pursuing LEED® accreditation for new projects and upgrading to energy-efficient heating, ventilation, and air conditioning (HVAC) systems. See section 11.2.3.2

Source: Massport, 2024.

1 U.S. EPA, "National DERA Awarded Grants," https://www.epa.gov/dera/national-dera-awarded-grants.

2 Progress towards goals identified as part of the Logan Airport's SMP will be reported separately, as part of Massport's annual sustainability reporting.

3 State of California Environmental Protection Agency, "Multimedia Evaluation of Renewable Diesel," Renewable_Diesel_Multimedia_Evaluation_5-21-15.pdf (ca.gov).

8.6 Air Quality Studies and Topics

The following sections provide an overview of air quality-related studies during the reporting timeframe as relevant to Logan Airport. These studies and topics include research presented in MEPA's Logan Airport Work Group, as discussed in Chapter 2, *Outreach and Environmental Justice*, Section 2.2.4.2.

User's Guide Section U8.6

In addition to this summary of recent applicable research, the **User's Guide, Section U8.6** discusses air quality studies and their relation to public health around Logan Airport in greater detail. It includes an overview of a Massachusetts Department of Public Health study that evaluated the potential health impacts of airport operations. The User's Guide also covers Massport's cooperation and contributions to these studies, including technical and financial support for research and community health initiatives, such as asthma and COPD prevention programs.

The MassDPH Study findings can be viewed online at:

https://www.mass.gov/doc/logan-airport-health-study-english-0/download.

In addition, the User's Guide presents recent research into the effects of aviation emissions on air quality and public health, highlighting studies from Tufts University, Olin College, the University of Southern California, and the University of Washington. These studies investigate pollutant concentrations in residential areas near airports, monitor air quality in affected communities, and explore the health implications of exposure to ultrafine particles (UFPs), black carbon (BC), and other pollutants. The User's Guide includes summaries of comprehensive research by the National Academies of Science, Engineering, and Medicine's Transportation Research Board (TRB) and Airports Cooperative Research Program (ACRP) as well as a collaborative study led by the University of North Carolina at Chapel Hill and Harvard University's T.H. Chan School of Public Health's Center for Climate, Health, and the Global Environment (Harvard Chan C-CHANGE), both of which address the broader impacts of airport-related emissions and suggest mitigation strategies.

8.6.1 Recent Studies on Impacts of Aviation Emissions on Air Quality

Massport continues to stay apprised of studies regarding the impact of aviation on air quality and public health. Findings from many of the following studies have been discussed as a part of MEPA's Logan Airport Work Group, and lead researchers from several of these studies have presented to the Work Group.

Transportation Research Board (TRB) Studies

In 2023 as part of the TRB Annual and Mid-Year Meetings the following presentations on UFP research studies were given:

- *Changes in Ultrafine Particle Concentrations near a Major Airport Following Reduced Transportation Activity during the COVID-19 Pandemic* by Sean Mueller et al., 2022.

- *Air Quality Impacts of Aviation Activities at a Mid-sized Airport in Central Europe* by Ivonne Trebs et al., 2023.

The Mueller et al. study, an ASCENT supported project, shows the effect of pandemic-related mobility changes on UFP counts in a near-airport community and distinguishes aviation-related and ground transportation source contributions. Additionally, the Trebs et al study concluded that UFP counts at the study airport declined during the daytime, despite significant flight activities during that same time period due to efficient turbulent mixing of air.

The TRB's ACRP Report 135: *Understanding Airport Air Quality and Public Health Studies Related to Airports* provides a comprehensive overview of how airport-related emissions affect air quality and public health. Over the reporting period for this EDR, a second edition released in 2024 expands on climate change, environmental justice, and tools for community risk communication.

Additional Air Quality Research

The following recently published studies were discussed during MEPA's Logan Airport Work Group meetings, which began in 2025 in response to the MEPA Secretary's comments on the *2022 ESPR*. Further information on these studies and findings is provided in the **User's Guide, Section U8.6.2**.

User's Guide Section U8.6.2

- **Aircraft arrival and departure contribution to ultrafine particle size distribution in a near airport community (van Loenen et al, 2025):** This research used flight activity and meteorology data to analyze UFP concentrations and size distributions at an airport monitoring site and determined concentrations were greatest downwind of the airport.[13]
- **Assessing the impact of aircraft arrival on ambient ultrafine particle number concentrations in near-airport communities in Boston, Massachusetts (Chung et al, 2023):** This study found ambient UFP concentrations varied significantly, but were notably elevated during hours with high aircraft activity, particularly downwind from Logan Airport.[14]
- **Aviation-Related Impacts on Ultrafine Particle Number Concentrations Outside and Inside Residences near an Airport (Hudda et al, 2018):** Conducted in Chelsea and Boston residential areas, this research found both outdoor and indoor UFP concentrations increased when winds came from the Airport's direction; however the study emphasized the need for further investigation as these impacts are likely not unique to Logan Airport.[15]

13 van Loenen, B. D., Black-Ingersoll, F., Durant, J. L., Levy, J. I., Patil, P., Mueller, S. C., Gause, E., Hudda, N., Bermudez, M., & Lane, K. J. (2025). Aircraft arrival and departure contribution to ultrafine particle size distribution in a near airport community. Environmental Science & Technology, 59(25), 12853-12864. https://doi.org/10.1021/acs.est.5c04799

14 Chung, C. S., Lane, K. J., Black-Ingersoll, F., Kolaczyk, E., Schollaert, C., Li, S., Simon, M. C., & Levy, J. I. (2023). Assessing the impact of aircraft arrival on ambient ultrafine particle number concentrations in near-airport communities in Boston, Massachusetts. Environmental research, 225, 115584. https://doi.org/10.1016/j.envres.2023.115584

15 Hudda, N., Simon, M. C., Zamore, W., & Durant, J. L. (2018). Aviation-Related Impacts on Ultrafine Particle Number Concentrations Outside and Inside Residences near an Airport. Environmental science & technology, 52(4), 1765–1772. https://doi.org/10.1021/acs.est.7b05593

- **Aviation Emissions Impact Ambient Ultrafine Particle Concentrations in the Greater Boston Area (Hudda et al 2016):** Notably, this research found UFP concentrations rose with increasing wind speed from the Airport's direction, suggesting aviation emissions were the source, whereas other pollutants such as CO and BC decreased with wind speed, indicating a separate source likely from road traffic.[16]

8.6.2 Engagement in Aviation-Related Environmental Issues

Massport maintains membership and active participation in organizations that address aviation-related environmental issues, including air quality. These include environmental committees for TRB, the American Association of Airport Executives (AAAE), and the Airports Council International-North America (ACI-NA). Massport is also cooperating with Boston University, Tufts University, and other researchers in identifying aircraft-specific related UFPs in an urban environment with non-airport related sources. This research is on-going in the East Boston area and Massport continues to contribute by providing Logan Airport operational and other pertinent data.

16 Hudda, N., Simon, M. C., Zamore, W., Brugge, D., & Durant, J. L. (2016). Aviation Emissions Impact Ambient Ultrafine Particle Concentrations in the Greater Boston Area. Environmental science & technology, 50(16), 8514–8521. https://doi.org/10.1021/acs.est.6b01815

9. Water Quality

Massport routinely assesses its own and its tenants and users environmental performance at Logan Airport through regular water quality, stormwater, fuel use and storage, and soils monitoring, recordkeeping, and reporting. Massport is also continually developing, implementing, evaluating, and adapting to improve its existing policies and programs. This chapter reports on Massport's environmental programs at Logan Airport pertaining to environmental compliance and management with respect to water quality.

In addition to these topics, Massport implements Logan Airport's *Sustainability Management Plan* (SMP) and Massport's *Sustainability Design Guidelines* (SDGs), which must be used by architects, engineers, and planners when implementing new development projects. These are discussed in greater detail in Chapter 11, *Sustainability and Climate Resilience*. Massport also has compliance requirements regarding air quality; reporting and discussion on this program are provided in Chapter 8, *Air Quality and Greenhouse Gas Emissions*. Key findings and a progress summary for environmental compliance management for water quality in 2023 and 2024 are presented below.

Environmental Management Policy

"Massport is committed to operate all of its facilities in an environmentally sound and responsible manner. Massport will strive to minimize the impact of its operations on the environment through the continuous improvement of its environmental performance and the implementation of pollution prevention measures, both to the extent feasible and practicable in a manner that is consistent with Massport's overall mission and goals."

2023 Water Quality Key Findings

The following details key findings of water and stormwater quality management for the Airport in 2023:

- No water quality exceedances occurred in 2023.
- The **U.S. Environmental Protection Agency (U.S.EPA)** issued a new **National Pollutant Discharge Elimination System (NPDES)** Stormwater Permit for Logan Airport (NPDES Permit MA0000787) , which sets forth new water quality testing requirements and limitations.

- Massport closed three **Massachusetts Contingency Plan (MCP)** Sites.

2024 Water Quality Key Findings

The following details key findings of water and stormwater quality management for the Airport in 2024:

- Updated Massport SDGs were published in January 2025.
- to better address water quality protection and Airport **resiliency** to flooding events, an updated Massport *Floodproofing Design Guidelines* was published in January 2025.
- Four reportable spills of ten gallons or more occurred in 2024.
- In May 2024, Massport submitted the *Polyfluoroalkyl Substances (PFAS) Reduction Plan* to **Massachusetts Department of Environmental Protection (MassDEP)** for review and commentary.

9.1 Water Quality and Stormwater Management Overview

Massport's primary water quality goal is to prevent or minimize stormwater pollutant discharges to Boston Harbor that may be associated with Airport activities. Massport employs a multitude of programs that promote awareness of potential environmental compliance issues that could arise from Massport and its tenant's activities, which in turn support improved surface and groundwater quality. These Programs include implementing **best management practices (BMPs)** for pollution prevention and enforcing compliance by Massport operation departments, tenants, and contractors; providing training to Massport operation departments staff, tenants, and contractors; maintaining a comprehensive **Stormwater Pollution Prevention Plan (SWPPP)**; and reviewing project-specific construction SWPPPs.

9.1.1 NPDES Permits at Logan Airport

Massport holds two separate individual permits under the U.S.EPA and MassDEP NPDES Program as mandated by the **Clean Water Act (CWA)**. The NPDES permit covers Massport and its **co-permittees** at Logan Airport, establishing effluent limitations and monitoring requirements for discharges from specified **stormwater outfalls**. Massport has developed a SWPPP, which defines the NPDES Program stormwater discharge compliance requirements applicable to Logan Airport under these permits and sets forth a strategy and policies to meet those requirements. The SWPPP also addresses prevention of deicing and deicing chemicals, bacteria, fuel and oil, and other contaminants exposures to the environment and includes BMPs specific to industrial activities occurring on Logan Airport.

The two separate NPDES Permits Massport holds for Logan Airport are:

- An Individual NPDES Stormwater Permit for Logan Airport (NPDES Permit MA0000787); and
- An Individual NPDES Permit/Massachusetts Surface Water Discharge Permit for the Fire Training Facility located on Governor's Island (NPDES Permit MA0032751).

The following sections describe the requirements of these two permits and Massport's compliance with these requirements.[1] These permits can be reviewed using the following weblinks:

- https://www.epa.gov/npdes-permits/massport-logan-international-airport-npdes-permit;
- https://www.epa.gov/system/files/documents/2025-06/finalma0032751permit-2021.pdf; and
- https://www.epa.gov/system/files/documents/2025-06/finalma0032751permitminormod-2021.pdf.

9.1.1.1 Construction NPDES Permits

Massport requires contractors at Logan Airport to comply with the U.S.EPA *NPDES Construction General Permit (CGP) for Stormwater Discharges from Construction Activities* for all construction projects impacting one or more acres.[2] For smaller projects, Massport requires compliance with the Logan Airport SWPPP BMPs. Massport also requires every new development and construction project at Logan Airport to comply with Massport's updated SDGs.[3] Massport projects must meet or exceed the *Massachusetts Stormwater Management Handbook* requirements, and to the extent practicable, projects must also meet the minimum performance thresholds for **Leadership in Energy and Environmental Design (LEED®)**, **ParkSmart®**, or **Envision®** certification.[4]

9.2 Stormwater NPDES Permit Compliance

On July 31, 2007, U.S.EPA and MassDEP issued the Individual NPDES Stormwater Permit for Logan Airport, Permit No. MA0000787 (2007 NPDES Permit). This Permit remained in effect until November 1, 2023. On August 24, 2023, The U.S.EPA and MassDEP issued a new individual NPDES Stormwater Permit, Permit No. MA0000787 (2023 NPDES Permit) to Massport and co-permittees with an effective date of November 1, 2023.[5]

1 On April 12, 2021, the U.S.EPA issued a draft NPDES permit under the CWA for stormwater and wastewater discharges from Logan Airport, which regulates the discharge of pollutants to state waters, like Boston Harbor. This permit was initially finalized on August 24, 2023, and will update and replace the existing permit issued in 2007 when it becomes effective.

2 U.S.EPA.NPDES CGP for Stormwater Discharges from Construction Activities (as modified). 2022. https://www.epa.gov/system/files/documents/2025-04/2022-cgp-permit-as-modified.pdf.

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

4 MassDEP. Massachusetts Stormwater Management Handbook. Updated February 2008. https://www.mass.gov/guides/massachusetts-stormwater-handbook-and-stormwater-standards

5 Most of the requirements became effective on November 1st, 2023, with a few requirements with unique conditions put into effect later on.

Figure 9-1 Logan Airport Outfalls

2023/2024 Environmental Data Report

Major Outfalls
Fire Training Facility
Airfield Stormwater Outfalls
Parking Facilities
Terminal Buildings
Outfall Drainage Area

0 600 1,200 2,400 Feet

The following sections describe stormwater outfalls, and the water quality monitoring requirements and results under the 2007 NPDES Permit for 2023 and the 2023 NPDES Permit for 2024. Section 9.2.2 summarizes the differences in compliance requirements between these two permits. more in-depth information is provided in the **User's Guide, Section U9.1**. Sampling and reporting protocols are also discussed further in the **User's Guide, Table U9-1**. The NPDES water quality monitoring results are also posted on Massport's website: https://www.massport.com/massport/business/capital-improvements/sustainability/water-quality/.

User's Guide Section U9.1

9.2.1 Stormwater NPDES Permitted Outfalls

The Logan Airport NPDES Permit No. MA0000787 regulates stormwater discharges from Logan Airport's stormwater outfalls, including the North, West, Northwest, Porter Street, Maverick Street, and airfield outfalls. Their drainage areas are shown in **Figure 9-1** and are described with associated acreages in **Table 9-2**. The North and West Outfalls have end-of-pipe pollution control facilities to remove debris, floating oil, and grease from stormwater before discharge into Boston Harbor.

Table 9-1 Stormwater Outfalls Subject to National Pollutant Discharge Elimination System (NPDES) Permit Requirements

Outfall Name and Number	Drainage Area (Acres)	Boston Harbor Discharge Location	Major Land Uses
North (Outfall 001)	152	Wood Island Bay	Terminal E, aprons, taxiways, cargo areas, fuel farms, and runways
West (Outfall 002)	449	Bird Island Flats	Taxiways, terminal areas, aprons, cargo areas, runways, and roadways
Porter Street (Outfall 003)	182	Bird Island Flats	Hangars, vehicle maintenance facilities, cargo areas, and car rental facilities
Maverick Street (Outfall 004)	34	Jeffries Cove	Car rental facilities, bus/limousine pools, and parking areas
Northwest (Outfall 005)	23	Wood Island Bay	Flight kitchens and bus maintenance facility
Airfield (Outfalls A1 through A44)	910	Inner Harbor	Runways, taxiways, perimeter roadways, Fire Training Facility, and Massport Fire and Rescue Station 2

Source: Massport, 2025.

9.2.2 NPDES SWPPP Compliance Requirements

The 2023 NPDES Permit carries forward effluent limitations, monitoring, and reporting requirements from the 2007 NPDES Permit, with different compliance requirements. These include changes in effluent limits, monitoring requirements for specific outfalls, and modifications in monitoring protocols, procedures, and reporting methods. Notable changes in requirements are summarized below:

- Separate sampling events during both wet weather conditions and dry weather conditions at all outfalls are no longer required. Instead, sampling occurs according to the prescribed monitoring frequency but may be influenced by wet or dry weather flows.
- Sampling 15 percent, or seven outfalls total, from among the set of airfield outfalls (Outfalls A1 – A44), is no longer required. Instead, three outfalls, Outfalls 006 (Perimeter A21), 007 (Perimeter A33), and 008 (Perimeter A8) have been established as permanent airfield monitoring locations for sampling intended to represent airfield runoff characteristics.
- New Effluent Limitations Established:
    - Numerical bacterial limits set for the first time for stormwater discharges from Outfalls 001 (North), 002 (West), 003 (Porter Street), and 004 (Maverick Street).
    - For Outfall 003 (Porter Street) and Outfall 005 (Northwest), a maximum daily limit was established for oil and grease where previously only reporting a detection was required.
    - For Outfall 003 (Porter Street) and Outfall 005 (Northwest), A maximum daily limit for total suspended solids (TSS) was established where previously only reporting was required.
    - For Outfall 003 (Porter Street), Total ammonia must now be included in quarterly sampling and detections reported, while benzene and surfactant sampling is no longer required.
    - For Outfalls 003 (Porter Street), 006 (Perimeter A21), 007 (Perimeter A33), and 008 (Perimeter A8), benzene sampling is no longer required; however the average monthly and maximum daily dissolved oxygen (DO) in mg/L must now be reported.
- Quarterly monitoring requirement set for six types of **per- and polyfluoroalkyl substances (PFAS)** for the permitted outfalls 001 through 005.
- Whole Effluent Toxicity (WET) testing is now required every quarter of the permit term for Outfalls 001 (North), 002 (West), and 004 (Maverick Street).
    - the 2007 NPDES Permit limited WET testing to two sampling events during a wet weather deicing episode, one in the first year and one in the third year of the permit cycle, for Outfalls 001 (North), 002 (West), and 003 (Porter Street).
- Deicing Episode Monitoring Modifications:
    - Ethylene glycol, total ammonia, and WET sampling and reporting are no longer required. However, maximum daily DO reporting is now a requirement.

- Monitoring is required monthly for Outfalls 001 (North) and 002 (West) instead of sampling twice within the deicing season, except for tolyltriazole, which is now sampled three times per season instead of twice, and nonylphenol, which is now sampled once per season instead of twice.
- Airfield Outfalls 006 (Perimeter A21), 007 (Perimeter A33), and 008 (Perimeter A8) are sampled quarterly for pH, oil and grease, TSS, and DO instead of 15 percent of the airfield outfalls twice during the season. Other analytes from the 2007 NPDES Permit are now sampled three times during the season instead of twice, except for nonylphenol, which is sampled once.
- for airfield Outfalls 006 (Perimeter A21), 007 (Perimeter A33), and 008 (Perimeter A8), ethylene glycol and total ammonia monitoring is no longer required.

The NPDES water quality monitoring results are also posted on Massport's website: https://www.massport.com/massport/business/capital-improvements/sustainability/water-quality/.

More information on the NPDES stormwater discharge compliance regulations and requirements can be found in the **User's Guide, Section U9.1.**

User's Guide Section U9.1

Deicer Discharge Reduction Plan

The 2023 NPDES Permit also establishes new technology-based requirements designed to reduce deicing chemical use by implementing a Blend-to-Temperature program as part of an overall *Deicer Discharge Reduction Plan* (DDRP).[6] This plan, coupled with new, enhanced monitoring and reporting requirements throughout the deicing season, will better protect water quality. Additionally, starting in 2026, Massport, in collaboration with the Co-Permittees, must submit an annual Glycol Reduction Report each year by September 30th.

PFAS Reduction Plan

In accordance with Condition 1.a. of the Massachusetts Clean Water Act Section 401 Certification for the Final 2023 Federal NPDES Permit for Logan International Airport, Massport prepared a summary of the products containing PFAS stored at Logan, and whether storage or use of those products can be reduced or eliminated.

9.2.2.1 2023 NPDES SWPPP Compliance Requirements

In October 2023, Massport conducted its annual SWPPP update meeting with its co-permittees. Also in 2023, Massport conducted training for personnel responsible for implementing activities identified in the SWPPP, performed SWPPP inspections of operating areas at Logan Airport, including tenants' facility areas, and made recommendations on how to optimize BMPs during those inspections.

6 Part I.C.2.2023 NPDES Permit No. MA0000787, Authorization to Discharge Under the National Pollutant Discharge Elimination System. August 24, 2023.

Co-Permittees submitted documentation verifying the SWPPP annual requirements had been fulfilled, including training, inspections, reporting, and BMP implementation, as applicable to each co-permittee facility's operations. Each co-permittee successfully submitted their Certification of Compliance to Massport's Environmental Management. On January 19, 2024, The 2023 Annual Certificates of Compliance were submitted jointly by Massport and the co-permittees to the U.S.EPA and MassDEP.

9.2.2.2 2024 NPDES SWPPP Compliance Requirements

Massport conducted its annual SWPPP update meeting with its co-permittees in October 2024. Also in 2024, Massport conducted training for personnel responsible for implementing activities identified in the SWPPP, performed SWPPP inspections of operating areas at Logan Airport, including tenants' facility areas, and made recommendations on how to optimize BMPs during those inspections.

Co-Permittees submitted documentation verifying the SWPPP annual requirements had been fulfilled, including training, inspections, reporting, and BMP implementation, as applicable to each co-permittee facility's operations. Each co-permittee successfully submitted their Certification of Compliance to Massport's Environmental Management. On January 17, 2025, The 2023 Annual Certificates of Compliance were submitted jointly by Massport and the co-permittees to the U.S.EPA and MassDEP.

Massport developed their DDRP with strategies for reducing deicing use over time, including options for developing the Blend-to-Temperature Program. While the Blend-to-Temperature technology does not need to be implemented until the end of 2026, Massport has met the 2023 NPDES Permit requirement to submit the DDRP and will continue to advance the implementation of the DDRP.

9.2.3 NPDES Monitoring Requirements and Results

For 2023 monitoring, the 2007 NPDES Permit No. MA0000787 mandated monthly **grab samples** from Outfalls 001 (North), 002 (West), 003 (Porter Street), and 004 (Maverick Street) to test various parameters, including pH, oil and grease, and bacteria, with additional wet weather sampling for polycyclic aromatic hydrocarbons (PAHs) and specific monitoring for deicing compounds twice per season. While the 2007 NPDES permit sets discharge limitations for pH, oil and grease, and TSS for certain outfalls, it only requires reporting of sampling results for other parameters and outfalls. For more on NPDES monitoring, see **User's Guide, Section U9.3**.

User's Guide Section U9.3

For November 1, 2023 through the end of 2024, monitoring followed the 2023 NPDES Permit requirements, and the changes in monitoring requirements between the two permits are summarized in Section 9.2.2. Both 2023 and 2024 monitoring data is available in Appendix K, *Water Quality Supporting Documentation*.

Massport conducts investigations to determine potential sources when exceedances are detected, and when the source is identified, Massport takes appropriate corrective action to resolve the issue.

Because the Logan Airport drainage areas can be large, and pollutant concentrations in discharges can be relatively low, it is not always possible to trace exceedances to specific events.

9.2.3.1 2023 NPDES Monitoring Results Summary

No permit exceedances occurred during the 2023 reporting year's monitoring efforts. Wet weather monitoring was not possible for Outfalls 001 (North), 002 (West), or 003 (Porter Street) in April and May 2023 due to unsafe weather conditions, like lightning or severe storms. Outfall 004 (Maverick Street) was also inaccessible in May 2023 due to adverse weather. PAHs were only detected in the fourth quarter sampling from Outfalls 001 (North), 002 (West), or 003 (Porter Street). Sampling results were reported as required to the U.S.EPA and MassDEP. Refer to Appendix K, Table K-1 to Table K-12 for the 2023 monitoring data results.

9.2.3.2 2024 NPDES Monitoring Results Summary

In 2024, over 98 percent of monthly stormwater samples from Outfalls 001 (North), 002 (West), 003 (Porter Street), and 004 (Maverick Street) were in compliance with standards for pH, oil and grease, benzene, and TSS. Refer to Appendix K, Table K-13 and Table K-15, for more details. The 2024 reporting year was the first full year where the new 2023 NPDES Permit requirements and monitoring protocols were in effect.

In 2024, there was one effluent discharge limitation exceedance for TSS, at 152.5 mg/L, which exceeded the maximum daily limit of 100 mg/L. Snow removal activities during the timeframe of the exceedance were identified as a potential cause.

Outfall 005 (Northwest) samples for pH, oil and grease, and TSS were collected in three of four quarters with no exceedances for these analytes in 2024. Airfield Outfalls 006 (Perimeter A21), 007 (Perimeter A33), and 008 (Perimeter A8) were also sampled over three quarters for these analytes in 2024, as well as for DO, although DO measurements are only required in the first and fourth quarters of a given reporting year. There were no exceedances for these outfalls for the required analytes in 2024, and DO values were approximately at saturation levels, indicating biochemical oxygen demand (BOD_5) and chemical oxygen demand (COD) were not an issue. Insufficient discharge flow volume meant samples could not be collected from Outfalls 005 through 008 in the third quarter of 2024, so no data is available. This sampling data is provided in Appendix K, Table K-20 and Table K-21.

Quarterly composite WET sampling was conducted in 2024 for Outfalls 001 (North), 002 (West), and 004 (Maverick Street), although data could not be collected from Outfall 004 during the first quarter sampling. Ambient Characteristic grab samples were also collected from each outfall's receiving water body, which are listed in **Table 9-1**, at a designated location upstream from each outfall's discharge point. These results were reported in accordance with the 2023 NPDES Permit requirements. See Appendix K, Table K-17 and Table K-18 for WET and Ambient Characteristic monitoring data.

Monthly grab sampling for pH, oil and grease, TSS, and benzene is required for internal outfalls associated with the fuel farm discharge treated stormwater from Outfall 001 (North). Discharge volumes sufficient to sample from these areas only occurred in February, April, and from September to December 2024; however, no exceedances were observed among the analyzed samples. Refer to Appendix K, Table K-19 for monthly data.

9.2.4 Deicing Monitoring

Aircraft and pavement deicing are typically conducted at Logan Airport beginning in October or November and continuing through March or April, depending on weather conditions in a given year. The 2007 and 2023 NPDES permit requires Massport, the airlines, and **fixed-base operators (FBOs)** to minimize deicer discharges to stormwater to the extent practicable by conducting aircraft and pavement deicing efficiently. Massport monitors both deicing use and stormwater discharges during the deicing season.

Massport has submitted a draft DDRP for review and comment from MassDEP and the U.S.EPA. In both 2023 and 2024, Massport collaborated with tenants and FBOs to review current practices and best practices, as well as planned activities outlined in the DDRP, to control deicer exposure to stormwater discharges. Although the use of Blend-to-Temperature systems is not mandatory until 2026, several tenants are already utilizing these practices, and Massport routinely checks in with tenants to assess their progress with implementing these practices. Starting in 2026, Massport will report on the program's efficacy at reducing glycol use. More information on the NPDES stormwater discharge compliance regulations and requirements is available in the **User's Guide, Section U9.1** Stormwater sampling results from the 2023 and 2024 reporting year deicing seasons are reported as required to the U.S.EPA NetDMR website and are also included in Appendix K, Table K-22 and Table K-23.[7]

User's Guide Section U9.1

9.2.4.1 2023 Deicing Monitoring Results Summary

Outfall 001 (North) was sampled in November and December of 2023 with BOD_5 and chemical oxygen demand COD at reportable levels, although these were not discharge limitation exceedances. These analytes are for BOD_5 and COD, respectively, and may be indicative of excess nutrients or de-icing chemicals in discharges. Outfall 002 (West) was also sampled in November and December, but only COD was detected at a reportable level. Outfall 003 (Porter Street) was sampled in February 2023 for the 2022-2023 deicing season. Each effluent chemical tested for in the discharges was observed in detectable quantities from Outfall 003 (Porter Street), as required by the 2007 NPDES permit. In 2023, WET and ambient toxicity testing was not required.

7 Wet weather deicing monitoring is only required during the first and third year of the NPDES permit.

9.2.4.2 2024 Deicing Monitoring Results Summary

Outfalls 001 (North) and 002 (West) were sampled monthly over seven sampling events. Two sampling events, one in October and one in November, were cancelled due to unsafe weather conditions at the time. While the November event was successfully rescheduled, it was not possible to collect samples for October.[8] For these outfalls, the BOD_5 and COD results were substantially similar to the 2023 monitoring results. Tolyltriazole and nonylphenol were below the analysis method's minimum level (ML) for detection in the samples analyzed.

Quarterly sampling for PFAS during the deicing season also began in 2024. Although the six PFAS types prescribed for monitoring were detected in discharges from Outfalls 001 and 002, the quantities detected were orders of magnitude below the acute saltwater aquatic life benchmarks for Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS).

9.2.5 Stormwater and Sanitary Sewer System Inspections and Repairs

Massport's Facilities Department conducts biannual inspections of the 61 **Stormceptor®** devices located throughout the Airport in accordance with Massport's Operations and Maintenance department policies. In addition to biannual Stormceptor® inspections, Massport routinely inspected catch basins within 100 yards of aircraft, vehicle, and equipment maintenance facilities, and they were cleaned on an as-needed basis. The pollution control facilities located at the North and West Outfalls have bar screen rooms, which remove trash and debris from stormwater runoff before it is released as a discharge, as well as oil-water (OW) separators, which remove floating oil and grease. The pollution control facilities are inspected daily, maintained, and cleaned as appropriate. In 2023 and 2024, Massport also conducted Logan Airport tenant facility inspections, and the inspection outcomes are summarized below. More information on the structural BMPs and Massport's inspection and repair protocols is provided in the **User's Guide, Section U9.1.4**.

User's Guide Section U9.1.4

9.2.5.1 2023 Stormwater and Sanitary Sewer System Inspections and Repairs

In 2023, nine units required cleaning during inspections; the remainder of the units had nominal sediment accumulations. Sediment and debris were removed and transported off-site to a solid waste landfill for disposal. No new Stormceptor® devices were installed in 2023. The bar screen rooms and OW separators associated with Outfalls 001 (North) and 002 (West) were also routinely inspected, cleaned, or repaired as necessary.

[8] Missed sampling events and failure to reschedule sampling are usually due to lack of weather conditions that do not necessitate the user of a deicer.

9.2.5.2 2024 Stormwater and Sanitary Sewer System Inspections and Repairs

Massport inspected the Stormceptor® units during two separate inspection surveys in 2024, and 26 units required cleaning. Sediment and debris were removed and transported to an off-site solid waste landfill for disposal. In 2024, no new Stormceptor® devices needed to be installed. The bar screen rooms and OW separators associated with Outfalls 001 (North) and 002 (West) were also routinely inspected and cleaned or repaired when needed.

9.2.6 Bacteria Source Tracking

Massport monitors bacteria levels at stormwater outfalls by obtaining samples during wet weather and dry weather events. Grab samples are collected from outfalls during monthly sampling events. Sampling results are available in Appendix K and can also be viewed in discharge monitoring reports (DMRs) posted on Massport's website: http://www.massport.com/massport/business/capital-improvements/sustainability/water-quality.

9.2.6.1 2023 Bacteria Source Tracking Results Summary

The laboratory analytical data obtained for compliance with the 2007 NPDES Permit indicated bacteria levels continue to be highly variable. Although the 2007 NPDES Permit did not set discharge limitations for bacteria, these data were reported as required by the permit and are provided in Appendix K, Table K-1 to Table K-4, Table K-8, and Table K-9.

9.2.6.2 2024 Bacteria Source Tracking Results Summary

The 2023 NPDES Permit included changes to reporting requirements for bacteria source tracking, as well as set effluent limitations for *Enterococcus* and fecal coliforms.[9] Results of bacteria sampling conducted in 2024 continued to be highly variable. Commencing in 2025, the 2023 NPDES Permit reporting requirements for bacteria source tracking will change and effluent limitations for *Enterococcus* and fecal coliforms will be set. Supporting data is provided in Appendix K, Table K-13 and Table K-15.

9 2023 NPDES Permit No. MA0000787, Authorization to Discharge Under the National Pollutant Discharge Elimination System. August 24, 2023.

9.3 Snow Disposal and Runoff Management

Massport's snow disposal for Logan Airport involves using large, mobile machines to melt accumulated snow. This approach helps keep the runways open and minimizes interruptions to passenger services, especially considering the high annual snowfall the Airport typically receives. Massport melts snow in areas where meltwater, which could contain pollutants, cannot readily access wetlands or water bodies, such as Boston Harbor. Massport's *Snow Disposal Policy* conforms to MassDEP's *Snow Disposal Guidance* requirements.[10]

Snow Melter at Logan Airport.

9.4 Fire Training Facility NPDES Surface Water Discharge Permit Compliance

The NPDES Permit/MassDEP Surface Water Discharge Permit No. MA0032751 was issued January 21, 2021, and became effective on April 1, 2021. This permit specifically regulates treated water discharges to Boston Harbor surface waters from Logan Airport's Fire Training Facility (as depicted in **Figure 9-1**). These discharges result from process water that collects at the Fire Training Facility during firefighting training exercises. There are no storm drains within the Fire Training Facility; therefore, this permit does not regulate stormwater discharges, but rather is specific to the treated process water collected from water-only training conducted in the fire training area. Further details about the Fire Training Facility's NPDES Surface Water Discharge Permit are in the **User's Guide, Section U9.5**.

User's Guide Section U9.5

9.4.1 NPDES Regulated Discharge Monitoring Requirements

The discharge monitoring requirements and analytes for the 2023 and 2024 reporting years, as well as the prior reporting requirements, are provided in the **User's Guide, Section U9.4.** When needed, collected waters are treated by separation and carbon filtration methods to remove fuel contaminants, then reused onsite to recharge the fire training pit for training exercises. If storage is unavailable, collected waters are treated to remove regulated contaminants and then tested to confirm that it meets water quality standards before being discharged from Outfall 001 (Airfield Outfall A-38).

User's Guide Section U9.4

Aqueous film forming foam (AFFF) containing PFAS are used by Aircraft Rescue and Firefighting (ARFF) personnel to fight aviation fuel fires safely and efficiently, per **Federal Aviation Administration (FAA)** Part 139 Certification safety requirements.[11] Massport has eliminated the use of AFFF containing PFAS in fire training exercises, which is also in accordance with FAA guidance. Massport is evaluating FAA

10 Massachusetts Department of Environmental Protection. (2020). *Snow disposal guidance*. Bureau of Water Resources. Retrieved from https://www.mass.gov/doc/2020-snow-disposal-policy-and-guidance/download

11 FAA *Advisory Circular (AC) No. 150/5210-22 Airport Certification Manual (ACM).* Issued April 26, 2004. https://www.faa.gov/documentLibrary/media/Advisory_Circular/150_5210_22.pdf

In 2023 and 2024, DMRs that included wastewater sampling results were submitted electronically to the U.S.EPA on a monthly basis as mandated by the permit via the U.S.EPA's NetDMR web application, regardless of whether discharges occurred.

and other guidance and safety requirements regarding transitioning to a fluorine-free foam product and its use.

More information on the Fire Training Facility's NPDES Surface Water Discharge Permit monitoring requirements are provided in the **User's Guide, Section U9.5**. The discharge dates and total gallons of treated collected waters discharged for each event are presented in **Table 9-2** below.

Appendix K, Table K-24 lists six PFAS compounds required for discharge monitoring, and samples collected in 2023 and 2024 were analyzed using the U.S.EPA's multi-lab validated Method 1633A, *Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS*.[12] PFAS sampling at the Fire Training Facility began in the 2023 reporting year per the MassDEP permit's terms and conditions.

User's Guide Section U9.5

9.4.1.1 2023 Fire Training Facility Regulated Discharges Summary

In 2023, five controlled, batch-type discharges of treated collected waters from the Fire Training Facility to Boston Harbor were conducted after submitting sample analysis results to Massachusetts Division of Marine Fisheries (MassDMF) and receiving approval. In 2023, 148,867 gallons of Fire Training Facility collected waters were recycled and reused. One type of PFAS was detected above trace amounts in the sample for the one quarterly discharge event in 2023, with 5.71 nanograms per liter (ng/L) of PFOS.

Table 9-2 Fire Training Facility Regulated Discharges, 2023 and 2024

Discharge Date	Discharge Volume (gallons)
10/25/2023	17,992
11/07/2023	19,813
11/08/2023	17,796
11/20/2023	19,661
11/21/2023	7,616
4/23/2024	18,717
4/24/2024	20,407

Source: Massport, 2025.

12 U.S.EPA. Method 1633, Revision A, *Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS*. Updated December 2024. https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas

9.4.1.2 2024 Fire Training Facility Regulated Discharges Summary

A total of 39,124 gallons of treated collected waters were discharged in 2024 during two events on April 23rd and April 24th as controlled, batch-type discharges from the Fire Training Facility via Airfield Outfall 001 to Boston Harbor after submitting sample analysis results to MassDMF and receiving approval. In addition, 177,437 gallons of Fire Training Facility collected waters were recycled and reused in 2024. No PFAS compounds were detected in Fire Training Facility samples in 2024.

9.5 Fuel Use and Spills

Massport maintains a **Spill Prevention, Control, and Countermeasures (SPCC) Plan** for facilities storing petroleum products. Tenants meeting certain thresholds are required to prepare their own SPCC plans for their facilities. Additionally, tenants receive information on Massport BMPs, which focus on spill management and prevention. Massport also implements a Tank Management Program, a continuous program of inspections, testing, and minor repairs for Massport-owned **underground storage tanks (USTs)**, **aboveground storage tanks (ASTs)**, related piping, tank monitoring systems, and associated equipment. More information on Massport's Tank Management Program, fuel and materials handling, spill prevention, and spill management procedures and policies are provided in the **User's Guide, Section U9.7**.

User's Guide Section U9.7

9.5.1 Fuel Use and Spills Compliance Requirements

Massport's Aircraft Fueling System (AFS) minimizes water quality impacts by implementing SWPPP BMPs, which include cathodic protection, leak detection devices, secondary containment, tank overfill protection, and reducing at-gate tanker truck deliveries. The AFS facility is leased and operated by BOSFuel Corporation. Operation of the AFS was performed by Swissport Fueling until Spring 2024, after which time FSM Group has operated on behalf of BOSFuel. Massport Fire Rescue maintains records of spills at Logan Airport. State environmental regulations require reporting fuel spills of ten gallons or more in volume to MassDEP. Spills of any volume entering storm drains must also be reported to MassDEP. Massport maintains records of spills, including those less than the reporting threshold. Most spills result from operator errors, such as overfilling during fueling, or other mechanical issues.

A summary of Logan Airport jet fuel usage and spill records from 2022, 2023, and 2024 is shown in **Table 9-3**, and details pertaining to the type and quantity of the spills can be found in Appendix K, Table K-26 and Table K-27.

Table 9-3 Fuel, Oil, and Regulated Materials Spills, 2022-2024

Material Spilled	Volume Spilled (gallons)			Number of Spills 10 gallons or More		
	2022	2023	2024	2022	2023	2024
Jet Fuel	200	511	328	3	7	1
Hydraulic Oil	39	74	84	0	0	3
Diesel Fuel	19	46	23	0	1	0
Gasoline	22	24	6	0	0	0
Other	12	236	42	0	3	0
Total Spills	**292**	**891**	**483**	**3**	**11**	**4**

Source: Massport, 2025.

9.5.1.1 2023 Fuel Use and Spills Compliance Summary

In 2023, of the 229 fuel, oil, or hazardous material spills reported to Massport Fire Rescue, 11 were reportable quantity spills requiring MassDEP notification. Six of the reportable spills reached storm drains, but all were pumped out at the impacted drain and did not reach the Harbor.

9.5.1.2 2024 Fuel Use and Spills Compliance Summary

In 2024, a total of 148 spills of regulated materials occurred, resulting in 483 gallons spilled. Although there were four reportable quantity spills in 2024, MassDEP was notified accordingly. Two of the reportable spills reached storm drains, but all were pumped out at the impacted drain and did not reach the Harbor. Site Assessment and Remediation

Massport complies with the MCP, 310 Code of Massachusetts Regulations (CMR) 40 et seq., by monitoring fuel and oil and hazardous materials spills, and tracking the status of spill response actions. In accordance with the MCP, Massport assesses, remediates, and brings areas of subsurface contamination into regulatory compliance.

9.5.2 Site Assessment and Remediation Compliance

Active MCP sites are illustrated in **Figure 9-2**, and Appendix K, Table K-28 describes Massport's progress in 2023-2024 in achieving regulatory closure of MCP sites. A map of sites that have achieved regulatory closure can be found in Appendix K, Figure K-1.

9.5.2.1 2023 Site Assessment and Remediation Updates

In 2023, two active MCP sites were closed, and one release tracking number (RTN) was assigned to a new site, which achieved a permanent solution and was closed the same year. The Fire Training Facility (RTN: 3-28199) MCP site was closed with the submittal of a Permanent Solution with Conditions Statement (PSCS) and Activity and Use Limitation (AUL) to MassDEP in June 2023. The Former American Airlines North Cargo (RTN: 3-35030) site was also closed following Massport's submittal of a Release

Abatement Measures (RAM) Completion Report, Permanent Solution Statement (PSS), and Notice of AUL first amendment letter. A 120-day reporting condition was issued in August 2023 for Runway 15R-33L Taxiway N Area (RTN: 3-38284), following the detection of polychlorinated biphenyls (PCBs) in soil during sampling for construction. The site was further assessed, and limited soil removal was completed in coordination with construction. The site was closed in December 2023, with a Permanent Solution with No Conditions.

9.5.2.2 2024 Site Assessment and Remediation Updates

In 2024, one release site, the former TWA Airlines Site (RTN: 3-1449), was identified in October 2024 to have been historically not closed out by the prior responsible party tenant, who no longer operates at Logan Airport. Massport took over assessment and response actions related to that site. In addition, at the end of 2024, two additional MCP sites managed by Massport remained open: the Fuel Distribution System (RTN: 3-1287) and Former Building 6 (RTN: 3-37749). RAM status reports were submitted every six months for the two active sites. In January 2024, the Phase IV Remedy Implementation Status Report was submitted for the MCP site at Terminal B Gate 5, formerly Gate 7 (RTN: 3-35047), and in July, the AUL and PSCS Report was submitted to close out the project.

Figure 9-2 Massachusetts Contingency Plan Sites (Active)

2023/2024 Environmental Data Report

1. Fuel Distribution System (3-1287)
2. Fire Training Facility (3-28199)
3. Former American Airlines - North Cargo (3-35030)
4. Terminal B Gate 5 (Formerly Gate 7) (3-35047)
5. Former Building 6 (3-37749)
6. Runway 15R-33L Taxiway N Area (3-38284)
7. TWA Airlines Site (RTN 3-1449)

Active
Closed in 2023
Closed in 2024
Jet Fuel Distribution System

0 600 1,200 2,400 Feet

10. Project Mitigation

Massport's **Environmental Data Report (EDR)** is a unique document within the **Massachusetts Environmental Policy Act (MEPA)** process, as it provides an overview of Logan Airport operations and environmental conditions, establishing the context for project reviews and approvals through the MEPA process. Unlike other MEPA documents, the annual EDR and **Environmental Status and Planning Reports (ESPRs)** are not projects within the typical MEPA framework. The ESPRs and EDRs do not replace individual project filings subject to MEPA, nor do they serve as approval for any specific activity.

Within the traditional MEPA process, project mitigation refers to specific measures taken to avoid, minimize, and mitigate environmental impacts associated with a particular project. For Logan Airport ESPRs and EDRs, Massport reports on several types of measures aimed at reducing environmental impacts, which are grouped into the following categories:

- **Project mitigation** refers to mitigation measures as prescribed under Massachusetts General Law Chapter 30, Section 61 **(Section 61 or Section 61 Findings and Mitigation Commitments)** for projects required to prepare a state **Environmental Impact Report (EIR)**. The formal Section 61 measures discussed in this chapter are specific to individual projects and include steps taken to avoid and minimize environmental impacts through design, construction, or on-going operations.
- **Community benefits** refer to those measures Massport has agreed to take outside of the MEPA process, and these are presented in greater detail within Chapter 2, *Outreach and Environmental Justice*.
- **Other environmental measures** are programs and initiatives that Massport voluntarily implements, in addition to Section 61 project mitigation and community mitigation efforts, and these include a wide range of other environmental measures that are not project-specific but rather are aimed at addressing broader impact categories. These include noise abatement measures, ground transportation accessibility improvements, **high-occupancy vehicle (HOV)** strategies, Massport's *Roadmap to Net Zero by 2031* (Roadmap to Net Zero) initiative, and many other operational measures that increase Airport efficiency, improve the quality of services provided, and reduce community

impacts. These other environmental measures are discussed in Chapter 11, *Sustainability and Climate Resilience*, and in applicable subject matter chapters that address topics like ground access, air quality, and noise, among others.

User's Guide Section U10

For more on Project Mitigation, see **User's Guide, Section U10**. The status of Logan Airport projects with active Section 61 commitments is presented in this chapter. Massport continues to comply with its project mitigation commitments as outlined in the **Executive Office of Energy and Environmental Affairs (EEA)** Secretary's Certificates for these projects, which are presented in Appendix A, *MEPA Certificates and Responses to Comments*.

10.1 Projects with Section 61 Commitments

The following projects have on-going Section 61 mitigation measures, and the current mitigation implementation status for each project as of this publication is summarized in this chapter. Massport continues to track its mitigation commitments, and the forum for reporting on their status is the ESPR and EDR documents. The applicable projects are listed below in chronological order of their completion:

- **Terminal E Modernization Project**, **EEA #15434:** Phase I of the project was completed in November 2023, and accommodates existing and long-range forecasted passenger demand for international service. Phase I included the construction of 390,000 square feet of terminal space; renovations to the existing Terminal E structure to create a unified building; and adding four new gates. Phase II will involve construction of three additional new aircraft contact gates, roadway realignments and curb access improvements, and a direct pedestrian connection to the **Massachusetts Bay Transportation Authority (MBTA)** Airport Station Blue Line connection. Roadway realignment, ground access, and curb accessibility planning efforts began in 2024, along with preliminary design for the new Terminal E canopy. See Chapter 4, *Airport Planning*, Section 4.2*,* for additional information.
- **Logan Airport Parking Project, EEA #15665:** The project involves the phased addition of commercial parking at Logan Airport consistent with the amendment to the **Logan Airport Parking Freeze**. In 2018, **Massachusetts Department of Environmental Protection (MassDEP)** and the **U.S. Environmental Protection Agency (U.S.EPA)** approved an amendment to the Logan Airport Parking Freeze to add an additional 5,000 spaces at Logan Airport. Massport filed an EIR, and MEPA issued a Certificate (January 2020) approving new parking in two Airport campus locations; a new garage across from Terminal E (2,000 spaces), and additional floors within the Economy Garage (3,000 spaces). Massport prepared an **Environmental Assessment (EA)** on the project and the **Federal Aviation Administration (FAA)** issued a **Finding of No Significant Impact (FONSI)**, allowing the project to move forward.
    - Construction of the MEPA and FAA-approved **Terminal E Garage** in front of the terminal was deferred during the COVID-19 pandemic. Massport has now restarted this deferred project, and the updated program for the project calls for approximately 4,000 commercial revenue spaces,

which would be built in a new garage in front of Terminal E. Located in the central terminal area of the Airport, the new garage will also improve connectivity to the existing parking complex and on-Airport roadways. No new parking spaces are being proposed for the Economy Garage at this time.

- **Runway 27 End Runway Safety Area Improvements Project, EEA #16433:** This project will enhance safety for aircraft and passengers in emergency situations by improving the Runway 27 End **Runway Safety Area (RSA)**. The RSA improvements are a required FAA safety project. The project would not extend the runway or affect normal runway operations, capacity, or types of aircraft using the runway. An EA and **Final Environmental Impact Report (FEIR)** were completed in 2023 and a FONSI was issued by the FAA. In April 2025, Massport filed a **Notice of Project Change (NPC)** with MEPA to address design changes to the two proposed emergency access and egress ramps and MEPA issued a Certificate in June 2025.

Once projects with on-going requirements are constructed, mitigation tracking reports on the continuing requirements. Each project discussed below has completed its requisite state and federal environmental reviews and has adopted mitigation plans that have been formalized with individual Section 61 Findings.

Massport tracks both Massport and Logan Airport tenants' progress towards implementing and meeting their environmental mitigation commitments on schedule and in accordance with the requirements outlined in the Section 61 Findings for each project. As each project moves forward through its design and construction phases, its mitigation plan is implemented with on-going tracking to verify compliance. Once mitigation efforts are completed, those projects are no longer reported in EDRs and ESPRs.

The following sections describe each project's current implementation status for measures that occurred in the reporting period. Previous filings contain historical details on the implementation of mitigation measures. The **Environmental Notification Forms (ENFs)**, **Draft Environmental Impact Reports (DEIRs)**, and FEIRs issued for the projects discussed in this chapter are provided in Appendix A, which contains the Secretary's Certificates.

10.2 Terminal E Modernization – EEA #15434

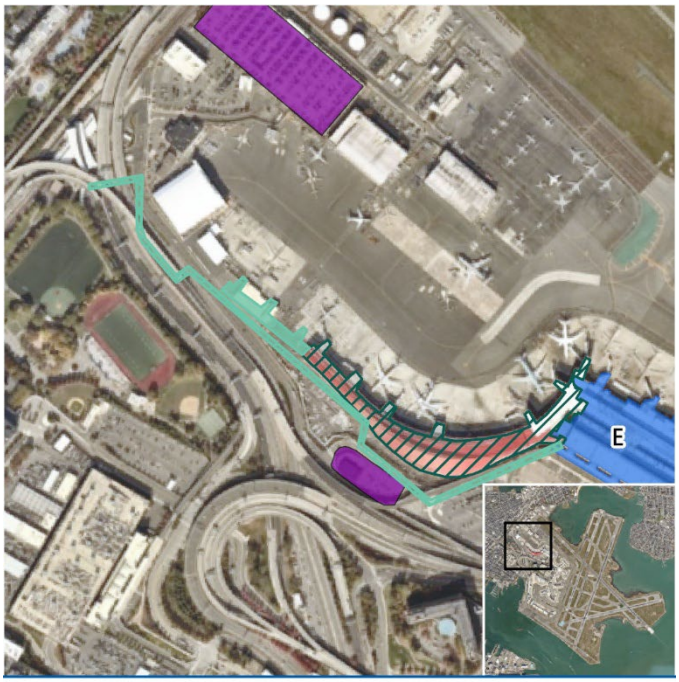


Figure 10-1 Terminal E Modernization EEA#15434

The Terminal E Modernization Project will add seven new gates to Terminal E in two phases, with four gates to be completed in Phase I and the remaining three gates to be completed in Phase 2. Of the seven gates, three were already approved under MEPA in 1996 for the International Gateway Project; however, the MEPA-approved gates for the International Gateway Project were never constructed. The existing concourse, terminal core, and terminal roadway frontages are collectively referred to as the "Project," and these areas will also be expanded. The implementation of the Project will better accommodate the current and projected demand for international travel, regardless of the Project's status.

Figure 10-1 shows the location of the Terminal E Modernization Project. **Table 10-1** lists each of the Section 61 mitigation commitments for the Terminal E Modernization Project and Massport's progress in achieving these measures. Future EDRs and ESPRs will provide updates, as available.

10.2.1 Permitting History

- Certificate on the ENF issued on December 16, 2015.
- Certificate on the Draft EIR issued on September 16, 2016.
- Certificate on the FEIR issued on November 10, 2016
- FAA FONSI and **Record of Decision (ROD)** issued on November 14, 2016.
- Section 61 Findings approved on January 19, 2017.

10.2.2 Project Status

Construction of the Terminal E Modernization Project began in 2019, accompanied by an enabling project to relocate the Logan Airport gas station to the Southwest Service Area (SWSA) at the intersection of Tomahawk Drive and Jeffries Street. This relocation cleared the area for Phase I of the Terminal E Modernization, which included the addition of four new gates and new passenger amenities within a

Modernization, which included the addition of four new gates and new passenger amenities within a building designed to serve as a noise barrier and achieve a minimum **Leadership in Energy and Environmental Design (LEED®)** Gold certification. **Sustainability** features incorporated into the project include integrated **solar photovoltaics (PV)**, daylight harvesting, a high-performance **building envelope**, recycled materials, and a solar-ready roof to support Massport's Roadmap to Net Zero.

Phase I construction was completed, and the four new gates opened in October 2023. As of December 2024, Phase II of the project remains deferred. This phase proposes three additional gates and a direct pedestrian connection to the MBTA Blue Line Airport Station. While no revised construction timeline has been released, internal enhancements within Terminal E have continued throughout 2024.

Table 10-1 Terminal E Modernization Project (EEA #15434) Details of On-going Section 61 Mitigation Measures (as of December 31, 2024)

Mitigation Measure	Status
Overall Project Benefits	
Provide pedestrian access between Terminal E and Massachusetts Bay Transportation Authority (MBTA) Airport Blue Line-Station.	On-going. The Final Environmental Impact Report (FEIR) acknowledged that a direct connection between Terminal E and the MBTA Airport Station with Blue Line service would not be included in Phase I, now complete, but would be a part of Phase II once construction of the remaining three terminal gates planned was complete. Various approaches are under consideration and will be further documented in subsequent environmental filings and EDRs or ESPRs. Currently, passengers can take a free on-Airport shuttle, from Airport Station to Terminal E, with an average wait time of three minutes.
Construct roadway and curb improvements to improve vehicle flow, high-occupancy vehicle (HOV) access, and reduce air and greenhouse gas (GHG) emissions.	On-going. Phase II is being advanced in accordance with the commitments outlined in the Final Environmental Assessment (EA) and FEIR for roadway and curb improvements to enhance vehicle flow and HOV access. The FEIR did not include roadway or curb improvements as part of Phase I. However, planning and design for canopy and curb access improvements began in 2024, and progress updates will be provided in future EDRs and ESPRs.
Site Terminal E additions so as to buffer the adjacent neighborhoods from aircraft noise.	Phase I: Implemented. Phase I met the FEIR requirement for the inside of the main concourse to be at least 45 feet high from floor to ceiling, serving as a noise buffer for East Boston Memorial Park and the surrounding neighborhoods to the southwest. Phase II will be advanced consistent with the commitments in the Final EA or Environmental Impact Report (EIR).

Table 10-1 Terminal E Modernization Project (EEA #15434) Details of On-going Section 61 Mitigation Measures (as of December 31, 2024)

Mitigation Measure	Status
Seek Leadership in Energy and Environmental Design (LEED®) certification at Silver level or better; meet or exceed Massachusetts (MA) LEED® Plus program goals.	On-going. The project is aiming to achieve a minimum of LEED® Gold certification. and includes several sustainability initiatives, including the incorporation of recycled materials, solar photovoltaic (PV) systems, electrification stations, electrochromic and solar PV glass, super insulation, and advanced interior and exterior building systems to minimize its carbon footprint. Phase II will be advanced consistent with the commitments in the Final EA or EIR.
Provide 400 Hertz (Hz) of power and pre-conditioned air at the new aircraft gates.	Phase I: Implemented. 400 Hz power and pre-conditioned air have been installed at the new gates constructed under Phase I. The power and pre-conditioned air will allow for aircraft engine shutdown while at gates, reducing emissions and noise. Phase II will be advanced consistent with the commitments in the Final EA or EIR.
Site Planning and Sustainable Design / Greenhouse Gas Reduction	
Incorporate sustainable design in design, construction, and operations including: Improved building envelope, Improved Air Handling Units; Efficient water loops; Reduced interior lighting power density.	Phase I: Implemented. The terminal includes a well-insulated façade, advanced systems, and renewable energy systems. Phase I was designed to maximize solar gain from renewable energy systems and optimize natural light through multi-level window design, reducing interior lighting energy demands. The building utilizes improved air handling units, which reduce energy consumption by releasing conditioned air near the lower zones of passenger-occupied spaces and allowing warm, humid air to rise naturally and be exhausted. The use of PV glass on south-facing windows allows for automatic tinting, helping to keep the building cool and further reducing energy use. The building envelope and roof were designed to withstand high winds and a 500-year storm during any season, with all critical infrastructure elevated in accordance with Massport's *Floodproofing Design Guidelines*. Water conservation technology was incorporated within the design to reduce water use. Phase II will be advanced consistent with the commitments in the Final EA or EIR.

Table 10-1 Terminal E Modernization Project (EEA #15434) Details of On-going Section 61 Mitigation Measures (as of December 31, 2024)

Mitigation Measure	Status
Specify roofing materials with a minimum reflectance rating of 0.70 and emittance value of at least 0.75 for a minimum of 75% of the available roof area. Install non-glare roofing materials.	**Phase I: Implemented.** The building's roof achieved this reflectance rating as it reflects heat, mitigating the heat island effect. PV glass facing south reduces internal glare through automatically darkening to help keep the building cooler and reduce energy use. Phase II will be advanced consistent with the commitments in the Final EA or EIR.
Incorporate infrastructure for collection, storage, and handling of recyclable materials.	**Phase I: Implemented.** The building includes infrastructure for the collection, storage, and handling of recyclable materials. Waste reporting for Logan Airport is discussed in Chapter 11, Section 11.1.2.3. This includes the use of Oscar, an Artificial Intelligence (AI) sorting assistant that helps increase recycling success. Phase II will be advanced consistent with the commitments in the Final EA or EIR.
Require contractor to develop a construction waste management plan that requires diversion or reduction of construction waste by at least 75%.	**Phase I: Implemented.** 77 percent of waste was diverted from landfill, totaling 3,472 pounds. See Chapter 11, Section 11.1.2.3. Phase II will be advanced consistent with the commitments in the Final EA or EIR.
Establish a project-specific goal for sourcing materials extracted, harvested, recovered, and or manufactured within New England.	**Phase I: Implemented.** In alignment with Massport *Sustainability Design Guidelines*, the project prioritized utilizing recycled materials from local sources throughout the building to minimize GHG emissions through development. Phase II will be advanced consistent with the commitments in the Final EA or EIR.
Design project to achieve energy efficiencies of a minimum of 20% below the MA Energy Code.	**Phase I: Implemented.** Phase I achieved an energy efficiency of 25 percent, exceeding the Massachusetts Energy Code. Phase II will be advanced consistent with the commitments in the Final EA or EIR.
Include water conservation devices that reduce water use by 20% below code.	**Phase I: Implemented.** Phase I achieved a 31 percent annual reduction in water use through water conservation devices and technology. Phase II will be advanced consistent with the commitments in the Final EA or EIR.
Include a minimum of 25,000 square feet of roof top solar photovoltaic system (approximately 300 kilowatt [kW]). Heat restroom hot water with solar units.	**On-going.** The building includes 5,500 square feet of PV glass with a 20 kW capacity. The roof was designed for the potential for a future solar PV system. The addition of 25,000 square feet of solar PV is included in the scope for Phase II.

Table 10-1 Terminal E Modernization Project (EEA #15434) Details of On-going Section 61 Mitigation Measures (as of December 31, 2024)

Mitigation Measure	Status
Incorporate occupancy sensors in all indoor areas to reduce electrical demand.	**Phase I: Implemented.** Occupancy sensors were incorporated throughout the building to reduce electrical demand. The multi-tier window system additionally allows for increased natural light, reducing electrical demand. Phase II will be advanced consistent with the commitments in the Final EA or EIR.
Evaluate other energy efficiency/greenhouse gas reduction measures as project design progresses.	**Phase I: Implemented.** Energy efficiency measures result in a 25 percent reduction in energy use. Throughout the design, innovative solutions were employed to enhance energy efficiency and mitigate greenhouse gas emissions. The building's strategic design, which maximizes solar benefits, has reduced electrical demand through natural light and provides for future solar PV opportunities. Advanced air handling reduces energy needs while providing a comfortable environment. From these advancements, Massport anticipates reducing annual electricity consumption by 10 percent due to efficiencies from Phase I.
Air Quality	
Reduce operational-related carbon dioxide (CO_2) emissions associated with the Project by a minimum of 30% percent.	**On-going.** Reduced operational GHG from the efficiencies within Terminal E resulted in a reduction of 1,414 metric tons of carbon dioxide equivalent ($MTCO_2e$) compared to business-as-usual conditions. Phase II will continue to advance operational GHG emissions reductions.
Stormwater Management	
Replace and upgrade stormwater management.	**Phase I: Implemented.** A new stormwater management system was installed to handle stormwater associated with Phase I. Phase II will be advanced consistent with the commitments in the Final EA or EIR.
Construction Period Impacts	
In accordance with DEP's Clean Air Construction Initiative, the Authority will require that construction contractors to install emission control devices such as diesel oxidation catalyst and/or particulate filters on certain equipment types (i.e., front-end loaders, backhoes, excavators, cranes, and air compressors).	**Implemented.**
Retrofitting of certain construction equipment types with emission controls such as diesel oxidation catalyst and/or particulate filters.	**Implemented.**

Table 10-1 Terminal E Modernization Project (EEA #15434) Details of On-going Section 61 Mitigation Measures (as of December 31, 2024)

Mitigation Measure	Status
Selection of high efficiency "temporary" space heating/cooling systems.	Implemented.
Remediate subsurface contamination, as necessary, if encountered during tank removals or other excavation activities as part of construction (in compliance with the Massachusetts Contingency Plan).	Implemented.
Soil treatment and reuse on site as part of a Soil Management Plan.	Implemented.
Voluntary compliance with the requirements of City of Boston noise ordinances, including restrictions on the types of equipment that can be used, and limitations on the hours when certain activities can take place (the City of Boston noise ordinance establishes restrictions during the construction hours between 7:00 PM and 7:00 AM).	Implemented.
Construction worker vehicle trip limitation, including requiring contractors to provide off-Airport parking and use of high-occupancy vehicle transportation modes for employees.	Implemented.
Implement Indoor Air Quality (IAQ) Management Plan during construction.	Implemented.
Construction Traffic Operations	
Construction-related traffic will be required to access and egress through the North Gate using only state and federal highways and the Airport roadway network. Construction- related traffic on local East Boston roadways will be prohibited.	Implemented.
Construction Traffic Operations	
Construction employee parking spaces will not be permitted on the construction site nor will provisions be made for them elsewhere on-Airport with the exception of a small number of spaces for supervisory personnel. The Authority will require contractors on this Project to implement construction worker vehicle trip management measures, including requiring off-Airport parking and HOV transportation modes for contractor employees.	Implemented.
Police details will be employed, as needed, to manage traffic and ensure public safety.	Implemented.

Table 10-1 Terminal E Modernization Project (EEA #15434) Details of On-going Section 61 Mitigation Measures (as of December 31, 2024)

Mitigation Measure	Status
Construction Air Quality	
Construction emissions will be reduced and controlled by mandatory contractor implementation of the following best practices:	Implemented.
Encouragement for construction-worker site access/egress using dedicated buses and vans;	Implemented.
Reduction of exposed erodible surface areas to the extent feasible;	Implemented.
Covering of exposed surface areas with pavement or vegetation in an expeditious manner and periodic watering;	Implemented.
Minimizing equipment idling times;	Implemented.
Reduction of on-site vehicle speeds;	Implemented.
Ensuring contractor implementation of appropriate fugitive dust and equipment exhaust controls;	Implemented.
Use of low- or zero-emissions equipment to the maximum extent feasible; and	Implemented.
Use of covered haul trucks during materials transportation.	Implemented.
Construction Noise	
Require construction equipment to deploy noise-reduction measures, such as the use of proper mufflers, measures to limit noise from truck traffic. Primarily operate only during daylight hours (7:00 AM to 7:00 PM).	Implemented.

Source: Massport, 2025.

10.3 Logan Airport Parking Project – EEA #15665

The Logan Airport Parking Project includes the construction of new commercial parking spaces in front of Terminal E, which is currently used for surface parking. The updated Logan Airport Parking Project will add approximately 4,000 commercial revenue spaces within a new garage in front of Terminal E. Located in the central terminal area of the Airport, the Terminal E Garage will also improve connectivity to the existing parking complex and Airport roadways. No parking spaces are being proposed for the Economy Garage at this time.

The approximately 4,000 spaces will be accommodated in a nine-story facility, with commercial parking beginning on the second floor. The facility will be served by **electric vehicle (EV)** charging facilities to support Massport's Roadmap to Net Zero.

The new Garage will be connected to existing facilities:

Figure 10-2 Logan Airport Parking Project EEA#15665

Proposed Garage
Parking Facilities
Proposed Roadway Improvements
Terminal Buildings

Notes: Status as of 12/2024
Source: Nearmap (October 2024)

0 270 540 Feet

- New pedestrian bridges will connect from the garage to northwestern Terminal C and from the garage to the west side of Terminal E;
- The existing pedestrian bridge between the West Garage and Terminal E will be dismantled for the portion within the footprint of the new garage, and the walkway will be integrated into the Garage floor plan to allow for better vehicular and pedestrian circulation; and
- A vehicular bridge will connect the fourth level of the West Garage to the new garage.

In addition, the Project will also include roadway enhancements and curb reconfiguration to improve vehicle access, particularly for HOV, and minimize idling time at curbs. Future EDRs and ESPRs will provide updates on the project, as available. **Figure 10-2** shows the location of the Logan Airport Parking Project. **Table 10-2** lists each of the Section 61 mitigation commitments for the Logan Airport Parking Project and Massport's progress in completing these measures.

10.3.1 Permitting History

- Certificate on the ENF issued on May 5, 2017.
- Certificate on the Draft EIR issued on August 2, 2019.
- Certificate on the FEIR issued on January 30, 2020.

10.3.2 Project Status

In 2018, MassDEP and the U.S.EPA approved an amendment to the Logan Airport Parking Freeze to add 5,000 additional spaces at Logan Airport. Massport filed an EIR and MEPA issued a Certificate in January 2020, approving new parking in two Airport campus locations:

- 2,000 spaces in a new Garage across from Terminal E; and
- 3,000 spaces on additional floors at Economy Garage.

Construction of the MEPA- and FAA-approved Garage in front of Terminal E was put on pause during the pandemic. By late 2023, Massport had resumed progress on the project and initiated preliminary design efforts that considered current conditions and future demand projections.

As of December 2024, the preliminary design of the Terminal E Garage was on-going in preparation for construction, which is anticipated to begin in 2025. The updated garage design includes improved pedestrian and vehicular circulation features, including:

- New pedestrian bridges connecting the garage to Terminal C, Pier A, and the west side of Terminal E;
- A new vehicular bridge linking the West Garage to the Terminal E Garage;
- Dismantling of the existing pedestrian bridge between the West Garage and Terminal E, with new connections integrated into the garage floor plan; and
- Campus-wide roadway and curbside reconfigurations to improve HOV access, minimize idling, and reduce emissions.

The Terminal E Garage continues to comply with the Logan Airport Parking Freeze and will allow Massport to recover approximately 2,000 commercial parking spaces displaced from the Central and Terminal B Garages due to HOV and **Ride App** initiatives. Even with the addition of the new garage, Logan Airport will remain approximately 3,000 commercial spaces below the Parking Freeze limit. Further details on this project are included in Chapter 4, Section 4.1.

Table 10-2 Logan Airport Parking Project (EEA #15665) Details of On-going Section 61 Mitigation Measures (as of December 31, 2024)

Mitigation Measure	Status
Overall Project Benefits	
Accommodate existing and anticipated air passenger demand for parking to reduce drop-off/pick-up mode share and associated vehicle miles travelled (VMT) and on-Airport and off-Airport air emissions.	The new parking spaces will be constructed to reduce drop-off and pick-up mode share and associated VMT, and on-Airport and off-Airport air emissions.
Reuse existing developed areas (i.e., the Project sites avoid undeveloped, greenfield lands).	The surface parking lot in front of Terminal E is fully developed and currently in use for parking.
Selecting project sites with community input that are in areas already used for parking, are on existing bus/shuttle routes, and are separated from nearby residential communities.	The surface parking lot in front of Terminal E was selected as the project site with community input. It is on existing bus or shuttle routes and is separated from nearby residential communities.
Providing added noise barrier benefits in conjunction with the Terminal E Modernization Project, through the expansion of the existing Economy Garage.	The project no longer includes building atop the Economy Garage and is located in the center of the Airport, away from the community.
Providing dynamic signage / messaging, parking reservation system, and parking guidance via electronic space occupancy detection to reduce on-Airport circulation as well as associated VMT and air emissions.	Final design will include these measures to reduce on-Airport circulation as well as associated VMT and air emissions.
Sustainability and Resiliency	
Incorporating measures from the United States Green Building Council (U.S.GBC) ParkSmart® rating system into the project's technology, structural design, and operation.	Mitigation measures will be implemented when design and construction proceed.
Reducing lighting power densities from a base of 0.19 watts per square foot to a maximum of 0.05 watts per square foot.	Mitigation measures will be implemented when design and construction proceed.
Installing occupancy sensors and photocells on all applicable interior and exterior lighting.	Mitigation measures will be implemented when design and construction proceed.
Installing programmable thermostats where applicable (i.e., mechanical / electrical rooms).	Mitigation measures will be implemented when design and construction proceed.
Designing the parking decks to be open air, negating the need for ventilation system.	All new parking spaces will be open-air.
Performing building commissioning in accordance with American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Guideline 0-2005 and ASHRAE Guideline 1.1-2007.	Mitigation measures will be implemented when design and construction proceed.
Incorporating a solar photovoltaic (PV) system at the new garage in front of Terminal E capable of offsetting 50 percent of the facility's total energy consumption.	Mitigation measures will be implemented when design and construction proceed.

Table 10-2 Logan Airport Parking Project (EEA #15665) Details of On-going Section 61 Mitigation Measures (as of December 31, 2024)

Mitigation Measure	Status
Relocating the existing solar PV system at the new garage in front of Terminal E capable of offsetting 50 percent of the facility's total energy consumption, including all lighting and power required for its electric vehicle (EV) charging stations.	Mitigation measures will be implemented when design and construction proceed.
Reserving parking spaces for alternative fuel vehicles (e.g., EVs) amounting to at least 1 percent of total spaces and assigning preferred parking spaces for other low-emitting and fuel-efficient vehicles amounting to at least another 1 percent of total spaces.	Mitigation measures will be implemented when design and construction proceed.
Installing 11 EV charging stations (22 ports) in the new garage in front of Terminal E.	Mitigation measures will be implemented when design and construction proceed.
Designing and building the proposed garages to accommodate expanded EV charging infrastructures to accommodate 150 percent of demand.	Mitigation measures will be implemented when design and construction proceed.
Integrating vertical landscaping into the façade of the new garage in front of Terminal E.	Mitigation measures will be implemented when design and construction proceed.
Adhering to durable design principles and a preventative maintenance plan to extend facility lifespan and avoid greenhouse gas emissions caused by future large-scale construction and renovation activities.	Mitigation measures will be implemented when design and construction proceed.
Installing and applying only no- or low-volatile organic compound (VOC) coatings, paints, and sealants.	Mitigation measures will be implemented when design and construction proceed.
Installing halon-free fire suppression systems in each garage.	Mitigation measures will be implemented when design and construction proceed.
Complying with Massport's Floodproofing Design Guide and elevating critical equipment and systems above the designated design flood elevations.	Mitigation measures will be implemented when design and construction proceed.
Implementing an active recycling program to reduce the amount of waste sent to regional landfills/incinerators and to reduce greenhouse gas emissions associated with material disposal.	Mitigation measures will be implemented when design and construction proceed.
Displaying educational materials to convey the facilities' environmentally sustainable design and operations.	Mitigation measures will be implemented when design and construction proceed.
Construction Period Mitigation	
Providing on-Airport storage areas for construction materials.	Mitigation measures will be implemented when design and construction proceed.

Table 10-2 Logan Airport Parking Project (EEA #15665) Details of On-going Section 61 Mitigation Measures (as of December 31, 2024)

Mitigation Measure	Status
Coordinating the arrival of large construction equipment among various on-Airport projects and limiting their arrival or removal during peak travel hours (both Airport and commuter peaks).	Mitigation measures will be implemented when design and construction proceed.
Developing specific truck routing and/or staging plans for implementation by the various contractors.	Mitigation measures will be implemented when design and construction proceed.
Requiring construction managers to prepare: • *Draft Soil Management Plan;* • *Draft Stormwater Pollution Prevention Plan;* • *Draft Management Plan for Dewatering, if needed;* • *Draft Health and Safety Plan.*	Mitigation measures will be implemented when design and construction proceed.
Employing a Construction Waste Management Plan that requires at least 85 percent of materials to be recycled or reused.	Mitigation measures will be implemented when design and construction proceed.
Controlling rodents through routine inspection, monitoring, and treatment.	Mitigation measures will be implemented when design and construction proceed.
Prioritizing the use of construction equipment and materials that are repurposed, reused, or recycled (or contain recycled content), where feasible.	Mitigation measures will be implemented when design and construction proceed.
Prioritizing construction equipment and materials that are sourced regionally (i.e., within 300 miles of the Project sites) to reduce greenhouse gas emissions associated with their transport.	Mitigation measures will be implemented when design and construction proceed.
Using regional (i.e., within 75 miles) labor to the greatest extent practicable.	Mitigation measures will be implemented when design and construction proceed.
Encouraging construction companies to provide off-Airport parking for their employees and to provide shuttle services from these locations (shuttles are required to use the Coughlin Bypass road to access the Airport).	Mitigation measures will be implemented when design and construction proceed.
Requiring all construction vehicle / equipment to follow anti-idling procedures and all construction managers to provide associated training.	Mitigation measures will be implemented when design and construction proceed.
Requiring the use of low- or zero-emissions equipment, where practicable.	Mitigation measures will be implemented when design and construction proceed.
Requiring the retrofitting of appropriate diesel construction equipment with diesel oxidation catalyst and/or particulate filters.	Mitigation measures will be implemented when design and construction proceed.

Table 10-2 Logan Airport Parking Project (EEA #15665) Details of On-going Section 61 Mitigation Measures (as of December 31, 2024)

Mitigation Measure	Status
Requiring contractors to use Ultra Low Sulfur Diesel Fuel (ULSD).	Mitigation measures will be implemented when design and construction proceed.
Maintaining low on-site vehicle speeds.	Mitigation measures will be implemented when design and construction proceed.
Deploying air quality and fugitive dust management best practices, such as reducing exposed erodible surface areas through appropriate materials and equipment staging, covering exposed surface areas with pavement or vegetation in an expeditious manner, and stabilizing soil with cover or periodic watering.	Mitigation measures will be implemented when design and construction proceed.
Using and maintaining construction equipment appropriately to avoid unnecessary noise and applying noise-reduction measures to reduce noise from pile driving by at least 5 A-weighted decibels (dBA) below their unmitigated levels 1.	Mitigation measures will be implemented when design and construction proceed.
Requiring trucks to access the Project sites by Route 1A, Interstate 90, Coughlin Bypass Road, and the main Airport roadway only or other routes in compliance with transportation safety requirements.	Mitigation measures will be implemented when design and construction proceed.
Prohibiting trucks from using local streets.	Mitigation measures will be implemented when design and construction proceed.
Specifying truck routes in contractors' construction specifications.	Mitigation measures will be implemented when design and construction proceed.
Using concrete production and batching plants with access via Route 1A or Interstate 90.	Mitigation measures will be implemented when design and construction proceed.
Encouraging construction workers to use MBTA transit services, Logan Express, the water shuttle, and other high-occupancy modes of travel.	Mitigation measures will be implemented when design and construction proceed.
Putting into place an Erosion and Sedimentation Control Program, in compliance with the Stormwater Pollution Prevention Plan, to protect water quality and to minimize construction phase impacts to Boston Harbor.	Mitigation measures will be implemented when design and construction proceed.
Deploying spill prevention measures and sedimentation controls throughout the construction phases to prevent pollution from construction equipment and erosion.	Mitigation measures will be implemented when design and construction proceed.

Table 10-2 Logan Airport Parking Project (EEA #15665) Details of On-going Section 61 Mitigation Measures (as of December 31, 2024)

Mitigation Measure	Status
Using the following erosion and sedimentation controls throughout the construction phases: • *Perimeter barriers such as straw wattles or compost-filled "silt sock" barriers will be placed around upland work areas to trap sediment transported by runoff before it reaches the drainage system or leaves the construction site;* • *Existing catch basins within the work sites will be protected with barriers (where appropriate) or silt sacks;* • *Open soil surfaces will be stabilized within 14 days after grading or construction activities have temporarily or permanently ceased.*	Mitigation measures will be implemented when design and construction proceed.
Ground Access Improvement, Trip Reduction, and Emissions Reduction	
Implement the following ground access improvement, trip reduction, and emission reduction initiatives: • *Advance the electrification of ground service equipment, pursuant to which all ground service equipment will be replaced no later than the end of 2027 (as available);* • *Expand Logan Express capacity by 10 percent;* • *Increase the percentage of zero emission taxi, livery, and Ride App vehicles (i.e., those associated with companies such as Uber and Lyft) by providing: high-speed electric vehicle charging stations at all taxi, livery, and Ride App pools; and taxi and Ride App queue priority to electric vehicles (subject to negotiation with companies).*	Mitigation measures will be implemented when design and construction proceed.

Source: Massport, 2025.

10.4 Runway 27 End Runway Safety Area (RSA) Improvements Project – EEA #16433

Figure 10-3 Runway 27 End Runway Safety Area EEA#16433

Runway 27 End RSA

Notes: Status as of 12/2024
Source: Nearmap (October 2024)

0 225 450 Feet

The purpose of the project is to enhance safety for aircraft and their passengers in emergencies by improving the Runway 27 End RSA. The project advances an overriding public interest of safety; "the safe operation of the Airport and airway system is the highest aviation priority."[1] The project is a required FAA safety project that does not extend the runway or affect normal runway operations, capacity, or types of aircraft using the runway. The project's location is illustrated in **Figure 10-3**.

An RSA is a flat surface surrounding the runway that is clear of obstructions. The FAA requires Airports to provide RSAs at runway ends and on the sides of a runway to reduce the risk of injury and damage to aircraft in the event of an emergency.

Runway 9-27 is 7,001 feet long and 150 feet wide. It is classified as a Runway Design Code D-V runway. The FAA design standards for a D-V runway require an RSA measuring 1,000 feet long beyond each end of the runway and a width of 500 feet. The Runway 27 End is located on the east end of the runway, and the eastern edge of the airfield, adjacent to Boston Harbor. The Runway 27 End RSA is only 150 feet long and does not meet the FAA's RSA length requirement of 1,000 feet for a full dimension RSA. The location of the Project is illustrated in **Figure 10-3**. The FAA determined the preferred option to enhance the Runway 27 End RSA is an approximately 650-foot-long by 300-foot-wide RSA on pile pile-supported deck with an **Engineered Material Arresting System (EMAS)** installed on the deck.

1 49 U.S.C. § 47101

10.4.1 Permitting History

- Certificate on the ENF issued on October 8, 2021.
- Certificate on the Draft EIR issued on August 29, 2022.
- Certificate on the FEIR issued on January 30, 2023.
- FAA FONSI issued on March 1, 2023.
- Certificate on NPC issued on June 30, 2025.

10.4.2 Project Status

The Runway 27 RSA Improvements Project proposes construction of a pile-supported deck over Boston Harbor at the approach end of Runway 27. The project includes an EMAS to meet FAA safety standards. While this alternative avoids major operational or upland impacts, it results in unavoidable impacts to coastal resources. A comprehensive mitigation program for the nearby areas of Boston Harbor is being developed to address these effects. Construction is anticipated to begin in 2025, with completion expected in 2027.

Environmental review advanced in 2023. A joint Draft EA and FEIR was filed with the FAA and MEPA in late 2022, followed by MEPA's issuance of a Certificate on the FEIR in January 2023, directing the project to proceed with permitting. A final EA was submitted to the FAA, and a FONSI was issued in March 2023.

As of December 2024, the project continued to advance through federal, state, and local permitting. In April 2025, Massport filed an NPC with MEPA to address design updates related to two emergency access and egress ramps. These ramps were extended to reach one foot below Mean Lower Low Water, as required by Massport Fire Rescue to ensure effective emergency response under all tidal conditions. These design changes expanded the project's limit of work and resulted in additional coastal resource impacts. MEPA issued a Certificate on the NPC, acknowledging the design modifications and directing continued coordination with permitting agencies.

Table 10-3 Runway 27 End Runway Safety Area Improvements Project (EEA #16433) Details of On-going Section 61 Mitigation Measures (as of December 31, 2024)

Mitigation Measure	Status
Land Containing Shellfish	
Contribute funding to Massachusetts Department of Marine Fisheries (DMF) shellfish restoration program.	Mitigation measures will be implemented as construction proceeds.
Coastal Wetlands	
Provide in-lieu fee (U.S. Army Corps of Engineers [U.S.ACE]) for impacts to mud flat.	**Implemented.** An in-lieu fee payment for permanent mud flat impacts was made in 2025 as part of the revised permitting approach outlined in the 2025 Notice of Project Change (NPC).

Table 10-3 Runway 27 End Runway Safety Area Improvements Project (EEA #16433) Details of On-going Section 61 Mitigation Measures (as of December 31, 2024)

Mitigation Measure	Status
Potential wetland mitigation (associated with piles and emergency egress ramps) based on U.S.ACE and Massachusetts Department of Environmental Protection (MassDEP) guidance.	Mitigation measures will be implemented as construction proceeds.
Potential mud flat mitigation in the form of shoreline restoration.	Mitigation measures will be implemented as construction proceeds.
State Threatened and Endangered Species	
Replace lost upland grassland habitat by removing existing pavement.	Mitigation measures will be implemented as construction proceeds.
Construction Period Mitigation	
In-water time of year restriction for silt producing construction activities of February 15 to June 30.	Mitigation measures will be implemented as construction proceeds.
Turbidity curtains will be used to surround the in-water work area to contain any turbidity that may be created by the construction activities.	Mitigation measures will be implemented as construction proceeds.
A vibratory pile driver will be used as much as possible, and a ramp up or soft start for hammer driving with padding on top of the pile will lessen noise impacts.	Mitigation measures will be implemented as construction proceeds.
Restore upland grassland habitat disturbed by construction.	Mitigation measures will be implemented as construction proceeds.

Source: Massport, 2025.

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 https://massportcac.org/.

Key Massport Materials Related to Sustainability and Climate Change

Massport's Roadmap to Net Zero webpage (https://www.massport.com/environment/roadmap-to-net-zero) 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 (https://www.massport.com/environment/sustainability);
- *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: https://www.massport.com/environment/sustainability.

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 https://www.massport.com/environment/sustainability/sustainable-design-and-construction.

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 https://www.massport.com/sites/default/files/2025-01/2025-Massport-Floodproofing-Design-Guide_FINAL.pdf. 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 https://www.massport.com/community/public-parks.

Figure 11-1 Airport Edge Buffer Projects and Open Space

2023/2024 Environmental Data Report

Massport Open Space
Terminal Buildings
Parking Facilities

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

0 600 1,200 2,400 Feet

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 in East Boston

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:

- New green space, trees, and increased biodiversity in place of gravel to reduce the heat island effect and improve air quality;
- Energy-efficient outdoor lighting in the park and the Piers Park Sailing Center;
- 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

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[1]	6,170	25%[2]
Piers Park II	1,304	93%
Taxiway M North Rehabilitation and Geometry Improvements	Not recorded[3]	100%
Taxiway N Rehabilitation	Not recorded[3]	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.

Silver Line 1 which serves Logan Airport

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, 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**.[1]

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**

1 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.[2]

11.2.2 Progress to Net Zero

Massport's Roadmap to Net Zero website (https://www.massport.com/environment/roadmap-to-net-zero) 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.

2 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.

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.

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

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 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 https://www.massport.com/environment/roadmap-to-net-zero/solar-photovoltaics.

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.

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: https://www.massport.com/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 https://www.massport.com/environment/roadmap-to-net-zero/ev-fleet-transition.

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.[3]

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.[4]

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 ($MTCO_2e$) emissions, with the majority of these savings attributed to rideshare operators. For more information on Massport's electric charging infrastructure, see https://www.massport.com/environment/roadmap-to-net-zero/electric-vehicle-charging.

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

3 COBUS Industries GmbH. https://www.cobus-industries.com/produkte/e-cobus-3000/

4 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.[5]

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

5 AeroAstro MIT. 2023. https://aeroastro.mit.edu/news-impact/ziaa-a-green-future-for-aviation/

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 https://www.massport.com/environment/sustainability/resiliency.

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[6] 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[1]	Sea Level Rise and Storm Surge[2]	Riverine Flooding[3]	Stormwater Flooding[4]
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.

3 A project is considered not exposed if the total score is 0.

4 A project is considered moderately exposed if the calculated score from inputs is between 2 and 3.

6 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 Temperature Projections for Logan Airport, 2030 and 2050

Climate Indicator	Baseline[1]	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[2]	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.[7]

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[1]	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.

7 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*.[8] 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.[9]

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.

8 Massport Floodproofing Design Guide. 2025. https://www.massport.com/sites/default/files/2025-01/2025-Massport-Floodproofing-Design-Guide_FINAL.pdf

9 Massport Floodproofing Design Guide. 2025. https://www.massport.com/sites/default/files/2025-01/2025-Massport-Floodproofing-Design-Guide_FINAL.pdf

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.[10]

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*

10 Resiliency, Massport, 2015. https://onlinepubs.trb.org/onlinepubs/conferences/2015/ClimateChange/25.RobbinPeach.pdf

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.[11]

11 Massport Resiliency, 2025. https://www.massport.com/environment/sustainability/resiliency

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Appendices

The following MEPA appendices are contained within this document in the following pages:

Appendix A **MEPA Certificates and Responses to Comments**

Appendix B, **Comment Letters and Responses to Comments**

Appendix C **Proposed Scope for the 2023/2024 EDR**

Appendix D **Distribution**

The following appendices include supporting documentation for above listed chapters and are available on Massport's website (https://www.massport.com/environment/boston-logan-edr-espr-data-portal):

Appendix E **EJ Supporting Documentation**

Appendix F **Activity Levels Supporting Documentation**

Appendix G **Regional Transportation Supporting Documentation**

Appendix H **Ground Access Supporting Documentation**

Appendix I **Noise Supporting Documentation**

Appendix J **Air Quality and Greenhouse Gas Emissions Supporting Documentation**

Appendix K **Water Quality Supporting Documentation**

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A. MEPA Certificate and Responses to Comments

This Appendix includes the follow Secretary Certificates and Responses to Comments:

Secretary of the Executive Office of Energy and Environmental Affairs Certificate on the Logan Airport 2022 Environmental Status and Planning Report (ESPR) and Massport's Responses to Comments Raised in the Certificate A-3

Secretary of the Executive Office of Energy and Environmental Affairs Certificate on the Logan Airport 2020/2021 Environmental Data Report (EDR) A-87

Copy of the Secretary of the Executive Office of Energy and Environmental Affairs Certificate Issued for the Terminal E Modernization Project Final Environmental Assessment/Environmental Impact Report A-101

Copy of the Secretary of the Executive Office of Energy and Environmental Affairs Certificate Issued for the Logan Airport Parking Project Final Environmental Impact Report A-103

Copy of the Secretary of the Executive Office of Energy and Environmental Affairs Certificate Issued for Runway 27 End Runway Safety Area (RSA) Improvement Project Final Environmental Impact Report A-119

Copy of the Secretary of the Executive Office of Energy and Environmental Affairs Certificate Issued for Runway 27 End Runway Safety Area (RSA) Improvement Project Notice of Project Change A-129

Full versions of filings and additional Secretary Certificates can be found on Massport's website through the following link: https://www.massport.com/environment/project-environmental-filings/boston-logan.

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Secretary of the Executive Office of Energy and Environmental Affairs Certificate on the Logan Airport 2022 Environmental Status and Planning Report (ESPR) and Massport's Responses to Comments Raised in the Certificate

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October 18, 2024

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
2022 LOGAN AIRPORT ENVIRONMENTAL STATUS AND PLANNING REPORT

PROJECT NAME	: 2022 Environmental Status and Planning Report (ESPR)
PROJECT MUNICIPALITY	: Boston/Winthrop
PROJECT WATERSHED	: Boston Harbor
EOEA NUMBER	: 3247
PROJECT PROPONENT	: Massachusetts Port Authority
DATE NOTICED IN MONITOR	: June 7, 2024

As Secretary of Executive Office of Energy and Environmental Affairs (EEA), I hereby determine that the Environmental Status and Planning Report (ESPR) submitted on this project **adequately and properly complies** with the Massachusetts Environmental Policy Act (MEPA; M.G.L. c. 30, ss. 61-62L) and Section 11.06 of the MEPA regulations (301 CMR 11.00). However, as described below, I am directing Massport to participate in a work group process to consider supplemental community mitigation measures for environmental justice neighborhoods surrounding the Airport, with the goal of forming recommendations for specific actions within one year. Massport should report on the status of these work group discussions in its next Environmental Data Report (EDR) submission. A-1 A-2

Logan Airport Environmental Review and Planning

EDR and ESPR Reporting Process

The environmental review process for Logan Airport (the "Airport"), first established in the 1970s, has been structured to occur on two levels: airport-wide and project-specific. The

Environmental Status and Planning Report (ESPR) has evolved from a largely retrospective status report on Airport operations to a broader analysis that also provides a prospective assessment of long-range plans. It has thus become, consistent with the objectives of the MEPA regulations, part of the Massachusetts Port Authority's (Massport) long-range planning process. The ESPR provides a "big picture" analysis of the environmental impacts associated with current and projected activity levels, and presents a comprehensive strategy to avoid and minimize impacts. The ESPR analysis is supplemented by (and ultimately incorporates) the detailed analyses and mitigation commitments of project-specific Environmental Impact Reports (EIRs). The ESPR is generally updated on a five-year basis. The previous ESPR for the year 2017 (2017 ESPR) was filed in August of 2019. The Scope for the 2022 ESPR was included in the Certificate on the 202/2021 EDR which was issued on January 30, 2023.

EDRs are filed in the years between ESPRs. The EDR is a retrospective document that is generally filed annually and identifies environmental impacts based on actual passenger activity and operations. The EDR provides opportunities to compare activity levels and impacts against the prior year's EDR, as well as projections set forth in the five-year ESPR. In more recent years, the EEA Secretary has allowed the filing of combined EDRs (e.g., 2018/2019 EDR and 2020/2021 EDR). The 2020/2021 EDR responded to the Certificate on the 2018/2019 EDR. I note that recent delays in the filing of EDRs have led to concerns about data lags, as each EDR is sometimes filed up to a year after the end of the time period over which the EDR is required to report data. With extended comment periods necessitated by the increasing complexity of these filings, lengthy MEPA reviews of EDR filings have also delayed scoping for future EDRs and ESPRs. As discussed below, given that this 2022 ESPR is again being issued towards the end of 2024 (almost a full two years after the close of 2022), I am allowing the filing of another combined 2023/24 EDR (to be filed sometime in 2025) to alleviate concerns about a further lag between the time when data become available and when they are reported in public disclosures. I am also instructing Massport, as part of the 2023/24 EDR, to propose innovative solutions to address this issue, for instance, by making real-time data available to the public through a public-facing portal. As the availability of real-time data could reduce the need and public demand for multiple complex MEPA filings and associated reviews on an almost-annual basis, Massport could consider a simplified format for future EDRs and ESPRs. Alternatively, one ESPR could be submitted on a five-year cycle with one EDR as an interim update in year 2 or 3, provided that real-time data and key metrics (e.g., on a dashboard with certain agreed-upon metrics) are made available with more frequent updates on the Massport website. Further input should be gathered through the work group on community mitigation referenced below.

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As reiterated in prior ESPR certificates, these EDR and ESPR reports are intended to subject Logan Airport to comprehensive and regular MEPA review, including opportunities for public comment on cumulative impacts from all aspects of Airport operations. As stated in a companion Certificate issued on October 11, 2024 for Hanscom Field (EEA #5484/8696), I acknowledge that Logan EDRs and ESPRs are not intended to analyze the impacts of specific projects proposed at Hanscom. However, these documents themselves are a form of environmental review, and are prepared to comply with the overarching directive of MEPA that Agencies, including state authorities such as Massport, review and evaluate the impact on the natural environment of all works, projects or activities conducted by them, and to "use all practicable means and measures to minimize damage to the environment." To that end, ESPRs

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and EDRs should include, in addition to a cumulative inventory of all Airport operations and associated impacts, a description of all practicable measures planned to avoid or minimize, and where appropriate, to mitigate such impacts within the confines of Massport's legal authority. Consistent with the 2021 Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy ("Climate Roadmap Act"), St. 2021, c. 8, §§ 55-60, these measures should also consider environmental justice (EJ) principles by fostering the equitable distribution of environmental benefits and burdens in impacted neighborhoods, while considering any identified unfair or inequitable environmental burdens borne by surrounding EJ populations. More specific analysis required for future EDRs and ESPRs will be set forth in formal scoping documents, including the Scope below for the 2023/24 EDR. A-6 A-7

2022 ESPR

At the time of the 2017 ESPR filing, it was projected that Logan Airport would reach 50 million annual passengers in the next 10 to 15 years (the Future Planning Horizon) until 2028 to 2032. As noted in the 2018/19 EDR Certificate, the 2019 passenger activity level represented an all-time high of 42.5 million, an increase of 3.9 percent over 2018 (40.9 million) and future trends were on track to exceed the 50 million annual passengers projected in the 2017 ESPR much sooner than the previously identified 10-15 year time frame. The 2022 ESPR is based on a Future Planning Horizon ending 2032 to 2037, and projects an increase to 53.5 million annual passengers in that time frame, seven percent greater than the projection in the 2017 ESPR. The 2022 ESPR reports that a return to 2019 passenger levels is expected by 2025. While the number of aircraft operations is projected to increase by a lesser amount (reported as 2% increase over 2017 ESPR projections, largely due to so-called "load factors" or the number of passengers per flight), total operations are still projected to exceed 2019 levels over the Future Planning Horizon and show a 31 percent increase over 2021 levels.

These trends in passenger and flight activity levels demonstrate that, while activity levels still remain below the all-time highs in 2019, they show clear recovery from COVID-19 conditions and a trajectory of exceeding 2019 levels by as early as 2025. I note that associated GHG and air emissions, while also showing an upward trend, are projected to increase at a slower rate; specifically, GHG emissions are projected remain below 2019 levels over the Future Planning Horizon, though other air pollutants, notably NOx, are predicted to increase markedly. The slower pace of GHG and air emissions increases appears to be due to the variety of measures in place and planned to reduce emissions impacts of Airport operations, and Massport should be applauded for striving to reduce all "Scope 1" emissions (albeit a small percent of total) to 0 by the Future Planning Horizon. Consistent with the Scope issued in the 2020/2021 EDR, the 2022 ESPR indicates that Massport has taken concrete steps to implement planned capital projects or programs that were deferred from 2018-19 due to pandemic conditions. These include several planned capital projects that were asserted to provide environmental benefits and reduce impacts associated with Airport operations, such as: the Logan Airport Parking Project (EEA# 15665) (5,000 new parking spaces, solar photovoltaic system, and electric vehicle charging stations), Phase 2 of Terminal E Modernization (EEA# 15434) (3 new terminal gates), several high-occupancy-vehicle investments (addition of 1,000 new spaces to Framingham Logan Express Garage (EEA# 16168), opening a new Logan Express suburban location, and implementing a

2nd urban Logan Express Service at North Station. The specific emissions reductions associated with these projects are not identified in the 2022 ESPR.

The Scope issued with the 2020/2021 EDR also required that Massport consider a framework and planning process for community mitigation, in collaboration with surrounding EJ populations and other community stakeholders. Both the 2017 ESPR Certificate and the 2018/2019 EDR Certificate indicated that Massport should ensure that community benefits are being provided commensurate with increased growth and associated impacts, and strongly urged that additional mitigation measures be considered if actual growth at the Airport exceeds projections in the ESPR. Prior Certificates have noted Massport's efforts, in response to a Department of Public Health (DPH) study conducted in 2014, to support public health services in the surrounding neighborhoods, including contributions to Chronic Obstructive Pulmonary Disease (COPD) treatment at a local health center. In the 2022 ESPR, Massport indicates that it conducted more intensive community engagement during preparations for this filing, and it has participated in small group discussions led by the MEPA Office since December 2023. In additional correspondence with the MEPA Office, Massport commits to undertaking the following improvements beyond existing measures to further minimize impacts and improve transparency:

- Report on Massport's Net Zero Plan accomplishments and progress on an annual basis A-8
- In accordance with the Secretary's Plan and the Report of the Climate Chief on SAF, report on Massport's work in establishing a Commonwealth multi-agency working group to expedite the adoption of SAF at Massport and Massachusetts' airports, including production and delivery. A-9
- Provide updates on ongoing FAA sponsored ultrafine particulate (UFP) research. Incorporate and report on Massport funded MCAC study that is measuring UFPs around Logan Airport A-10
- Provide details on Massport's Residential Sound Insulation Program (RSIP). A-11
- Create a new Logan ESPR/EDR landing page on Massport's website. The new webpage will include links to existing ESPR/EDR documents, public notices, and links to available data resources A-12
- Continue to work with MEPA to refine and improve the Environmental Justice and public health analysis included in the ESPR A-13
- Continue to monitor and report on idling at Logan Airport's terminal curbs. Establish a curb idling reduction plan with input from the MEPA Office and stakeholders. Present updates to MEPA and stakeholders at regularly scheduled briefings A-14
- Include additional details in the ESPR on implementation and tracking of project-specific environmental benefits and mitigation (e.g., project related VMT reductions, GHG reductions, etc.) A-15
- Continue to meet with MEPA and stakeholders on data requests, accessibility, and availability, including ways to improve ESPR/EDR format A-16

I note that comments received on the 2022 ESPR continue to criticize Massport's outreach efforts and urge a stronger mitigation program to address impacts on surrounding communities commensurate with the increase in flight and passenger activity levels. As discussed below, while the 2022 ESPR included preliminary information related to

Environmental Justice (EJ) Populations in accordance with new MEPA EJ protocols released in January 2022, it did not provide comprehensive analysis of potential impacts to these neighborhoods. As further described below, Massport should continue its efforts to strengthen and improve relations with surrounding communities, especially those representing EJ populations located in close proximity to Logan Airport. Even a preliminary review of environmental and public health screening indices shows that these indicators are substantially elevated in areas directly adjacent to Logan Airport. I am also aware that the U.S. Environmental Protection Agency (EPA) is leading a stakeholder effort to consider the "cumulative impacts" of historic and current activities on overburdened communities in Chelsea, including from the ongoing impacts of Logan Airport operations. Massport should report on any findings and action items that may result from that effort. A-17 A-18

As noted, the 2022 ESPR shows recovery trends post-COVID and flight and passenger activity levels are projected to exceed 2019 levels as early as 2025, with commensurate (though somewhat smaller) increases in GHG and air emissions. In light of these trends, and the increased focus on EJ considerations during MEPA reviews since 2022, I am also directing Massport to participate in a work group, facilitated by MEPA and the EEA EJ Office, to consider supplemental mitigation measures to address public health impacts of Airport operations on surrounding EJ populations. The work group should engage public health experts to advise on effective intervention strategies to address air quality impacts and aim to form recommendations within one year for specific actions to be taken by Massport within the scope of its legal authority. Such actions could include partnerships with local or municipal organizations interested in HEPPA filters, establishment of a curb idling reduction plan, enhanced community air monitoring in partnership with MassDEP and other air pollution sources, or other similar interventions to directly address the public health impacts of degraded air quality around the Airport. The work group should also consider improvements to Massport's EDR and ESPR reporting process, including through availability of real-time data and abbreviated formats for future filings. Massport is directed to provide administrative support and facilitate the convening of work group meetings, in consultation with the MEPA Office. The 2023/2024 EDR should report on the results of this work group process. In addition, consistent with the approach set forth in the 2017 EPSR, if actual growth in passenger and/or aircraft operations outpace forecasts during a reporting period, I expect that additional mitigation and policies and strategies will be considered to address the proportional growth in impacts. A-19 A-20 A-21 A-22 A-23 A-24

Review of the 2022 ESPR and Scope for the 2023/2024 EDR

While the 2022 ESPR is generally responsive to the Scope, comments from stakeholders highlight several key areas where the document does not fully respond to specific items in the Scope on the 2020/2021 EDR and fails to provide substantiating data to back up more general claims. While the 2022 ESPR introduced a new, more focused format with emphasis on current updates on existing initiatives, new programs and planning, and future forecasting, rather than prior initiatives and accomplishments, comments from stakeholders continue to cite the difficult of reviewing filings due to their length and format. The 2022 ESPR included a new chapter (Chapter 2) which reports on Massport's Environmental Justice (EJ) practices, community outreach and sustainability including initial data from Massport's "Roadmap to Net Zero"

introduced in March of 2022.[1] The 2022 ESPR describes public involvement activities conducted prior to filing. It discusses the continued progress towards a recovery to pre-COVID-19 pandemic activity levels and operations and the status of future projects and programs including those put on hold during the pandemic. The technical studies (included as a separate Technical Appendices document) in the 2022 ESPR included reporting and analysis of key indicators of airport activity levels, the regional transportation system, ground access, noise, air and water quality, environmental management, and project mitigation tracking.

As noted in the 2020/2021 EDR Certificate, prior Massport filings indicated a rapid increase in passenger activity levels and aircraft operations during the years 2018 and 2019 due to strong economic conditions at that time. By 2019, air passenger activity levels at Logan Airport had reached an all-time high of 42.5 million and were on track to exceed the 50 million annual passengers projected in the 2017 ESPR much sooner than the previously identified 10-15 year time frame. However, in March 2020, flights in and out of Logan Airport were dramatically reduced and passenger levels dropped by over 90 percent at the peak of the COVID-19 pandemic in the spring and summer of 2020. The 2018/2019 EDR indicated that total flight operations remained reduced by approximately 50 percent, and passenger levels by approximately 70 percent, during the reporting period as compared to January through October 2019, though strong signs of recovery were evident as of the end of 2021 to early 2022 as documented in the 2020/2021 EDR and corresponding Certificate.

The 2022 ESPR updated the cumulative impacts of passenger growth and associated ground and aircraft operations based on revised forecasts, documented trends, and environmental impacts. It reviewed methodologies and metrics related to growth projections and associated impacts and mitigation and provided a comparison to the FAA Terminal Area Forecast (TAF) on which Massport's projections are based. The next EDR will analyze calendar years 2023/2024 and as directed above, should propose a simplified format that could be accompanied by more frequent updates of available data through the Massport website. This reporting format is in response to several comments which have noted the complexity and length of the reporting documents and difficulty in responding to lengthy, data-heavy analyses. Due to the lag in reporting noted above, stakeholders have expressed a need for more real-time data for environmental factors (air, noise, traffic, flights) to provide communities in close proximity to the Airport with information necessary to educate and contribute to the analysis of cumulative impacts. Massport has indicated that this information (to the extent is available) will be part of an EDR/ESPR webpage which is being developed to provide community stakeholders and the public a better understanding of future filings and access to collected environmental data in one location. The 2023/2024 EDR should report on the status of this website or dashboard and the data that is/will be available.

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The 2023/2024 EDR must include information on the environmental policies and planning that form the context of environmental reporting, technical studies, and environmental mitigation initiatives against which projects at Logan Airport can be evaluated. This should include identification of the cumulative effects of Logan Airport operations and activities,

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[1] The most current Massport Sustainability, Net Zero, and Resiliency Reports can be found at: https://www.massport.com/sustainability. Massport's next sustainability and resiliency report covering 2022 and 2023 will be published in late 2024.

compared to previous years, as appropriate. Review of the 2022 ESPR reveals that some reports/data summarized in the 2022 ESPR are not yet available for review, including the results of the 2022 Air Passenger Ground-Access Survey and the 2022/2023 Sustainability and Resiliency Report. The 2023/2024 EDR should include timely reporting of related environmental data to ensure a full picture of the information summarized in the report. The 2022 ESPR also includes updated timelines for implementation of deferred mitigation projects to ensure that mitigation efforts keep up with increasing rates of travel as pandemic restrictions ease and travel resumes. The 2023/2024 EDR should provide information on EJ populations in proximity to the Airport and summarize relevant information on community health data and outreach as discussed further below. A-27 A-28 A-29

The 2023/2024 EDR must include copies of all ESPR and EDR Certificates and a distribution list for the 2023/2024 EDR. Supporting technical appendices should be provided as necessary. As noted previously, the 2023/2024 EDR should propose a streamlined process for environmental reporting, which may be supplemented through real-time data and other metrics made available with more frequent updates through the Massport website. A-30 A-31

Public Comments

I received comments from two municipalities (Boston and Milton) and other individuals and organizations that identified impacts associated with operation of the Airport on surrounding areas, and expressed concern that impacts will increase with the anticipated growth in passengers and aircraft operations. Many of the commenters took issue with the format and complexity of the ESPR and with the lag in time between filings which results in a lack of real-time data for understanding current impacts. Among the key issues and requests identified in comments are the following:

- Coordinate with stakeholders to revamp the ESPR format to reduce the non-relevant information; condense information into smaller discrete subject sections, and make them more readable
- EJ outreach should include an opportunity for community input on form and content of future EDR/ESPRs prior to their preparation
- Provide language interpretation services for languages spoken by at least five percent of a census tract's population who have Limited English Proficiency (LEP)
- Mitigation measures should be linked to actual passenger and flight activity levels rather than relying on forecasts which, according to commenters, have historically underestimated this growth
- Provide more real-time, monthly data to reflect current trends related to operations and passenger growth
- Make data available to the public in a format that is easily accessible, and which allows impacted community members to ask questions of the data (excel or similar format)
- Include a stand-alone chapter on climate resilience focused on plans and projects that actively address the risks of extreme heat, intense precipitation, and coastal flooding, including efforts focused on employees, guests, operations, assets and adjacent properties

- Recommendation for improved Logan Express service including a new Logan Express site at the former I-90 toll plaza and consideration of remote TSA security screening locations for Logan Express passengers
- Provide more data, methodology and quantified impacts/benefits when reporting TDM and HOV information including RideApp
- Implement measures to reduce curbside idling by vehicles waiting to pick up passengers
- Provide the results of the Ground Access Survey to inform recommendations to improve TDM and HOV programs
- ESPRs should measure emissions of ultrafine particulates (UFP) and provide a comprehensive assessment of UFPs building upon the methodologies and results of studies under way by Tufts University
- Massport should be required to file an Environmental Notification Form (ENF) with MEPA for each new service route added at Logan
- The 65 decibel (dB) Day-Night Sound Level (DNL) (detailed below) noise standard is antiquated and does not reflect actual impacts to area residents, including human health impacts, and Massport should adopt a lower standard to assess impacts of the airfield
- Develop a system for the fair and equitable distribution of aircraft overflights that provides real relief to the highly impacted surrounding communities, especially those that are under multiple RNAVs (Area Navigation)
- Adoption of a ground level air quality monitoring system using a high resolution network of sensors to inform air quality mitigation, strategies, and policies
- Address lead pollution impacts in future EDR/ESPRs. Massport should discuss the availability of unleaded aviation fuel and its usage

Massport should consider these comments and suggestions in preparing the 2023/2024 EDR. I encourage Massport to provide responses as part of the subject matter sections of the 2023/2024 EDR, to provide context to commenters on this document, and to explain how recommendations have been incorporated into the Scope. I encourage Massport to evaluate feasible suggestions for increased analysis and monitoring of air emissions, noise and traffic impacts, and to actively consider ways to make real-time tracking data available to the public. A-32 A-33

Environmental Justice

Logan Airport is within two EJ populations designated as Minority and is within one mile of 62 EJ populations characterized as Minority, Income and English Isolation (8); Minority and English Isolation (14); Minority and Income (7); Minority (30); and Income (3). Within the census tracts containing the above EJ populations, within one mile of the project site Spanish/Spanish Creole, Chinese, Korean and Arabic are identified as those spoken by 5% of more of residents who also identify as not speaking English very well. Within 5 miles of the site, six additional languages were identified including Haitian Creole, Portuguese, Vietnamese, Russian, and Mon-Khmer.

Public Engagement

As noted in 2022 ESPR, since 2013, Massport has been advised by the Massachusetts Port Authority Community Advisory Committee (MCAC) (see St. 2013, c. 46, §§ 55, 82, as amended), which consists of representatives from 35 communities potentially impacted from Airport operations and located within 5 or more miles around the Airport. Massport relies on input from the MCAC as a government representative for the 35 communities surrounding Massport facilities. Meetings of the MCAC are open to the public through both remote and in-person participation. Meetings are posted in advance of the meeting date and recordings and meeting minutes are available on the MCAC website.[2] Chapter 1 of the 2022 ESPR including the *Introduction and Executive Summary* was translated into Spanish, Portuguese, Simplified Chinese and Haitian Creole. In addition, the 2022 Massport provided a "Babel Notice" for five additional languages. A Babel Notice informs readers, in English and other languages, how to access language translation services and how to request project materials in a specific language. The additional languages included Vietnamese, Russian, Mon-Khmer, Arabic, and Korean. At public meetings, Massport offered online interpretation services for Spanish (without advance request), and additional languages were available upon request.

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The 2022 ESPR indicates that the "designated geographic area" (DGA) (as defined in 301 CMR 11.02) should be defined as one mile for future filings. Because ESPRs are distinct from standard project reviews, it is not necessary to define a formal DGA. However, to be consistent with other MEPA reviews, I find it appropriate for Massport to continue public engagement efforts, at minimum, over a 1-mile radius around the outer perimeter of Logan Airport. As noted below, analysis of noise impacts provided in the ESPR shows that potential impacts over the Future Planning Horizon could extend out to over 2 miles from the runway ends, when considering the most conservative 60dB DNL and TA contours. In addition, Massport has noted the existence of ongoing studies of UFP around the Airport, and preliminary findings from related studies at Hanscom Airport are stated to show high levels of UFP around the Airport. Consistent with the approach taken at Hanscom Airport, Massport should identify any potential areas of additional impact around the Airport based on these and other ongoing studies, and conduct additional focused outreach to such areas. Massport should continue to engage with the MCAC and local organizations, and take recommendations for additional methods and areas of public engagement for future ESPRs and EDRs.

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As required by the Scope, the 2022 ESPR included a public engagement plan which provided opportunities for early input on the development of the filing as well as opportunities for comment once the ESPR was filed. Outreach efforts were summarized in Appendix E of the filing and included the following:

[2] Massport CAC | Massachusetts | The Library

Table E-1 Environmental Justice and Community Outreach

Date	Meeting/Outreach Type
Prior to the Filing of the ESPR	
6/26/2023	Public Information Session – Technical Analyses Methodologies and Forecasts[1]
11/28/2023	MEPA Comment Review Meeting
12/12/2023	MEPA and Advocacy Group Meeting
1/17/2024	Public Information Session – Preliminary Findings[1]
3/19/2024	MEPA Meeting
Following the Filing of the ESPR	
6/26/24	Public Post-filing Meeting
Massport-wide, Ongoing	
Regular Meetings with the Massport Community Advisory Committee (CAC)	
Regular Meetings with City of Boston Officials	
Regular Meetings with the Winthrop Town Council	
Regular Meetings with the Harborview Neighborhood Association	
Regular Meetings with the Jeffries Point Neighborhood Association	
Regular Meetings with the Orient Heights Neighborhood Council	
Regular Meetings with the Piers Park Advisory Committee (PierPAC)	

1 Indicates a copy of this presentation is included in the following section.

The Certificate on the 2020/2021 EDR indicated that the public engagement plan should reflect community-based strategies beyond formal public hearings; however, comments from stakeholders on the 2022 ESPR note that the public meetings were held in a similar format to prior EDR/ESPR meetings with the focus being Massport's presentation of information and data followed by an open comment period. The 2023/2024 EDR should prioritize engagement strategies that meet the community where they are, especially by holding meetings in more publicly accessible locations within the EJ communities most impacted by Airport activities. As previously stated, Massport should also explore alternative methods of involvement beyond formal public hearings, such as hosting "open house"[3] style public meetings, organizing small group discussions with stakeholders, or distributing community surveys to collect feedback. Additionally, Massport is encouraged to meet EJ community members where they already gather by hosting pop-up informational sessions at existing community events (e.g., community celebrations, farmer markets, and cultural events). Given the large percentage of households identified as having limited English proficiency (LEP) (almost half of EJ block groups within 1 mile of the Airport have over 20% of households who report limited English proficiency), the 2023/2024 EDR should also report on specific events planned/attended and strategies enacted to intensify engagement with members from these LEP populations.

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[3] Open house-style public meetings differ from traditional public meetings by offering a more flexible schedule. Instead of a fixed one- to two-hour agenda, the meeting space is made available for four to five hours, allowing residents to drop in to ask questions, share feedback, and receive updates at their convenience.

Baseline Assessment

The 2022 ESPR included a baseline assessment of existing "unfair or inequitable Environmental Burden and related public health consequences" impacting EJ populations in accordance with 301 CMR 11.07(6)(n)(1) and the MEPA Interim Protocol for Analysis of EJ Impacts. The baseline assessment included a review of the data provided by the Department of Public Health (DPH) EJ Tool regarding "vulnerable health EJ criteria"; this term is defined in the DPH EJ Tool to include any one of four environmentally related health indicators that are measured to be 110% above statewide rates based on a five-year rolling average.[4] According to the 2022 ESPR, the data surveyed indicate that 15 census tracts within one mile of Logan Airport exhibit rates of high childhood blood lead levels that exceed 110% of the statewide average; these 15 census tracts are within the municipalities of Boston, Chelsea, Revere and Winthrop. In addition, ten census tracts within one mile exhibit rates of low birth weight that exceed 110% of the statewide average; these census tracts are within Boston, Chelsea and Winthrop. At the municipal level, the following communities within one mile exceed 110% of the statewide averages for the noted of the four vulnerable EJ health criteria:

- Boston: low birth weight, pediatric asthma
- Chelsea: heart attack, elevated blood lead levels, low birth weight and pediatric asthma
- Revere: none
- Winthrop: elevated blood lead levels

The 2022 ESPR indicated that the following sources of potential pollution exist within 1 mile of the Airport, based on the mapping layers available in the DPH EJ Tool:

- Major air and waste facilities: 49
- M.G.L. c. 21E sites: 27
- "Tier II" toxics use reporting facilities: 52
- MassDEP sites with Activity and Use Limitations (AULs): 81
- Wastewater treatment plants: 10
- Underground storage tanks (USTs): 60
- EPA facilities: 3
- Road infrastructure: not identified
- MBTA Bus and rapid Transit: not identified
- Energy generation and supplies: 2 power plants

The 2022 ESPR also surveyed environmental indicators tracked through the U.S. EPA's "EJ Screen," which shows the indicators measured at the following percentiles for the identified EJ populations as compared to the MA statewide average. The 2022 ESPR indicates that the following indicators are elevated at 80th percentile or higher of statewide average within the identified EJ populations: Diesel Particulate Matter (DPM), Risk Management Plan (RMP) Proximity, Traffic Proximity, Hazardous Waste Proximity, and the Wastewater Discharge

[4] See https://matracking.ehs.state.ma.us/Environmental-Data/ej-vulnerable-health/environmental-justice.html. Four vulnerable health EJ criteria are tracked at the municipal level in the DPH EJ Viewer (heart attack hospitalization, childhood asthma, childhood blood lead, and low birth weight); of these, two (childhood blood lead and low birth weight) are also available at the census tract level.

Indicator. At least two of these indicators (DPM and Traffic Proximity) are directly related to air quality. The full list of 13 environmental burden indicators presented in the ESPR and their reported percentiles compared to the statewide average is provided in the table below. I note that, while PM2.5 and Ozone are not elevated above the 80th percentile, they are reported at the 74th and 73rd percentile, respectively.

Indicator	Exposure v. Risk	Percentile as Compared to MA Statewide Average
NATA Air Toxics Cancer Risk (lifetime exposure)	Risk/Hazard	3
NATA Respiratory Hazard Index Ratio	Risk/Hazard	49
NATA Diesel PM (DPM)	Potential Exposure	90
Toxic Releases to Air	Potential Exposure	60
Particulate Matter (PM2.5) (annual average)	Potential Exposure	74
Ozone (summer seasonal average, daily 8-hr max)	Potential Exposure	73
Lead Paint (% of housing built before 1960)	Potential Exposure	64
Traffic Proximity and Volume Count of vehicles (average annual)	Proximity/Quantity	86
Proximity to RMP (Risk Management Plan / hazardous waste cleanup) Sites	Proximity/Quantity	81
Proximity to TSDFs (Hazardous waste Treatment, Storage, and Disposal Facilities)	Proximity/Quantity	90
Proximity to NPLs (National Priority List / Superfund sites)	Proximity/Quantity	23
Underground Storage Tanks (count/km^2)	Proximity/Quantity	71
Wastewater Discharge Toxicity (based on NPDES permitted discharge locations)	Proximity/Quantity	96

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The 2023/2024 EDR should present an updated analysis of existing environmental conditions and public health risk within EJ populations. This updated analysis should present data on all air quality and climate indicators presented in MassDEP's Cumulative Impact Analysis framework (which overlap in large part with EJ Screen data).[5] Indicators above the 80th percentile as compared to statewide averages should be reported for each individual census tract (not for entire 1-mile radius) containing EJ populations within 1 mile of the Airport. In addition,

[5] MassDEP finalized regulations related to a CIA framework for certain air permits. The regulations and associated guidance are available here: https://www.mass.gov/info-details/cumulative-impact-analysis-in-air-quality-permitting.

these data should be reported for any EJ populations located within the largest geographic area associated with documented impacts from the Airport, most notably, the largest sound contours (e.g., 60 DNL) documented in the 2022 ESPR. Moreover, because pediatric asthma prevalence is elevated above 110% in Boston and Chelsea at the municipal level, the 2023/2024 EDR shall present asthma prevalence for kindergarten through 8th grade (K-8) schools using the MassDEP CIA methodology to analyze asthma prevalence at a finer scale for each EJ census block identified as described above. All requested data can be downloaded on the MassDEP CIA website (Indicator Data for Cumulative Impact Analysis) and all pre-kindergarten to twelfth grade (PK-12) public schools can be identified on the online MassDEP CIA Mapping Tool.[6] The 2023/2024 EDR should contain a section on Environmental Justice to present this analysis, which should be separate from discussions of sustainability efforts or other distinct topics. A-39 A-40 A-41

Community Mitigation

While the 2022 ESPR acknowledges that Logan Airport activities and operations might be contributing source of some of these forms of pollution, it asserts that the data and technology needed to differentiate each of the pollution sources affecting EJ populations are not available. As discussed further below and summarized in prior filing, the ESPR details environmental initiatives undertaken to lessen the Airport's environmental impacts from Airport controlled sources, including a High-Occupancy Vehicle (HOV) Strategy, RideApp Management, Long-Term Parking Management Plan, Noise Abatement and Sound Insulation, Alternative Fuel Vehicles Program, Electric Ground Services Equipment, and Energy Planning. As noted, these various measures appear to have slowed the rate of increase in GHG and air emissions, as compared to corresponding increases in flight and passenger activity levels. Nonetheless, with increased activity levels, associated impacts, including air emissions, noise, and traffic, show an upward trend over the Future Planning Horizon.

As required by the Scope, the 2022 ESPR reported on methodologies for growth projections and included Appendix F, *Activity Levels Supporting Documentation*, in response to comments received during meetings with MEPA and community stakeholders. The 2022 ESPR also included relevant metrics for assessing Airport impacts which are discussed further below and include noise, air quality and greenhouse gas (GHG) emissions and include review of emerging research around ultrafine particles (UFPs), the use of alternative jet fuels, and dispersion models of nitrogen oxide (NO_2) and sulfur dioxide (SO_2) and the public health impacts of aviation-related air pollution. Massport continues to work with the FAA and research institutions including the Massachusetts Institute of Technology (MIT), Boston University (BU), and Tufts University to expand research including on UFP and black carbon.

As part of the FAA-affiliated Center of Excellence for Alternative Jet Fuels and Environment, also known as the Aviation Sustainability Center (ASCENT), Massport is supporting a BU research effort to assess Community Measurements of Aviation Emission Contributions to Ambient Air Quality. The primary goal of this project is to conduct a new air pollution monitoring campaign beneath flight paths to and from Logan Airport, using a protocol specifically designed to determine the magnitude and spatial distribution of UFPs in the vicinity of arrival flight paths. Data were collected to assess whether aircraft emissions, particularly

[6] MassDEP CIA Mapping Tool

arrival emissions, significantly contribute to UFP concentrations at appreciable distances from the Airport.[7] The ESPR also references a 2022/2023 study conducted by BU which evaluated the impact of arrival aircraft on UFP concentrations using particle number concentrations (PNC)[8] as a proxy. The study found that that arrival aircraft contributes significantly but intermittently to ambient PNC at six sites near Logan Airport (Chelsea, Revere, South Boston and Winthrop) during high aircraft activity hours. According to the 2022 ESPR, research is ongoing in East Boston, South Boston, and the Chelsea area. The 2023/2024 EDR should continue to report on the studies' findings and additional mitigation measures implemented in response to new findings. The 2023/2024 EDR should provide updates and implications from continuing institutional research on UFP, black carbon, the public health impacts of aviation-related air pollution. A-42 A-43

The 2022 ESPR reviewed ongoing community giving conducted through the Massport Charitable Contribution Program, funded through Massport's operating budget and appropriated by a seven-member board which reviews grant requests and makes funding recommendations to organizations in Massport's neighboring communities that serve predominantly people of color. Other programs include a Community Summer Jobs Program (275 youth summer employment positions in Massport's neighboring communities); the East Boston, South Boston and Winthrop Foundations ($600,000 to local organizations helping to improve quality of life for area residents); the East Boston Neighborhood Health Center to expand the efforts of its Pediatric Asthma and Chronic Obstructive Pulmonary Disease (COPD) Prevention and Treatment Program in East Boston and Winthrop;[9] and the Diversity STEM and Memorial Scholarships to six local students as well as annual scholarships to high school students in Charlestown, Chelsea, East Boston, South Boston, Revere, and Winthrop.

As noted above, while studies on air quality impacts are ongoing, the 2022 ESPR clearly shows recovery from COVID-19 conditions and upward trends in Airport activity levels and associated impacts. Consistent with other MEPA reviews conducted under MEPA EJ protocols, the baseline conditions assessment above supports a conclusion that surrounding EJ populations within 1 mile of the Airport may be subject to existing unfair or inequitable burdens due to the cumulative impact of historic and current activities in and around Logan Airport. In light of these trends, and as stated above, I am directing Massport to participate in a work group, facilitated by MEPA and the EEA EJ Office, to consider supplemental mitigation measures to address public health impacts of Airport operations on surrounding EJ populations. The work group should engage public health experts to advise on effective intervention strategies to address air quality impacts, and aim to form recommendations within one year for specific actions to be taken by Massport within the scope of its legal authority. Such actions could include partnerships with local or municipal organizations interested in HEPPA filters, establishment of a curb idling reduction plan, enhanced community air monitoring in partnership with MassDEP and other air pollution sources, or other similar interventions to directly address the public health impacts of degraded air quality around the Airport. The work group should also consider improvements to

[7] For more information: https://s3.wp.wsu.edu/uploads/sites/2479/2022/10/ASCENT-Project-018-2021-Annual-Report.pdf

[8] Particle number concentration (PNC) and particle number size distribution (PNSD) are used as metric to quantify ambient UFPs (Kumar et al., 2010, 2016).

[9] Massport entered into an agreement with the East Boston neighborhood health center beginning in 2014 in response to the Logan Airport Public Health Study.

Massport's EDR and ESPR reporting process. Massport is directed to provide administrative support and facilitate the convening of work group meetings, in consultation with the MEPA Office. The 2023/2024 EDR should report on the results of this work group process. In addition, consistent with the approach set forth in the 2017 EPSR, if actual growth in passenger and/or aircraft operations outpace forecasts during a reporting period, I expect that additional mitigation and policies and strategies will be considered to address the proportional growth in impacts.

Activity Levels

Air traffic activity levels at Logan Airport are the basis for the evaluation of noise, air quality, and ground access conditions associated with the Airport. In this section, current activity levels at the Airport are compared to prior-year levels, and historical passenger and operations trends at Logan Airport dating back to 2000, which is the year Massport approved an Environmental Management Policy.

In 2017, air passenger activity levels at Logan Airport reached 38.4 million, an increase of 5.9 percent from 2016. At the time of the 2017 ESPR filing, it was projected that Logan Airport would reach 50 million annual passengers in the next 10 to 15 years (the Future Planning Horizon) until 2028 to 2032. As noted in the 2018/19 EDR Certificate, the 2019 passenger activity level represented an all-time high of 42.5 million, an increase of 3.9 percent over 2018 (40.9 million) and future trends were on track to exceed the 50 million annual passengers projected in the 2017 ESPR much sooner than the previously identified 10-15 year time frame. The 2022 ESPR is based on a Future Planning Horizon (until 2032 to 2037) and projects an increase to 53.5 million annual passengers in that time frame, seven percent greater than the 10 to 15-year projection in 2017. The 2022 ESPR reports that a return to 2019 passenger levels is expected by 2025. Table 3-11 of the ESPR illustrates these projected trends in passenger levels, showing an estimated 48 percent growth over the Future Planning Horizon as compared to 2022 levels (26 percent growth as compared to 2019 all-time high numbers):

Table 3-11 Actual and Forecast Logan Passengers, 1990, 2019, 2022, and Future Planning Horizon

Passengers	1990	2019	2022	Future Planning Horizon	% Change 2019-Future	% Change 2022-Future
Scheduled/Charter						
Domestic	19,519,247	34,098,788	29,527,910	41,826,300	+23%	+42%
International	3,358,944	8,317,993	6,450,000	11,556,000	+39%	+79%
Europe / Middle East / Africa	N/A	5,003,881	4,124,245	6,586,920	+32%	+60%
Canada	N/A	985,051	602,835	1,617,840	+64%	+168%
Latin America / Caribbean	N/A	1,727,057	1,573,468	2,311,200	+34%	+47%
Asia	N/A	602,004	149,452	1,040,040	+73%	+596%
Total Scheduled / Charter	22,878,191	42,416,781	35,977,910	53,382,300	+26%	+48%
General Aviation	N/A	105,630	112,806	117,700	+11%	+4%
Total Passengers	22,878,191	42,522,411	36,090,716	53,500,000	+26%	+48%

Source: Massport and InterVISTAS Logan Airport Forecast

In 2022, Logan Airport handled 378,613 aircraft operations, which represents a 31 percent increase from 2021 (266,034 operations), but still 11.4 percent less than the 427,176 aircraft operations reported in 2019. Passenger aircraft operations account for the largest share of aircraft operations (89.9 percent) followed by general aviation (GA) (8.1 percent) and all cargo (2.1 percent). The 2022 ESPR reports that total passenger operations of 340,311 increased by 45.3 percent over 2021 (234,219), though still remaining 13.1 percent below 2019 levels (391,424). However, the ESPR indicates that air cargo business has rebounded and operated close to pre-pandemic levels returning to 93.9 percent of 2019 volumes and 3.8 percent over 2021 volumes. The ESPR notes that commercial passenger airlines' share of cargo (carried as "belly" cargo underneath the plane) was 44.3 percent, or 298 million pounds, compared to 375 million pounds flown on exclusively cargo carriers.

According to the 2022 ESPR, the average number of passengers per flight at Logan Airport was returning to pre-pandemic levels at 95.3 passengers per flight as compared to 99.5 passengers per aircraft in 2019 and well above the 85.2 number in 2021. This is a slight change in trends noted in the 2018/2019 EDR, which indicated an increase in operational efficiency and "aircraft load factors."[10] The increase in average passengers per operation prior to the COVID-19 pandemic was attributed to the introduction of newer and larger aircraft at Logan Airport like the Airbus 350 and Boeing 787, in addition to flights operated by Boeing 777 and Airbus A380 superjumbo jets, especially for international long-haul flights, many of which were reinstated in 2022 after the pandemic. This trend is expected to continue, and means that, even while passenger numbers are projected to increase over the Future Planning Horizon (7 percent over the 2017 ESPR projections), the corresponding increase in flight operations is projected to be less (reported as 2% increase over 2017 ESPR projections). However, as noted, cargo operations have rebounded significantly and are projected to increase by 34% over the 2017 ESPR projections in the Future Planning Horizon.

Table 3-13 of the ESPR illustrates these projected trends in flight operations, showing an estimated 31 percent growth over the Future Planning Horizon as compared to 2022 levels (though 16% growth as compared to 2019 all-time high numbers):

[10] The load factor is the percentage of actual passengers on a flight relative to the number of seats potentially available on the aircraft of the given flight.

Table 3-13 Actual and Forecast Operations, 1990, 2019, 2022, and Future Planning Horizon

Category	1990	2019	2022	Future Planning Horizon	% Change 2019-Future	% Change 2022-Future
Passenger						
Jet	N/A	296,514	244,971	344,223	+16%	+41%
Regional Jet	N/A	49,417	60,891	67,939	+37%	+12%
Non-jet	N/A	45,492	34,449	40,763	-10%	+18%
Subtotal	N/A	391,423	340,311	452,925	+16%	+33%
Cargo	N/A	6,830	7,798	9,900	+45%	+27%
General Aviation	24,976	28,922	30,504	32,175	+11%	+5%
Total Operations	424,568	427,175	378,613	495,000	+16%	+31%

Source: Massport and Inter*VISTAS*.

The 2022 ESPR indicates that forecast methodology relies on widely accepted aviation industry guidance[11] for aviation demand forecasting, and relies on economic data which are analyzed in in different combinations and for different historical time periods to assess the statistical relationships between these drivers and annual growth in Logan Airport passenger levels, and to produce ranges of statistical factors for forecasting future passenger levels. The 2022 ESPR uses this information to update the Logan Airport long-term forecasts for passengers, Airport operations, and fleet mix.

The 2023/2024 EDR should continue to report passenger and activity levels and consider planning/mitigation commensurate with the anticipated return to pre-pandemic levels in 2025; in particular, air, noise, and traffic reduction measures should be a significant emphasis of future EDR and ESPR reporting. As discussed, prior Certificates, including the 2017 ESPR and 2018/19 EDR Certificates, urged caution as flight and passenger levels in 2019 reached all-time highs and were on track to exceed Massport's own forecasts over the Future Planning Horizon. While COVID-19 conditions drastically reduced flight activity after that time, the 2022 ESPR unequivocally shows a return to pre-COVID conditions and projects a return to 2019 activity levels as early as 2025. In light of these trends, and consistent with the approach set forth in the 2017 EPSR, the 2023/2024 EDR should continue to track flight and passenger levels and specifically note whether these levels have reached 2019 levels as of the reporting year; it should also indicate whether trends are on track to exceed projections based on actual activity levels gathered by the reporting year. If actual growth in passenger and/or aircraft operations outpace forecasts, I expect that additional information will be provided in future EDRs and ESPRs to demonstrate that additional mitigation and policies and strategies will be implemented to address the proportional growth in impacts.

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Planning

In prior filings, Massport indicated that several capital improvement projects that were asserted to have emissions benefits by reducing the number of vehicular trips to and from the Airport would be deferred due to the COVID-19 pandemic. In light of data showing early

[11] A list and web links to all forecasting documents can be found on page 3-32 of the 2022 ESPR.

recovery to pre-pandemic conditions by 2020, the 2020/2021 EDR Certificate directed Massport to describe a decision making process and timetable for implementation of planned capital projects or programs that were deferred due to pandemic conditions. These include several planned capital projects that were asserted to provide environmental benefits and reduce impacts associated with Airport operations as activity levels recover, such as: the Logan Airport Parking Project (EEA# 15665) (5,000 new parking spaces, solar photovoltaic system, and electric vehicle charging stations), Phase 2 of Terminal E Modernization (EEA# 15434) (3 new terminal gates), several high-occupancy-vehicle investments (addition of 1,000 new spaces to Framingham Logan Express Garage (EEA# 16168), opening a new Logan Express suburban location, and implementing a 2nd urban Logan Express Service at North Station.

The Airport Planning section of the 2022 ESPR describes the status of projects underway or completed at Logan Airport through the end of 2022. Planning projects fall into the following categories: Ground Transportation (including HOV) improvements and Parking; Terminals; Airside Planning, Service Areas; Airport Buffers and Open Space; and Energy, Sustainability, and Resiliency. The 2022 ESPR provided updates on over twenty projects as shown in the table below, including the capital projects noted above. As indicated by Massport, projects in the planning phases are discussed as short-term (expected by 2028) or long-term (expected by 2035).

Table 4-1 Logan Airport Short- and Long-Term Planning Initiatives

ID	Project	Status as of December 31, 2022	Construction	
			Short-Term By End of 2028	Long-Term By End of 2035
Airport Ground Transportation/Parking Projects and Planning Concepts				
1	Logan Airport Parking Project in front of Terminal E (approximately 4,300 spaces)	Permitted	✈	
2[1]	Logan Airport Parking Project: Parking Freeze Studies (Airport-wide)	Complete (2019)		
3	Airport-wide RideApp Infrastructure Improvements and Policy	Complete (2022)		
4[1]	Logan Express Route and Facility Expansions (off-Airport)	Feasibility / Planning	✈	✈
Terminal Area Projects and Planning Concepts				
1	Terminal E Modernization (Phase 1 – 4 gates / Phase 2 – 3 gates)	Phase 1 – Complete (2023) Phase 2 – Permitted		✈
2	Terminal B Optimization	Complete (2022)		
3	Terminal C Canopy, Connector, and Roadway Projects	Complete (2023)		
4	Terminal A to B Airside Connector	Feasibility / Planning		✈
5	Central Heating Plant Conversion	Feasibility		✈
Airside Projects and Planning Concepts				
1	Runway Incursion Mitigation (RIM) Study and Comprehensive Airfield Geometry Analysis and Mitigation	Feasibility / Planning	✈	✈
2	Runway 9-27 Runway Safety Area (RSA) Improvement Project	Planning / Permitting	✈	
3	Runway 15-33 Rehabilitation Project	Complete (2023)		
4	Taxiway B North Rehabilitation	Construction (2024)	✈	
Service Area Projects and Planning Concepts				
1	Logan Airport, Equipment Storage and Maintenance North Service Area (NSA)	Planning / Permitting	✈	
2	Jet Fuel Storage Addition (NSA)	Under construction	✈	
3	Green Bus Depot Relocation – Southwest Service Area (SWSA) Redevelopment	Feasibility		✈
4	Governors Island Equipment Storage	Feasibility		✈
5[1]	Relocated Compressed Natural Gas (CNG) Station – North Cargo Area (NCA)	Planning	✈	
6[1]	Cargo Through-put Facility	Feasibility / Planning		✈
7[1]	Replacement Cargo Facilities (NCA)	Feasibility		✈
8[1]	Joint Operations Center (JOC)	Feasibility / Planning		✈

Notes: Anticipated completion dates and status as of December 31, 2022, as denoted by ✈.
Short-term projects are anticipated to be constructed by 2028 and long-term projects are anticipated to be constructed by 2035. Details of each project or planning concept are provided in the sections that follow.
1 Not applicable; project and initiative is either Airport-wide or a location has yet to be identified.

The 2022 ESPR provides additional detail about the emissions reductions and other benefits that are anticipated through deferred capital projects as highlighted below:

- *Logan Airport Parking Project*: Construction of the Parking Garage Project in front of Terminal E was deferred during the pandemic, but as passenger demand has rebounded, the demand for commercial parking has again increased. The updated program for the project now calls for approximately 4,300 commercial revenue spaces, which would be built in a new garage in front of Terminal E; however, no parking spaces will be constructed atop the Economy Garage. As stated in the 2022 ESPR, long-term parking reduces vehicle trips as passengers would make one trip to the Airport and one trip to leave, rather than two trips for drop-off and two trips for pick-up. The updated Garage in front of Terminal E will continue to comply with the Logan Airport Parking Freeze and will allow Massport to recover 2,000 spaces that were formerly located in Central Garage and in Terminal B Garage, but were lost due to HOV and RideApp initiatives at Terminals C and B.

- *RideApp (formerly Transportation Network Company (TNC)) Infrastructure and Policy (Airport-wide*): In 2022, more than a quarter of on-Airport traffic was from activities related to RideApp operations, which contributed to congestion on Airport roadways. In 2022, Terminal B RideApp pick-up and drop-off operations from the ground floor of the Central Garage were moved to the second floor of the Terminal B Garage. The shift provided approximately 60 more parking spaces, including three ADA accessible and four EV spaces in the Central Garage.

- *Logan Express Route and Facility Expansion (Off-Airport):* As noted above, postponed construction of additional parking at Framingham Logan Express: Project resumed and is in the design phase with construction currently estimated to begin in 2024. Peabody Logan Express at the new North Shore Mall location opened in 2022. Additional priority initiatives include improvements to Wonderland employee parking, better service offerings for Silver Line 1, and enhancing Back Bay Logan Express. Danvers Logan Express is expected to open towards the end of 2024 (the ESPR is not clear if this facility will replace the new Peabody location or is in addition to).[12]

- *Terminal E Modernization Project*: Construction of the first phase of the Terminal E Modernization Project which added four gates[13] to the international terminal was completed in October 2023. Phase 2 will ultimately add three additional gates, for a total of seven gates. Mitigation for the project included a 20 percent reduction in building energy use below the MA Energy Code, reduced operational-related GHG by a minimum of 30 percent, included 25,000 sf of rooftop solar PV. Once completed the project is expect to result in a decrease in carbon monoxide (CO) emissions in the area of Terminal E and the associated aircraft apron by approximately 9 percent, nitrogen oxide (NO_x) emissions by approximately 44 percent, and sulfur oxides (SO_x) emissions by approximately 33 percent and a decrease of Volatile Organic Compounds (VOCs) in the project area by approximately 6 percent and particulate matter (PM_{10} and $PM_{2.5}$) by approximately 9 percent and 25 percent, respectively.

[12] Page 6-12 indicates that the larger facility in Davers will be used to temporarily relocate the Peabody Logan Express.
[13] The Terminal E Modernization Project will add the three gates approved in 1996 as part of the International Gateway West Concourse project (EEA # 9791), but never constructed, and add an additional four gates.

- *Central Heating Plant (CHP)* Massport is studying the feasibility of converting the CHP from fossil fuel to electricity or another alternative source of energy. The study will consider not only the CHP, but also the connections and equipment serving the terminals and other Airport buildings.

- *Runway 9-27 RSA Improvement Project*: The FAA has approved the use of an Engineered Materials Arresting System (EMAS) for construction of a runway safety area for aircraft overrun protection. The RSA improvements will include a pile-supported deck over Boston Harbor at the approach-end of Runway 27. Construction is currently projected for 2025 and 2026.

- *Green Bus Depot – Southwest Service Area (SWSA)*: Massport is studying the relocation of the functions of the green bus depot from NSA to the SWSA to support the transition to an electric fleet, as part of Massport's Net Zero by 2031 plan. The depot building would be reused. As part of this effort, Massport will assess the existing ground transportation uses in the SWSA as well as future needs such as net zero requirements of other alternative-fueled ground transportation modes

- *Piers Park Phase II*: Completed in 2023, Piers Park II, an addition of 4.5 acres to Piers Park, features a central lawn area, children's playground, climbing structure, music garden, spray fountain, and a multigenerational fitness area. Upgrades included resiliency landscape features, elevated for flood protection, and a new community sailing center building. Piers Park II was one of the high-impact community benefit projects identified by both the City of Boston and members of the Logan Impact Advisory Group (LIAG) through their review of the Terminal E Modernization Project.

The 2023/2024 EDR should continue to assess planning strategies for improving Logan Airport's operations and services in a safe, secure, more efficient, and environmentally sensitive manner. As owner and operator of Logan Airport, Massport must accommodate and guide tenant development. The 2023/2024 EDR should describe the status of planning initiatives for the following areas: A-47

- Roadways and Airport Parking;
- Terminal Area;
- Airside Area;
- Service and Cargo Areas;
- Airport Buffers and Landscaping;
- Energy, Sustainability, and Resiliency.

The 2023/2024 EDR should update the timeline of long-range planning activities identified in the table above and should indicate a clear commitment to return to prior environmental commitments relative to capital projects intended to minimize air emissions impacts. The ESPR should identify the status and assess effectiveness of ground access changes, including roadway, parking projects, and transit projects that consolidate and direct Airport- A-48 A-49

related traffic to centralized locations and minimize Airport-related traffic on streets in adjacent neighborhoods. A-49

Ground Access to and from Logan Airport

The 2022 ESPR notes that the effects of ground transportation are measured in two ways; the number of vehicles that enter the Airport (via gateway roadways[14]) and the vehicle miles traveled (VMT) by those vehicles while on Airport roadways. The Airport's gateway roadways are equipped with permanent traffic count stations, which are part of the Airport-wide Automated Traffic Monitoring System (ATMS). The 2022 ESPR reports that annual average daily traffic (AADT) entering and departing the Airport via its gateway roadways increased by 26.1 percent between 2021 and 2022 but was 18.9 percent less than the 2019. Similarly, the average VMT in 2022 was lower than in 2019 by 21.6 percent.

As reported, ridership numbers in 2022 (for all applicable surface transportation modes, including HOV) rebounded to align with the Airport passenger numbers more closely, although both the number of riders and passengers in 2022 were still less than reported 2019 levels. The ESPR states that Massport continues to plan for the recovery of air passenger activity and remains committed to implementing the broad range of ground access and trip reduction strategies aimed at increasing the number of passengers arriving by transit or other HOV mode. According to the 2022 ESPR, Massport set a target to reach a 35.5 percent HOV mode share by 2022 and 40 percent by 2027. A summary of the *2022 Air Passenger Ground-Access Survey*[15] found HOV mode share reached 38.4 percent, which exceeds the 2022 target and indicates Massport is also on track to meet the 2027 target. Comments from the City of Boston note that the survey methodologies and results are not fully disclosed in the ESPR which raises questions about how these numbers were derived. The ESPR provides a discussion of ground access modes and trip generation associated with each mode including: (1) transit and shared-ride HOV services; (2) drive to Logan Airport and park; or (3) drop-off/pick-up mode, which can involve a private vehicle, taxi, limousine, or RideApp/TNC.[16]

According to the 2022 ESPR, parking freeze limits were not exceeded in 2022. The Logan Airport Parking Freeze sets an upper limit on the supply of commercial and employee parking spaces at Logan Airport. The ESPR provides a review of Massport's Long-Term Parking Management Plan including completed and proposed efforts to manage the supply, pricing and operation of parking including:

- Add 4,300 commercial spaces in a new garage in front of Terminal E
- Adding 1,000 additional spaces to the Framingham Logan Express site
- Offering reduced parking at Logan Express facilities (previously $11 now $7)
- Economy Parking was raised to $32.00 per day; terminal-area garage and lot rates are $41.00 per day

[14] Gateway roadways are defined as access points to and from Logan Airport, which include Route 1A from the north, Sumner and Callahan Tunnels (Route 1A to and from the south), Interstate 90 Ted Williams Tunnel ramps, Frankfort Street to Service Road to and from the northeast.
[15] The 2022 Air Passenger Ground-Access Survey is currently in draft format and is not currently posted. The survey is administered every 3 years.
[16] Transportation Network Companies (TNCs) are now referred to as RideApp companies (e.g., Uber and Lyft).

- Massport continues to sponsor free outbound (from Logan Airport) Silver Line bus service and Back Bay Logan Express service
- Massport provides employee parking in Chelsea with free shuttle bus transportation to the Airport (reopened in 2022)
- Massport offers reduced employee rates to encourage the use of Logan Express facilities. Additional early morning and late-night bus service has been added to Logan Express sites to encourage use and better serve Logan Airport employee schedules.

As noted above, Logan Airport is anticipated to reach 53.5 million annual passengers in the next 10-15 years and is committed to promoting and supporting public and private HOV and shared-ride services aimed at serving air passengers, Airport users, and employees. According to the ESPR, in the Future Planning Horizon, daily on-Airport VMT is estimated to be 212,022,[17] which is 1 percent more than the 2019 daily VMT of 209,900 and 29 percent more than the 2022 daily VMT of 164,625. The increase in VMT is primarily attributed to the forecasted increase in air passenger activity.

Key initiatives implemented in 2022 or planned for the immediate future to promote sustainable transportation mode usage and alleviate traffic congestion and parking constraints include:

- Promoting Logan Express ridership by:
    - Increasing capacity for air passengers at Braintree Logan Express service in the short-term by relocating commuters to a new dedicated employee park and ride lot in nearby Quincy
    - Adding approximately 1,000 additional spaces to the Framingham garage
    - Investing in a new, larger facility in Danvers to temporarily relocate the Peabody Logan Express
    - Identifying at least one new urban Logan Express location (North Station or similar location), and potential additional locations west of Boston
    - At Back Bay Logan express: Provided discount one-way fare from $7.50 to $3.00, and free service from Logan Airport and piloted priority Airport passenger security line status for riders
- Ongoing and future improvements to Blue Line access to Logan Airport, including direct service to Terminals and future investments in better integration of Airport Station to Terminal E; and
- Continued partnership with private bus companies to support multi-state and regional transit access to Logan Airport.

Other infrastructure modifications implemented in the next 10 to 15 years may include:

- Construction of a new parking garage near Terminal E;
- Reconstruction of the terminal area roadways between Terminals C and E (arrivals and departures);
- RideApp Lot relocations, pick-up and drop-off modifications, and routing changes;

[17] Estimated using the VISSIM model of Logan Airport: PTV America. 2021. Verkehr In Städen Simulationsmodell – VISSIM version 2021 [computer software].

- Terminal A curbside optimization.

I note comments from Airport Impact Relief, Inc. (AIR, Inc), the City of Boston, and Conservation Law Foundation (CLF), which indicate that, without tracking data related to some of these initiatives (such as Logan Express, HOV, and TMA usage, Uber/Lyft matching program), it is difficult to see the efficacy of these programs in actually reducing VMT in and around the Airport. Comments from AIR, Inc. also specifically criticize Massport's lack of effort in controlling curbside idling, which Massport commits to consider through future initiatives. The 2023/2024 EDR should report on any improvements made in these areas, and Massport should proactively consider ways to make tracking data available on a more frequent basis. A-50

The 2023/2024 EDR should continue to address the following topics:

- Target HOV mode share and incentives including a review of how the reported % by mode share is calculated and the methods used to incentivize; A-51
- Impact of RideApps on Logan Airport landside operations and effectiveness of the RideApp management plan including information on how Massport quantifies the improvement in congestion and any related drop in GHG emissions; A-52
- Update on parking conditions including the status of construction of the new parking garage and project associated GHG and air quality mitigation commitments; A-53
- Non-Airport through-traffic; A-54
- Cooperation with other transportation agencies to increase transit ridership to and from Logan Airport via the Blue Line, Silver Line, Water Transportation, and Logan Express; A-55
- Report on efforts to increase capacity and use of Logan Express and improvements to and expansion of service; A-56
- The expansion of piloted projects including the priority Airport passenger security line status for Logan Express riders; A-57
- Progress on enhancing water transportation to and from Logan Airport; • A-58
- Results and recommendations of the most recent ground access survey including links to the most recent report; A-59
- Results and recommendations of the Long-term Parking Management Plan required by the Parking Freeze amendments; and A-60
- Reporting of data (and comparison to prior years (2019-2022)) associated with the Logan Transportation Management Association (TMA) including number of employees participation in the various strategies (transit pass, shuttle services, etc.) and strategies for enhancing services and increasing employee membership in the Logan Airport TMA. A-61

To the extent feasible, the 2023/2024 EDR should report on specific reductions in VMT that could be achieved through these measures, and indicate how such goals can be tracked over time. A-62

Noise

As required by the Scope, Massport modeled 2022 noise conditions of aircraft operations and compared the findings to those for 2019 and 2021. Noise levels are calculated using the Day Night Average Sound Level (DNL) metric and presented as a series of contours of equal sound levels that are measured in decibels (dB). The 2022 ESPR provides noise modeling results from the FAA's Aviation Environmental Design Tool (AEDT) (version 3d). The model requires detailed operational data as inputs for noise calculations, including numbers of operations per day by aircraft type and by time of day, which runway is used for each arrival and for each departure, and flight track geometry for each track. The ESPR indicates that the 2022 DNL contours are similar in shape to the 2019 contours which is a result of fewer aircraft operations as well as changes in the aircraft fleet mix, with the phasing out of some nosier, less-efficient aircraft that were in the 2019 fleet. As shown in the table below, the number of people residing within the modeled 2022 DNL 65 dB contour (8,185 people) was 7 percent below the 2019 level (8,665 people) but 228 percent greater than the 2021 level (2,497) primarily because air operations in 2022 were 42 percent greater than in 2021.

Population Exposed to DNL 65 dB or Greater

Year	> 75 DNL	70-75 DNL	65[3]-70 DNL	Total (65+)[3] DNL
All Communities				
1990 (INM)	676	2,989	40,477	44,142
1998	577	2,102	20,617	23,296
2000 (INM)	247	1,304	16,194	17,745
2010 (INM)	0	130	3,700	3,830
2019	0	103	8,665	8,768
2020	0	0	804	804
2021	0	0	2,497	2,497
2022	0	27	8,158	8,185

The 2022 ESPR also compared DNL values modeled using the AEDT to measure noise levels at 30 permanent monitoring located in communities around the Airport (Table 7-8 in the ESPR). The ESPR notes that the differences between the average measured and modeled DNL have narrowed over the years and of the 30 monitor locations, 16 of the sites recorded higher measured noise levels than the corresponding model-computed noise levels with the difference between measured and modeled DNL within 1 dB at 11 of the sites. Three of the sites had equipment malfunctions on some days which is being addressed by the vendor.

Massport also tracks operations occurring during the DNL nighttime period of 10:00 PM to 7:00 AM, when each modeled flight is weighted tenfold in calculations of noise exposure. According to the 2022 ESPR, nighttime operations represented approximately 14 percent of total operations for 2022 at Logan Airport as compared to 17 percent in 2019. The majority of 2022 nighttime operations (between 10:00 PM and 7:00 AM) occurred either before midnight or after 5:00 AM, to accommodate connecting flights and international time zones. The proportion occurring in the "shoulder hours" between 10:00 PM and midnight or between 5:00 AM and 7:00 AM was approximately 81 percent of total nighttime operations in 2019, 76 percent in 2021, and 83 percent in 2022.

The 2022 ESPR included projected DNL contours for the Future Planning Horizon for when annual passenger counts reach 53.5 million and annual aircraft operations reach 495,000. The modeling assumptions include an increase in total operations from 1,040 per day in 2022 to over 1,350 per day and the forecast fleet is expected to primarily consist of jet aircraft, resulting in the continued use of the highest-capacity runway configurations. Departures for the Future Planning Horizon on Runways 9 and 27 would be higher than in 2022, while departures on Runways 22R and 33L would be lower. Arrivals for the Future Planning Horizon on Runways 4L and 33L are predicted to be higher than for 2022, while use of Runways 22L and 27 is expected to decrease. Utilizing these assumptions, the 2022 ESPR presents a comparison between the 2022 DNL contours and the Future Planning Horizon DNL contours which shows that the area contained within the forecast contours is larger than the area within the 2022 contours due to the expected growth in number of aircraft operations. The total number of nighttime operations for the Future Planning Horizon is expected to increase approximately 35 percent from 2022 levels, while the daytime operations are expected to increase by 30 percent. The ESPR includes a detailed description of the forecasted contours for each impacted community. The number of people exposed to noise levels greater than 65 DNL is expected to increase from 8,185 people in 2022 to 9,325 people in the future forecast (an increase of 15.2 percent). Massport notes that the aircraft in the future forecast fleet are likely to have quieter and more efficient engines than older aircraft in the current fleet, and thus this forecast is conservative. The noise modeling relies on an extensive database of aircraft noise and performance (ANP) profiles within AEDT and must use current versions of aircraft as "substitutes" for future types. Therefore, the future forecast DNL contours presented in this chapter are a conservative estimate of the future noise levels.

Comments from the Town of Milton expressed detailed concerns regarding the impact of noise on communities as far as 10 miles beyond the Airport. Comments indicate that the FAA's civil aviation Noise Policy with relies on DNL 65 dB as its sole noise metric, is outdated and most often calculated on an annual basis, masking the acute impacts that several hundred aircraft flying over a home has on the occupants. According to the Town, there are four RNAV's for runways 4R, 4L, 27 and 33L which fly over the community resulting in lack of and disrupted sleep. The 2023/2024 EDR should address Milton's concerns and the feasibility of implementing Block 1 and Block 2 recommendations from the recent MIT Study and specifically those relating to Runways 4R and 27. A-63

The 2022 ESPR provides a review of noise abatement goals associated with the Noise Abatement Management Plan. While no additional dwelling units were insulated in 2022,

Massport restarted its residential sound insulation program (RSIP), applying for and receiving an initial grant to fund the beginning phase of the new program. The 2023/2024 EDR should report on the progress, timeline and insulation goals of the new program. Other mitigation plan elements include the voluntary use of reduced-engine taxiing (shutting one engine off) but no data is provided to show use of the recommended measure.[18] According to the ESPR, the Massport Noise Abatement Office received 272,943 noise complaints from 80 communities, an increase of about 1.4 percent as compared to the 268,929 complaints received from 86 communities in 2019. Of note, the community of Winthrop generated about 31 percent of the complaints in 2022 (but only 3.5 percent in 2019). A summary of the noise complaint line data is included in table 7-17 of the ESPR. A-64

Massport also notes collaboration with ASCENT on two research projects focused on aircraft noise and flight procedures and continues to provide technical assistance and analysis using noise monitoring systems to support the FAA and others in monitoring jet departure tracks from Runway 27 and Runway 33L. Massport and the FAA completed an Area Navigation (RNAV) evaluation project in 2021 designed to identify ways to reduce noise from the RNAV procedure (which concentrates flights). As a result of the RNAV project, Massport submitted a request to the FAA for review and implementation of two procedures at Logan Airport. These include modifying the existing RNAV Standard Instrument Departures (SID) from Runway 15R to shift departures further north over water away from Hull, and a new over-water Required Navigational Performance (RNP) 38 approach to Runway 33L. The FAA completed development of these procedures and published the procedures in December 2021. Thus, 2022 represents the first full year of use for the procedures. The 2023/2024 EDR should report any data used to measure the effectiveness of these improvements including the number of noise complaints from the previously impacted areas. A-65

The Logan Airport noise mitigation program includes operational restrictions on certain runways, limits to engine runup locations, late night runway preference, and noise abatement turns. The 2023/2024 ESPR should continue to report on the Airport noise mitigation program including summaries of the findings and recommendations of reports and studies focused on reducing community noise levels. A-66

Climate Change

Massport assets and Logan Airport, in particular, are critical infrastructure and play an important role in the economy. Governor Baker's Executive Order 569: Establishing an Integrated Climate Change Strategy for the Commonwealth was issued on September 16, 2016. The Order recognizes the serious threat presented by climate change and directs Executive Branch agencies to develop and implement an integrated strategy that leverages state resources to combat climate change and prepare for its impacts. The urgent need to address climate change was again recognized by Governor Baker and the Massachusetts Legislature with the recent passage of St. 2021, c. 8, An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy, which sets a goal of Net Zero emissions by 2050. I note that the MEPA statute directs all Agencies to consider reasonably foreseeable climate change impacts, including

[18] Mandatory single engine taxiing was also one of the proposed measures in the BLANS but the FAA rejected them due to safety concerns.

additional greenhouse gas emissions, and effects, such as predicted sea level rise, when issuing permits, licenses and other administrative approvals and decisions.

The 2022 ESPR identifies that Massport's sustainability reports highlight efforts to improve and enhance sustainability and climate resiliency across the entire organization. The *2020 and 2021 Sustainability and Resiliency Report*,[19] included new initiatives that Massport explored to be a better community partner through reducing noise and air pollution, improving ground access to Logan Airport, and extending diversity, equity, and inclusion (DE&I) initiatives beyond its operational borders. As discussed further below, the most recent report highlights Massport's net zero commitments including reaching net zero by 2031; however, a review of the report reveals little information that identify the future vulnerabilities of Logan Airport infrastructure or proposed plans to address future sea level rise, extreme precipitation and extreme heat. The ESPR notes that in 2013, Massport launched a comprehensive resiliency initiative to maximize business continuity amidst various human and natural threats. The ESPR lists the goals guiding this process but does not list any identified outcomes of the initiative. According to the ESPR, Massport has been collaborating with regional resiliency efforts including City of Boston initiatives, to protect surrounding communities and points to its open space and Airport edge buffer parks as an example of this district-scale resiliency approach. As described in the ESPR, Massport has worked with communities to develop a system of parks and open spaces encompassing over 30 acres. These green spaces capture GHG emissions, provide relief from extreme heat, and create recreational opportunities, and waterfront parks, like Piers Park I and II and the Navy Fuel Pier Buffer, which establish a buffer area for neighborhoods in the event of extreme flooding.

The 2023/2024 EDR should report on all climate resiliency measures planned or implemented/constructed. It should provide general information on the forecast methodology being used to identify threats and vulnerabilities to Logan Airport facilities and infrastructure and projects that actively address the risks of extreme heat, intense precipitation, and coastal flooding and sea level rise. A-67

GHG emissions

As previously identified in the 2020/2021 EDR, Massport incorporates GHG emissions reporting consistent with that provided in the 2017 ESPR but with a change in methodology. In prior years, GHG emissions were quantified using emission factors and methodologies outlined in the *Greenhouse Gas Emissions Policy and Protocol* issued by EEA and the Transportation Research Board's *Guidebook on Preparing Airport Greenhouse Gas Emissions Inventories* (Airport Cooperative Research Program (ACRP) Report 11, Project 02-06). The 2020/2021 GHG reporting utilized additional guidance from the Airports Council International (ACI) and the Airports Carbon Accreditation Program (ACA) which separates emissions based on ownership/control: Scope 1/Direct – emissions that are controlled by Massport; Scope 2/Indirect - emissions associated with the generation of electricity consumed but generated off-site at public utilities; Scope 3/Indirect and Optional – GHG emissions that are associated with the activities of the reporting entity (Massport), but are associated with sources that are owned and

[19] Massport Sustainability & Resiliency Report 2020 & 2021 Massport's next sustainability and resiliency report covering 2022 and 2023 will be published in 2024.

controlled by others (aircraft-related emissions, tenant activities, and ground transportation). The 2022 ESPR quantifies and reports GHG emissions for all three scopes and provides forecasts for the Future Planning Horizon. The 2022 ESPR and future GHG inventory is based on this same guidance.

The 2022 ESPR provides GHG data by scope and provides a comparison to data from 2017 through 2022, noting that 2020 and 2021 were influenced by the pandemic and were not representative. The analysis showed that total GHG emissions in 2022 increased by about 60 percent over 2021 levels but decreased by 27.5 percent from 2019 levels. However, as shown in the table below, despite an increase in activity levels, Scope 1 emissions decreased from 2021 to 2022 which is generally attributable to Logan Airport facilities and equipment operating more efficiently over time as Massport is shifting to cleaner fuel sources for fleet vehicles and other Massport-controlled equipment. In 2022, Massport-controlled emissions and purchased electricity, Scope 1 and 2, represented 12.7 percent of Airport-wide GHG emissions and Scope 3 emissions, which are public and tenant-owned and controlled, represent the remaining 87.3 percent of GHG emissions.

Table 8-9 Comparison of Estimated Total Greenhouse Gas (GHG) Emissions (MT CO2e) by Scope at Logan Airport – 2017 through 2022

Scope	2017	2018	2019	2020	2021	2022
Scope 1 Emissions	49,305	47,493	51,360	32,764	33,067	31,415
Scope 2 Emissions	48,448	44,716	43,226	39,949	38,711	42,853
Scope 3 Emissions	607,794	685,465	713,539	247,530	321,388	511,452
Total Emissions[1]	**705,547**	**777,674**	**808,125**	**320,242**	**393,166**	**585,720**
Percent of State Totals[2]	**<1%**	**1%**	**1%**	**<1%**	**<1%**	**<1%**

Source: Massport and CMT, 2024.

Notes: Totals may not add exactly due to rounding.

MT – metric tons of CO_2 equivalents (1 MT = 1.1 Short Tons). CO_2 equivalents (CO_2e) are bases for reporting the three primary GHGs (e.g., CO_2, N_2O, and CH_4) in common units. Quantities are reported as "rounded" and truncated values for ease of addition.

1 Total Emissions = Scope 1 + Scope 2+ Scope 3.

2 Percentage based on most recent relative amount of total emissions to statewide total from MassDEP, MassDEP, 2nd Addendum to the Statewide Greenhouse Gas Emissions Level: 1990 Baseline Update, June 2022, available at https://www.mass.gov/doc/2nd-addendum-to-statewide-ghg-level-proposed-1990-baseline-update-june-2022/download.

The 2022 ESPR reports on updates to ongoing initiatives to reduce emissions including:

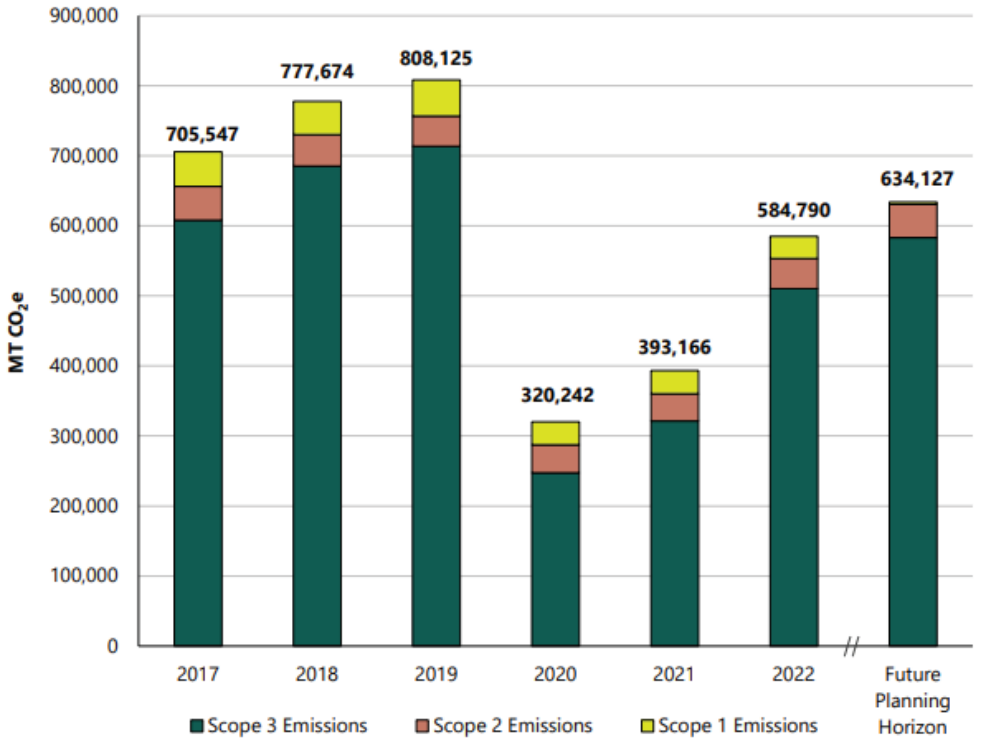
- Initiated a fleet decarbonization assessment to review the Authority's existing on-road fleet inventory and to identify recommendations for electric vehicle (EV) replacements over a 15-year period beginning in 2024, while looking at the financial and environmental benefits of such transitions. The assessment is also identifying electric alternatives for Massport's off-road equipment.
- By the end of 2022, there were over 70 EV charging ports across Logan Airport available for use by shared-ride companies and the general public, with additional ports owned and proposed by rental car companies at the Rental Car Center (RCC).

- Massport had a goal of reaching 35.5 percent HOV by 2022, and 40 percent HOV by 2027. Massport achieved the 2022 goal with 38.4 percent HOV for the year.
- Massport provides free, clean-fuel shuttle bus service for passengers and employees between the MBTA Blue Line Airport Station, all terminals, the RCC, and the Logan Airport water transportation dock along Harborside Drive.
- Massport published its Roadmap to Net Zero by 2031, an Authority-wide program to achieve net zero GHG emissions by 2031 for the activities under Massport's control.

The Certificate on the 2018/2019 EDR requested that Massport consider comments from the Department of Energy Resources (DOER) which recommend electrification of space and water heating, as well as evaluation of opportunities for distributed renewable energy generation. DOER comments on the 2022 ESPR recommend that the Airport upgrade its new building standards to mandate the Specialized Code with electrification and notes that the Specialized Opt-in Code is already mandatory in Boston. For existing building renovations, Massport should mandate low air infiltration and ventilation energy recovery when renovating. Comments also urge Massport to reassess central plant heating utilization based on the fossil fuel elimination strategy as detailed further in the comment letter. According to the 2022 ESPR, Massport is evaluating net zero options for the Logan Central Heating Plan including electrification. Massport continues to report that on-site photovoltaic (PV) solar development and other distributed energy resources such as battery storage are under consideration; however, this information was previously provided in the 2020/2021 EDR, with no further update included in the 2022 ESPR. Massport continues to maintain existing PV arrays at Logan and notes several additional PV systems planned as part of project mitigation including a 300,000-kilowatt hour (kWh) rooftop solar array at the new Terminal E and a solar PV system at the new garage in front of Terminal E capable of offsetting 50 percent of the facility's total energy consumption. As previously noted in the 2020/2021 EDR, in March 2022, Massport published its Net Zero Roadmap. The 2022 ESPR provides a link to the 2020 and 2021 Sustainability and Resiliency Report but indicates that the report covering 2022 and 2023 will be published in 2024. Future EDR/ESPRs should look to align this reporting to provide a better picture of GHG emissions and efforts to reduce emissions through electrification. A-68

The 2022 ESPR provides the future GHG inventory based on the same methodology used to report the 2022 data and includes data for Scope 1, 2 and 3 Emissions as shown in the graph below. Massport notes that the estimated remaining Scope 1 and Scope 2 emissions presented below will be negated through the use of offsets and renewable energy certificates (RECs), and where possible, Massport will be looking to ensure that the benefits of these economic mechanisms for reducing emissions are accrued in Massachusetts. As shown below, Massport's projections show a clear upward trend in GHG emissions over the Future Planning Horizon, though total emissions are projected to remain below 2019 levels. Notably, all "Scope 1" emissions are projected to be reduced to 0 by the Future Planning Horizon. The 2023/2024 EDR should provide the information requested in DOER's comment letter and further detail its pathway to Net Zero including DOER's recommendations. A-69

Figure 8-12 Emissions of GHG at Logan Airport 2010-2017, Future Planning Horizon



Source: Massport and CMT, 2024
Note: Scope 1 emissions are from sources that are owned or controlled by Massport, Scope 2 emissions are from electrical consumption, which are generated off-Airport at power generation plants, and Scope 3 emissions are from Airport tenants and the ground transportation to and from the Airport.

Air Quality/Emissions Reduction

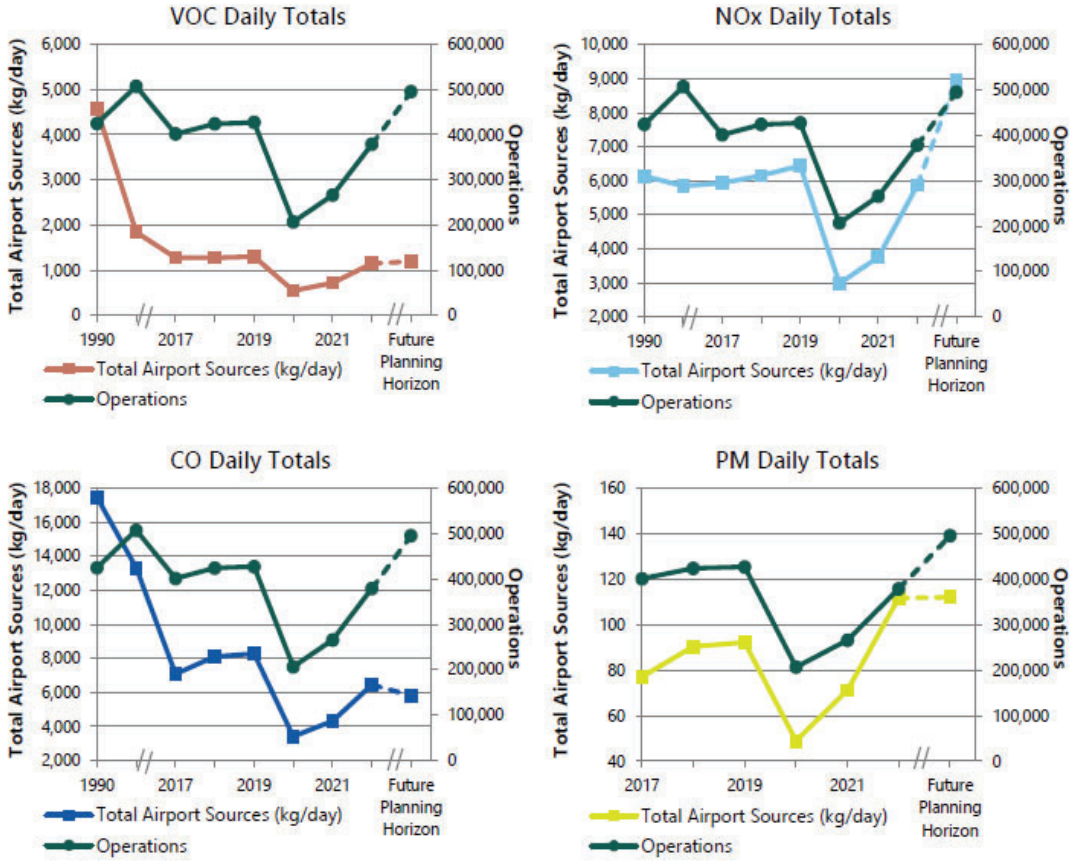
The 2022 ESPR provides an overview of Airport-related air quality factors for 2022 and the efforts to reduce emissions. The air quality modeling is based on aircraft operations, fleet mix characteristics, and airfield taxiing times combined with GSE usage, motor vehicle traffic volumes, and stationary source utilization rates. The 2022 ESPR uses FAA's approved computer model for calculating emissions from aircraft-related sources, the Aviation Environmental Design Tool (AEDT) (model v. AEDT 3e). The 2022 ESPR notes that the 2020/2021 EDR previously reported data using AEDT3d with the primary differences between the two model versions (AEDT3e versus the previous AEDT3d) being the updates to the aircraft fleet inputs. As a result of the differences between available aircraft and engine combination model defaults, the AEDT3e model results with the 2022 aircraft fleet presented in Table 8-1 show a slight increase in aircraft emissions for VOC, CO, and PM10/PM2.5 (1.4 percent, 0.4 percent, and 0.2 percent, respectively), and a negligible decrease in NOX (less than 1 percent) when compared to AEDT3d. These changes are attributable to model updates and refinements, not changes in operations or other factors.

Massport prepared aircraft emissions inventories for 2022 for the criteria pollutants carbon monoxide (CO), particulate matter (PM10/PM2.5), volatile organic compounds (VOCs), and oxides of nitrogen (NOx). Total modeled emissions of volatile organic compounds (VOCs), oxides of nitrogen (NOX), carbon monoxide (CO), and particulate matter (PM10/PM2.5) decreased from 2019 to 2022 by about 12 percent, 8 percent, 22 percent, and 19 percent, respectively. The decrease in all types of pollutant emissions from 2022 (AEDT3e) compared to 2019 (AEDT3c) is primarily attributable to the 13 percent decline in aircraft operations from 2019 to 2022. However, the 2022 total modeled emissions of VOC, NOX, CO, and PM10/PM2.5 increased by about 68 percent, 59 percent, 51 percent, and 45 percent, respectively, from 2021 levels, showing a clear upward trend in these emissions. These increases are primarily attributable to the 42 percent increase in operations between 2021 and 2022.

Figure 8-10 of the 2022 ESPR (below) shows trends in VOC, NOx, CO, and PM10/PM2.5 emissions over the Future Planning Horizon, indicating increases in some cases to above 2019 levels and sometimes above 1990 levels. The ESPR indicates, however, that CO levels are projected to decline from 2022 to future years, primarily due to the use of cleaner passenger vehicles on the roadway network and Massport's commitment to electrifying ground service equipment (GSE). VOCs and PM emissions are projected to increase slightly or remain steady, but NOx emissions are projected to increase markedly by almost 53% from 2022 to the Future Planning Horizon, or 39% from 2019 levels. Massport attributes this increase to the use of quieter airplanes that emit higher levels of NOx. Figure 8-10 shows trends in air emissions as compared to overall activity levels at the Airport, showing that emissions will increase at a slower rate than Airport operations.

Figure 8-10 and associated tables with more granular data are shown below:

Figure 8-10 Emission Trends of VOCs, NOx, CO, and PM[1] at Logan Airport, 1990-Future Planning Horizon



Source: Massport and CMT, 2024.

Notes: The dashed line represents projected values

CO – carbon monoxide; NO_X – oxides of nitrogen; PM – particulate matter; VOC – volatile organic compounds.

1 PM emissions were not estimated until 2005.

Table 8-10 Future Planning Horizon Emission Estimates (in kg/day) at Logan Airport

Source Categories	VOC		NO_X		CO		$PM_{10}/PM_{2.5}$	
	2022	Future	2022	Future	2022	Future	2022	Future
Aircraft Sources								
Air carriers	422	434	4,834	8,095	3,042	3,614	39	44
Commuter aircraft	93	64	322	352	1,849	1,265	3	3
Cargo aircraft	85	93	423	370	393	364	3	3
General aviation (GA)	80	169	71	63	302	341	2	2
Total Aircraft Sources	**681**	**760**	**5,650**	**8,881**	**5,586**	**5,584**	**47**	**52**
Ground Service Equipment (GSE)[2]	**27**	**7**	**123**	**52**	**522**	**63**	**11**	**6**
Motor Vehicles								
Parking / curbside[1]	4	1	2	<1	10	2	1	1
On-Airport vehicles	19	11	5	3	312	164	49	52
Total Motor Vehicle Sources	**22**	**13**	**7**	**4**	**322**	**166**	**50**	**53**
Other Sources								
Fuel storage and handling[2]	410	410	-	-	-	-	-	-
Miscellaneous sources[3]	5	2	86	21	20	5	3	1
Total Other Sources	**415**	**412**	**86**	**21**	**20**	**5**	**3**	**1**
Total Airport Sources	**1,144**	**1,191**	**5,866**	**8,958**	**6,449**	**5,818**	**112**	**112**
Percent Change		**4.1**		**52.7**		**-9.8**		**0.3**

Source: Massport and CMT, 2024.

Notes: Values may reflect rounding.
kg/day - kilograms per day. 1 kg/day is equivalent to approximately 0.40234 tons per year (tpy).
CO – carbon monoxide; NO_X – oxides of nitrogen; $PM_{10}/PM_{2.5}$ – particulate matter with a diameter that is 10 micrometers and smaller (PM_{10}) which is inclusive of particulate matter with a diameter that is 2.5 micrometers and smaller ($PM_{2.5}$); VOCs – volatile organic compounds.

1 GSE emissions include aircraft auxiliary power units (APUs) and vehicles and equipment converted to alternative fuels.

2 Includes the Central Heating Plant, emergency electricity generation, snow melter usage, and other stationary sources.

3 Fuel storage and handling activities do not emit CO and therefore, are not included in the table.

The 2022 ESPR continues to update information on Ultrafine Particles (UFPs) which is particulate matter (PMs) subdivided into categories based on their diameters. UFPs have diameters less than 0.1 micrometers (µm). As previously stated in the 2020/2021 EDR, in December of 2020, the Environmental Protection Agency (EPA) published a final action in the Federal Register detailing the agency's review of the National Atmospheric Air Quality Standards (NAAQS) for PM10/PM2.5. UFP is addressed in the supplemental information of the notice. In their review of the PM10/PM2.5 NAAQS, EPA determined that due to significant uncertainties and limitations, as well as the limited availability of air monitoring data, that the PM2.5 NAAQS would be retained as the indicator for UFP. As discussed above, Massport has been supportive of cooperative research efforts being funded by the FAA and co-led by BU and Tufts, for ASCENT as detailed in the most recent annual report published by ASCENT (2023).[20] As stated in the 2022 ESPR, the primary purpose of the research is the measurement of aviation emissions and aviation's contribution to ambient levels of air pollution. As part of the studies,

[20] ASCENT 2023 Annual Report (wsu.edu). The 2022 ESPR included the annual report for 2020.

ASCENT is measuring UFPs in the vicinity of Logan Airport to determine variations in the contribution of aviation emissions to ground-level air pollutant concentrations by location and over time. The 2023/2024 EDR should provide the most recent updates to this study and its findings as they relate to the study area communities. To the extent that the studies provide measurements of UFPs in adjacent communities (or a methodology to do so), this data should be reported. A-70

The 2023/2024 EDR should continue to provide an overview of the environmental regulatory framework affecting aircraft emissions, changes in aircraft emissions, and the changes in air quality modeling including a mobile sources emissions inventory for CO, NOx, VOCs, and PMs. The 2023/2024 EDR should quantify the emissions reductions associated with Massport's air emissions/GHG reduction initiatives to the extent feasible including the reductions associated initiatives target to reduce emissions and those associated with MEPA reviewed projects where GHG mitigation requirements were made. A-71 A-72

Comments from MCAC note appreciation for the support that Massport has provided to university researchers studying the impacts of air pollution on "near-in" communities and requests that data sharing be made available to MCAC to further development of its data visualization tool which will share information to its constituent communities and allow people to more fully understand the air pollution impacts of Airport operations on their lives and to inform and develop a community mitigation framework. Comments from the City of Boston also suggest the need for more data about how Massport's air quality reduction strategies, especially those not under Massport's direct control, will be implemented to keep operation sources of VOCs, NOx, CO, PM10, and PM2.5 at "similar" levels over the next 10 to 15 years. As discussed herein, to the extent the benefits of mitigation measures can be quantified, these values should be reported and tracked over time. A-73

Water Quality/Environmental Compliance

The 2022 ESPR describes Massport's ongoing environmental management activities including National Pollutant Discharge Elimination System (NPDES) compliance, stormwater, fuel spills, activities under the Massachusetts Contingency Plan (MCP), and tank management. Massport's primary water quality goal is to prevent or minimize pollutant discharges, to limit adverse water quality impacts of Airport activities. According to the 2022 ESPR, Massport performed Stormwater Pollution Prevention Plan (SWPPP) inspections and made recommendations on how to optimize best management practices (BMPs). The Logan Airport SWPPP addresses stormwater pollutants including deicing and anti-icing chemicals, bacteria, fuel and oil, and other sources of stormwater pollutants and includes BMPs specific to aviation activities. Massport also conducted training for personnel responsible for implementing activities identified in the SWPPP. Massport also maintains a Spill Prevention, Control, and Countermeasures (SPCC) Plan for its facilities that store petroleum products. Tenants meeting certain thresholds are required to prepare their own SPCC plans for their facilities. Massport checks for SPCC plans during environmental compliance inspections. Additionally, tenants receive information on Massport BMPs, which focus on spill management and prevention.

As stated in the ESPR, the Logan Airport NPDES Permit regulates stormwater discharges from Logan Airport outfalls, including the North, West, Northwest, Porter Street, Maverick Street, and airfield outfalls. Grab samples are taken monthly from North, West, Porter Street and Maverick Street Outfalls and tested for pH, oil and grease, total suspended solids (TSS), benzene, surfactants, fecal coliform bacteria, and Enterococcus bacteria during both wet and dry weather. Grab samples are also taken quarterly from these four outfalls during wet weather events to analyze for eight distinct polycyclic aromatic hydrocarbons (PAHs), and from the Northwest and Airfield outfalls for pH, oil and grease, TSS, and benzene. Deicing monitoring is also conducted from October/November through March/April, depending on weather conditions. Due to weather conditions, only one deicing sampling event occurred during the 2021-2022 deicing season. The ESPR indicates that over 97 percent of samples were in compliance with standards for pH, oil and grease, and TSS but does not report on compliance with standards for the other listed pollutants. The ESPR points to Appendix K for more details which includes tables of data showing the monitoring reports for each quarter but does not indicate where exceedances exist. Information regarding exceedances, including data on which contaminant and outfall location should be included in future reporting. The 2023/2024 should describe how exceedances are addressed and if community reporting and/or alerts are required. A-74

According to the ESPR, Massport's Facilities Department conducts biannual inspections of the six Stormcepter devices (for stormwater pre-treatment) located throughout the Airport and routinely inspects catch basins located within 100 yards of aircraft, vehicle and equipment maintenance facilities. Catch basins are cleaned on as needed basis. Treated wastewater generated from fire training exercises, which generally occur from April through November, are collected and stored in an above ground holding tank onsite. Wastewater is treated by OW separation and granular activated carbon (GAC) filtration methods to remove fuel contaminants, then reused onsite to recharge the fire training pit for training exercises. As noted in the ESPR, in March 2021, the U.S.EPA issued a minor modification to the NPDES Permit No. MA0032751 to clarify that grab samples should be collected from above ground holding tanks after the water has undergone treatment, but prior to discharge. The ESPR also reports that Massport has eliminated the use of Aqueous film forming foam (AFFF) containing per- and polyfluoroalkyl substances (PFAS) if fire training exercises and indicates that when a PFAS-free AFFF replacement product becomes available, Massport will follow FAA guidance and safety requirements regarding transitioning to the new product and its use.

According to the 2022 ESPR, Massport Fire Rescue maintains records of spills at Logan Airport. As required by regulation, fuel spills of 10 gallons or more are reported to MassDEP. Spills that enter storm drains of any volume must also be reported to MassDEP. Massport maintains records of spills, including those less than the reporting threshold. In 2022, of the oil and hazardous material spills reported to Massport Fire Rescue, only three were reportable quantity spills requiring MassDEP notification. The spills did not enter the storm drains. Of the three reportable spills in 2022, two were due to aircraft malfunctions and the other fuel spill was due to a hydrant truck malfunction.

Mitigation

The 2022 ESPR includes a list of projects previously reviewed by MEPA (several of which were reviewed, permitted and completed 10 to 20 years ago). Projects currently in the planning phases or under construction include the following:

- Terminal E Modernization Project, EEA #15434
- Logan Airport Parking Project, EEA #15665
- Runway 27 End Runway Safety Area Improvements Project, EEA #16433

Of the three projects, only the Terminal E project has proceeded to construction (Phase I) where construction period mitigation measures were implemented. Other implemented mitigation measures include replacement and upgrading of the stormwater management system and reduction of operational-related carbon dioxide (CO2) emissions associated with the project by a minimum of 30 percent. Other mitigation commitments include a building designed to achieve energy efficiencies of a minimum of 20 percent below the current Mass Energy Code. It is unclear in the filing if 25,000 sf solar photovoltaic system has been constructed. The ESPR indicates that Phase I has been completed and that Phase II is being advanced.

As summarized above, the overall trends in passenger and flight activity levels show that, while activity levels still remain below the all-time highs in 2019, they show clear recovery from COVID-19 conditions and a trajectory of exceeding 2019 levels by as early as 2025. I note that associated GHG and air emissions impacts, while also showing an upward trend, are not projected to exceed 2019 levels over the Future Planning Horizon.

To enhance public transparency and tracking of mitigation measures, future EDR and ESPR filings should improve the reporting of mitigation measures and present all applicable measures in a tabular format organized by subject matter (traffic, noise, air quality, GHG emissions, environmental justice, etc.). The table should indicate whether the measures are ongoing or planned (and if the latter, provide am estimated timeframe for implementation). To the extent specific mitigation results from an individual project review, those commitments should be listed separately with a quantification, to the extent documented through the individual review, of the estimated reductions to applicable impacts (e.g., GHG reductions) that would result from the mitigation measure. As noted above, to the extent the benefits of other mitigation measures (e.g., VMT or GHG reduction targets) can be quantified, these values should be reported and tracked over time. If same or substantially same level of reduction was not actually achieved, or mitigation commitments have changed over time, those updates should be reflected in the ESPR and may require a further Notice of Project Change (NPC) filing for the individual project. This type of format aligns more closely with reporting of mitigation commitments for standard MEPA reviews, and would allow for better tracking and public transparency with respect to implementation of mitigation measures.

A-75

A-76

A-77

Response to Comments

The 2023/2024 EDR should include a copy of this Certificate. It should include copies of all comments received on the 2022 ESPR and provide responses to the comments and to this

A-78

Certificate. In order to ensure that the issues raised by commenters are addressed, the 2023/2024 EDR should include direct responses to comments to the extent that they are within MEPA jurisdiction. A-79

Conclusion

Massport may prepare a 2023/24 EDR for submission consistent with the Scope included in this Certificate. As noted above, I am also directing Massport to participate in a work group, facilitated by MEPA and the EEA EJ Office, to consider supplemental mitigation measures to address public health impacts of Airport operations on surrounding EJ populations. In addition, consistent with the approach set forth in the 2017 EPSR, if actual growth in passenger and/or aircraft operations outpace forecasts during a reporting period, I expect that additional mitigation and policies and strategies will be considered to address the proportional growth in impacts. A-80

October 18, 2024
Date

Rebecca L. Tepper

Comments received:

06/26/2024
& 10/11/2024 Airport Impact Relief Inc. (Air Inc) (including supplemental email comments x 2)
09/10/2024 Town of Milton
10/09/2024 Mother's Out Front (MOF)
10/10/2024 A. Hartnett
10/10/2024 A. McCoy
10/11/2024 Blue Skies Advocates
10/11/2024 City of Boston
10/11/2024 Conservation Law Foundation (CLF)
10/11/2024 Massport Community Action Advisory Committee (MCAC)
10/11/2024 F. Salvucci
10/15/2024 D. Reilly
10/15/2024 R. Marchi
10/16/2024 G. Miller
10/17/2024 Department of Energy Resources (DOER)

RLT/JAH/jah

Massport's Responses to Comments Raised in the 2022 ESPR Certificate

A-1: Logan Airport Environmental Review and Planning

I am directing Massport to participate in a work group process to consider supplemental community mitigation measures for environmental justice neighborhoods surrounding the Airport, with the goal of forming recommendations for specific actions within one year.

Massport is committed to active participation in the MEPA's Logan Airport Work Group (the Work Group), established in collaboration with the Massachusetts Environmental Policy Act (MEPA) and the Office of Environmental Justice & Equity (OEJE). This Work Group, launched in February 2025, includes representatives from state agencies, local officials, and community stakeholders and is co-moderated by MEPA, OEJE, and an independent third-party moderator to promote an inclusive and transparent process.

The Work Group's primary objective is to assess and discuss feasible supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations among environmental justice (EJ) communities in East Boston, Winthrop, and Chelsea. Over the course of the next year, the group will consider supplemental community mitigation measures for EJ neighborhoods within proximity of the Airport with the goal of forming recommendations for specific actions. Scientific expertise from state agencies and researchers who have studied air quality impacts will assist in informing these discussions.

Massport will contribute technical expertise, data, and resources to support this collaborative effort. An update on the status of the MEPA's Logan Airport Work Group up to the time of this document filing is provided in **Section 2.2.4.2 of Chapter 2, *Outreach and Environmental Justice***. The *2025 Environmental Data Report (EDR)* will provide updates on the MEPA's Logan Airport Work Group's progress and process outcomes.

A-2: Logan Airport Environmental Review and Planning

Massport should report on the status of these work group discussions in its next Environmental Data Report (EDR) submission.

As of this filing, the MEPA's Logan Airport Work Group has convened six times. **Section 2.2.4.2 of Chapter 2, *Outreach and Environmental Justice,*** provides an update on the Work Group up to the filing of this EDR. Over the remainder of the year, the group will consider supplemental community mitigation measures for environmental justice (EJ) neighborhoods within proximity of the Airport with the goal of forming recommendations for specific actions. The *2025 EDR* will provide updates on the MEPA's Logan Airport Work Group's progress and process outcomes.

A-3: Logan Airport Environmental Review and Planning

I am instructing Massport to propose innovative solutions to address [document timing], for instance, by making real-time data available to the public through a public facing portal.

Massport improved the *2023/2024 EDR's* usability and reduced its length through several innovative strategies. Prior to drafting, Massport reviewed the main body chapters to keep content focused solely on annual data updates, discussing relevant metrics and trends. The approach reduced chapter size but also enabled more timely document development in future years. Additionally, Massport standardized headings and subheadings in the *2023/2024 EDR*, limiting data to the prior and current reporting years, 2022, 2023, 2024, for this EDR, as well as a chapter-specific benchmark year, which will serve as a progress frame of reference for this EDR and future filings. This approach will achieve the EDR/Environmental Status and Planning Report (ESPR) process's goal of providing annual updates, reducing extraneous content, and concentrating findings, figures, and tables on relevant reporting years.

Complimenting the EDRs and ESPRs, Massport released a User's Guide alongside the *2023/2024 EDR*. The stand-alone document provides detailed overviews of the regulatory framework, methodologies, models, model inputs, programs, and analyses. The User's Guide provides essential background information and context necessary to interpret the data, which had previously been included within the EDR and ESPR chapter text and technical appendices. The User's Guide will be updated approximately every five years to maintain accuracy and relevance. To maintain transparency on regulatory framework, methodologies, models, model inputs, programs, and analyses, the *2023/2024 EDR* has included extensive hyperlinks embedded in chapter text to the relevant sections of the User's Guide where essential contextual information is provided. For more details on the User's Guide, see **Section 1.2.2.1 of Chapter 1, *Introduction and Executive Summary*.**

Prior to filing the *2023/2024 EDR*, Massport developed a new web page specifically for EDR and ESPR filings (https://www.massport.com/environment/boston-logan-edr-espr-data-portal). The website provides links for each chapter of the most recent filings, notices for upcoming meetings, materials from prior meetings, prior filings, the User's Guide, and links to regularly updated data sources (Massport-owned and external) that provide data included within EDRs and ESPRs analysis. Massport continues to make historical data accessible on its environmental filings website. For a detailed overview of document changes in the *2023/2024 EDR*, refer to **Section 1.2.2.1 of Chapter 1.** These improvements enabled Massport to file the *2023/2024 EDR* smoothly in October 2025.

A-4: Logan Airport Environmental Review and Planning

[To consider the time lag in reporting data Massport should consider] Alternatively, one ESPR could be submitted on a five-year cycle with one EDR as an interim update in year 2 or 3, provided that real-time data and key metrics (e.g., on a dashboard with certain agreed-upon metrics) are made available with more frequent updates on the Massport website.

Massport aims to return to an annual schedule by adapting the EDR and ESPR content format and development process to enable more frequent updates, as summarized in the response to Comment A-4. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary,*** also has an overview of document changes in the *2023/2024 EDR*. Prior to filing the *2023/2024 EDR*, Massport developed a new web page specifically for EDR and ESPR filings (https://www.massport.com/environment/boston-logan-edr-espr-data-portal). The website provides links for each chapter of the most recent filings, notices for upcoming meetings, materials from prior meetings, prior filings, the User's Guide, and links to regularly updated data sources (Massport-owned and external) that provide data included within EDRs and ESPRs analysis. Massport continues to make historical data accessible on its environmental filings website. Collaboration has been on-going with the Massport Community Advisory Committee (Massport CAC) to develop access to available data, and the EDR will report on this effort's progress and anticipated status as of this EDR's filing. For more on the EDR and ESPR website, refer to **Section 1.2.2.2 of Chapter 1**.

Massport is committed to maintaining public transparency of the environmental impacts associated with current operations and forecasted activity levels by publishing ESPRs and the EDRs filed in years between ESPRs, to provide valuable annual updates on key environmental status metrics. Providing data for key metrics on a web-enabled dashboard would not resolve the time lag issue, as substantial time is needed in each cycle to collect the necessary data from multiple sources and departments within Massport, as well as from other external data sources. A significant amount of the data is utilized within models to generate a comprehensive understanding of topics such as ground access, noise, and air quality (see **User's Guide, Sections U6.1, U7.3**, **and U8.3** for a background of vehicle volumes, noise, and air quality models, respectively). Once acquired, the data reported must still undergo data verification and validation before it can be published. These steps represent a substantial amount of effort and time but are essential to the data reporting mission of the EDRs and ESPRs.

A-5: Logan Airport Environmental Review and Planning

Further input should be gathered [on document timing] through the work group on community mitigation.

As discussed in comments A-3 and A-4, Massport has employed multiple strategies to improve document timing and the publication of annual data. These strategies include an in-depth review of existing reporting, the development of the User's Guide, limiting data reported in the *2023/2024 EDR* to applicable years, and the development of the EDR and ESPR website. Massport has been an active participant in MEPA's Logan Airport Work Group meetings as discussed within comment A-1. As a part

of these Work Group meetings, the group has mainly been focused on discussing feasible supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations among environmental justice (EJ) communities in East Boston, Winthrop, and Chelsea. A future Work Group meeting will be dedicated to discussing the current structure and timing of the EDR. In addition, Massport has agreed to begin hosting group stakeholder meetings with participants within the Work Group and other interested parties to discuss the EDR's scope and timing further. An overview of the MEPA's Logan Airport Work Group meetings and stakeholders meetings is included in **Section 2.2.4.2 of Chapter 2, *Outreach and Environmental Justice*.** Further updates on timing will be included in the 2025 EDR.

A-6: Mitigation

ESPRs and EDRs should include, in addition to a cumulative inventory of all Airport operations and associated impacts, a description of all practicable measures planned to avoid or minimize, and where appropriate, to mitigate such impacts within the confines of Massport's legal authority.

Since conception, the purpose of the EDR and ESPR has been to disclose the impact of operations at Logan Airport as well as the impact of long-term growth through ESPRs. As stated by the Secretary in the Certificate on the Terminal E Modernization Project, "The venue for addressing cumulative environmental impacts is through the ESPR and EDR through these reports, Logan Airport is subject to comprehensive and regular Massachusetts Environmental Policy Act (MEPA) review, including opportunities for public comment on the cumulative impacts. This regular updating and reporting on planning and cumulative impacts are unique among State Agencies." Consistent with past ESPRs and EDRs, the *2023/2024 EDR* describes the cumulative effects associated with overall Logan Airport operations and compares these effects to previous conditions in the last reporting year as well as to a benchmark reporting year's conditions for each topic covered. Based off findings from EDRs and ESPRs, Massport continuously assesses on-going and proposed programs and policy for efficacy to reduce Logan Airports impact. The status of these programs and policies is discussed within **Section 2.2 of Chapter 2, *Outreach and Environmental Justice*; Section 6.4 of Chapter 6, *Ground Access*; Section 7.4 of Chapter 7, *Noise*;** and **Section 8.5 of Chapter 8, *Air Quality and GHG Emissions;*** and the new **Chapter 11, *Sustainability and Climate Resilience***. Where data is available, Massport has quantified these beneficial measures and intends to find better methods to quantify the effects of these programs in future EDRs and ESPRs.

EDRs and ESPRs are also used to inform the projects subject to MEPA and serve as a baseline condition against which to assess project-specific impacts. Projects subject to MEPA review are reported on within **Chapter 4, *Airport Planning*,** with the status of associated Section 61 mitigation measures reported in **Chapter 10, *Project Mitigation*.**

Introduced in the *2022 ESPR*, Massport began reporting on public health existing conditions within the communities neighboring the Airport. This assessment was conducted using tools published by the state and the U.S.EPA to identify existing environmental burdens and public health consequences,

however the tools used are unable to differentiate Logan Airport related activities from other surrounding activities and site uses.

Building upon the assessment conducted in the *2022 ESPR*, the *2023/2024 EDR* utilized the newly released Massachusetts Department of Environmental Protection (MassDEP) Cumulative Impact Analysis (CIA) framework for assessment of existing community conditions. The MassDEP CIA tool provides data similar to what was presented within the *2022 ESPR*, but with higher granularity. The results from this assessment were similar to what was presented in the *2022 ESPR* as described in **Section 2.4 of Chapter 2, *Outreach and Environmental Justice*.** As existing tools are updated and new ones become available, Massport will continue to report on existing community conditions. In November 2024, the U.S.EPA released the *Interim Framework for Advancing Consideration of Cumulative Impacts*. This framework provides a foundation of information and resources in support of the development of assessment of cumulative impacts within communities. The U.S.EPA has been conducting a study within Chelsea as a part of this framework.

As discussed in prior comments, Massport is committed to active participation in the MEPA's Logan Airport Work Group (the Work Group), established in collaboration with the MEPA and the Office of Environmental Justice & Equity (OEJE). The Work Group's primary objective is to assess and discuss feasible supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations among surrounding communities.

A-7: Environmental Justice

[Mitigation] measures should also consider environmental justice (EJ) principles by fostering the equitable distribution of environmental benefits and burdens in impacted neighborhoods, while considering any identified unfair or inequitable environmental burdens borne by surrounding EJ populations.

Massport is committed to active participation in MEPA's Logan Airport Work Group, established in collaboration with Massachusetts Environmental Policy Act (MEPA) and the Office of Environmental Justice & Equity (OEJE). The Work Group's primary objective is to assess and discuss equitable mitigation measures that could address environmental concerns associated with Logan Airport operations among environmental justice (EJ) communities in East Boston, Winthrop, and Chelsea. Work Group meetings at the time of filing have focused on covering the scope of the Work Group and hearing presentations from leading experts on air quality impacts from airports. Additional details on the status are available in **Section 2.2.4.2 of Chapter 2, *Outreach and Environmental Justice*.**

The 2025 EDR will provide updates on the Work Group's progress and process outcomes. Throughout 2025, the Work Group will work toward forming recommendations for potential mitigation actions, with the goal of reaching a consensus on feasible and effective strategies that could address environmental concerns associated with Logan Airport operations.

A-8: Climate Change

Massport commits to undertaking the following improvements beyond existing measures to further minimize impacts and improve transparency [including…] Report on Massport's Net Zero Plan accomplishments and progress on an annual basis.

The *2023/2024 EDR* includes a new chapter, **Chapter 11, *Sustainability and Climate Resilience***, which is dedicated to Massport's climate resiliency reporting and initiatives, linking to other Massport sustainability and resiliency resources. The chapter is aligned to report on themes that are a part of *Roadmap to Net Zero by 2031* as discussed in **Section 11.2 of Chapter 11**.

Since 2013, Massport has maintained and continuously enhanced a comprehensive set of climate resiliency measures to protect critical infrastructure and surrounding communities from climate change impacts, including extreme heat, intense precipitation, and coastal flooding and sea level rise. Climate resiliency is an embedded practice in Massport's planning, design, construction, and daily operations. 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. 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.

In addition, Massport's Net Zero website (https://www.massport.com/environment/roadmap-to-net-zero) 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 emissions sources and outlines the pathways being followed to decarbonize its operations. It includes baseline and historical emissions data to illustrate trends over time. The site also features updates on key projects, such as fleet electrification procurements and solar photovoltaic (PV) installations, that support emissions reductions. In addition, it presents relevant KPIs 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. Massport will continue to provide updates on these initiatives in future EDR and ESPR filings and via the Net Zero website.

A-9: Air Quality/Emissions Reduction (GHG)

Massport commits to undertaking the following improvements beyond existing measures to further minimize impacts and improve transparency [including…] In accordance with the Secretary's Plan and the Report of the Climate Chief on SAF, report on Massport's work in establishing a Commonwealth multi-agency working group to expedite the adoption of SAF at Massport and Massachusetts' airports, including production and delivery.

Massport is committed to expanding relationships in the area of Sustainable Aviation Fuel (SAF). As a founding member of the 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 consists of the Executive Offices of Economic Development (EOED), Energy and Environmental Affairs (EEA), Administration and Finance (A&F), the Office of Climate Innovation and Resilience, Massachusetts Clean Energy Center (MassCEC), the MassDOT Aeronautics Division, and Massport. The group's objective was to bring together policymakers and stakeholders from across the region to explore effective strategies for advancing technology and policies that support the development and deployment of SAF within the region. The workshop concluded in June 2025 with a strategic framework to guide the development of a Regional SAF Hub. **Section 11.2.3.2 of Chapter 11, *Sustainability and Climate Resilience*** includes a discussion on Massport's progress in the area of SAF.

A-10: Air Quality/Emissions Reduction (GHG)

Massport commits to undertaking the following improvements beyond existing measures to further minimize impacts and improve transparency [including…] Provide updates on ongoing FAA sponsored ultrafine particulate (UFP) research. Incorporate and report on Massport funded MCAC study that is measuring UFPs around Logan Airport.

Section 8.6 of Chapter 8, *Air Quality and GHG Emissions*, includes a discussion of mitigation associated with air quality, and updated information regarding recent and on-going research on Airport emissions, including on Ultrafine Particulates (UFPs), by institutions like Boston University and Tufts University. As a part of MEPA's Logan Airport Work Group, researchers funded by the Federal Aviation Administration (FAA), Massport Community Advisory Committee (Massport CAC), and regulatory agencies have presented on air quality monitoring and studies within the vicinity of the Airport and at other airports. **Section 8.6 of Chapter 8** discusses the studies and findings that have been presented on or referenced within MEPA's Logan Airport Work Group. The studies have identified the need for accurate modeling to understand health exposures and comprehensive air quality monitoring to understand UFPs from Airport activities further.

A-11: Noise

Massport commits to undertaking the following improvements beyond existing measures to further minimize impacts and improve transparency [including…] Provide details on Massport's Residential Sound Insulation Program (RSIP).

Massport has initiated a voluntary Residential Sound Insulation Program (RSIP) to mitigate the effects of aircraft noise for eligible properties surrounding Logan Airport. The RSIP's objectives are to help mitigate noise impacts for homes located within the Federal Aviation Administration (FAA) eligible area based on the Day-Night Level (DNL) 65 dB noise contour. The RSIP will help Massport achieve Federal

Aviation Administration (FAA)-required noise reduction goals for Logan Airport by implementing the FAA's program guidelines. Primarily, the RSIP and FAA goals are to achieve an interior noise level less than 45 DNL and reduce the existing interior noise levels by five dB for those homes within the program areas. The prescribed sound insulation treatments will be completed without direct costs to homeowners within the RSIP. The RSIP has been funded through an FAA Airport Improvement Program (AIP) grant for 80 percent of the program's costs, with the remaining 20 percent of necessary funds being provided by Massport.

Massport submits annual Noise Exposure Maps (NEMs) to the FAA based on the DNL contours produced during the EDR and ESPR process. The maps inform the prioritization of homes to be treated. The *2023/2024 EDR* summarizes the RSIP's implementation timeline and progress status from 2023 through the end of 2024. **Section 7.4.2 of Chapter 7, *Noise*** discusses the RSIP's goals and objectives in greater detail and also provides key project milestones with achievement status updates. Background information about the RSIP in general, including FAA requirements, qualification benchmarks for selecting which homes to include, and implementation details are provided in **Section U7.5.2 of the User's Guide**.

A-12: Logan Airport Environmental Review and Planning

Massport commits to undertaking the following improvements beyond existing measures to further minimize impacts and improve transparency [...] Create a new Logan ESPR/EDR landing page on Massport's website. The new web page will include links to existing ESPR/EDR documents, public notices, and links to available data resources.

Prior to filing the *2023/2024 EDR*, Massport developed a new web page specifically for EDR and ESPR filings (https://www.massport.com/environment/boston-logan-edr-espr-data-portal). The website provides links for each chapter of the most recent filings, notices for upcoming meetings, materials from prior meetings, prior filings, the User's Guide, and links to regularly updated data sources (Massport-owned and external) that provide data included within EDRs and ESPRs analysis. Massport continues to make historical data accessible on its environmental filings website. Collaboration has been on-going with Massport Community Advisory Committee (Massport CAC) to develop access to available data. For more on the EDR and ESPR website, refer to **Section 1.2.2.2 of Chapter 1, *Introduction and Executive Summary*.**

A-13: Environmental Justice

Massport commits to undertaking the following improvements beyond existing measures to further minimize impacts and improve transparency [including...] Continue to work with MEPA to refine and improve the Environmental Justice and public health analysis included in the ESPR.

Massport continues to coordinate with Massachusetts Environmental Policy Act (MEPA) independently and through MEPA's Logan Airport Work Group process on refining the environmental justice (EJ) and public health analysis throughout the development of the *2023/2024 EDR*. As discussed in prior

comments, this Work Group, launched in February 2025, includes representatives from state agencies, local officials, and community stakeholders and is co-moderated by MEPA and the Office of Environmental Justice & Equity (OEJE) to promote an inclusive and transparent process. Massport will contribute technical expertise, data, and resources to support this collaborative effort. The *2023/2024 EDR* provides an update on the progress of MEPA's Logan Airport Work Group, including key discussions, expert input, and preliminary recommendations. These updates are outlined in **Section 2.2.4.2 of Chapter 2, *Outreach and Environmental Justice***. The *2023/2024 EDR* developed a separate chapter for the discussion of outreach and environmental justice. The chapter builds upon the work first presented within the *2022 ESPR* of identifying and characterizing environmental justice (EJ) populations within a 1-mile designated geographic area (DGA) according to the 2022 EJ protocols. The *2022 ESPR* assessed existing public health conditions utilizing the Department of Public Health (DPH) EJ Tool and U.S.EPA EJScreen. Furthering the work done in the *2022 ESPR*, the *2023/2024 EDR* presented results on existing health conditions utilizing Massachusetts Department of Environmental Protection (MassDEP)'s Cumulative Impact Analysis (CIA)framework. Massport will continue to work with the MEPA office to improve the EJ and public health analysis within the EDRs and ESPRs as new tools become available. See **Section 2.3 of Chapter 2** for further on EJ populations within the identified DGA and **Section 2.4 of Chapter 2** for the updated existing public health assessment.

A-14: Ground Access to and From Logan Airport

Massport commits to undertaking the following improvements beyond existing measures to further minimize impacts and improve transparency [including …] Continue to monitor and report on idling at Logan Airport's terminal curbs. Establish a curb idling reduction plan with input from the MEPA Office and stakeholders. Present updates to MEPA and stakeholders at regularly scheduled briefings.

Massport is in the process of addressing Airport-wide emissions associated with idling vehicles by collecting representative data samples of vehicle dwell time at each terminal. Massport began collecting dwell time data on representative days and nights at Terminal C in June of 2025. Massport will continue to collect data at each terminal curbside over the coming years when representative samples can be obtained without interference from construction or other operational conditions.

Massport also plans to conduct a similar study to collect dwell-time data from Ride App operations, which make up approximately 27 percent of Logan Airport's ground transportation volume, in designated pick-up areas within Logan Airport's parking garages. The new validated sample of dwell time data will be input into idling emissions models to quantify the air quality impacts from vehicle idling Airport-wide. This analysis will support the development of data-driven policies to minimize curbside idling and also serve as a baseline to evaluate progress towards curb idling reduction goals.

As a part of MEPA's Logan Airport Work Group discussed in prior comments, Massport will present to Massachusetts Environmental Policy Act (MEPA) and stakeholders the results from current dwell time studies and planned or on-going ground access initiatives that influence dwell. For more information on Massport's ground access initiatives, see **Section 6.4 of Chapter 6, *Ground Access***. At the time of

this filing, Massport has initiated an idling signage program and started discussions on curb idling enforcement through video analytics. Massport will continue to report on the development of a forthcoming curb idling reduction program in subsequent filings.

A-15: Mitigation

Massport commits to undertaking the following improvements beyond existing measures to further minimize impacts and improve transparency [including…] Include additional details in the ESPR on implementation and tracking of project-specific environmental benefits and mitigation (e.g., project related VMT reductions, GHG reductions, etc.).

Chapter 10, *Project Mitigation*, includes Logan Airport projects that have on-going Section 61 commitments as a result of Massachusetts Environmental Policy Act (MEPA) review. Where possible, Massport has provided quantification towards achieving full implementation of a Section 61 commitment. Outside of project-specific mitigation commitments, Massport employs a variety of beneficial measures. Based on findings from EDRs and ESPRs, Massport continuously assesses current beneficial measures for efficacy to reduce Logan Airport's impact. The current status of these programs and policy is discussed within **Section 2.2 of Chapter 2, *Outreach and Environmental Justice*; Section 6.4 of Chapter 6, *Ground Access*; Section 7.4 of Chapter 7, *Noise*;** and **Section 8.5 of Chapter 8, *Air Quality and GHG Emissions;*** and the new **Chapter 11, *Sustainability and Climate Resilience***. Where data is available, Massport has quantified these beneficial measures and intends to find better methods to quantify the effects of these programs in future EDRs and ESPRs.

A-16: Logan Airport Environmental Review and Planning

Massport commits to undertaking the following improvements beyond existing measures to further minimize impacts and improve transparency [including…] Continue to meet with MEPA and stakeholders on data requests, accessibility, and availability, including ways to improve ESPR/EDR format.

As discussed in comments A-1 and A-5, Massport remains committed to on-going engagement with Massachusetts Environmental Policy Act (MEPA), Office of Environmental Justice & Equity (OEJE), and other stakeholders to enhance data transparency, accessibility, and the clarity of ESPRs and EDRs. Regular meetings and consultations will continue so that data requests are addressed and that relevant information is presented in a clear and accessible manner. Massport will work with MEPA and stakeholders to refine the structure and presentation of EDRs and ESPRs, improving readability and public comprehension by enhancing summaries, visuals, and key findings. These efforts build upon recent improvements, including the introduction of the User's Guide, the creation of a dedicated EDR and ESPR landing page, and the standardization of formatting to improve document clarity as discussed in **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary***.

A-17: Environmental Justice

Massport should continue its efforts to strengthen and improve relations with surrounding communities, especially those representing EJ populations located in close proximity to Logan Airport.

Massport continues to improve relations with the surrounding communities, especially those representing environmental justice (EJ) populations through the Massachusetts Environmental Policy Act (MEPA) and the Office of Environmental Justice & Equity (OEJE) MEPA Logan Airport Work Group process. As a part of Massport's Department of Community Relations & Government Affairs effort to strengthen relations, outreach for Logan Airport activities is conducted within communities neighboring Logan Airport, which often extends beyond the potentially affected EJ populations and geographic boundaries of surrounding communities. Massport reports updates on ESPR and EDR-specific community outreach and greater community engagement, with a focus on EJ populations in **Section 2.2.4 of Chapter 2, *Outreach and Environmental Justice***.

For *the 2023/2024 EDR and future EDRs and ESPRs, Massport has expanded its EJ outreach to provide translation services in languages spoken by at least 5 percent of the* population located within a 5-mile radius of Logan Airport or within Massport Community Advisory Committee (Massport CAC) communities. For this EDR, this includes eight languages, as detailed in **Section 2.2.4.1 of Chapter 2.**

Lastly, Massport has created a dedicated web page specifically for EDR and ESPR filings, aimed at enhancing outreach. The website provides links for each chapter of the most recent filings, notices for upcoming meetings, materials from prior meetings, prior filings, the User's Guide, and links to regularly updated data sources that provide data included within EDRs and ESPRs analysis. Massport continues to make historical data accessible on its environmental filings website. The website is discussed within **Section 1.2.2.2 of Chapter 1, *Introduction and Executive Summary*.**

A-18: Environmental Justice

The U.S. Environmental Protection Agency (EPA) is leading a stakeholder effort to consider the "cumulative impacts" of historic and current activities on overburdened communities in Chelsea, including from the ongoing impacts of Logan Airport operations. Massport should report on any findings and action items that may result from that effort.

In November 2024, the U.S. Environmental Protection Agency (U.S.EPA) released an *Interim Framework for Advancing Consideration of Cumulative Impacts* report. Following its release, the U.S.EPA intended to actively conduct onsite cumulative impact analyses in Chelsea and various other locations across the United States. Funding for further analysis has been paused as of early 2025. Massport was not explicitly involved in the study, but will continue to track the study's progress and implications for Logan Airport in future EDR and ESPR publications, as needed.

A-19: Logan Airport Environmental Review and Planning

I am also directing Massport to participate in a work group, facilitated by MEPA and the EEA EJ Office, to consider supplemental mitigation measures to address public health impacts of Airport operations on surrounding EJ populations.

Massport is dedicated to collaborating with the newly established MEPA's Logan Airport Work Group, co-moderated by Massachusetts Environmental Policy Act (MEPA) and the Office of Environmental Justice & Equity (OEJE), to explore and assess supplemental mitigation measures aimed at addressing the environmental and public health concerns associated with Logan Airport operations on surrounding EJ communities, including East Boston, Winthrop, and Chelsea. As discussed in Comment A-1 and **Section 2.2.4.2 of Chapter 2, *Outreach and Environmental Justice***, MEPA's Logan Airport Work Group meetings at the time of filing have focused on covering the scope of the Work Group and hearing presentations from leading experts on air quality impacts from airports. Further discussion on the outcomes of the MEPA's Logan Airport Work Group will be provided within the 2025 EDR.

A-20: Logan Airport Environmental Review and Planning

The work group should engage public health experts to advise on effective intervention strategies to address air quality impacts and aim to form recommendations within one year for specific actions to be taken by Massport within the scope of its legal authority.

As discussed in comment A-1, MEPA's Logan Airport Work Group's primary objective is to assess and discuss feasible supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations among environmental justice (EJ) communities in East Boston, Winthrop, and Chelsea. Over the course of the next year, the group will work towards forming recommendations for potential mitigation actions. Scientific expertise from state agencies and researchers who have studied air quality impacts will inform these discussions. Massport will contribute technical expertise, data, and resources to support this collaborative effort. The *2025 EDR* will provide updates on the Work Group's progress and process outcomes. Additional details on the MEPA's Logan Airport Work Group's scope, objectives, and key discussions are available in **Section 2.2.4.2 of Chapter 2, *Outreach and Environmental Justice*.**

A-21: Mitigation

[Massport should consider] Such actions could include partnerships with local or municipal organizations interested in HEPA filters, establishment of a curb idling reduction plan, enhanced community air monitoring in partnership with MassDEP and other air pollution sources, or other similar interventions to directly address the public health impacts of degraded air quality around the Airport.

As discussed in prior comments, Massport is committed to active participation in the MEPA's Logan Airport Work Group (the Work Group), established in collaboration with the Massachusetts Environmental Policy Act (MEPA) and the Office of Environmental Justice & Equity (OEJE). The Work

Group's primary objective is to assess and discuss potential supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations among EJ communities in East Boston, Winthrop, and Chelsea. Over the course of the next year, the group will consider potential supplemental mitigation measures for EJ neighborhoods within proximity of the Airport with the goal of forming recommendations for potential actions. Scientific expertise from researchers who have studied air quality impacts will assist in informing these discussions. Massport will contribute technical expertise, data, and resources to support this collaborative effort. An update on the status of the MEPA's Logan Airport Work Group up to the time of this document filing is provided in **Section 2.2.4.2 of Chapter 2, *Outreach and Environmental Justice***. The *2025 EDR* will provide updates on the MEPA's Logan Airport Work Group's progress and process outcomes.

A-22: Logan Airport Environmental Review and Planning

The work group should also consider improvements to Massport's EDR and ESPR reporting process, including through availability of real-time data and abbreviated formats for future filings.

As discussed in Comment A-5, Massport has employed multiple different strategies to improve document timing and publishing of annual data. These strategies include an in-depth review of existing reporting, the development of the User's Guide, limiting data reported in the *2023/2024 EDR* to applicable years, and the development of the EDR and ESPR website. Massport has been an active participant in MEPA's Logan Airport Work Group meetings as discussed within comment A-1. Massport has agreed to begin hosting group stakeholder meetings with participants within MEPA's Logan Airport Work Group and other interested parties in order to further discuss the EDR's scope and timing. Stakeholder meetings are discussed in **Section 2.2.4.3 of Chapter 2, *Outreach and Environmental Justice*.**

A-23: Logan Airport Environmental Review and Planning

Massport is directed to provide administrative support and facilitate the convening of work group meetings, in consultation with the MEPA Office. The 2023/2024 EDR should report on the results of this work group process.

As discussed in Comment A-1, Massport is committed to active participation in the MEPA's Logan Airport Work Group (the Work Group), established in collaboration with the Massachusetts Environmental Policy Act (MEPA) and the Office of Environmental Justice & Equity (OEJE). This Work Group, launched in February 2025, includes representatives from state agencies, local officials, and community stakeholders and is co-moderated by MEPA and OEJE to promote an inclusive and transparent process. Massport will contribute technical expertise, data, and resources to support this collaborative effort. The *2023/2024 EDR* provides an update on the progress of the MEPA's Logan Airport Work Group as documented in **Section 2.2.4.2 of Chapter 2, *Outreach and Environmental Justice***.

A-24: Logan Airport Environmental Review and Planning

If actual growth in passenger and/or aircraft operations outpace forecasts during a reporting period, I expect that additional mitigation and policies and strategies will be considered to address the proportional growth in impacts.

ESPR forecasts estimate conditions at the future planning horizon (FPH) end date, which is customarily 15 to 20 years after the ESPR reporting year; however, the forecast analysis does not estimate passenger activity levels (PALs) or operations counts in the interim years as part of the industry standard forecasting methodology. The forecast is revisited every five years during ESPR development, and if the PALs or operation counts for a current ESPR reporting year's FPH appear to have significantly exceeded the prior ESPR's forecast, or seem to be substantially less than previously anticipated, Massport will examine the causes further and adjust policies and strategies accordingly. A discussion of the timing of Logan Airport's forecasting is included in **Section U3.4 of the User's Guide.**

The forecast developed within the *2022 ESPR* projected activity levels and operations 10 to 15 years into the future. Massport compared passenger activity levels and operations from 2024 to the forecast presented within the *2022 ESPR*, as described in **Section 3.1.5 of Chapter 3, *Activity Levels***. In 2024, while passenger activity levels were higher than experienced in 2019, levels remained approximately 19 percent below the 53.5 million annual passengers (MAP) presented in the 10-15 year future planning horizon in the *2022 ESPR*. Similarly, operations in 2024 were approximately 16 percent below those projected in the *2022 ESPR*. As a part of the EDR and ESPR process, Massport continues to provide updates on initiatives and actions to increase high-occupancy vehicle (HOV) use and reduce environmental impacts.

A-25: Logan Airport Environmental Review and Planning

The next EDR will analyze calendar years 2023/2024 and should propose a simplified format that could be accompanied by more frequent updates of available data through the Massport website.

As discussed in Comment A-3 and Comment A-4, Massport improved the usability and reduced the length of the *2023/2024 EDR* by focusing the main chapters solely on annual data updates and introducing a User's Guide that outlines regulatory frameworks and methodologies, enhancing document transparency and efficiency. In addition, the *2023/2024 EDR* focused analysis on reporting and benchmark years. The narrowing of the data focus is supported by the newly developed EDR and ESPR landing page. This landing page includes historical EDRs and ESPRs with extensive data, and Massport is working on strategies to convert this data into a searchable format for the public to download. Massport's progress on this effort will be reported in this and future EDRs and ESPRs. In addition to the historical data, the landing page will also include links to data sources referenced within EDRs and ESPRs that provide some of the publicly available data used to develop the EDRs and ESPRs. These data sources are primarily hosted by other state agencies, federal databases, and other reputable sources. The website is discussed within **Section 1.2.2.2 of Chapter 1, *Introduction and Executive Summary*.**

A-26: Logan Airport Environmental Review and Planning

Massport has indicated that [real-time data] (to the extent is available) will be part of an EDR/ESPR web page which is being developed to provide community stakeholders and the public a better understanding of future filings and access to collected environmental data in one location. The 2023/2024 EDR should report on the status of this website or dashboard and the data that is/will be available.

As discussed in prior comments, prior to filing the *2023/2024 EDR*, Massport developed a new web page specifically for EDR and ESPR filings (https://www.massport.com/environment/boston-logan-edr-espr-data-portal). The website provides links for each chapter of the most recent filings, notices for upcoming meetings, materials from prior meetings, prior filings, the User's Guide, and weblinks to data sources that provide data included within EDRs and ESPRs analysis. Massport continues to make historical data accessible on its environmental filings website. The website is discussed within **Section 1.2.2.2 of Chapter 1, *Introduction and Executive Summary*.**

A-27: Mitigation

The 2023/2024 EDR must include information on the environmental policies and planning that form the context of environmental reporting, technical studies, and environmental mitigation initiatives against which projects at Logan Airport can be evaluated. This should include identification of the cumulative effects of Logan Airport operations and activities, compared to previous years, as appropriate.

The EDR and ESPR User's Guide was developed in 2024 to provide information on environmental policies and planning that form the context for environmental reporting and technical studies. The User's Guide provides detailed background information to supplement the content within each EDR chapter to keep chapters focused on reporting year-to-year changes. As needed, EDR and ESPR chapters will note important updates on environmental policies, planning, and models that are not reflected within the User's Guide. As discussed within prior comments, the purpose of the EDR and ESPR has been to disclose the impact of recent growth at Logan Airport, as well as the impact of long-term growth through ESPRs. Consistent with past ESPRs and EDRs, the *2023/2024 EDR* describes the cumulative effects associated with overall Logan Airport operations and compares these effects to previous conditions in the last reporting year as well as to a benchmark reporting year's conditions for each topic covered. Based on findings from EDRs and ESPRs, Massport continuously assesses on-going and proposed programs and policies for efficacy to reduce Logan Airport's impact. The current status of these programs and policies is discussed within **Section 2.2 of Chapter 2, *Outreach and Environmental Justice*; Section 6.4 of Chapter 6, *Ground Access*; Section 7.4 of Chapter 7, *Noise*;** and **Section 8.5 of Chapter 8, *Air Quality and GHG Emissions;*** and the new **Chapter 11, *Sustainability and Climate Resilience***. Where data is available, Massport has quantified these beneficial measures and intends to find better methods to quantify the effects of these programs in future EDRs and ESPRs.

A-28: Logan Airport Environmental Review and Planning

The 2023/2024 EDR should include timely reporting of related environmental data to ensure a full picture of the information summarized in the report.

Massport filed this *2023/2024 EDR* in October 2025. Massport achieved a faster turnaround by enacting several strategies during the development process that streamlined and standardized the document and returned the focus to 2023 and 2024 environmental data and analyses, as discussed in prior comments. Massport anticipates leveraging these efficiencies to finalize future EDRs and ESPRs quickly and return the EDRs and ESPRs to an annual schedule. In addition, the development of the User's Guide preserves background and supporting information in a repository document outside of the main body of the document, which serves to reduce the overall document length, improve comprehension, and enhance readability. The User's Guide provides transparency on Massport's data analyses and methodologies, which will be updated approximately every five years to maintain accuracy and relevance. See **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary,*** for an overview of document changes in the *2023/2024 EDR*.

As discussed in prior comments, Massport has published links to related environmental data from other Massport websites and external sources on the newly published EDR and ESPR landing page in order to provide links to sources used within the EDR that provide data more frequently than EDR and ESPR filings.

A-29: Environmental Justice

The 2023/2024 EDR should provide information on EJ populations in proximity to the Airport and summarize relevant information on community health data and outreach as discussed further below.

In accordance with 301 CMR 11.02, Massport defined a designated geographic area (DGA) for the *2022 ESPR* of 1 mile from the outer perimeter that defines the environmental justice (EJ) populations. The DGA are 64 EJ block groups, of which 32 meet the minority EJ criteria; three meet the low-income EJ criteria; seven meet both the minority and low-income EJ criteria; 14 meet both the minority and English isolation EJ criteria; and eight meet the minority, low-income, and English isolation EJ criteria. Detailed information on the EJ populations is included in **Table E-2 through E-4 of Appendix E, *Environmental Justice Supporting Documentation***, of the *2023/2024 EDR*.

The *2023/2024 EDR*, at the direction of Massachusetts Environmental Policy Act (MEPA), utilized Massachusetts Department of Environmental Protection (MassDEP)'s Cumulative Impact Analysis (CIA) framework to assess existing public health data within 1-mile of Logan Airport, or the DGA. In concurrence with MEPA, the *2023/2024 EDR* does not repeat any EJ analysis done in the *2022 ESPR*, specifically the Department of Public Health (DPH) EJTool and U.S.EPA's EJScreen, as these data sources have not been updated since the *2022 ESPR* filing or are no longer available. As previously discussed, the findings within this framework are largely consistent with outcomes from DPH EJ Tool and

U.S.EPA's EJScreen, as the MassDEP CIA framework utilizes similar sources, but at a much more granular level. Included in the findings are tables by census tracts, or block groups where available, presenting indicator findings. Through the use of MassDEP's CIA tool, Massport has demonstrated a willingness to continue to work with MEPA to advance EJ and public health analysis within the EDRs. Findings for the Air Quality and Climate indicators are presented in **Section 2.4 of Chapter 2, *Outreach and Environmental Justice***,

The public health data indicate that several environmental indicators averaged across the DGA are equal to or above the 80th percentile of the statewide rates, including the Diesel Particulate Matter (PM), Air Toxics Cancer Risk, Air Toxics Respiratory Hazard Index (HI), and Traffic Proximity. Reporting for the community health data is presented in **Section E.5 through Section E.9 of Appendix E, *Environmental Justice Supporting Documentation***.

As discussed in previous comments, Massport continues to evaluate and adjust engagement strategies by meeting the community where they are. Engagement with the community includes attending monthly neighborhood association meetings, verbal briefings before and after post-filing meetings at the Logan Airport Rental Car Center (RCC), and other forms of engagement as described in **Section U2.4 of the User's Guide.** Specific outreach related to the *2023/2024 EDR* is discussed within **Section E.1 of Appendix E, *Environmental Justice Supporting Documentation***.

A-30: Logan Airport Environmental Review and Planning

The 2023/2024 EDR must include copies of all ESPR and EDR Certificates and a distribution list for the 2023/2024 EDR. Supporting technical appendices should be provided as necessary.

The Secretary's Certificate on the *2022 ESPR* is included in this Appendix, **Appendix A, *MEPA Certificates and Responses to Comments***. Copies of previous Certificates on ESPRs and EDRs are included in previous publications, which can be accessed at: https://www.massport.com/environment/project-environmental-filings/boston-logan.

Appendix D, *Distribution*, lists the agencies and individuals who received a copy of this *2023/2024 EDR* via email with an online link, Notice of Availability with an online link, or a hard copy. The distribution list also includes representatives of governmental agencies, community groups, and local residents interested in activities at Logan Airport. As directed by EEA, the distribution list for the EDR was expanded to include the environmental justice (EJ) Reference List, which includes the CBOs and tribes located within 5 miles of the Logan Airport campus.

The *2023/2024 EDR*, along with past EDRs and ESPRs, is also publicly available on Massport's website at: https://www.massport.com/logan-airport/about-logan/environmental-reports/.

Supporting appendices are provided for the following technical chapters:

- **Appendix E, *Environmental Justice Supporting Documentation***
- **Appendix F, *Activity Levels Supporting Documentation***

- **Appendix G, *Regional Transportation Supporting Documentation***
- **Appendix H, *Ground Access Supporting Documentation***
- **Appendix I, *Noise Supporting Documentation***
- **Appendix J, *Air Quality Supporting Documentation***
- **Appendix K, *Water Quality Supporting Documentation***

Technical appendices include supporting technical and quantitative data used to develop the EDR and ESPR chapter content. For this EDR, the technical appendices include data for the 2022, 2023, and 2024 reporting years and topic-specific benchmark year data to illustrate overall change over time. In addition, complementing the EDRs and ESPRs, Massport released a User's Guide alongside the *2023/2024 EDR*. The stand-alone document provides detailed overviews of the regulatory framework, methodologies, models, model inputs, programs, and analyses. The User's Guide contains the contextual information and technical specifications, such as modeling and analysis methodologies and processes, previously found within EDR and ESPR chapter narrative text and technical appendices. The User's Guide will be updated approximately every five years to incorporate information on significant changes that occurred during the previous reporting cycle, like changes in regulatory requirements, modeling methodologies, or data collection approaches. However, these changes will be addressed in the relevant EDR and ESPR chapters for the reporting years in which these changes occurred, and then the information will be migrated to the User's Guide during the next ESPR refresh cycle.

Massport created the User's Guide to maintain transparency on how the findings within the *2023/2024 EDR* are developed and the contextual meaning of those findings, while maintaining the focus in the *2023/2024 EDR* narrative text on data updates. The *2023/2024 EDR* has numerous hyperlinks throughout that will take the reader to the relevant sections within the User's Guide to facilitate chapter comprehension. For more details on the User's Guide, see **Section 1.2.2.1 of Chapter 1, *Introduction and Executive Summary*.**

A-31: Logan Airport Environmental Review and Planning

The 2023/2024 EDR should propose a streamlined process for environmental reporting, which may be supplemented through real-time data and other metrics made available with more frequent updates through the Massport website.

As discussed in prior comments, Massport improved the *2023/2024 EDR*'s usability and reduced its length through several innovative strategies. Prior to drafting, Massport reviewed the main body chapters to keep content focused solely on annual data updates, discussing relevant metrics and trends. The approach reduced chapter size but also enabled more timely document development in future years. Additionally, Massport standardized headings and subheadings in the *2023/2024 EDR*, limiting data to the prior reporting year and current reporting year(s), which are 2022, 2023, 2024 for this report, and a topic-specific benchmark year for each technical analysis or finding. This approach

aligns with the EDR and ESPR process's goal of providing annual updates, concentrating findings, figures, and tables on relevant reporting years.

Complimenting the EDRs and ESPRs, Massport released a User's Guide alongside the *2023/2024 EDR*. The stand-alone document provides detailed overviews of the regulatory framework, methodologies, models, model inputs, programs, and analyses. The User's Guide contains the contextual information and technical specifications, such as modeling and analysis methodologies and processes, previously found within EDR and ESPR chapter narrative text and technical appendices. The User's Guide will be updated approximately every five years to incorporate information on significant changes that occurred during the previous reporting cycle, like changes in regulatory requirements, modeling methodologies, or data collection approaches. However, these changes will be addressed in the relevant EDR and ESPR chapters for the reporting years in which these changes occurred, and then the information will be migrated to the User's Guide during the next ESPR refresh cycle.

Massport created the User's Guide to maintain transparency on how the findings within the *2023/2024 EDR* are developed and the contextual meaning of those findings, while maintaining the focus in the *2023/2024 EDR* narrative text on data updates. The *2023/2024 EDR* has numerous hyperlinks throughout that will take the reader to the relevant sections within the User's Guide to facilitate chapter comprehension. For more details on the User's Guide, see **Section 1.2.2.1 of Chapter 1.** Prior to filing the *2023/2024 EDR*, Massport developed a new web page specifically for EDR and ESPR filings (https://www.massport.com/environment/boston-logan-edr-espr-data-portal). The website provides links for each chapter of the most recent filings, notices for upcoming meetings, materials from prior meetings, prior filings, the User's Guide and links to regularly updated data sources (Massport owned and external) that provide data included within EDRs and ESPRs analysis. Massport continues to make historical data accessible on its environmental filings website. For a detailed overview of document changes in the *2023/2024 EDR*, refer to **Section1.2.2 of Chapter 1**. These improvements enabled Massport to file the *2023/2024 EDR* smoothly in October 2025.

A-32: Public Comments

Massport should consider [public] comments and suggestions in preparing the 2023/2024 EDR. I encourage Massport to provide responses as part of the subject matter sections of the 2023/2024 EDR, to provide context to commenters on this document, and to explain how recommendations have been incorporated into the Scope.

In addition to the Certificate and responses to comments included within this Appendix, **Appendix A, *MEPA Certificates and Responses to Comments***, Massport included copies of public comment letters submitted from the *2022 ESPR* and responses to comments within **Appendix B, *Comment Letters and Responses to Comments*** of this *2023/2024 EDR*.

Massport thoroughly considered requests and suggestions from public commenters and made improvements to the content, format, and accessibility of information in this *2023/2024 EDR* to reflect

the public's requests. Massport responded to comments within the public comment letters that presented actionable requests related to the subject matter and delivery of the *2022 ESPR*. Where applicable, Massport's responses to public comments address where changes were made to the scope of the *2023/2024 EDR* or other Massport environmental initiatives in alignment with the commenter's recommendations.

A-33: Logan Airport Environmental Review and Planning

I encourage Massport to evaluate feasible suggestions for increased analysis and monitoring of air emissions, noise and traffic impacts, and to actively consider ways to make real-time tracking data available to the public.

Massport continues to evaluate new methodologies and technologies as they become available and evaluates them in the context of Logan Airport, including for this EDR. Prior to filing the *2023/2024 EDR*, Massport developed a new web page specifically for EDR and ESPR filings (https://www.massport.com/environment/boston-logan-edr-espr-data-portal). The website provides links for each chapter of the most recent filings, notices for upcoming meetings, materials from prior meetings, prior filings, the User's Guide, and weblinks to regularly updated data sources (Massport owned and external) for the data included within EDRs and ESPRs analysis. Massport continues to make historical data accessible on its environmental filings website. The website is discussed within **Section 1.2.2.2 of Chapter 1, *Introduction and Executive Summary***. Massport is working with Massport Community Advisory Committee (Massport CAC) to make available data accessible online, and updates on this coordination effort as well as when data will be available will be provided in this EDR as well as forthcoming ESPRs/EDRs.

A-34: Environmental Justice

The 2022 ESPR indicates that the "designated geographic area" (DGA) (as defined in 301 CMR 11.02) should be defined as one mile for future filings. Because ESPRs are distinct from standard project reviews, it is not necessary to define a formal DGA. However, to be consistent with other MEPA reviews, I find it appropriate for Massport to continue public engagement efforts, at minimum, over a 1-mile radius around the outer perimeter of Logan Airport.

In accordance with 301 CMR 11.02, Massport defined a designated geographic area (DGA) for the *2022 ESPR* of 1 mile from the outer perimeter that defines the environmental justice (EJ) populations. The DGA is 64 EJ block groups, of which 32 meet the minority EJ criteria; three meet the low-income EJ criteria; seven meet both the minority and low-income EJ criteria; 14 meet both the minority and English isolation EJ criteria; and eight meet the minority, low-income, and English isolation EJ criteria. Detailed information on the EJ populations is included in **Table E-2 through E-4 of Appendix E, *Environmental Justice Supporting Documentation***, of the *2023/2024 EDR*.

The Community Relations & Government Affairs Department directs Massport's EJ and community outreach for projects subject to Massachusetts Environmental Policy Act (MEPA) review. Massport

identifies EJ block groups within a 1-mile radius and 5-mile radius of a Project Area as part of the DGA for MEPA project filings on projects occurring after the enactment of the 2021 EJ Policy and 2022 EJ Protocols. Further information on project-specific Massport outreach policies can be found within **Section U2.4 of the User's Guide**. A map of the EJ populations within the DGA (1-mile) is illustrated in **Figure 2-1 of Chapter 2, *Outreach and Environmental Justice.*** Specific outreach related to the *2023/2024 EDR* is discussed within **Section E.1 of Appendix E, *Environmental Justice Supporting Documentation***.

A-35: Air Quality/Emissions Reduction (GHG)

Massport should identify any potential areas of additional impact around the Airport based on [UFP studies] and other ongoing studies, and conduct additional focused outreach to such areas.

As a part of MEPA's Logan Airport Work Group, researchers funded by the Federal Aviation Administration (FAA), Massport Community Advisory Committee (Massport CAC), and regulatory agencies have presented on air quality monitoring and studies within the near vicinity of the Airport and at other airports. **Section 8.6 of Chapter 8, *Air Quality and GHG Emissions***, discusses the studies and findings that have been presented on or referenced within the Work Group. The studies have identified the need for accurate modeling to understand health exposures and comprehensive air quality monitoring to further understand Ultrafine Particulates (UFPs) from Airport activities. To the extent that this information is directly applicable to Logan Airport, Massport will be transparent regarding aviation-related air pollution data associated with Logan Airport and its operations that Massport has access to, and Massport will summarize this data and report on the implications of UFP around the Airport. Key findings that have been discussed within the Work Group is the lack of comprehensive monitoring over time within communities surrounding the Airport. As MEPA's Logan Airport Work Group continues to assess and discuss potential supplemental mitigation measures that could address environmental concerns associated with Logan Airport, Massport will continue to consider, with stakeholder input, whether there are areas where additional outreach would be beneficial. Findings, recommendations, and outreach will be reported in future EDR and ESPR filings.

A-36: Environmental Justice

Massport should continue to engage with the MCAC and local organizations, and take recommendations for additional methods and areas of public engagement for future ESPRs and EDRs.

As discussed in A-29, Massport will continue to evaluate and adjust engagement strategies by meeting the community where they are. Engagement with the community includes attending monthly neighborhood association meetings, verbal briefings before and after filings at the RCC, and other forms of engagement as described in **Section U2.4 of the User's Guide**. Specific outreach related to the *2023/2024 EDR* is discussed within **Section E.1 of Appendix E, *Environmental Justice Supporting Documentation***. Massport will collaborate with the Massport Community Advisory Committee

(Massport CAC) and local organizations to assess public engagement methods in future ESPRs and EDRs. Throughout 2025, Massport is engaging regularly with stakeholders to discuss the *2023/2024 EDR*.

A-37: Environmental Justice

The 2023/2024 EDR should prioritize engagement strategies that meet the community where they are, especially by holding meetings in more publicly accessible locations within the EJ communities most impacted by Airport activities. Massport should also explore alternative methods of involvement beyond formal public hearings, such as hosting "open house" style public meetings, organizing small group discussions with stakeholders, or distributing community surveys to collect feedback. Massport is encouraged to meet EJ community members where they already gather by hosting pop-up informational sessions at existing community events (e.g., community celebrations, farmer markets, and cultural events).

Massport continues to strengthen and improve relations with the surrounding communities, especially those representing environmental justice (EJ) populations through the Massachusetts Environmental Policy Act (MEPA) and the Office of Environmental Justice & Equity (OEJE) MEPA's Logan Airport Work Group process, as a part of the Massport Department of Community Relations & Government Affairs, outreach for Logan Airport activities is conducted within communities neighboring Logan Airport, which often extends outside of the EJ populations and the surrounding communities. As discussed in A-29 and A-36, Massport continues to evaluate and adjust engagement strategies by meeting the community where they are. Engagement with the community includes attending monthly neighborhood association meetings, verbal briefings before and after filings at the RCC, and other forms of engagement as described in **Section U2.4 of the User's Guide**. Specific outreach related to the *2023/2024 EDR* is discussed within **Section E.1 of Appendix E, *Environmental Justice Supporting Documentation***. Massport continued to meet with stakeholders throughout 2025 to discuss the EDR.

A-38: Environmental Justice

Given the large percentage of households identified as having limited English proficiency (LEP) (almost half of EJ block groups within 1 mile of the Airport have over 20% of households who report limited English proficiency), the 2023/2024 EDR should also report on specific events planned/attended and strategies enacted to intensify engagement with members from these LEP populations.

As discussed in A-17, for *2023/2024 EDR* and future EDRs and ESPRs, Massport has expanded its environmental justice (EJ) outreach to provide translation services in languages spoken by at least 5 percent of a given population located within a 5-mile radius of Logan Airport or within Massport Community Advisory Committee (Massport CAC) communities. For this EDR, this includes eight languages, as well as interpretation services for Spanish at public meetings, with other languages

available upon request, as detailed in **Section 2.2.4.1 of Chapter 2, *Outreach and Environmental Justice***.

As discussed in A-29, A-36, and A-37, Massport continues to evaluate and adjust engagement strategies by meeting the community where they are. Engagement with the community includes attending monthly neighborhood association meetings, verbal briefings before and after filings at the RCC, and other forms of outreach as described in **Section U2.4 of the User's Guide**. Specific outreach related to the *2023/2024 EDR* is discussed within **Section E.1 of Appendix E, *Environmental Justice Supporting Documentation***.

A-39: Environmental Justice

The 2023/2024 EDR should present an updated analysis of existing environmental conditions and public health risk within EJ populations. This updated analysis should present data on all air quality and climate indicators presented in MassDEP's Cumulative Impact Analysis framework (which overlap in large part with EJ Screen data). Indicators above the 80th percentile as compared to statewide averages should be reported for each individual census tract (not for entire 1-mile radius) containing EJ populations within 1 mile of the Airport. In addition, these data should be reported for any EJ populations located within the largest geographic area associated with documented impacts from the Airport, most notably, the largest sound contours (e.g., 60 DNL) documented in the 2022 ESPR.

New for the *2023/2024 EDR*, a new chapter has been created to discuss outreach and environmental justice (EJ), see **Chapter 2, *Outreach and Environmental Justice***. Massport continues to coordinate with Massachusetts Environmental Policy Act (MEPA) independently and through the MEPA's Logan Airport Work Group process on refining the EJ and public health analysis throughout the development of the *2023/2024 EDR*. As discussed in prior comments, the Work Group's primary objective is to assess and discuss potential supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations among EJ communities in East Boston, Winthrop, and Chelsea. Additional details on the MEPA's Logan Airport Work Group's scope, objectives, and updates are available in **Section 2.2.4.2 of Chapter 2**.

In concurrence with MEPA, the *2023/2024 EDR* does not repeat the EJ analysis within the *2022 ESPR*, specifically the DPH EJTool and U.S.EPA's EJScreen, as these data sources have not been updated since the *2022 ESPR* filing or are no longer available. The *2023/2024 EDR*, at the direction of MEPA, utilized Massachusetts Department of Environmental Protection (MassDEP)'s Cumulative Impact Analysis (CIA) framework to assess existing public health conditions within 1-mile of Logan Airport. The findings within this framework are largely consistent with the outputs from DPH EJ Tool and U.S.EPA's EJScreen as the MassDEP CIA framework utilizes similar sources, but at a much more granular level. Included in the findings are tables by census tracts, or block groups where available, presenting indicator findings. Through the use of MassDEP's CIA tool, Massport has demonstrated a willingness to continue to work with MEPA to advance EJ and public health analysis within the EDRs. In addition to these findings, the

community conditions assessment following MassDEP's CIA framework is presented in **Sections E.5 through E.9 of Appendix E, *Environmental Justice Supporting Documentation***. Findings for the Air Quality and Climate indicators are presented in **Section 2.4.3 of Chapter 2**.

As discussed in comment A-34, a designated geographic area (DGA) of 1-mile was considered for the public health existing conditions assessment, consistent with the 2022 EJ Protocols. As the MEPA's Logan Airport Work Group continues discussions, Massport will consider appropriate and scientifically sound methods to expand the area of the existing conditions assessment to accurately capture potential environmental impacts directly associated with operations.

A-40: Environmental Justice

The 2023/2024 EDR should contain a section on Environmental Justice to present [MassDEP CIA] analysis.

The *2023/2024 EDR*, at the direction of Massachusetts Environmental Policy Act (MEPA), utilized Massachusetts Department of Environmental Protection (MassDEP)'s Cumulative Impact Analysis (CIA) framework to assess existing public health data within 1-mile of Logan Airport. Reporting for the community health data is presented in **Section 2.4.3 of Chapter 2**, ***Outreach and Environmental Justice***. In concurrence with MEPA, the *2023/2024 EDR* does not repeat the environmental justice (EJ) analysis within the *2022 ESPR*, specifically the Department of Public Health (DPH) EJTool and U.S.EPA's EJScreen, as these data sources have not been updated since the *2022 ESPR* filing or are no longer available. As discussed in A-39, the findings within this framework are largely consistent with outcomes from DPH EJ Tool and U.S.EPA's EJScreen as the MassDEP CIA framework utilizes similar sources, but at a much more granular level. Included in the findings are tables by census tracts, or block groups where available, presenting indicator findings. Through the use of MassDEP's CIA tool, Massport has demonstrated a willingness to continue to work with MEPA to advance EJ and public health analysis within the EDRs and ESPRs. Findings for the Air Quality and Climate indicators are presented in **Table E-8 of Appendix E, *Environmental Justice Supporting Documentation*,** but despite the increased granularity, findings for health conditions and air quality and climate indicators remain in line with what was presented within the *2022 ESPR*. In addition to these findings, the community conditions assessment results following MassDEP's CIA framework are presented in **Sections E.5 through E.9 of Appendix E, *Environmental Justice Supporting Documentation***.

A-41: Logan Airport Environmental Review and Planning

[EJ analysis] should be separate from discussions of sustainability efforts or other distinct topics.

In the *2022 ESPR*, Massport introduced a new chapter that included discussions on Massport's outreach and potentially affected environmental justice (EJ) communities near Logan Airport. This *2023/2024 EDR* separates community outreach and EJ content from sustainability and climate resilience into two distinct chapters for each topic: **Chapter 2, *Outreach and Environmental Justice***, and **Chapter 11, *Sustainability and Climate Resilience***. In **Chapter 2**, Massport reports updates on EDR and ESPR-

specific community outreach and efforts towards greater community engagement, with a focus on EJ populations. **Section 2.4 of Chapter 2** also reports on conclusions and updates from the public health existing conditions review addressed in the *2022 ESPR*, and for the first time in the EDR and ESPR series, presents results from the Massachusetts Department of Environmental Protection (MassDEP) Cumulative Impact Analysis (CIA).

A-42: Air Quality/Emissions Reduction (GHG)

The 2023/2024 EDR should continue to report on [BU UFP studies] findings and additional mitigation measures implemented in response to new finding

As discussed in A-10, Boston University has participated in studies conducted in 2022 that evaluated Ultrafine Particulate (UFP) concentrations surrounding Logan Airport. **Section 8.6 of Chapter 8, *Air Quality and GHG Emissions***, includes a discussion of mitigation associated with air quality, and updated information regarding recent and on-going research on Airport emissions, including on UFP, by institutions like Boston University and Tufts University. As a part of MEPA's Logan Airport Work Group, researchers funded by the Federal Aviation Administration (FAA), Massport Community Advisory Committee (Massport CAC) and regulatory agencies have presented on air quality monitoring and studies within the vicinity of the Airport and at other airports. **Section 8.6 of Chapter 8** discusses the studies and findings that have been presented on or referenced within the MEPA's Logan Airport Work Group. The studies have identified the need for accurate modeling to understand health exposures and comprehensive air quality monitoring to further understand UFPs from Airport activities.

A-43: Air Quality/Emissions Reduction (GHG)

The 2023/2024 EDR should provide updates and implications from continuing institutional research on UFP, black carbon, [and] the public health impacts of aviation-related air pollution.

As discussed in A-10, As a part of MEPA's Logan Airport Work Group, researchers funded by the Federal Aviation Administration (FAA), Massport Community Advisory Committee (Massport CAC)

and regulatory agencies have presented on air quality monitoring and studies within near vicinity of the Airport and at other airports. **Section 8.6 of Chapter 8, *Air Quality and GHG Emissions***, discusses the studies and findings that have been presented on or referenced within MEPA's Logan Airport Work Group. The studies have identified the need for accurate modeling to understand health exposures and comprehensive air quality monitoring to understand Ultrafine Particulates (UFPs) from Airport activities further.

Additionally, Massport tracks other non-Logan Airport specific on-going research on health impacts of aviation-related air pollution. These studies include research on black carbon and UFP and are discussed in **Section 8.6 of Chapter 8**. Massport will continue to follow these studies and consider the applicability of findings as they relate to Logan Airport and are adopted by other airports.

A-44: Activity Levels

The 2023/2024 EDR should continue to report passenger and activity levels and consider planning/mitigation commensurate with the anticipated return to pre-pandemic levels in 2025; in particular, air, noise, and traffic reduction measures should be a significant emphasis of future EDR and ESPR reporting.

Passenger activity levels in 2023 mirrored levels observed in 2018, and in 2024, Logan Airport exceeded 2019 levels as airlines resumed previously suspended services, added new destinations, and responded to strong market demand in the Greater Boston area. Passenger activity at Logan Airport in 2023 decreased by 4 percent compared to 2019, with operations declining by nearly 8 percent. In 2024, Logan Airport exceeded 2019 passenger levels by approximately 2 percent, while operations declined by nearly 3 percent below 2019 levels. A detailed status update of passenger activity levels and operations related to 2019 levels is presented in **Table 3-1 of Chapter 3, *Activity Levels*** and **Appendix F, *Activity Levels Supporting Documentation***. Massport will continue to report and track passenger and operation activity levels, as it relates to the 2019 baseline year in future EDRs and ESPRs.

Consistent with past ESPRs and EDRs, the *2023/2024 EDR* describes the cumulative effects associated with overall Logan Airport activity levels and compares these effects to previous conditions in the last reporting year, as well as to a benchmark reporting year's conditions for each topic covered. The EDRs and ESPRs inform the projects subject to Massachusetts Environmental Policy Act (MEPA) and serve as a baseline condition assessing project-specific impacts. The *2023/2024 EDR* compares 2023 technical chapter data to 2022 and 2024 reporting year data, and 2023 and 2024 data are also compared to topic-specific benchmark year(s) to provide a standard frame of reference for comparisons. The rationale behind each benchmark year's selection for a given topic is provided in each topic's respective chapter.

Separate from the EDR and ESPR, each Airport project subject to MEPA review follows these frameworks in the assessment of potential impacts and the development of mitigation strategies, as required. The status of mitigation measures associated with project-specific Section 61 Findings are documented in **Chapter 10, *Project Mitigation***.

A-45: Activity Levels

The 2023/2024 EDR should continue to track flight and passenger levels and specifically note whether these levels have reached 2019 levels as of the reporting year; it should also indicate whether trends are on track to exceed projections based on actual activity levels gathered by the reporting year.

As discussed in A-44, the *2023/2024 EDR* reports that passenger activity in 2023 mirrored levels observed in 2018, and in 2024, Logan Airport exceeded 2019 levels as airlines resumed previously suspended services, added new destinations, and responded to strong market demand in the Greater Boston area. A detailed status update of passenger and activity levels as it relates to 2019 levels is

presented in **Section 3.1 of Chapter 3, *Activity Levels*.** Massport will continue to report and track passenger and operation activity levels, as it relates to the 2019 baseline year in future EDRs and ESPRs. In 2024, passenger activity levels exceeded levels seen in 2019 by approximately 2 percent; however, operations remained below 2019 levels by approximately 3 percent, as discussed in **Table 3-1** and **Section 3.1 of Chapter 3**.

The forecast developed within the *2022 ESPR* projected activity levels and operations 10 to 15 years in the future. Massport compared passenger activity levels and operations from 2024 to the forecast presented within the *2022 ESPR*, as described in **Section 3.1.5 of Chapter 3**. In 2024, while passenger activity levels were higher than experienced in 2019, levels remained approximately 19 percent below the 53.5 MAP presented in the 10-15 year future planning horizon in the *2022 ESPR*. Similarly, operations in 2024 were approximately 16 percent below those projected in the *2022 ESPR*.

A-46: Mitigation

If actual growth in passenger and/or aircraft operations outpace forecasts, I expect that additional information will be provided in future EDRs and ESPRs to demonstrate that additional mitigation and policies and strategies will be implemented to address the proportional growth in impacts.

The forecast developed within the *2022 ESPR* projected activity levels and operations 10 to 15 years in the future. Massport compared passenger activity levels and operations from 2024 to the forecast presented within the *2022 ESPR*, as described in **Section 3.1.5 of Chapter 3, Activity Levels**. In 2024, while passenger activity levels were higher than experienced in 2019, levels remained approximately 19 percent below the 53.5 MAP presented in the 10-15 year future planning horizon in the *2022 ESPR*. Similarly, operations in 2024 were approximately 16 percent below those projected in the *2022 ESPR*.

As discussed in prior comments, the purpose of the EDR and ESPR has been to disclose the impact of operations at Logan Airport as well as impact of long-term growth through ESPRs. Based on findings from EDRs and ESPRs, Massport continuously assesses on-going and proposed programs and policies for efficacy to reduce Logan Airport's impact. The current status of these programs and policies is discussed within **Section 2.2 of Chapter 2, *Outreach and Environmental Justice*; Section 6.4 of Chapter 6, *Ground Access*; Section 7.4 of Chapter 7, *Noise*;** and **Section 8.5 of Chapter 8, *Air Quality and GHG Emissions;*** and the new **Chapter 11, *Sustainability and Climate Resilience***. Where data is available, Massport has quantified these beneficial measures and intends to find better methods to quantify the effects of these programs in future EDRs and ESPRs.

A-47: Planning

The 2023/2024 EDR should continue to assess planning strategies for improving Logan Airport's operations and services in a safe, secure, more efficient, and environmentally sensitive manner. Massport must accommodate and guide tenant development. The 2023/2024 EDR should describe the status of planning initiatives for the following areas:

- **Roadways and Airport Parking;**
- **Terminal Area;**
- **Airside Area;**
- **Service and Cargo Areas;**
- **Airport Buffers and Landscaping;**
- **Energy, Sustainability, and Resiliency.**

Massport strategically plans Airport improvement projects to maintain its commitment to safety, security, efficiency, and environmental sustainability while adapting to meet the changing needs of the industry and passengers. Massport reports on the status and timeframe for implementing projects under consideration in **Chapter 4, *Airport Planning***. Massport also guides tenants in incorporating sustainable and resilient elements into their projects and everyday operations. See **Sections 11.1.2 and 11.2.3 of Chapter 11, *Sustainability and Climate Resilience***, for more sustainability initiatives and environmental considerations incorporated into Massport and tenant Airport planning processes.

A-48: Planning

The 2023/2024 EDR should update the timeline of long-range planning activities identified in [Table 4-1 of the ESPR] and should indicate a clear commitment to return to prior environmental commitments relative to capital projects intended to minimize air emissions impacts.

Chapter 4, *Airport Planning*, provides status updates of short and long-term planning initiatives that are on-going or were recently completed in 2023 and 2024. **Table 4-1 of Chapter 4, *Airport Planning***, summarizes the schedule for implementing these planning initiatives, many of which include environmental commitments or were initiated to enhance the sustainability and resiliency of Logan Airport.

Chapter 10, *Project Mitigation* details planned mitigation measures and associated status updates for specific projects that have completed Massachusetts Environmental Policy Act (MEPA) review at Logan Airport that were recently completed or have on-going mitigation measures. To reduce the length of **Chapter 10**, Massport assessed the projects previously reported on within this chapter and removed projects for which Section 61 mitigation measures had been completed or were indefinitely on-going. These projects' Section 61 mitigation findings and Massport's implementation of them have been preserved in prior EDR and ESPR filings on Massport's website. Each project discussed in **Chapter 10**

has completed the requisite state and federal environmental reviews and has formalized mitigation plans with individual Section 61 Findings.

Massport tracks the progress of both Massport and Logan Airport tenants towards implementing and meeting their environmental mitigation commitments on schedule and in accordance with the requirements set forth in the Section 61 Findings for each project. As each project moves forward through its design and construction phases, its mitigation plan is implemented with on-going tracking to verify compliance. Each section in **Chapter 10** describes the project's current implementation status and the mitigation measures undertaken in 2023 and 2024. **Appendix A, *Secretary's Certificate and Responses to Comments***, contains the Secretary's Certificate issued for the ENFs, Draft Environmental Impact Reports (DEIR), and Final Environmental Impact Reports (FEIR) for the projects discussed in this Appendix.

In addition to project-specific mitigation, Massport has developed numerous beneficial measures to address the environmental conditions at the Airport, around the Airport, and benefit neighboring communities. These measures are described within **Section 2.1 of Chapter 2, *Outreach and Environmental Justice*** and **Section 11.1.2.2 of Chapter 11, *Sustainability and Climate Resilience.***

A-49: Planning

The ESPR should identify the status and assess effectiveness of ground access changes, including roadway, parking projects, and transit projects that consolidate and direct Airport-related traffic to centralized locations and minimize Airport-related traffic on streets in adjacent neighborhoods.

The *2023/2024 EDR* details the results of the *2024 Logan Air Passenger Ground Access Survey*, which was used to track performance against Massport's passenger HOV mode share goal of achieving 40 percent HOV use by 2027. Based on the results of the *2024 Logan Air Passenger Ground Access Survey,* the HOV mode share has reached 38.4 percent. HOV modes include public transit, Logan Express and other scheduled bus services, and other shared-ride modes, plus certain automobile modes that carry more than one air passenger (Massport defines taxis, black car limousines, and Ride App services that carry two or more air passengers per vehicle as HOV). Details of the survey are included in **Section 6.5 of Chapter 6, *Ground Access*** and **Section U6.4 of the User's Guide**.

Massport ground access strategy promotes numerous HOV modes, including transit and shared-ride options, with the goal of improving on-Airport roadway and curbside operations, minimizing Airport-related vehicles in adjacent neighborhoods, alleviating demand on constrained parking facilities, reducing vehicle passenger drop-off and pick-up activities, and improving overall customer service. These options offer passengers and employees convenient and reliable HOV choices, which reduce environmental and community impacts. Implemented measures include a blend of strategies related to pricing, including incentives and disincentives, service availability, service quality, marketing, and traveler information. **Section 6.4 of Chapter 6** includes details on planned and implemented ground access initiatives.

On-going projects, such as the Terminal E Garage and Terminal C Canopy, Connector, and Roadway Projects, aim to further relieve roadway congestion, provide centralized Ride App pick-up and drop-off areas, and prioritize curb use for HOVs. These projects are discussed in **Section 4.1 of Chapter 4, *Airport Planning***.

A-50: Ground Access To and From Logan Airport

I note comments from Airport Impact Relief, Inc. (AIR, Inc), the City of Boston, and Conservation Law Foundation (CLF), which indicate that, without tracking data related to some of these initiatives (such as Logan Express, HOV, and TMA usage, Uber/Lyft matching program), it is difficult to see the efficacy of these programs in actually reducing VMT in and around the Airport. Comments from AIR, Inc. also specifically criticize Massport's lack of effort in controlling curbside idling, which Massport commits to consider through future initiatives. The 2023/2024 EDR should report on any improvements made in these areas, and Massport should proactively consider ways to make tracking data available on a more frequent basis.

Massport periodically administers an extensive survey of air passengers to understand better the ground access characteristics of air passengers traveling to and from Logan Airport. The survey results are used to track performance against Massport's passenger HOV mode share goal of 40 percent HOV use by 2027. Based on the results of the *2024 Logan Air Passenger Ground Access Survey*, the HOV mode share has reached 38.4 percent.

The survey also helps Massport to understand air passenger travel behavior, evaluate the effectiveness of transportation policies and services, and direct Massport's planning efforts to encourage travelers to use HOV and shared-ride modes to improve on-Airport roadway and curbside operations, alleviate demand on constrained parking facilities, reduce vehicle passenger drop-off and pick-up activities, and improve overall customer service. The results of the *2024 Logan Air Passenger Ground Access Survey* are presented in **Section 6.5 of Chapter 6, *Ground Access***.

Where data is available, Massport has quantified these beneficial measures and intends to find better methods to quantify the effects of these programs on reducing VMTs in future EDRs and ESPR. As discussed in **Section 6.1.2 of Chapter 6**, ridership of Logan Express, Massachusetts Bay Transportation Authority (MBTA) Silver Line, MBTA Blue Line, and water taxis has increased since 2022, demonstrating increased adoption of HOV. Prior to filing the *2023/2024 EDR*, Massport developed a new web page specifically for EDR and ESPR filings (https://www.massport.com/environment/boston-logan-edr-espr-data-portal). As discussed in prior comments, the website provides many different resources including links to regularly updated data sources (Massport owned and external) that provide data included within EDRs and ESPRs analysis. For ground access, these resources include real time vehicle volumes conditions and counts on roadways around Logan Airport, with ridership data provided by the Massachusetts Department of Transportation (MassDOT) and the MBTA. Massport will continue to explore methods to quantify benefits from ground access initiatives and make this data more readily available.

A-51: Ground Access To and From Logan Airport

The 2023/2024 EDR should continue to address […] target HOV mode share and incentives including a review of how the reported percentage by mode share is calculated and the methods used to incentivize.

As discussed in A-50, Massport periodically administers an extensive survey of air passengers to better understand the ground access characteristics of air passengers traveling to and from Logan Airport. The survey results are used to track performance against Massport's passenger HOV mode share goal of achieving 40 percent HOV use by 2027. Based on the results of the *2024 Logan Air Passenger Ground Access Survey*, the HOV mode share has reached 38.4 percent. The survey also helps Massport to understand air passenger travel behavior, evaluate the effectiveness of transportation policies and services, and direct Massport's planning efforts to encourage travelers to use HOV and shared-ride modes to improve on-Airport roadway and curbside operations, alleviate demand on constrained parking facilities, reduce vehicle passenger drop-off and pick-up activities, and improve overall customer service. The results of the *2024 Logan Air Passenger Ground Access Survey* are summarized in **Section 6.5 of Chapter 6, *Ground Access***.

Sections 6.1.2 and 6.4 of Chapter 6 presents on-going HOV initiatives for 2023 and 2024. As passenger levels in 2023 and 2024 return to pre-COVID levels, Massport continues to evaluate and plan for the recovery of air passenger activity and remains committed to implementing the broad range of ground access strategies that are outlined throughout the Chapter. The current status of these improvements is detailed in **Section 4.1 of Chapter 4, *Airport Planning*.**

A-52: Ground Access To and From Logan Airport

The 2023/2024 EDR should continue to address […] Impact of RideApps on Logan Airport landside operations and effectiveness of the RideApp management plan including information on how Massport quantifies the improvement in congestion and any related drop in GHG emissions.

Since 2017, Massport has implemented a Ride App management strategy to facilitate the sustainable use of Ride App at Logan Airport. The strategy has implemented programs such as the implementation of the Ride App Rematch Program, introducing rideshare, and developing a Ride App fee structure to support HOV. Roadway and garage projects, as discussed in **Section 4.1 of Chapter 4, *Airport Planning***, include centralization for Ride App pick-up and drop-off to help support shared rides, reduce deadhead trips, and reduce curbside congestion. Refer to **Section 6.4.1 of Chapter 6**, ***Ground Access*** for further information on Ride App management.

Massport is conducting a study to collect dwell time data from Ride App operations, which make up approximately 27 percent of Logan Airport's vehicle volumes, in designated pick-up areas within Logan Airport's parking garages. The new validated sample of dwell time data will be input into the idling emissions model to quantify the air quality impacts from vehicle idling Airport-wide. This analysis will help establish policies to minimize curbside idling and serve as a baseline to evaluate and present

progress towards curb idling reduction goals. The study's findings will be presented in future EDRs and ESPRs.

Where possible, Massport has provided quantification towards achieving full implementation of Section 61 commitments. Specific examples of these quantifications include mitigation achievements from the completion of Terminal E Modernization. Outside of project-specific mitigation commitments, Massport employs a variety of beneficial measures and continuously assesses current beneficial measures for efficacy to reduce Logan Airport's impact. The current status of these programs and policies is discussed within **Section 2.2 of Chapter 2, *Outreach and Environmental Justice*; Section 6.4 of Chapter 6, *Ground Access*; Section 7.4 of Chapter 7, *Noise*;** and **Section 8.5 of Chapter 8, *Air Quality and GHG Emissions;*** and the new **Chapter 11, *Sustainability and Climate Resilience***. Where data is available, Massport has quantified these beneficial measures and intends to find better methods to quantify the beneficial effects of these programs in future EDRs and ESPRs.

A-53: Ground Access To and From Logan Airport

The 2023/2024 EDR should continue to address […] Update on parking conditions including the status of construction of the new parking garage and project associated GHG and air quality mitigation commitments.

In 2023, there were 16,456 total in-service commercial spaces, which is below the 23,640 parking spaces permitted on-Airport by the Parking Freeze. The commercial and employee space allotment remained the same from 2022, but there were 128 fewer in-service commercial spaces in 2023. Massport periodically assesses its parking rate structure to support its ground access strategy. New rates became effective as of July 1, 2023. Both short-term and daily rates were increased for the terminal area garages and the Economy Parking garage. For more information on parking rates, see the **User's Guide, Section U6.3** The allocation of on-Airport parking spaces remained consistent with 2023 values in 2024. The parking rate structure remained unchanged in 2024 from 2023 rates.

Per the issuance of Massachusetts Environmental Policy Act (MEPA) Certificate on the Logan Airport Parking Freeze amendment, two new parking areas on the Airport campus were approved: the Terminal E Garage; and additional floors within the Economy Garage. Construction of the Terminal E Garage was originally deferred due to the COVID-19 pandemic but has since restarted. The current program calls for approximately 4,000 commercial revenue spaces to be built in a new garage in front of Terminal E. No parking spaces are being proposed for the Economy Garage at this time. Status update for the construction of the Terminal E Garage and associated Section 61 mitigation commitments can be found in **Section 10.3 of Chapter 10, *Project Mitigation*.** Future EDRs and ESPRs will continue to report on the progress of the Terminal E Garage project in the implementation of associated Section 61 commitments.

A-54: Ground Access To and From Logan Airport

The 2023/2024 EDR should continue to address […] non-Airport through-traffic.

Logan Airport's gateway roadways are equipped with permanent vehicle count stations as part of the Airport-wide Automated Traffic Monitoring System (ATMS), which collects data used to calculate Annual Average Daily Traffic (AADT), Annual Average Weekday Daily Traffic (AWDT), and Annual Average Weekend Daily Traffic (AWEDT). While overall vehicle volumes entering and exiting the Airport have generally increased since 2019, both AADT and AWDT in 2024 remained below 2019 levels, despite a significant rebound in air passenger activity. It is important to note, however, that while the ATMS provides reliable traffic data, distinguishing between Airport-related trips and non-Airport through traffic remains a challenge. The absence of vehicle-specific identifiers limits the ability to isolate traffic directly associated with Airport operations from regional traffic that utilizes the same roadway network. Further details on gateway vehicle volumes are detailed in **Section 6.2.1 of Chapter 6, *Ground Access***.

As Massport prepared for the 2023 and 2024 Sumner Tunnel closures, substantial work was done on-campus to reroute vehicles and limit congestion on Airport roadways. In preparation for that work, over 200 peak hour vehicles were observed to use the Airport's surface roadways as a path to avoid congestion on I-90 inbound to Boston with vehicles exiting I-90 to Transportation Way and re-entering I-90 at the Ted Williams Tunnel portal at Jefferies Street. Massport has since removed the left-turn from Transportation Way to the TWT and has seen a notable reduction (although not elimination) of cut-through traffic on Airport property.

A-55: Ground Access To and From Logan Airport

The 2023/2024 EDR should continue to address […] Cooperation with other transportation agencies to increase transit ridership to and from Logan Airport via the Blue Line, Silver Line, Water Transportation, and Logan Express.

Massport regularly engages with the MBTA partners on both Blue Line and Silver Line services ridership as they are important modes for reducing automobile travel to the Airport. In a 2019 survey, over three-quarters of Blue and Silver Line SL1 passengers indicated they would have used a taxi, Ride App service, or a private vehicle to be dropped off at the Airport. Massport offers free Silver Line boardings at the Airport; the free-fare program is expected to continue indefinitely. While the MBTA operates the ten Silver Line buses purchased by Massport in 2023, Massport pays the operating costs for the SL1 buses directly serving the Airport terminals. Massport coordinates with MBTA and taxi services to enhance HOV water transportation access and ridership. The Authority provides a free shuttle bus service between the Logan Airport Water Transportation Dock, the Airport terminals, and the MBTA Airport Station, and ridership information is monitored on an on-going basis. These services provide air passengers and employees from coastal, suburban, and downtown Boston areas access to water-based HOV service from Airport facilities. **Sections 6.1.2.2 and 6.1.2.3 of Chapter 6, *Ground Access*** discusses on-going initiatives related to the MBTA.

Massport continues to work with key stakeholders from the State, local towns, and cities to improve Logan Express ridership. These improvements are regularly assessed through the *2024 Logan Air Passenger Ground Access Survey*, which informs future service adjustments and demand for increased and expanded facilities, such as those in Danvers, Braintree, and Framingham, as discussed in **Sections 4.1.3, 4.1.4, and 4.1.5, of Chapter 4, *Airport Planning,*** respectively.

A-56: Ground Access To and From Logan Airport

The 2023/2024 EDR should continue to address […] Report on efforts to increase capacity and use of Logan Express and improvements to and expansion of service.

Recent Massport initiatives have successfully encouraged Logan Express' use and improved overall capacity. Braintree Logan Express service capacity for air passengers was increased in the short-term by relocating employees to a new dedicated park and ride lot in Quincy. The Braintree, Framingham, Woburn, and Back Bay Logan Express service frequencies have been improved, and construction has begun for approximately 1,000 additional parking spaces at Framingham. Massport enhanced marketing efforts to increase ridership and invested in a new, larger facility in Danvers to temporarily relocate the Peabody Logan Express. Refer to **Section 4.1 of Chapter 4, *Airport Planning*** for discussion of these projects. Massport intends to identify potential additional Logan Express locations west of Boston and at least one new, urban location, possibly North Station or a similar option. These improvements are regularly assessed through the *2024 Logan Air Passenger Ground Access Survey,* which informs future service adjustments and demand for increased and expanded facilities. Furthermore, Massport explored Ride App Last Mile connections and continues to monitor parking capacity across Logan Express sites. Further details on Logan Express service can be found in **Section 6.1.2.1 of Chapter 6*, Ground Access***.

A-57: Ground Access To and From Logan Airport

The 2023/2024 EDR should continue to address […] The expansion of piloted projects including the priority Airport passenger security line status for Logan Express riders.

Back Bay Logan Express piloted priority Airport passenger security line status for riders when operations at Back Bay restarted in October 2022. The priority program remains available to Back Bay Logan Express riders. **Section 6.1.2.1 of Chapter 6, *Ground Access*** provides information regarding initiatives related to Logan Express.

A-58: Ground Access To and From Logan Airport

The 2023/2024 EDR should continue to address […] Progress on enhancing water transportation to and from Logan Airport.

Massport continues to provide a free shuttle bus service between the Logan Airport Water Transportation Dock, the Airport terminals, and the MBTA Airport Station, and ridership information is monitored on an on-going basis and is reported in **Section 6.1.2.3 of Chapter 6, *Ground Access***.

A-59: Ground Access To and From Logan Airport

The 2023/2024 EDR should continue to address […] Results and recommendations of the most recent ground access survey including links to the most recent report.

As discussed in A-50, the results of the *2024 Logan Air Passenger Ground Access Survey* indicate that Massport's HOV initiatives are effectively decreasing single-occupancy vehicle trips and pick-up and drop-off activities at the Airport. Respondents showed an 81 percent increase in Logan Express use and an increase in MBTA use, as presented in the available report at: https://www.massport.com/sites/default/files/2025-06/2024-Logan-Ground-Access-Survey-Final-Report.pdf. Massport is actively reviewing the *2024 Logan Air Passenger Ground Access Survey* results to assess whether potential adjustments to HOV policies may be necessary. For more information on Massport's ground access initiatives and data, see **Chapter 6, *Ground Access***. Massport will continue to provide updates on potential HOV policy changes in future EDRs and ESPRs.

A-60: Ground Access To and From Logan Airport

The 2023/2024 EDR should continue to address […] Results and recommendations of the Long-term Parking Management Plan required by the Parking Freeze amendments.

Massport actively manages the on-Airport parking supply at Logan Airport as part of its overall strategy to reduce reliance on drop-off and pick-up and encourage the use of HOV modes. A key element of this strategy is the Long-Term Parking Management Plan, which guides the use of on-Airport parking to promote long-term over short-term parking. This approach helps reduce the number of daily trips to Logan Airport, supports balanced and efficient use of parking facilities, enhances customer service, and ensures compliance with the Logan Airport Parking Freeze. **Table 6-10 of Chapter 6, *Ground Access*** presents Massport's progress on the Long-Term Parking Management Plan for calendar years 2023 and 2024.

Per the issuance of the Massachusetts Environmental Policy Act (MEPA) Certificate on the Logan Airport Parking Freeze amendment, two new parking areas on the Airport campus were approved: the Terminal E Garage; and additional floors within the Economy Garage. Construction of the Terminal E Garage was originally deferred due to the COVID-19 pandemic but has since restarted. The current program calls for approximately 4,000 commercial revenue spaces to be built in a new garage in front of Terminal E. Status update for the construction of the Terminal E Garage and associated Section 61 mitigation commitments can be found in **Section 10.3 of Chapter 10, *Project Mitigation*.** Future EDRs and ESPRs will continue to report on the progress of the Terminal E Garage project in the implementation of associated Section 61 commitments.

A-61: Ground Access To and From Logan Airport

The 2023/2024 EDR should continue to address [...] Reporting of data (and comparison to prior years (2019-2022)) associated with the Logan Transportation Management Association (TMA) including number of employees participation in the various strategies (transit pass, shuttle services, etc.) and strategies for enhancing services and increasing employee membership in the Logan Airport TMA.

Section 6.4.4 of Chapter 6, *Ground Access*, presents current employee ground transportation initiatives and parking programs and initiatives. Massport continues to adopt comprehensive ground transportation initiatives for employees traveling to and from Logan Airport. The ground transportation strategy is designed to offer a choice of HOV, transit, and shared-ride options that are convenient and reliable, and that reduce environmental and community impacts. An update and comparison of the recent ground access conditions can be found in **Section 6.1 of Chapter 6**.

A-62:

The 2023/2024 EDR should report on specific reductions in VMT that could be achieved through these [ground access] measures, and indicate how such goals can be tracked over time.

Sections 6.1 and 6.4 of Chapter 6, *Ground Access* includes a description of measures to reduce vehicles traveling to and from Logan Airport through a comprehensive HOV Program, VMT reduction strategies, and physical infrastructure improvements at the Airport. Key performance metrics for these programs and data supporting their efficacy are routinely reported in ESPRs and EDRs. Program goals are tracked by comparing the current reporting year's data to the prior reporting year as well as to an established and fixed benchmark year, which serves as a standardized reference point to illustrate year-over-year progress. Massport will continue to advance tracking of VMT reductions associated with specific goals for future filings.

A-63: Noise

The 2023/2024 EDR should address Milton's concerns and the feasibility of implementing Block 1 and Block 2 recommendations from the recent MIT Study and specifically those relating to Runways 4R and 27.

Massport, the Federal Aviation Administration (FAA), the Massport Community Advisory Committee (Massport CAC), and Massachusetts Institute of Technology (MIT) have continued to collaborate on how to successfully design and implement Area Navigation (RNAV) procedures that comply with the 2016 memorandum of understanding (MOU) between Massport and the FAA. As discussed in **Section 7.4.1 of Chapter 7, *Noise*** and **Section I.4.5 of Appendix I**, ***Noise Supporting Documentation,*** implementing the Block 1 and 2 procedures requested by the Massport CAC and affected communities has resulted in the recent 2023 Runway 27 Standard Instrument Departures (SID) update, which confines flight tracks to within a defined noise abatement corridor area of more compatible land use and reduces the impacts from aircraft overflight noise. The FAA completed a Noise

Screening Analysis Report for Logan Airport's proposed RNAV SID in May 2024, which concluded there were no reportable or significant noise impacts, and the update meets NEPA compliance. In a presentation to Massport CAC in August 2024, the FAA also confirmed the Runway SID update and implementation of Block 1 and 2 procedures has achieved the MOU goal to confine at least 68 percent of flight tracks to within a defined noise abatement corridor area of more compatible land use. Block 2 departure procedures were published on November 30, 2023 and modified the RNAV departures to include a speed restriction, which enables aircraft to turn to the east earlier in their departures and shifts aircraft tracks to the north and away from Hull.

A-64: Noise

Massport restarted its residential sound insulation program (RSIP), applying for and receiving an initial grant to fund the beginning phase of the new program. The 2023/2024 EDR should report on the progress, timeline and insulation goals of the new program.

Bid set engineering design drawings were completed in January 2024, and Massport began soliciting bids for contractors to support the RSIP's implementation later that year. Massport estimated the work would require approximately nine months to complete once contracts with vendors were initiated. Acoustic pre-testing was conducted for ten homes included in a pilot study group in 2023. The development of construction designs for eligible structures in 2024 followed this phase of the RSIP implementation plan. Construction of the pilot phase began in early 2025. Following the construction initiation for the pilot group of homes, the process was initiated for the next group of homes. Information on these phases will be reported in the 2025 EDR.

The *2023/2024 EDR* summarizes the RSIP's implementation timeline and progress status from 2023 through the end of 2024. **Section 7.4.2 of Chapter 7, *Noise*** discusses the RSIP's goals and objectives in greater detail and also provides key project milestones with achievement status updates. Background information about the RSIP in general, including Federal Aviation Administration (FAA) requirements, qualification benchmarks for selecting which homes to include, and implementation details, is provided in **Section U7.5.2 of the *User's Guide***.

A-65: Noise

The 2023/2024 EDR should report any data used to measure the effectiveness of these improvements including the number of noise complaints from the previously impacted areas.

As discussed in **Section 7.4.1 of Chapter 7, Noise**, the Federal Aviation Administration (FAA) completed a Noise Screening Analysis Report for Logan Airport's Runway 27 Non-Area Navigation (RNAV) Standard Instrument Departure (SID) update in May 2024. This Report concluded there were no reportable or significant noise impacts, and the RNAV SID update meets NEPA compliance. In a presentation to the Massport Community Advisory Committee (Massport CAC) in August 2024, the FAA also confirmed the Runway 27 SID update, the result of implementing Block 1 and 2 community requested procedures, resulted in the Memorandum of Understanding (MOU) goal to confine at least

68 percent of flight tracks to within a defined noise abatement corridor area of more compatible land use. See **Appendix I**, **Section 1.8** for materials from the August coordination. **Section 7.4.3** includes **Table 7-5**, which demonstrates noise complaints from communities around the Airport (**Table I-23 in Appendix I** contains a full list). As demonstrated in this table, the number noise complaints declined approximately 24 percent between 2022 and 2023 and an additional 3 percent between 2023 and 2024. This decline was also seen within south Boston communities affected by the Runway 27 RNAV SID update.

A-66: Noise

The 2023/2024 ESPR should continue to report on the Airport noise mitigation program including summaries of the findings and recommendations of reports and studies focused on reducing community noise levels.

Massport's noise abatement program continues to play a critical role in helping to limit and monitor noise impacts. Massport's emphasis on noise abatement has focused on the benefits of better analysis tools, involvement in noise research projects, and improved modeling techniques to identify the causes of noise problems. Massport also continues to coordinate with Federal Aviation Administration (FAA) and the Massport Community Advisory Committee (Massport CAC) on matters related to runway use and the on-going Area Navigation (RNAV) Pilot project. The Logan Airport noise mitigation program includes operational restrictions on certain runways, limits to engine runup locations, late night runway preference, and noise abatement turns. Other continuing elements of Massport's noise mitigation program are discussed in the following sections. **Section 7.4 of Chapter 7, *Noise***, includes an update on the Massport *Noise Abatement Management Plan* and associated measures to reduce Airport-related noise effects. Massport continues to track the on-going noise reports and studies as discussed in **Section 7.4.4 of Chapter 7** and **User's Guide, Section U7.5**.

A-67: Climate Change

The 2023/2024 EDR should report on all climate resiliency measures planned or implemented and constructed. It should provide general information on the forecast methodology being used to identify threats and vulnerabilities to Logan Airport facilities and infrastructure and projects that actively address the risks of extreme heat, intense precipitation, and coastal flooding and sea level rise.

As discussed in A-8, the *2023/2024 EDR* includes a new section in **Chapter 11, *Sustainability and Climate Resilience*** dedicated to Massport's climate resiliency measures.

Since 2013, Massport has maintained and continuously enhanced a comprehensive set of climate resiliency measures to protect critical infrastructure and surrounding communities from climate change impacts, including extreme heat, intense precipitation, and coastal flooding and sea level rise. Climate resiliency is an embedded practice in Massport's planning, design, construction, and daily operations. 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. Massport collaborates with regional organizations, including the Massachusetts EEA, the ResilientMass program, U.S. ACE, and the City of Boston to share knowledge, align goals, and advance initiatives to protect the community. Massport initiatives related to these risks include:

- *Sustainability Design Guidelines;*
- *Urban Heat Island Program;*
- *Floodproofing Design Guide;*
- *Logan International Airport Stormwater and Flood Risk Modeling Study;*
- *Disaster and Infrastructure Resiliency Planning Study (DIRP);*
- *Logan International Airport Coastal Flood Operations.*

Section 11.3.4 of Chapter 11 reports the initiatives Massport has taken, and continues to take, to protect critical infrastructure, maintain operational continuity, and safeguard employees and surrounding communities from these evolving risks. Massport commits to providing updates on these initiatives in future EDR and ESPR filings and via the Net Zero website.

A-68: Air Quality / Emissions Reduction (GHG)

Future EDR/ESPRs should look to align this [net zero] reporting to provide a better picture of GHG emissions and efforts to reduce emissions through electrification.

The *2023/2024 EDR* includes a new chapter - **Chapter 11, *Sustainability and Climate Resilience***, which is dedicated to Massport's climate resiliency reporting and initiatives, linking to other Massport sustainability and resiliency resources. The chapter is aligned to report on themes that are a part of *Roadmap to Net Zero by 2031* (refer to **Section 11.2** of **Chapter 11**). Massport's Net Zero website (https://www.massport.com/environment/roadmap-to-net-zero) serves as a centralized resource for reporting GHG emissions reduction efforts. In addition, the site serves as a hub for tracking the Authority's progress towards its Net Zero emissions goals. It offers in-depth information on GHG emissions sources and outlines strategies for operational decarbonization, and presents relevant Key Performance Indicators (KPIs) to evaluate the effectiveness of these efforts. The platform is consistently updated with new data, milestones, and developments related to Massport's climate action initiatives. The website details fleet electrification procurements and investments in electric charging infrastructure. These efforts specifically support electrification of ground service equipment (eGSE), street sweepers, buses, ride-for-hire fleets, and rental cars. Data regarding ground transportation conversions and electrification infrastructure investments can be found in **Section 11.2.3.3 of Chapter 11, *Sustainability and Climate Resilience***.

A-69: Climate Change

The 2023/2024 EDR should provide the information requested in DOER's comment letter and further detail its pathway to Net Zero including DOER's recommendations.

In response to Department of Energy Resources (DOER)'s comment letter, Massport has established a new benchmark for sustainable development as part of its *Roadmap to NetZero by 2031*. This standard is based on the latest and most stringent building energy codes in the State of Massachusetts, along with reputable third-party sustainability rating systems. Refer to **Section 11.1.2.1 of Chapter 11, *Sustainability and Climate Resilience,*** which discusses Massport's *Sustainability Design Guidelines*.

As discussed in **Section 11.2.1 of Chapter 11**, in 2023, the Massport Board of Directors voted to approve $500 million in investments to Net Zero projects, laying the groundwork for future reductions. for emissions reduction projects over the next five years. This funding supplements routine funding requests that incorporate the Net Zero Program. For instance, at its January 14, 2025 meeting, the Board approved the purchase of up to 50 electric shuttle buses for Logan Airport, in collaboration with the MBTA. Massport has committed to achieving Net Zero GHG emissions for its Scope 1 and Scope 2 sources by 2031. Additionally, Massport aims to reach absolute Net Zero GHG emissions across these scopes, without relying on renewable energy credits (RECs) or carbon offsets, by 2040, as discussed in **Section 11.2 of Chapter 11.**

A-70: Air Quality / Emissions Reduction (GHG)

The 2023/2024 EDR should provide the most recent updates to [ASCENT UFPs studies] and its findings as they relate to the study area communities. To the extent that the studies provide measurements of UFPs in adjacent communities (or a methodology to do so), this data should be reported.

Massport continues to support the Boston University and Tufts University Federal Aviation Administration (FAA)-affiliated Center of Excellence for Alternative Jet Fuels and Environment, also known as the Aviation Sustainability Center (ASCENT), research studies evaluating the impact of aviation emissions on air quality in communities surrounding Logan Airport. The FAA ASCENT Project 18 "Community Measurements of Aviation Emission Contributions to Ambient Air Quality" aims to assess the impact of aviation emissions on Ultrafine Particulates (UFPs) concentrations in communities near the Airport. The Project is run through Boston University School of Public Health. The research so far has utilized both stationary and mobile monitoring to capture the spatial and temporal variations in air pollution, focusing on the contributions of aircraft arrivals and departures to UFP levels. The study emphasizes the importance of accurate exposure modeling for health studies.

As discussed in A-10, **Section 8.6 of Chapter 8, *Air Quality and GHG Emissions***, includes updated information regarding recent and on-going research on Airport emissions, including on UFP, by institutions like Boston University and Tufts University. As a part of MEPA's Logan Airport Work Group, researchers funded by the Federal Aviation Administration (FAA), Massport Community Advisory Committee (Massport CAC) and regulatory agencies have presented on air quality monitoring and studies within the vicinity of the Airport and at other airports. **Section 8.6 of Chapter 8** discusses the studies and findings that have been presented on or referenced within the MEPA's Logan Airport Work Group. As the Work Group continues to assess and discuss potential supplemental mitigation measures

that could address environmental concerns associated with Logan Airport, Massport will continue to consider the feasible extent to report on air quality in future filings.

A-71: Air Quality / Emissions Reduction (GHG)

The 2023/2024 EDR should continue to provide an overview of the environmental regulatory framework affecting aircraft emissions, changes in aircraft emissions, and the changes in air quality modeling including a mobile sources emissions inventory for CO, NOx, VOCs, and PMs.

Section 8.1 of Chapter 8, *Air Quality and GHG Emissions* provides an overview of federal and state requirements that govern air quality and GHG emissions at Logan Airport. Additionally, **Section U8.2 of the User's Guide** offers more information on how federal and state regulations apply to air quality and GHG emissions at Logan Airport.

In **Section 8.3 of Chapter 8,** Massport quantifies criteria air pollutants, precursor air pollutants, and GHG emissions from Airport-related sources in 2023 and 2024 and compares the results to previous and benchmark years. Massport used the most recent version of FAA's AEDT model at the time of this EDR, AEDT Version 3g,, to model aircraft emissions of VOCs, NOx, CO, and PMs. To model emissions of CO, NOx, VOCs, and PMs from mobile sources, Massport used the latest version of EPA's MOVES at the time of this EDR, MOVES Version 5. **Section 8.2.2 of Chapter 8** explains the differences between the iterations of the AEDT and MOVES modeling tools employed in this EDR compared to previous EDRs and ESPRs. Massport also presents the results of 2023 and 2024 emissions inventory using older versions of the modeling tools that were used in previous EDRs and ESPRs to highlight how the outputs are impacted by the version of the model used. **Appendix J, *Air Quality and GHG Emissions Supporting Documentation*** includes the data inputs used for air emissions modeling. For more information on the methodology behind the air emissions analysis and discussion on how the models are used, see **Section U8.3 of the User's Guide.**

A-72: Air Quality / Emissions Reduction (GHG)

The 2023/2024 EDR should quantify the emissions reductions associated with Massport's air emissions/GHG reduction initiatives to the extent feasible, including the reductions associated with initiatives targeted towards reducing emissions as well as those associated with MEPA reviewed projects where GHG mitigation requirements were made.

As discussed in A-71, in **Section 8.3 of Chapter 8, *Air Quality and GHG Emissions*** Massport quantifies criteria air pollutants, precursor air pollutants, and GHG emissions from Airport-related sources in 2023 and 2024 and compares the results to previous and benchmark years. The chapter also provides an overview of federal and state requirements that govern air quality and GHG emissions at Logan Airport. Additionally, **Section U8.2 of the User's Guide** offers more information on how federal and state regulations apply to air quality and GHG emissions at Logan Airport.

Chapter 10, *Project Mitigation*, includes Logan Airport projects that have on-going Section 61 commitments as a result of Massachusetts Environmental Policy Act (MEPA) review. Where possible, Massport has provided quantification towards achieving full implementation of a Section 61 commitment. Outside of project-specific mitigation commitments, Massport employs a variety of beneficial measures. Based on findings from EDRs and ESPRs, Massport will continuously assess current beneficial measures for efficacy to reduce Logan Airport's impact. The current status of these programs and policies are discussed within **Section 2.2 of Chapter 2, *Outreach and Environmental Justice*; Section 6.4 of Chapter 6, *Ground Access*; Section 7.4 of Chapter 7, *Noise*;** and **Section 8.5 of Chapter 8, *Air Quality and GHG Emissions***. Where data is available, Massport has quantified these beneficial measures and intends to find better methods to quantify the effects of these programs in future EDRs and ESPRs.

A-73: Air Quality / Emissions Reduction (GHG)

Comments from the City of Boston also suggest the need for more data about how Massport's air quality reduction strategies, especially those not under Massport's direct control, will be implemented to keep operation sources of VOCs, NOx, CO, PM_{10}, and $PM_{2.5}$ at "similar" levels over the next 10 to 15 years. To the extent the benefits of mitigation measures can be quantified, these values should be reported and tracked over time.

As discussed in A-71 and A-72, in **Section 8.3 of Chapter 8, *Air Quality and GHG Emissions***, Massport quantifies criteria air pollutants, precursor air pollutants, and GHG emissions from Airport-related sources in 2023 and 2024 and compares the results to previous and benchmark years. The Chapter also provides an overview of federal and state requirements that govern air quality and GHG emissions at Logan Airport. Additionally, **Section U8.2 of the User's Guide** offers more information on how federal and state regulations apply to air quality and GHG emissions at Logan Airport. Where possible, Massport has provided quantification towards achieving full implementation of a Section 61 commitment. Outside of project-specific mitigation commitments, Massport employs a variety of beneficial measures. Based on findings from EDRs and ESPRs, Massport continuously assesses current beneficial measures for efficacy to reduce Logan Airport's impact. The current status of these programs and policies is discussed within **Section 8.5 of Chapter 8**. Where data is available, Massport has quantified these beneficial measures and intends to find better methods to quantify the effects of these programs in future EDRs and ESPRs. Massport will continue to work with tenants to advance air quality improvements and GHG reductions.

A-74: Water Quality

The 2023/2024 should describe how exceedances are addressed and if community reporting and/or alerts are required.

Massport holds two individual permits under the U.S. Environmental Protection Agency (U.S.EPA) and Massachusetts Department of Environmental Protection (MassDEP) through the *National Pollutant*

Discharge Elimination System (NPDES) Program, as mandated by the Clean Water Act. These permits apply to Massport and its co-permittees at Logan Airport, establishing effluent limits, monitoring and reporting requirements. Exceedances, how they are addressed, and reporting requirements are discussed in **Section 9.2 of Chapter 9, *Water Quality,*** and the **User's Guide, Section U9**.

A-75: Mitigation

To enhance public transparency and tracking of mitigation measures, future EDR and ESPR filings should improve the reporting of mitigation measures and present all applicable measures in a tabular format organized by subject matter (traffic, noise, air quality, GHG emissions, environmental justice, etc.). The table should indicate whether the measures are ongoing or planned (and if the latter, provide an estimated timeframe for implementation).

Chapter 10, *Project Mitigation* details planned mitigation measures and associated status updates for specific projects that have completed Massachusetts Environmental Policy Act (MEPA) review at Logan Airport that were recently completed or have on-going mitigation measures. To reduce the length of **Chapter 10** Massport assessed the projects previously reporting on within this chapter, and removed projects for which Section 61 mitigation measures had been completed or were indefinitely on-going. These projects Section 61 mitigation findings and Massport's implementation of them have been preserved in prior EDR and ESPR filings on Massport's website. Each project discussed in **Chapter 10** has completed the requisite state and federal environmental reviews and has formalized mitigation plans with individual Section 61 Findings.

Massport tracks both Massport and Logan Airport tenants' progress towards implementing and meeting their environmental mitigation commitments on schedule and in accordance with the requirements set forth in the Section 61 Findings for each project. As each project moves forward through its design and construction phases, its mitigation plan is implemented with on-going tracking to verify compliance. Each section in **Chapter 10** describes the project's current implementation status and the mitigation measures undertaken in 2023 and 2024. **Appendix A, *MEPA Certificates and Responses to Comments***, contains the Secretary's Certificate issued for the ENFs, DEIRs, and FEIRs for the projects discussed in this Appendix. Massport will continue to explore ways to improve on the reporting and quantification of planned, on-going, and implemented mitigation measures for subsequent filings.

As discussed in prior comments, Massport is continuously committed to public transparency. Prior to the filing, Massport developed a new web page specifically for EDR and ESPR filings (https://www.massport.com/environment/boston-logan-edr-espr-data-portal). The website provides links for each chapter of the most recent filings, notices for upcoming meetings, materials from prior meetings, prior filings, the User's Guide, and links to regularly updated data sources (Massport owned and external) that provide data included within EDRs and ESPRs analysis. Massport continues to make historical data accessible on its environmental filings website. This landing page includes historical EDRs and ESPRs with extensive data for the public to download. Massport's progress on this effort will

be reported in this and future EDRs and ESPRs. Collaboration has been on-going with the Massport Community Advisory Committee (Massport CAC) to develop access to available data. For more on the EDR and ESPR website, refer to **Section 1.2.2.2 of Chapter 1**.

A-76: Mitigation

To the extent specific mitigation results from an individual project review, those commitments should be listed separately with a quantification, to the extent documented through the individual review, of the estimated reductions to applicable impacts (e.g., GHG reductions) that would result from the mitigation measure.

Chapter 10, *Project Mitigation* details planned mitigation measures and associated status updates for specific projects that have completed Massachusetts Environmental Policy Act (MEPA) review at Logan Airport that were recently completed or have on-going mitigation measures. To reduce the length of **Chapter 10**, Massport assessed the projects previously reporting on within this chapter and removed projects for which Section 61 mitigation measures had been completed or were indefinitely on-going. These projects Section 61 mitigation findings and Massport's implementation of them have been preserved in prior EDR and ESPR filings on Massport's website. Each project discussed in **Chapter 10** has completed the requisite state and federal environmental reviews and has formalized mitigation plans with individual Section 61 Findings.

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A-77: Mitigation

To the extent the benefits of other mitigation measures (e.g., VMT or GHG reduction targets) can be quantified, these values should be reported and tracked over time. If same or substantially same level of reduction was not actually achieved, or mitigation commitments have changed over time, those updates should be reflected in the ESPR and may require a further Notice of Project Change (NPC) filing for the individual project.

Chapter 10, *Project Mitigation* details planned mitigation measures and associated status updates for specific projects that have completed Massachusetts Environmental Policy Act (MEPA) review at Logan Airport that were recently completed or have on-going mitigation measures. To reduce the length of

Chapter 10, Massport assessed the projects previously reporting on within this chapter and removed projects for which Section 61 mitigation measures had been completed or were indefinitely on-going. These projects Section 61 mitigation findings and Massport's implementation of them have been preserved in prior EDR and ESPR filings on Massport's website. Each project discussed in **Chapter 10** has completed the requisite state and federal environmental reviews and has formalized mitigation plans with individual Section 61 Findings.

Massport tracks the progress of both Massport and Logan Airport tenants towards implementing and meeting their environmental mitigation commitments on schedule and in accordance with the requirements set forth in the Section 61 Findings for each project. As each project moves forward through its design and construction phases, its mitigation plan is implemented with on-going tracking to verify compliance. Each section in **Chapter 10** describes the project's current implementation status and the mitigation measures undertaken in 2023 and 2024. **Appendix A, *MEPA Certificates and Responses to Comments*** contains the Secretary's Certificate issued for the ENFs, DEIRs, and FEIRs for the projects discussed in this Appendix. Massport will continue to explore ways to improve the reporting and quantification of planned, on-going, and implemented mitigation measures for subsequent filings.

A-78: Responses to Comments

The 2023/2024 EDR should include a copy of this Certificate. It should include copies of all comments received on the 2022 ESPR and provide responses to the comments and to this Certificate.

The *2023/2024 EDR* will include a copy of this Certificate, as well as the comments received on the *2022 ESPR* along with Massport's responses. Response to comments will address actionable points raised in the Certificate and public comments, ensuring transparency and accountability in Massport's environmental reporting process. This information is presented herein, **Appendix A, *MEPA Certificates and Responses to Comments*** where Massport has documented how each comment has been considered and addressed.

A-79: Responses to Comments

The 2023/2024 EDR should include direct responses to comments to the extent that they are within MEPA jurisdiction.

The *2023/2024 EDR* will provide direct responses to comments received on the *2022 ESPR* to the extent that they fall within the jurisdiction of the Massachusetts Environmental Policy Act (MEPA). Responses will address actionable points and clarify Massport's approach to mitigation, data reporting, and stakeholder engagement. Responses will be documented in **Appendix A, *MEPA Certificates and Responses to Comments***, where Massport will outline how each comment has been reviewed and addressed in accordance with MEPA's scope and regulatory framework.

A-80: Logan Airport Environmental Review and Planning

I am also directing Massport to participate in a work group, facilitated by MEPA and the EEA EJ Office, to consider supplemental mitigation measures to address public health impacts of Airport operations on surrounding EJ populations.

Massport is committed to active participation in the MEPA's Logan Airport Work Group (the Work Group), established in collaboration with the Massachusetts Environmental Policy Act (MEPA) and the Office of Environmental Justice & Equity (OEJE). This Work Group, launched in February 2025, includes representatives from state agencies, local officials, and community stakeholders and is co-moderated by MEPA and OEJE to promote an inclusive and transparent process. The Work Group's primary objective is to assess and discuss feasible supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations among environmental justice (EJ) communities in East Boston, Winthrop, and Chelsea. Additional details on the Work Group's scope, objectives, and key discussions are available in **Section 2.2.4.2 of Chapter 2, *Outreach and Environmental Justice*.**

Secretary of the Executive Office of Energy and Environmental Affairs Certificate on the Logan Airport 2020/2021 Environmental Data Report (EDR)

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January 30, 2023

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
2020 & 2021 LOGAN AIRPORT ENVIRONMENTAL DATA REPORT

PROJECT NAME	: 2020/2021 Environmental Data Report (EDR)
PROJECT MUNICIPALITY	: Boston/Winthrop
PROJECT WATERSHED	: Boston Harbor
EOEA NUMBER	: 3247
PROJECT PROPONENT	: Massachusetts Port Authority
DATE NOTICED IN MONITOR	: December 7, 2022

As Secretary of Executive Office of Energy and Environmental Affairs (EEA), I hereby determine that the Environmental Data Report (EDR) submitted on this project **adequately and properly complies** with the Massachusetts Environmental Policy Act (MEPA; M.G.L. c. 30, ss. 61-62L) and Section 11.06 of the MEPA regulations (301 CMR 11.00).

Logan Airport Environmental Review and Planning

The environmental review process for Logan Airport (the "Airport"), first established in the 1970s, has been structured to occur on two levels: airport-wide and project-specific. The Environmental Status and Planning Report (ESPR) has evolved from a largely retrospective status report on airport operations to a broader analysis that also provides a prospective assessment of long-range plans. It has thus become, consistent with the objectives of the MEPA regulations, part of the Massachusetts Port Authority's (Massport) long-range planning process. The ESPR provides a "big picture" analysis of the environmental impacts associated with current

and projected activity levels, and presents a comprehensive strategy to avoid and minimize impacts. The ESPR analysis is supplemented by (and ultimately incorporates) the detailed analyses and mitigation commitments of project-specific Environmental Impact Reports (EIRs). The ESPR is generally updated on a five-year basis. The previous ESPR for the year 2017 (2017 ESPR) was filed in August of 2019. The Certificate on the 2017 ESPR was issued on November 25, 2019 and included a Scope for the 2018/2019 Environmental Data Report (EDR) (allowing a combined two-year EDR update).

EDRs are filed in the years between ESPRs. The EDR is a retrospective document that is generally filed annually and identifies environmental impacts based on actual passenger activity and operations. The EDR provides opportunities to compare activity levels and impacts against the prior year's EDR, as well as projections set forth in the five-year ESPR. In the Certificate on the 2018/2019 EDR, the Secretary required a combined 2020/2021 EDR given that 2020 activity levels, if considered in isolation, would not provide a clear and complete indication of post-Covid 19 growth trends. The 2020/2021 EDR responds to the Certificate on the 2018/2019 EDR. This Certificate also contains a proposed Scope for the next ESPR.

Through these EDR and ESPR reports, Logan Airport is subject to comprehensive and regular MEPA review, including opportunities for public comment on cumulative impacts from all aspects of airport operations. This regular updating and reporting on planning and cumulative impacts is unique among Agencies subject to MEPA jurisdiction. It reflects the challenge and complexity of managing and modernizing Logan Airport within a dense, urban area including many Environmental Justice Populations.[1] It recognizes that the proximity of communities to the Airport warrants an enhanced level of public engagement and a concerted, long-term effort to avoid, minimize and mitigate impacts.

As further described below, the data presented in the 2020/2021 EDR appear to show significant recovery in Airport operations as of the end of 2022 (albeit outside the reporting period for this EDR). Accordingly, I am directing Massport, as part of the Scope for the forthcoming 2022 ESPR, to provide a full and accurate report of airport operations in 2022 to confirm whether activity levels, in fact, demonstrate full recovery by the end of 2022, as compared to 2019 or other relevant projections set forth in prior ESPRs. The 2022 ESPR should also demonstrate a clear commitment by Massport to return to prior environmental planning initiated prior to the Covid-19 pandemic. Specifically, Massport should describe a clear decision making process and timetable for implementation of planned capital projects or programs that were deferred from 2018-19 due to pandemic conditions. These include several planned capital projects that would provide environmental benefits and reduce impacts associated with airport operations as activity levels recover, such as: the Logan Airport Parking Project (EEA# 15665) (5,000 new parking spaces, solar photovoltaic system, and electric vehicle charging stations), Phase 2 of Terminal E Modernization (EEA# 15434) (3 new terminal gates), several high-occupancy-vehicle investments (addition of 1,000 new spaces to Framingham Logan Express Garage (EEA# 16168), opening a new Logan Express suburban location, and implementing a 2nd urban Logan Express Service at North Station.

A-1

A-2

[1] [1] "Environmental Justice Population" is defined in M.G.L. c. 30, § 62 under four categories: Minority, Income, English Isolation, and a combined category of Minority and Income.

Comments also request that Massport establish a framework and planning process for community mitigation, in collaboration with surrounding EJ populations and other community stakeholders. Both the 2017 ESPR Certificate and the 2018/2019 EDR Certificate indicated that Massport should ensure that community benefits are being provided commensurate with increased growth and associated impacts. The 2018/2019 EDR Certificate also noted Massport's efforts, in response to a Department of Public Health (DPH) study conducted in 2014, to support public health services in the surrounding neighborhoods, including contributions to Chronic Obstructive Pulmonary Disease (COPD) treatment and the consideration of HEPA filters. In the forthcoming 2022 ESPR, Massport should demonstrate a clear commitment to revisit these prior initiatives and establish a framework and timetable for implementation. In particular, Massport should clearly communicate to community stakeholders its methodology for determining growth forecasts and projections, identify potential metrics or thresholds that may trigger the need to consider additional measures to reduce impacts, and describe efforts to continue contributions to local public health services in response to more recent research on airport impacts and address emerging issues such as Ultrafine Particles and Black Carbon. A-3 A-4 A-5 A-6

I note that, since review of the 2017 ESPR and 2018/2019 EDR, all new projects in "Designated Geographic Areas" ("DGA," as defined in 301 CMR 11.02, as amended) around EJ populations are subject to new requirements imposed by Chapter 8 of the Acts of 2021: An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy ("Climate Roadmap Act") and amended MEPA regulations at 301 CMR 11.00. Two related MEPA protocols – the MEPA Public Involvement Protocol for Environmental Justice Populations ("MEPA EJ Public Involvement Protocol") and MEPA Interim Protocol for Analysis of Project Impacts on Environmental Justice Populations ("MEPA Interim Protocol for Analysis of EJ Impacts") – are also in effect for new projects filed on or after January 1, 2022. While Massport's ESPR and EDR filings are not formally subject to these new regulations and protocols, I find it appropriate to require the filings to reflect robust community engagement and analysis that meet the spirit of these new regulations and protocols. To that end, I am directing Massport, through the Scope for the forthcoming 2022 ESPR, to establish a public engagement plan to govern the development of future ESPRs and EDRs. The plan should ensure that surrounding EJ populations and other community stakeholders have early and meaningful input in the development of the content of these filings, in addition to having the opportunity to provide formal comment once documents are finalized and filed with the MEPA Office. The documents should be prepared in a simpler, user-friendly format that can be digested by a broad sector of the public, so that key details and commitments are not buried in voluminous, data-heavy filings. A-7

Review of the 2020/2021 EDR and Scope for the 2022 ESPR

The 2020/2021 EDR is generally responsive to the Scope. It discusses the effect of the COVID-19 pandemic on activity levels and operations and impacts on future projects and programs. The technical studies in the 2020/2021 EDR include reporting and analysis of key indicators of airport activity levels, the regional transportation system, ground access, noise, air and water quality, environmental management, and project mitigation tracking. The 2020/2021 EDR also describes Massport's "Roadmap to Net Zero" introduced in 2022.

As discussed in the 2018/2019 EDR Certificate, Massport's filings previously indicated a rapid increase in passenger activity levels and aircraft operations during the years 2018 and 2019

due to strong economic conditions at that time. By 2019, air passenger activity levels at Logan Airport had reached an all-time high of 42.5 million, an increase of 3.9 percent over 2018 (40.9 million) and were on track to exceed the 50 million annual passengers projected in the 2017 ESPR much sooner than the previously identified 10-15 year time frame. However, the 2018-2019 EDR also detailed how beginning in March 2020, flights in and out of Logan Airport were dramatically reduced and passenger levels dropped by over 90 percent at the peak of the COVID-19 pandemic in the spring and summer of 2020. It indicated that total flight operations remained reduced by approximately 50 percent, and passenger levels by approximately 70 percent, during the reporting period as compared to January through October 2019.

As anticipated in the Certificate on the 2018/2019 EDR, activity levels at Logan Airport continued their recovery since demand dropped over 98 percent in April of 2020 due to the COVID-19 pandemic. The 2020/2021 EDR indicates that while activity levels are increasing, Logan Airport is recovering at a slower rate when compared to the overall US airport industry which recovered 72.7 percent of its 2019 passenger levels in 2021 while Logan Airport recovered only 53.3 percent. As noted in comments from the Conservation Law Foundation (CLF) and Airport Impact Relief Inc. (Air Inc.), however, more recent passenger activity data from 2022 indicates a much more rapid return to pre-pandemic levels of travel than stated in the EDR. Specifically, passenger data from the months of September, October and November 2022 show recovery up to 92 to 94 percent of levels during the same months of 2019. The 2020/2021 EDR includes a methodology for forecasting future growth which is similar to the method used by the FAA to develop Terminal Area Forecast and indicates that future activity levels are closely tied to the regional and national economy.

As previously noted in comments, the 2020/2021 EDR provides review of a review of airport planning including previously deferred capital projects that were anticipated to provide environmental benefits including installation of a solar photovoltaic system, new electric vehicle charging stations, and several high-occupancy-vehicle (HOV) investments. While some of the highlighted projects remain deferred, the 2020/2021 EDR indicates that ground access and parking remain priority planning interests. Given the indications that activity levels are more rapidly returning to pre-pandemic levels, the 2022 ESPR should indicate a commitment to prioritize mitigation efforts and provide a timeline for deferred projects. A-8

This 2020/2021 EDR discusses topics similar to the 2018/2019 EDR with a focus on the significant changes following the COVID-19 pandemic which has altered the aviation industry. Topics of focus include: (1) changes in activity levels and future forecasting; (2) airport planning including net zero and resiliency planning; (3) changes to ground access and parking; (4) noise abatement strategies; and (5) airport-wide emissions including those associated with vehicle trips.

The 2022 ESPR is an opportunity to update the cumulative impacts of passenger growth and associated ground and aircraft operations based on revised forecasts, documented trends, and environmental impacts. The next ESPR will analyze calendar year 2022 and provide projections through 2040. It should follow the general format of the 2017 ESPR and include an Executive Summary and Introduction, similar to previous ESPRs and EDRs. Several comments have noted the complexity and length of the document and difficulty in responding to lengthy, data-heavy A-9

analyses. Massport should consider shortening future filings to put less emphasis on historical accomplishments and only report on relevant updates, changes, and achievements, noting that historical data may be necessary for context. As indicated above, Massport should clarify methodologies and metrics related to growth projections and associated impacts and mitigation, so that future filings can focus on the most relevant data for assessing Massport's efforts to minimize impacts from Airport operations. A-10 A-11

The 2022 ESPR must include information on the environmental policies and planning that form the context of environmental reporting, technical studies, and environmental mitigation initiatives against which projects at Logan Airport can be evaluated. This should include identification of the cumulative effects of Logan Airport operations and activities, compared to previous years, as appropriate. The 2022 ESPR should include updated timelines for implementation of deferred mitigation projects to ensure that mitigation efforts keep up with increasing rates of travel as pandemic restrictions ease and travel resumes. A-12 A-13

The ESPR must include copies of all ESPR and EDR Certificates and a distribution list for the 2022 ESPR. Supporting technical appendices should be provided as necessary. A-14

Environmental Justice

Logan Airport is within two Environmental Justice (EJ) populations designated as Minority and is within one mile of two EJ populations characterized as Minority. Within the census tracts containing the above EJ populations, within one mile of the project site, the following languages are identified as those spoken by 5% of more of residents who also identify as not speaking English very well: Spanish and Spanish Creole. As indicated, while Massport's EDRs and ESPRs are not formally subject to MEPA EJ regulations and protocols, Massport acknowledges the proximity of the Airport to numerous EJ populations and has indicated a willingness to expand outreach efforts to meet the spirt of recently revised MEPA protocols. The 2022 ESPR should identify EJ populations with 5 miles of the airport including languages spoken by those who identify as not speaking English very well. These communities should be included in future outreach efforts with project summaries and announcements translated into the identified languages. Since 2013, Massport has also been advised by the Massachusetts Port Authority Community Advisory Committee (MCAC) (see St. 2013, c. 46, §§ 55, 82, as amended), which consists of representatives from 35 communities potentially impacted from Airport operations and located within 5 or more miles around the Airport. A-15

The 2022 ESPR should include a public engagement plan developed consistent with the MEPA EJ Public Involvement Protocol and review Massport's public outreach efforts prior to the filing of the ESPR. The public engagement plan should reflect strategies to provide opportunities for early and meaningful input on the development of Massport's filings, and should reflect community-based strategies beyond formal public hearings. I encourage Massport to provide a conceptual draft of the 2022 ESPR and to a hold public information session, held at accessible location and convenient time (such as the evening or weekend) so as to maximize input and participation from EJ neighborhoods and residents before the document is finalized. Massport should consult with the MEPA Office and EEA EJ Office in the development of the public engagement plan, and involve these offices in community meetings to the extent A-16 A-17 A-18

appropriate. The final 2022 ESPR, together with a fact sheet translated into relevant languages, should be circulated to community-based organizations (CBOs) and tribes/indigenous organizations ("EJ Reference List") provided by the MEPA Office, with as much advance notice as practicable so as to facilitate a meaningful review of surrounding EJ populations. I encourage Massport to allow for an extended comment period on the ESPR to allow for full public input and participation. Consistent with prior practice, the Executive Summary for the 2022 ESPR should be translated into Spanish and any other languages identified with input from the EEA EJ Director as representing languages spoken by a significant percentage of Limited English Proficiency (LEP) residents within the 35 communities represented by the MCAC. The identified languages should be used when distributing notice of public meetings and other relevant materials. A-19 A-20 A-21

The 2022 ESPR should contain a section on Environmental Justice and discuss public outreach activities conducted pursuant to Massport's public engagement plan. The ESPR should report on discussions with stakeholders regarding methodologies for growth projections, relevant metrics for assessing Airport impacts, and a framework for community mitigation in consideration of growth trends and associated impacts, as well as emerging research and science around public health impacts of airport operations in the U.S. Northeast and other regions. The ESPR should reflect a clear commitment by Massport to return to prior environmental commitments, including contributions to local public health services, that were begun prior to the Covid-19 pandemic. A-22 A-23 A-24

Activity Levels

Air traffic activity levels at Logan Airport are the basis for the evaluation of noise, air quality, and ground access conditions associated with the Airport. In this section, current activity levels at the Airport are compared to prior-year levels, and historical passenger and operations trends at Logan Airport dating back to 2000, which is the year Massport approved an Environmental Management Policy.

In 2017, air passenger activity levels at Logan Airport reached 38.4 million, an increase of 5.9 percent from 2016. At the time of the 2017 ESPR filing, it was projected that Logan Airport would reach 50 million annual passengers in the next 10 to 15 years (the Future Planning Horizon). As noted above, the 2019 passenger activity level represented a high for Logan Airport, which had been averaging an annual passenger growth of 5.9 percent since 2013 and continued to outpace the overall U.S. passenger growth of 4.1 percent for the same time period. The 2020/2021 EDR reports that due to the COVID-19 pandemic, 2020 passenger levels and operations have dramatically decreased with 2021 passenger levels showing a gradual return to 2019 levels with the rate of recovery being slower when compared to overall U.S. scheduled passenger recovery.

Domestic air passengers represent Logan Airport's largest market segment, accounting for approximately 85 and 88.4 percent of total air passengers in 2020 and 2021, respectively. The total number of scheduled domestic flights at Logan Airport in 2021 recovered to 62.8 percent of 2019 levels, or 211,549 operations, after falling 50.6 percent the previous year to 166,410. The 2020/2021 EDR attributes the high proportion of domestic activity (previously 81.2 and 80.2

percent of total air passengers in 2018 and 2019) to the strong demand for leisure travel following the lifting of pandemic related restrictions and a slower rebound of international activity as countries began to re-open their borders to visitors at the end of 2020 into 2021.

International passenger traffic at Logan Airport declined by 77.9 percent in 2020 as compared to 2019, but increased in 2021 compared to 2020, resulting in a 30.7 percent recovery when compared to 2019 international passenger levels. In 2020 and 2021, international passengers comprised approximately 14.6 and 11.2 percent of total Airport passenger shares, respectively, whereas prior to the pandemic between 2016 to 2019, international passengers made up between 18 and 20 percent. According to the 2020/2021 EDR, international travel demand was suppressed globally as governments implemented border closures, and rigorous testing requirements and vaccine-documentation were needed for non-essential travel, shifting demand to domestic markets.

The total number of aircraft operations at Logan Airport declined by 51.6 percent, from 427,176 operations in 2019, which was a historic peak since 2001, to 206,702 operations in 2020. Operations then increased in 2021 compared to 2020 to 266,034 operations representing a recovery of 62.3 percent of 2019 levels. Despite operational and passenger decreases, dedicated all-cargo operations saw operational growth as compared to 2019, increasing by 10.9 and 2.6 percent in 2020 and 2021, respectively. This continued growth resulted in the dedicated all-cargo segment exceeding 2019 levels by 13.8 percent by end of 2021. The 2020/2021 EDR states that air cargo volumes have been more resilient to pandemic-related effects than passenger traffic. Total cargo volumes (which includes "belly" cargo carried in the belly of passenger aircraft) declined by 16.3 percent in 2020 but increased to 649 million pounds in 2020, which represents a 90.5 percent recovery of 2019 volumes (717 million pounds).

The 2020/2021 EDR also notes a decline in the long-term trend toward greater efficiency, where the number of passengers per aircraft reached a peak of 99.5 passengers per flight in 2019, average number of passengers per flight fell in 2020 to 61.0 passengers per flight, a 38.5 percent decrease. This is a change in trends noted in the 2018/2019 EDR, which indicated a further increase in operational efficiency and "aircraft load factors." International services, which are typically operated by larger widebody aircraft with over 200 seats, were suspended, lowering the average available seat capacity, along with greater use of smaller regional jet (RJ) aircraft on domestic segments. The increase in average passengers per operation prior to the pandemic was attributed to the introduction of newer and larger aircraft at Logan Airport like the Airbus 350 and Boeing 787, in addition to flights operated by Boeing 777 and Airbus A380 superjumbo jets, especially for international long-haul flights. As the domestic demand recovered and international services began to be restored in 2021, the average passengers per operation increased to 85.2 by the end of 2021, or 85.6 percent of 2019 levels.

The 2020/2021 EDR also provides data for the first eight months of 2022 (January to August) which show that operations are down approximately 13 percent and passengers were down approximately 18 percent compared to the first eight months of 2019. As indicated in comments, however, more recent month-to-month data from September through November 20222 appear to show a more rapid return to pre-pandemic passenger levels of travel, when compared to the same months from 2019, than reported in the 2020/2021 EDR. The 2022 ESPR A-25

should continue to report passenger and activity levels and consider planning/mitigation commensurate with this more rapid growth; in particular, air, noise, and traffic reduction measures should be a significant emphasis of the 2022 ESPR. The 2022 ESPR should indicate a clear commitment to implementing deferred capital projects to ensure that these measures are taken to reduce impacts commensurate with activity levels as the economy recovers and the demand for air travel returns to the rate of growth seen before the pandemic. As noted, Massport should engage with stakeholders as it determines methodologies for measuring growth trends and appropriate mitigation planning. A-25 *cont.* A-26

The 2022 ESPR should report on: A-27

- Aircraft operations, including fleet mix and scheduled airline services at Logan Airport;
- Domestic and international passenger activity levels;
- Cargo and mail volumes;
- Comparison of 2022 aircraft operations, cargo/mail operations, and passenger activity levels to 2019 and 2020-21 activity levels; and
- Report on national aviation trends in 2022, the effect of the pandemic, and compare to trends at Logan Airport.

The 2022 ESPR should update the Logan Airport long-term passenger forecast to reflect growth trends at Logan Airport and revised expectations for the local/national/international economy including current recovery from the COVID-19 pandemic. Planning and impact sections will be based on forecasting for the next five years (2023-2027). It should address methodologies and assumptions used in the analysis, including anticipated changes to fleet mix changes and other trends in the aviation industry. It should also provide: A-28 A-29

- Updated forecasts for passenger volume, aircraft operations, and fleet mix;
- A comparison of 2022 operations to historic trends and 5-year and 2040 forecasts; and
- A comparison of forecast activity levels to Massport forecasts from previous ESPRs, FAA forecasts and the U.S. aviation industry.

As indicated above, Massport should establish a public engagement plan to engage with the MCAC and other stakeholders as it develops a methodology for future growth projections. The 2022 ESPR should report on the results of this consultation and provide a clear, easily digestible description of methodology that will be understood by a broad sector of the public. This methodology should be carried forth in annual EDRs during the next five-year ESPR reporting period. A-30

<u>Planning</u>

The Airport Planning section describes the status of projects underway or completed at Logan Airport through the fall of 2022. The longer planning period was covered due to the slow recovery following the Covid-19 pandemic and provide a better picture of recovery trends. While the 2020/2021 EDR indicates that the dramatic reduction in revenues and activity during the pandemic period resulted in deferment of many projects, Massport asserts it remains committed to implementing project-related mitigation strategies. Planning projects fall into the following

categories: Ground Transportation (including high occupancy vehicle (HOV) improvements and Parking; Terminals; Airside Planning, Service Areas; Airport Buffers and Open Space; and Energy, Sustainability, and Resiliency. The 2020/2021 EDR provided updates on over thirty projects including several transportation planning initiatives. Significant projects are highlighted below.

- *Logan Airport Parking Project*: This project includes the construction of up to 5,000 new commercial parking spaces to reduce trip generation associated with increases in passenger drop-off and pick-up at the airport. The Certificate on the ENF was issued on May 5, 2017 and included a Scope for the Draft Environmental Impact Report (DEIR). The Draft EIR/Environmental Assessment (EA) was published in May 2019. The Final EIR/EA was filed in November 2019 and the Secretary's Certificate was issued on January 30, 2020. The project required an amendment to the Logan Airport Parking Freeze Regulations (310 CMR 7.30). Amendments to the regulations were promulgated in 2017. The project is currently advancing design for the first 2,000 spaces in the parking lot across from Terminal E. Both phases are deferred due to the reduction in passenger activity associated with the pandemic.

- *RideApp (formerly Transportation Network Company (TNC)) Infrastructure and Policy (Airport-wide*): As RideApps have become a popular option for transportation to and from Logan Airport, MassPort has developed strategies to manage RideApp operations and reduce RideApp "deadhead" activity.[2] Massport consolidated RideApp activities on the ground floor of the Central and West Garages beginning in October 2019 and completed in December 2019. Massport implemented reduced ride fees for Shared Rides and authorized a rematch program in 2020. Terminal B RideApp pick-up and drop-off operations from the ground floor of the Central Garage are in the process of being moved to the second floor of the Terminal B Garage. This will provide 60 spaces, including three Americans with Disabilities Act (ADA) accessible and four electric vehicle (EV) spaces. This new location is anticipated to open in November 2022.

- *Logan Express Route and Facility Expansion (Off-Airport):* Massport continues to promote Logan Express ridership, thereby reducing vehicle miles traveled (VMT), congestion, and air quality emissions by shifting riders from other vehicle modes. Investments being considered for Logan Express include improving Back Bay Logan Express service, offering a new urban Logan Express service at North Station, pursuing new suburban Logan Express locations, increasing the frequency of the Braintree service, investing in existing suburban sites, and investing in structured parking at existing sites. In March 2020 many service reductions were implemented due to severely reduced passenger levels. In 2021, several Logan Express service enhancements were restored in response to recovering airport activity levels. Woburn service was reopened and Braintree and Framingham service was increased to half-hourly service. In February 2022, Peabody services was reopened at a new more convenient location at the Northshore Mall. Back Bay service restarted in October 2022. No new or potential locations are identified in the 2020/2021 EDR.

[2] Deadhead trips are those trips to or from the Airport that do not contain a passenger.

- *Terminal E Modernization Project*: This project will accommodate existing and long range forecasted demand for international service. The expansion will add the three gates approved in 1996 (International Gateway West Concourse project, EEA #9791), which were never constructed, and an additional four gates in an extended concourse. A key feature of this project is the first direct pedestrian connection from the MBTA Blue Line Airport Station to the terminal complex at Logan Airport. The building will also be aligned to function as a noise barrier. Initial construction began in 2019 but in June 2020 construction was adjusted in response to the pandemic. Currently, Massport is proceeding with construction of the first four gates that will connect to the existing Terminal E in mid-2023. The remaining three gates and pedestrian connection to the Blue Line Airport Station is currently deferred.

- *Terminal B Airline Optimization Project:* Massport is upgrading its facilities on the Pier B side of Terminal B to meet airlines' needs (primarily reflecting the merger of American Airlines and US Airways) and to provide facilities that improve the passenger traveling experience. Similar improvements have been implemented with the recent renovations and improvements at Terminal B, Pier A. Planned improvements include an enlarged ticketing hall; improved outbound bag area; and expanded bag claim hall, concession areas and holdroom capacity at the gate. Project construction was completed in 2022.

- *Terminal C, Pier B Optimization:* This project will make improvements within the existing footprint of Terminal C, Pier B. Existing passenger areas will be renovated and a second level of less than 5,000 square feet will be added. A jet bridge will be installed at an existing aircraft parking position. Project construction was completed in 2019

- *Terminal C Canopy, Connector, and Roadway Project:* Massport is planning improvements that will enhance Terminal C facilities and provide a post-security connector between Terminals B and C, replace aging roadways serving the terminals, and improve the operation of the Terminal C curb. The enhancements also include replacement of the existing canopy on the Departures Level. Construction of the building enhancements began in fall of 2019. Construction of the replacement canopy was completed in 2021, with a slightly reduced program than originally planned. The Terminal C to B Connector was completed in 2022 and roadways are anticipated to be complete in summer 2023.

- *Terminal A to B Airside Connector:* As part of the Airport-wide effort to enhance terminal connectivity post-security, a secure-side connector between Terminals A and B is under consideration. The airside connector between Terminals A and B is still being considered; however, this project is not currently in the five-year Capital Program.

- *Runway 9-27 RSA Improvement Project*: The FAA has approved the use of an Engineered Materials Arresting System (EMAS) for construction of a runway safety area for aircraft overrun protection. Recommended construction is expected to be similar to a pile-supported deck installed at Runway 33L. Work on the Final Environmental Impact Report (EIR) and National Environmental Policy Act (NEPA) document is underway.

- *Runway 15-33 Rehabilitation Project*: Pavement inspections and sampling indicates that Runway 15R-33L is in need of rehabilitation, which was last performed in 2012. Massport plans to rehabilitate Runway 15R-33L, including pavement at the intersections with Runways 4L-22R and 4R-22L, and intersecting taxiways. The project also includes taxiway pavement geometry modifications at or near Runway 15R-33L in accordance with the latest FAA standards, and the RIM Study and Comprehensive Airfield Geometry Analysis. Associated runway and taxiway lighting, pavement markings, and pavement sensors would be upgraded and/or replaced as part of the project. Massport began design for the proposed Runway 15R-33L rehabilitation in 2022. Pending project review and approval, construction is estimated to start in the spring of 2023.

- *Jet Fuel Storage Addition – North Service Area (NSA)*: Massport proposes to enhance the reliability of jet fuel storage availability and distribution to meet current demand at Logan Airport by installing additional jet fuel storage facilities within the existing storage and distribution system. The proposed location for these additional facilities is the site of an abandoned Massport water pumping station, located on Prescott Street adjacent to the rear of the Economy Garage. Construction of a fifth jet fuel storage tank immediately adjacent to the existing tanks and fuel distribution facilities began in 2022 with an expected 2024 completion date.

- *Relocated Compressed Natural Gas (CNG) Station in the North Cargo Area (NCA)*: Massport continues to examine potential on-Airport parcels for relocation of the existing CNG station. Relocation is not expected to occur before 2023.

- *Piers Park Phase II*: Piers Park Phase II will add 4.2 acres of green space to the existing Piers Park on the East Boston waterfront. The Phase II site is located adjacent to the Phase I site, along Marginal Street. The conceptual design of the Phase II site envisions a fully accessible park with a central lawn area, basketball and volleyball courts, and bicycle and rollerblade tracks. Massport has committed up to $15 million for the design and construction. Elevation of the site is also planned to improve neighborhood resiliency and flood damage protection. A new 1,000-square foot community/sailing center, located on the waterfront, is designed to replace the existing Sailing Center building while providing additional meeting spaces for the community. The concept planning and permitting phase was completed in 2022. Construction for Piers Park II commenced in October 2022 and is scheduled to be complete by the end of 2023.

The 2022 ESPR should continue to assess planning strategies for improving Logan Airport's operations and services in a safe, secure, more efficient, and environmentally sensitive manner. As owner and operator of Logan Airport, Massport must accommodate and guide tenant development. The 2022 ESPR should describe the status of planning initiatives for the following areas: A-31 A-32

- Roadways and Airport Parking;
- Terminal Area;
- Airside Area;
- Service and Cargo Areas;

- Airport Buffers and Landscaping;
- Energy, Sustainability, and Resiliency. A-32 *cont.*

The 2022 ESPR should also indicate the status of long-range planning activities, including the status of public works projects implemented by other agencies within the boundaries of Logan Airport. The ESPR should identify the status and assess effectiveness of ground access changes, including roadway and parking projects, that consolidate and direct airport-related traffic to centralized locations and minimize airport-related traffic on streets in adjacent neighborhoods. Where key environmental mitigation projects have been deferred, Massport should describe the decision making process and factors that will be used to inform the timing of its implementation. While the Scope for the 2018-2019 EDR required a disclosure of this decision-making, the EDR was not fully responsive as it provided details on the status of multiple projects without a clear framework for determining when deferred projects, particularly those intended to mitigate air emissions impacts of Airport operations, would be implemented. A-33 A-34 A-35

The 2022 ESPR should indicate a clear commitment to return to prior environmental commitments relative to capital projects intended to minimize air emissions impacts, and identify the metrics, monitoring data, or other criteria that will be used to inform when it will be implemented based on future increases in demand for air travel as the economy recovers. A-36

Mitigation

The 2020/2021 EDR provides an update on Massport's mitigation commitments under MEPA for projects at Logan Airport for which an EIR was filed to document that all feasible measures have been taken to avoid or minimize impacts. The 2020/2021 EDR addresses cumulative, Airport-wide impacts and reports on these measures through the end of September 2022. It also updates the status of mitigation commitments for recent projects such as the Terminal E Modernization Project (in progress) and the Logan Airport Parking Project (deferred) as well as projects previously included in the EDRs.

Regional Transportation

The 2020/2021 EDR describes activity levels at New England's regional airports and provides an update on regional planning activities, including long-range transportation efforts. The New England region is anchored by Logan Airport and a system of 10 other commercial service, reliever, and general aviation (GA) airports (regional airports). In 2020 and 2021, the New England region saw a decrease in air passenger activity. Regional air passengers decreased (as compared to the 2019 high of 59.7 million) by 69 percent to 18.52 million air passengers in 2020 and by 43.7 percent to 33.64 million in 2022. In 2020 and 2021, the 10 regional airports accounted for a total of 5.9 and 11.0 million passengers, respectively, compared to 17.2 million passengers in 2019.

The 2022 ESPR should report on: A-37

Regional Airports

- 2022 regional airport operations, passenger activity levels, and schedule data within an historical context;

- Status of plans and new improvements as provided by the regional airport authorities;
- Regional economic factors;
- Role of the Worcester Regional Airport and Hanscom Field in the regional general aviation system and Massport's efforts to promote these airports; and
- Ground access improvements.

Regional Transportation System

- Massport's role in managing the regional transportation aviation facilities;
- Massport's cooperation with other transportation agencies to promote efficient regional highway and transit operations; and
- Report on metropolitan and regional rail initiatives and ridership.

A-37 *cont.*

Ground Access to and from Logan Airport

The 2020/2021 EDR reports that average daily traffic and VMT on Airport roadways has decreased in 2020 and 2021 compared to 2019 as a result of the pandemic. As reported, fewer passengers and employees were traveling to and from Logan Airport and there was less roadway congestion both in Boston and the metropolitan area. The EDR states that Massport continues to plan for the recovery of air passenger activity and remains committed to implementing the broad range of ground access and trip reduction strategies aimed at increasing the number of passengers arriving by transit or other HOV mode. The 2020/2021 EDR provides a discussion of ground access modes and trip generation associated with each mode including: (1) transit and shared-ride HOV services; (2) drive to Logan Airport and park; or (3) drop-off/pick-up mode, which can involve a private vehicle, taxi, limousine, or RideApp/TNC.[3]

Average weekday on-Airport VMT decreased by about 75 percent from 2019 to 2020 from approximately 209,900 in 2019 to 52,794 in 2020. Between 2020 and 2021, average weekday on-Airport VMT increased to 118,937 (an increase of 79.7 percent over 2020); however, this still represented a decrease of 43.3 percent below 2019 levels. RideApp transactions dropped from over 7 million in 2019[4] to just 2 million in 2020 and 3 million in 2021. Similarly, the number of black car limousines and scheduled van seats dropped by nearly 64 percent from 2019 to 2021. Taxi dispatches declined 80 percent in 2020 compared to 2019 and increased by 66 percent between 2020 and 2021. MBTA Blue Line ridership decreased by approximately 36 percent between 2019 and 2020 but increased 31 percent in 2021 compared to 2020. Logan Express ridership from suburban park-and-ride locations decreased by 70 percent between 2019 and 2020 and increased by 18 percent between 2020 and 2021. Massport indicates results of the 2022 Air Passenger Ground-Access Survey will be presented in the 2022 ESPR to provide post pandemic trends related to HOV mode share.

The 2020/2021 EDR reports on the effectiveness of the RideApp management plan and provides an update on planned and executed measures to relieve on-Airport roadway congestion including updates on the Logan Airport Parking Project. Massport describes policies that Massport has implemented to manage the RideApp operations and status of each, noting that reduced fees are currently offered for shared rides. In addition, Terminal B RideApp pick-up and

[3] Transportation Network Companies (TNCs) are now referred to as RideApp companies (e.g., Uber and Lyft).
[4] The Certificate on the 2018/2019 EDR indicated RideApp activity was 8 million in 2019.

drop-off operations are in the process of being moved from the ground floor of the Central Garage to the second floor of the Terminal B Garage. This will provide 60 spaces, including three Americans with Disabilities Act (ADA) accessible and four electric vehicle (EV) spaces. This new location is anticipated to open in November 2022. Massport is continuing to promote Logan Express ridership by expanding parking, frequency, and facility upgrades reducing vehicle miles traveled (VMT), congestion, and air quality emissions.

Post-pandemic, Logan Airport is expected to continue to be one of the top U.S. airports in terms of high-occupancy vehicle (HOV) and transit mode share. The 2020/2021 EDR states Massport has a goal of reaching 35.5 percent HOV mode share by 2022 and 40 percent by 2027. Based on the results of the 2019 Logan International Airport Air Passenger Ground-Access Survey, HOV mode share reached 40.4 percent, exceeding both near-term and longer-term goals; however, COVID-19 had a range of impacts on ground transportation, particularly on the use of ground-access HOV modes. Comments note that it is unclear whether Massport remains compliant with HOV goals, as a result of pandemic conditions. In 2020 goals to improve HOV mode share included adding 1,000 parking spaces to the Framingham Logan Express service and adding a new urban Logan Express Location. Both projects have been deferred until ridership increases. The 2020/2021 EDR reports that after a temporary suspension of bus service from Peabody and Woburn (Braintree and Framing continued to operate on reduced schedules), suburban Logan Express services have been restored and the Peabody service was relocated (February of 2022). New initiatives to increase urban Logan Express ridership included a pilot security line status for riders (suspended in 2020 but resumed in October 2022) and implementation of electronic ticketing (October 2022). The 2020/2021 EDR indicates there is no pre-pandemic information on Silverline boarding data but the number of passengers increased by 30 percent between 2020 and 2021. As noted above, Massport will purchase eight new Silver Line buses as part of a forthcoming (Spring 2023) MBTA procurement.

The 2022 ESPR should report on 2022 ground access conditions at the airport and provide a comparison to 2019, 2020, and 2021 for the following:

A-38

- Description of compliance with Logan Airport Parking Freeze;
- HOV ridership (including Blue Line, Silver Line, Water Transportation, and Logan Express) and description of compliance with HOV goals and explanation of methodology for determining compliance;
- Logan Airport Employee Transportation Management Association (Logan TMA) services;
- Logan Airport gateway volumes;
- On-airport traffic volumes;
- On-airport VMT;
- Parking demand and management (including rates and duration statistics);
- Status of long-range ground access management strategy planning and the connection to the MBTA Airport Station associated with the planned Terminal E Modernization;
- Results of the 2022 Logan Airport Air Passenger Ground-Access Survey; and,
- Status of proposed connector to the Airport Station associated with the planned Terminal E Modernization Project.

The chapter should present a discussion of analytical methodologies and assumptions for the planning horizon year (2040)[5] for traffic volumes, on-airport VMT and parking demand. A-39

The 2022 ESPR should address the following topics: A-40

- Target HOV mode share and incentives;
- Impact of RideApps on Logan Airport landside operations and effectiveness of the RideApp management plan;
- Update on parking conditions;
- Non-Airport through-traffic;
- Cooperation with other transportation agencies to increase transit ridership to and from Logan Airport via the Blue Line, Silver Line, Water Transportation, and Logan Express;
- Report on efforts to increase capacity and use of Logan Express;
- Progress on enhancing water transportation to and from Logan Airport;
- Results and recommendations of the ground access study Long-term Parking Management Plan required by the Parking Freeze amendments; and
- Strategies for enhancing services and increasing employee membership in the Logan Airport TMA.

Noise

The 2020/2021 EDR provides an update on the status of the noise environment at Logan Airport in 2020 and 2021 and describes Massport's efforts to mitigate noise exposure and impacts. As described throughout the EDR, 2020 and 2021 are unusual in comparison to the trends of the preceding decades.

The 2020/21 EDR provides noise modeling results from the AEDT (version 3d). The model requires detailed operational data as inputs for noise calculations, including numbers of operations per day by aircraft type and by time of day, which runway is used for each arrival and for each departure, and flight track geometry for each track. The 2020/2021 EDR also presents summaries of the 2020 and 2021 operational data used in the noise modeling, as well as the resultant annual Day-Night Average Sound Level (DNL) noise contours, a comparison of the modeled results with measured levels from the noise monitoring system, and estimates of the population residing within various increments of noise exposure in 2020 and 2021

Both FAA and the U.S. Department of Housing and Urban Development consider DNL exposure levels above 65 decibels (dB) to be incompatible with residential land use. The 2020/2021 EDR describes how there was an overall decrease in the total number of people residing within the DNL 65 dB contour in 2020 and 2021 due to the significant drop in annual daily operations in those years. Specific changes noted in DNL contours include a greater than expected decrease in the Point Shirley area of Winthrop due to a 2.5 month closure of Runway 27 for construction in 2020, a slight increase in East Boston towards Chelsea due to an increase in use of Runway 15R for arrivals (about 0.5 percent in 2020 and about 4 percent in 2021), and a

[5] The planning horizon in the 2017 ESPR was 2035.

slight increase in 2020 for the lobe that reaches into Revere in 2020 followed by a slight decrease in 2021.

Massport monitors flights that operate during the DNL nighttime period of 10:00 PM to 7:00 AM, when each modeled flight is increased by 10 dB in calculations of noise exposure. Nighttime operations during this period represented 13 percent of total operations for both 2020 and 2021. Nighttime operations decreased from an average of 186 operations in 2019 to approximately 72 per night in 2020 and 92 per night in 2021. This represents total nighttime operations decrease from 2019 to 2020 of 61 percent with 2020 to 2021 rebounding slightly with an increase of 29 percent. The 2020/2021 EDR notes that nighttime cargo operations accounted for approximately 5 percent of all commercial nighttime operations in 2019; that percentage increased to 13 percent for 2020 and was 9 percent for 2021 most likely due to an increased demand for shipping during the pandemic. The majority (about 86 percent in 2020 and 78 percent in 2021) of nighttime operations occurred either before midnight or after 5:00 AM.

The DNL 65 dB contours decreased dramatically in 2020 due to the lower noise levels accompanying the dramatic reduction in airport operations. As noted above, in 2020, the DNL 65 dB contour reaches farther into populated areas of Boston, Winthrop, and Revere than in 2020 but remains smaller than in 2019. The total number of people residing within the DNL 65 dB contour decreased from 8,768 in 2019 to 804 in 2020. The estimated population (based on 2020 U.S. Census data) within the DNL 65 dB contour increased to 2,497 in 2021 but still well below 2019.

The 2018/2019 EDR anticipated that the return of air traffic would be accompanied by a different mix of aircraft types as larger and older aircraft models were retired. Aircraft are categorized according to their noise emissions levels in FAA Advisory Circular 36-1H, *Noise Levels for U.S. Certificated and Foreign Aircraft*, as either Stage 3, Stage 4, or Stage 5 (older State 1 and 2 aircraft have been phased out). The 2020/2021 EDR reports that about 29 percent of 2020 and 2021 operations were conducted in aircraft meeting the requirements for Stage 5 certification, 69 percent meeting Stage 4 certification, and the remaining 2 to 3 percent meeting only Stage 3 certification. The 2020/2021 EDR does not provide this same metric for 2019 as means of comparison.[6] A-41

In 2020, Massport received 240,951 noise complaints from 72 communities, a decrease of about 10 percent from 268,929 noise complaints from 86 communities in 2019. In 2021, as the number of flights rebounded, the number of complaint calls rose to 269,867 from 83 communities. Massport attributes the change to an increase in ability to submit complaints (improvement in phone and online complaint reporting system),[7] an increased public awareness from community groups, and an increase in people working from home.

The 2020/2021 EDR report on the status of Block 1 and 2 of the RNAV Pilot Project, which will analyze the feasibility of changes to some of RNAV approaches and departures from Logan Airport to reduce noise. Recommendations from the study conducted by a technical team

[6] Data is provided by carrier but not as a percentage of total 2019 operations.
[7] Airnoise is a subscription service that allows the user to file a noise complaint by clicking a button. The system finds the aircraft closest to the complainer and then files a detailed noise complaint directly with Massport. https://www.airnoise.io/.

led by MIT, completed recommendations in two phases. Block 1 recommendations were those that would not result in shifting noise from one area to another, and that would not have significant operational/technical implications. A report on Block 1 recommendations was completed in December 2017 and was sent to the FAA in 2020 for review and implementation. In 2021, the FAA completed development of these recommendations and published the procedures in December 2021. Block 2 recommendations were those that could result in noise increases in some areas or face technical barriers that would require further review. The RNAV technical team, led by MIT, completed the Block 2 report in June of 2021; however, after review by FAA and industry stakeholders, it was determined that none of the procedures would be recommended for further evaluation. The RNAV study team worked with FAA on revisions to several of the procedures which were released in December 2021. Two of the procedures, including modifying the existing RNAV Standard Instrument Departure (SID) from Runways 22R and 22L to enable an earlier turn to the east, and adding a new over-water RNAV approach for Runway 22L, were put forth for further study and implementation. In January of 2022, Massport submitted a request to the FAA for review and implementation of these procedures.

The 2020/2021 EDR reports that no new dwelling units received sound insulation from Massport. A total of 5,467 residential buildings and 11,515 dwelling units have been sound insulated since 1986 when the program was first implemented. In December 2021, the FAA approved Massport's updated Residential Sound Insulation Program (RSIP) Noise Exposure Map (NEM) (a requirement to establish eligibility for sound insulation). In 2022, Massport applied for and was approved for an initial grant by the FAA to fund the beginning phase of the RSIP program. The initial grant amount will fund the upfront work related to sound insulation including outreach to eligible homes, application process, pre-testing, and design/bid documents for homes that pass the FAA required pre-testing. Homes that pass the pre-testing will be used as pilots to inform future phases of the program. The 2022 ESPR should contain an update on the initial phase and the progress on additional grant applications to ensure sound insulation is available to qualified residences. A-42

The 2022 ESPR should also provide an overview of the environmental regulatory framework affecting aircraft noise, the changes in aircraft noise, and the updates in noise modeling. The chapter should report on 2022 conditions and provide a comparison to 2020, 2021 and 2019 for the following: A-43 A-44

- Fleet Mix, including Stage 3, and qualifying Stage 4 and Stage 5 aircraft;
- Nighttime operations;
- Runway utilization (report on aircraft and airline adherence with runway utilization goals); and,
- Flight tracks.

The 2022 ESPR should report on the following: A-45

- Changes in annual noise contours and noise-impacted population;
- Measured versus modeled noise values, including reasons for differences and any improvements attributable to the models deployed;
- Cumulative Noise Index (CNI);

- Times-Above for 65, 75, and 85 dBA threshold values/Dwell and Persistence of noise levels; and
- Flight track monitoring noise reports. A-45 *cont.*

The 2022 ESPR should also report on noise abatement efforts, results from Boston Logan Airport Noise Study (BLANS) and report on the status of Block 1 and 2 of the RNAV Pilot Project. A-46

Sustainability at Logan Airport

The 2020/2219 EDR describes Massport's airport wide sustainability goals as identified in its International Organization for Standardization (ISO) 14001 Environmental Management System (EMS) and Sustainability Management Plan (SMP). The Logan Airport SMP (2015) is integrated with the existing EMS framework to promote environmental, social, and economic improvement. The next SMP is anticipated to be released in 2022. Annual Sustainability and Resiliency Reports have been published since 2016 but were suspended for 2020 and 2021. Massport indicated that sustainability project information could be found in its Annual Sustainable Massport Calendars[8] and within the 2021 EDR as indicated by a leaf icon on individual pages; however, the reported efforts had generally been completed prior to 2020. The 2020/2021 EDR did report on the preparation in 2021 and release in March of 2022 of Massport's *Roadmap to Net Zero by 2031*.[9] The nine page document on the Massport Website presents a high-level overview of how Massport will achieve net zero including improving energy efficiency, investing in electric vehicles, and finding ways to transition to renewable energy including onsite generation. The 2020/2021 EDR reports that the upcoming 2022 SMP will outline performance throughout the global pandemic (2020 and 2021) and will also serve to close out the performance targets of the 2015 SMP. The 2022 ESPR should provide a summary of 2022 and future goals. A-47

Climate Change

Massport assets and Logan Airport, in particular, are critical infrastructure and play an important role in the economy. Governor Baker's Executive Order 569: Establishing an Integrated Climate Change Strategy for the Commonwealth was issued on September 16, 2016. The Order recognizes the serious threat presented by climate change and direct Executive Branch agencies to develop and implement an integrated strategy that leverages state resources to combat climate change and prepare for its impacts. The urgent need to address climate change was again recognized by Governor Baker and the Massachusetts Legislature with the recent passage of St. 2021, c. 8, An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy, which sets a goal of Net Zero emissions by 2050. I note that the MEPA statute directs all Agencies to consider reasonably foreseeable climate change impacts, including additional greenhouse gas emissions, and effects, such as predicted sea level rise, when issuing permits, licenses and other administrative approvals and decisions.

The 2020/2021 EDR acknowledges the MEPA Interim Protocol on *Climate Change and Resiliency*, effective for all new filings as of October 1, 2021, and states that all new projects at

[8] https://www.massport.com/massport/business/capital-improvements/sustainability/sustainability-management/
[9] https://www.massport.com/massport/about-massport/roadmap-to-net-zero/

Logan Airport that are filed with MEPA will comply with the amended regulation and protocols. The 2022 ESPR should report on all climate resiliency measures planned or implemented/constructed. A-48

Adaptation and Resiliency

A particular concern for Massport is the effect of sea level rise and projected increases in the severity and frequency of storms. The 2020/2021 EDR reviews planning efforts initiated by Massport beginning in 2013 with the Disaster and Infrastructure Resiliency Planning (DIRP) Study for Logan Airport, the Port of Boston, and Massport's waterfront assets in South and East Boston. It includes a hazard analysis; modeling of projected sea-level rise and storm surge; temperature and precipitation projections; and anticipated increases in extreme weather events.

In addition to the DIRP Study and its related initiatives, Massport issued a *Floodproofing Design Guide* and developed a resilience framework to provide consistent metrics for short- and long-term planning and protection of its critical facilities and infrastructure. Massport's *Floodproofing Design Guide* was updated in November 2018. Plans were also introduced in 2015 that included the deployment of temporary flood barriers to protect up to 12 locations of critical infrastructure in the event of severe weather. The 2020/2021 EDR indicates that additional locations have been permanently enhanced to prevent flooding.

The 2022 ESPR should report on the status of projects undertaken to prevent impacts from future climate change including reporting on specific projects implemented to protect against sea-level rise. It should report on planning initiatives to improve resiliency including any updates to the DIRP. A-49

GHG emissions

The 2020/2021 EDR incorporates GHG emissions reporting consistent with that provided in the 2017 ESPR but with a change in methodology. In prior years, GHG emissions were quantified using emission factors and methodologies outlined in the *Greenhouse Gas Emissions Policy and Protocol* issued by EEA and the Transportation Research Board's *Guidebook on Preparing Airport Greenhouse Gas Emissions Inventories* (Airport Cooperative Research Program (ACRP) Report 11, Project 02-06). The 2020/2021 GHG reporting utilizes additional guidance from the Airports Council International (ACI) and the Airports Carbon Accreditation Program (ACA) which separates emissions based on ownership/control: Scope 1/Direct – emissions that are controlled by Massport; Scope 2/Indirect - emissions associated with the generation of electricity consumed but generated off-site at public utilities; Scope 3/Indirect and Optional – GHG emissions that are associated with the activities of the reporting entity (Massport), but are associated with sources that are owned and controlled by others (aircraft-related emissions, tenant activities, and ground transportation). The 2020/2021 EDR quantifies and reports GHG emissions for all three scopes which, in total, are consistent and comparable to prior EDRs. The 2020/2021 EDR provides comparisons to data from 1990 and 2000 and then annually for 2010 to 2019, noting that 2020 and 2021 were influenced by the pandemic and were not representative. The analysis showed that total GHG emissions in 2020 decreased by about 60 percent and in 2021 decreased by 51 percent from 2019 levels. This reduction in GHGs is

attributed to the COVID pandemic as flights in and out of Logan Airport were dramatically reduced and passenger levels significantly dropped.

Massport reports on initiatives to reduce emissions and highlights the Alternative Fuel Vehicles (AFV) Program which is designed to replace Massport's conventionally fueled fleet with alternatively fueled or powered vehicles and reports on new charging infrastructure including a 2020 grant for charging infrastructure at Terminal E and other locations. Massport has also made a commitment to purchase eight new MBTA Silver Line buses (spring 2023). The Certificate on the 2018/2019 EDR requested that Massport consider comments from the Department of Energy Resources (DOER) which recommend electrification of space and water heating, as well as evaluation of opportunities for distributed renewable energy generation. DOER comments on the 2020/2021 EDR reiterate these recommendations, which should be addressed in the 2022 ESPR. Massport indicates that with the recent release of its Net Zero Roadmap, implementation efforts are underway and future EDR/ESPR filing will provide an update on progress. While Massport's Net Zero efforts should be commended, I note that these relate only to emissions that are under Massport's control (Scope 1 and portions of Scope 2). The 2022 ESPR should continue to report on all initiatives to reduce GHG emissions from all Airport sources, including deferred capital projects intended to reduce mobile source GHG emissions from ground transportation to and from the Airport. To the extent feasible, Scope 3 emissions should distinguish aircraft and ground transportation sources as separate sub-categories of emissions. A-50 A-51

For the 2022 ESPR, Massport proposes to continue GHG reporting to better align with international airport GHG reporting protocols and indicates the 2022 ESPR will describe these refinements. The 2022 ESPR should continue to be quantified for aircraft, GSE, motor vehicles, and stationary sources using emission factors and methodologies outlined in the Greenhouse Gas Emissions Policy and Protocol issued by EEA, the Transportation Research Board's Guidebook on Preparing Airport Greenhouse Gas Emissions Inventories, and the ACRP and ACA. The results of the 2022 GHG emissions inventory should be compared to the 2019, 2020 and 2021 results as the EDR indicates that 2020 and 2021 are not representative. The ESPR should also provide projections for GHG emissions over the next five years and through 2040, based on the projected activity levels surveyed as indicated above. The ESPR should compare these projections to historical levels as set forth in prior ESPRs. The ESPR should describe all efforts by Massport to reduce GHG emissions during 2022 and the years since the last ESPR, and should quantify reductions associated with those initiatives to the extent feasible. To the extent efforts were deferred, the ESPR should clearly track the anticipated emissions benefits associated with such initiatives, and ensure that those reductions are not credited in the future projections provided for the relevant reporting period. The ESPR should provide a status update that reports on progress made towards achieving Massport's Net Zero goal for emissions under its control. A-52 A-53 A-54 A-55 A-56

<u>Air Quality/Emissions Reduction</u>

The 2020/2021 EDR provides an overview of airport-related air quality issues in 2020 and 2021 and the efforts to reduce emissions. The air quality modeling is based on aircraft operations, fleet mix characteristics, and airfield taxiing times combined with GSE usage, motor vehicle traffic volumes, and stationary source utilization rates. The 2020/2021 EDR uses FAA's

approved computer model for calculating emissions from aircraft-related sources, the Aviation Environmental Design Tool (AEDT) (model v. AEDT 3d). Total air quality emissions from all sources associated with Logan Airport are significantly lower than a decade ago and have decreased from 2019 due to decreases in airport operations. The 2020/2021 EDR identifies Massport's initiatives to improve air quality and reduce emissions, including: replacement of gas- and diesel-powered GSE with all-electric GSE (eGSE) by the end of 2027 (as commercially available); implementation of additional initiatives to increase HOV use, investments in renewable energy installation on-airport including solar and wind, use of clean-fuel shuttle buses, and implementation of Massport's net Zero Roadmap by 2031 initiatives.

Massport prepared emissions inventories for 2020 and 2021 for the criteria pollutants carbon monoxide (CO), particulate matter (PM10/PM2.5), volatile organic compounds (VOCs), and oxides of nitrogen (NOx). Total modeled emissions of volatile organic compounds (VOCs), oxides of nitrogen (NOX), carbon monoxide (CO), and particulate matter (PM10/PM2.5) decreased from 2019 to 2020 by about 58 percent, 54 percent, 59 percent, and 47 percent, respectively. The 2021 total modeled emissions of VOC, NOX, CO, and PM10/PM2.5 decreased by about 45 percent, 42 percent, 48 percent, and 23 percent, respectively, from 2019 levels. These decreases are primarily attributable to the decrease in passenger activity levels and aircraft operations due to the COVID pandemic. Modeled emissions of VOCs, NOX, CO, and PM10/PM2.5 associated with aircraft decreased from 2019 to 2020 due to the COVID pandemic, by approximately 59 percent, 54 percent, 58 percent, and 53 percent, respectively. While there are model version differences (between AEDT v.3c and v3d) between 2019 and 2020, causing variances in emissions between those years, overall aircraft emissions decreased from 2019 to 2020 for all pollutants predominantly due to the decrease in passenger air travel demand, and thus fewer operations. Modeled emissions of VOCs, NOX, CO, and PM10/PM2.5 associated with aircraft decreased from 2019 to 2021 by approximately 48 percent, 42 percent, 49 percent, and 44 percent, respectively. Modeled emissions of VOCs, NOX, CO, and PM10/PM2.5 associated with GSE declined from 2019 to 2020 by approximately 40 percent, 48 percent, 36 percent, and 50 percent, respectively. From 2019 to 2021, GSE-related emissions of VOCs, NOX, CO, and PM10/PM2.5 decreased by approximately 22 percent, 39 percent, 20 percent, and 39 percent, respectively, due to the decrease in aircraft operations in the two years, which in turn required reduced use of GSE and aircraft auxiliary power units (APUs).

At the time that emission estimates were prepared for the 2020/2021 EDR, MOVES Version 3.0.3 was the EPA's latest approved computer model for estimating emissions from mobile sources (i.e., on-road motor vehicles and most nonroad equipment). The 2018/2019 EDR was prepared using the MOVES214b version. According to the EPA release notes, the differences in the two database servers, as well as the updates to the vehicle population, travel activities, and emission rates, results in higher PM10/PM2.5 outputs in MOVES3.0.3 than MOVES2014b. The EDR indicates that Moves 3.03 modeled emissions of VOCs, NOX, CO, and PM10/PM2.5 associated with motor vehicles, many of which Massport has influence on, have declined from 2019 to 2020 by approximately 76 percent, 93 percent, 79 percent, and 27 percent, respectively. Notably, the small decrease in PM10/PM2.5 emissions from 2019 to 2020, despite the substantial reduction in passenger activity levels, is mainly due to the model variances used between the two analysis years. From 2019 to 2021, emissions of VOCs, NOX, and CO decreased by approximately 50 percent, 84 percent, and 57 percent, respectively. On the

other hand, PM10/PM2.5 emissions increased by approximately 57 percent. Massport notes that this is mainly due to the model variances between the two different model versions of MOVES.

The 2022 ESPR should continue to provide an overview of the environmental regulatory framework affecting aircraft emissions, changes in aircraft emissions, and the changes in air quality modeling. The 2022 ESPR should also provide discussion of progress on national and international levels to decrease air emissions. Massport should continue to use the latest version of FAA's AEDT model for air emissions modeling as was presented in the 2020/2021 EDR. The EPA Motor Vehicle Emission Simulator (MOVES) tool should continue to be used to assess vehicular emissions on airport roadways. The 2022 ESPR should include a mobile sources emissions inventory for CO, NOx, VOCs, and PMs. It should also report on Massport and tenant alternative fuel vehicle programs and the status of Logan Airport air quality studies undertaken by Massport or others, as available. The 2022 ESPR should demonstrate that Massport's programs to maintain and increase HOV modes provide the capacity to meet demand associated with growth as passenger activity levels and airport operations fully recover from the COVID-19 pandemic. The ESPR should quantify the emissions reductions associated with Massport's air emissions/GHG reduction initiatives to the extent feasible. Future filings should include data on Diesel PM to the extent such data are available. A-57 A-58 A-59 A-60 A-61 A-62

The 2020/2021 EDR provides updated information on Ultrafine Particles (UFPs) which is particulate matter (PMs) subdivided into categories based on their diameters. UFPs have diameters less than 0.1 micrometers (µm). In December of 2020, the Environmental Protection Agency (EPA) published a final action in the Federal Register detailing the agency's review of the National Atmospheric Air Quality Standards (NAAQS) for PM10/PM2.5. UFP is addressed in the supplemental information of the notice. In their review of the PM10/PM2.5 NAAQS, EPA determined that due to significant uncertainties and limitations, as well as the limited availability of air monitoring data, that the PM2.5 NAAQS would be retained as the indicator for UFP. Studies conducted at Zurich Airport in Switzerland and London Heathrow Airport in England have demonstrated that UFP dispersion is highly dependent on wind speed and direction with UFP particle counts being on the order of 10 times higher when measured downwind of the airports. The 2020/2021 EDR indicates that Massport is cooperating with Boston University and Tufts University in identifying aircraft specific related UFPs in an urban environment with non-airport related sources. This research is ongoing in the East Boston area and Massport continues to contribute by providing Logan Airport operational and other pertinent data. The 2022 ESPR should provide a more detailed update on the study and how findings may relate to Massport operations and a potential framework for community mitigation. A-63

The 2020/2021 EDR summarized other recent studies on impacts of aviation emissions on air quality and public health including a project between Olin College, Air Inc., and the Town of Winthrop to continuously measure pollutants such as CO, CO_2, nitric oxide (NO), NO_2, and O_3, as well as the mass concentration of PM2.5/10, and relevant meteorological conditions. This study is ongoing and Massport will continue to provide operational data and collaborate as needed. As requested in the Certificate on the 2018/2019 EDR, Massport has indicated that it has renewed an agreement to provide funding to the East Boston Neighborhood Health Center to help expand the efforts of their Asthma and Chronic Obstructive Pulmonary Disease (COPD) Prevention and Treatment Program in East Boston and Winthrop that provides services including A-64

screenings for children, distribution of asthma kits, and home visits, among others. The 2022 ESPR should include updates on the status of these collaboration efforts. The 2022 ESPR should continue to report on engagement with the Health Center and include a discussion of how the services provided directly to and through the Health Center (which are funded by Massport) can be expanded. As indicated above, Massport should consult with community-based organizations about potential approaches to further mitigate air quality impacts in light of growth trends and emerging research on the impacts of airport operations on public health. The ESPR should describe a decision making process that Massport intends to follow to determine what, if any, additional public health contributions would be considered, and how Massport would seek to fund such contributions. The ESPR should clearly describe the research efforts that Massport will fund or collaborate on, and how such efforts will be identified. A-64 *cont.* A-65 A-66

Water Quality/Environmental Compliance

The 2020/2021 EDR describes Massport's ongoing environmental management activities including National Pollutant Discharge Elimination System (NPDES) compliance, stormwater, fuel spills, activities under the Massachusetts Contingency Plan (MCP), and tank management. Massport's primary water quality goal is to prevent or minimize pollutant discharges, to limit adverse water quality impacts of airport activities. Massport employs several programs to promote awareness of activities that may impact surface and groundwater quality. Programs include implementing best management practices (BMPs) for pollution prevention by Massport, its tenants, and its construction contractors; training of staff and tenants; and a comprehensive stormwater pollution prevention plan. The 2020/2021 EDR reports that in 2020, 100 percent of stormwater samples complied with standards for pH, oil and grease, and TSS. In 2021, 99 percent of stormwater samples complied with standards for pH, oil and grease, and TSS. Massport notes that given the large size of the drainage areas and low concentrations of pollutants, it is not always possible to trace exceedances to specific events.

The 2022 ESPR should identify any planned stormwater management improvements and report on the status of: A-67

- NPDES Permit and monitoring results for Logan outfalls and the Fire Training Facility;
- Jet fuel usage and spills;
- MCP activities;
- Tank management;
- Update on the environmental management plan; and
- Fuel spill prevention.

Response to Comments

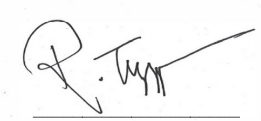
The 2020/2021 EDR was noticed in the Environmental Monitor on December 7, 2022, with a 30-day public comment period and was subsequently extended by Massport to a 60-day comment period ending on January 23, 2023. A hybrid public presentation of the EDR was held on December 15, 2023 at the Rental Car Center at Logan Airport with remote meeting access available for those who could not attend in person.

The Response to Comments section should address all of the substantive comments on the 2020/2021 EDR, and other Certificates for Logan Airport that reference EDR/ESPR documentation (e.g. Logan Airport Parking Project (EEA# 15665), Terminal E Modernization (EEA# 15434)). To ensure that the issues raised by commenters are addressed, the 2022 ESPR should include direct responses to comments to the extent that they are within MEPA jurisdiction. This directive is not intended to, and shall not be construed to, enlarge the scope of the 2022 ESPR beyond what has been expressly identified in this Certificate. The Response to Comments should not reference a section of the 2022 ESPR unless they are directly responsive to the comment. Common themes that should be addressed throughout the 2022 ESPR and in the Responses to Comments include mitigation for air quality impacts (and the findings and relevance of UFP research being performed by Tufts University and Boston University), noise abatement, and traffic reduction measures. The ESPR should also include information to clarify and refine its process for estimating growth rates and provide more detailed data on the implementation of deferred mitigation projects aimed at addressing impacts. The 2022 ESPR should consider alternative methods of presenting and explaining data and findings that are accessible and understandable to all readers. A-68 A-69 A-70 A-71

Conclusion

Massport may prepare a 2022 ESPR for submission consistent with the Scope included in this Certificate. I encourage Massport to target early 2024 for filing of the 2022 ESPR. A-72

January 30, 2023
Date



Rebecca L. Tepper

Comments received:

12/16/2022 Friends of the Mary Ellen Welch Greenway
01/23/2023 Massport Community Action Advisory Committee (MCAC)
01/23/2023 Airport Impact Relief, Inc. (Air Inc)
01/26/2023 Department of Energy Resources (DOER)

RLT/JAH/jah

Copy of the Secretary of the Executive Office of Energy and Environmental Affairs Certificate Issued for the Terminal E Modernization Project Final Environmental Assessment/Environmental Impact Report

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Executive Office of Energy and Environmental Affairs
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November 10, 2016

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
FINAL ENVIRONMENTAL IMPACT REPORT

PROJECT NAME	: Terminal E Modernization
PROJECT MUNICIPALITY	: East Boston
PROJECT WATERSHED	: Boston Harbor
EEA NUMBER	: 15434
PROJECT PROPONENT	: Massachusetts Port Authority
DATE NOTICED IN MONITOR	: October 5, 2016

As Secretary of Energy and Environmental Affairs, I hereby determine that the Final Environmental Impact Report (FEIR) submitted on this project **adequately and properly complies** with the Massachusetts Environmental Policy Act (MEPA; M.G.L. c.30, ss.61-62I) and with its implementing regulations (301 CMR 11.00). As noted in my Certificate on the Draft EIR (DEIR) issued September 16, 2016, the DEIR fully responded to the Scope contained in the Certificate on the Environmental Notification Form (ENF) and therefore the scope of the Final EIR (FEIR) was limited to a response to comments and draft Section 61 Findings.

Comments received on the FEIR continue to identify concerns regarding existing airport operations and noise levels and potential increases with long-term growth. I have received comment letters from elected officials (including U.S. Congressman Michael E. Capuano, the Milton Board of Selectmen, and Revere Mayor Brian Arrigo), state agencies, environmental advocacy groups, businesses, and residents. The issue of cumulative airport-wide impacts, particularly noise and air quality, is not new to the review of projects at Logan Airport. As noted in past Certificates, the EIR is not intended to address broad concerns associated with airport operations and growth. The venue for addressing cumulative environmental impacts is through the Environmental Status and Planning Reports (ESPR) and Environmental Data Reports (EDR). Through these reports, Logan Airport is subject to comprehensive and regular MEPA review, including opportunities for public comment on the cumulative impacts. This regular updating and reporting on planning and cumulative impacts is unique among State Agencies. It reflects the challenge and complexity of managing and modernizing Logan Airport within a dense, urban

area. It recognizes that the proximity of communities to the Airport warrants an enhanced level of public engagement and a concerted, long-term effort to minimize and mitigate impacts.

Subsequent ESPRs and EDRs will update the cumulative impacts of passenger growth and associated ground and aircraft operations based on revised forecasts and update and revise environmental management plans to address impacts. Future submittals will continue to document potential impacts and trends and propose measures to implement the broad goal of maintaining or reducing Logan's overall environmental impacts, even as annual passenger volumes rise in the future. The next ESPR will analyze calendar year 2016 and will likely be filed in 2017 or 2018 and the next EDR will analyze calendar year 2015 and will likely be filed in the fall of 2016.

I note many comments identify a particular concern with concentrations of flight tracks due to the Federal Aviation Administration's (FAA) area navigation (RNAV) procedures. The primary purpose of the RNAV procedures is to increase safety and operational efficiency. As documented in the ESPR and annual EDR submittals, implementation of several of the RNAV procedures have generated increased noise complaints in some towns surrounding Logan Airport. The procedures themselves have resulted in aircraft at higher altitudes and concentration of flight patterns over certain communities. I note that the FAA is implementing the RNAV program nation-wide. This program is separate from and unrelated to the Terminal E Modernization project. Nonetheless, I am aware that Massport and the FAA recently signed a Memorandum of Understanding (MOU) to frame a new process for analyzing opportunities to incrementally reduce noise through changes or amendments to Performance Based Navigation, including RNAV procedures. I commend Massport and the FAA for establishing this agreement, which is a unique project between the FAA and an airport operator. Massport has indicated that this process will incorporate community outreach and public input. I expect that updates on this process will be provided in in future ESPRs and EDRs which will provide an additional forum and meaningful opportunities for public review of information related to these issues.

Over the past year, Massport has engaged in a concerted outreach effort with elected officials, municipalities, and community groups to identify and discuss potential Massport projects, including but not limited to, Terminal E. Massport created the Logan Airport Impact Advisory Group (IAG) to solicit comment and to identify and prioritize projects and programs of significance to the IAG. I commend Massport for its outreach efforts and encourage Massport to continue a productive dialogue with interested stakeholders, including through the IAG.

I have received comments that identify concerns with other potential Massport projects, including the potential parking garage identified in the DEIR, which would require an amendment to the Logan Airport Parking Freeze Regulation (310 CMR 7.30). As noted in the DEIR and previous Certificate, the potential parking garage will be subject to MEPA review pursuant to 301 CMR (6)(a)(7) because it will be constructed by a State Agency and will include construction of 1,000 or more new parking spaces. Subsequent MEPA review will include review of potential environmental impacts and development of project-specific impact avoidance, minimization, and mitigation measures.

Project Description

The project proposes modernizing Boston-Logan International Airport's John A. Volpe International Terminal (Terminal E) with a 560,000-square foot (sf) addition that corrects facility deficiencies and accommodates current and anticipated passenger volumes. The project includes three gates which previously underwent MEPA review (International Gateway Project, EEA #9791) but were not constructed, and four additional aircraft gates, passenger holdrooms, concourse, concessions, and passenger processing areas. The project includes Customs and Border Patrol (CBP) and Federal Inspection Services (FIS) facilities to replace and expand FIS facilities that were originally reviewed under MEPA (Terminal B, Pier A Improvements/Satellite FIS Facility, EEA #12235) but also not constructed. The project includes a direct pedestrian connection between Terminal E and the MBTA Blue Line Airport Station.

Terminal E was constructed in 1974 with 12 gates and served 1.4 million annual passengers. In 2014, it served approximately five million passengers. The DEIR indicated that the current level of passenger activity routinely causes severe congestion in the terminal at peak times, leading to greatly reduced customer service, and inefficient operations in the terminal and gates. According to the DEIR, gate congestion leads to airside delays and inefficiencies on the North Apron. When no gates are available, arriving aircraft and passengers are held on the apron. The DEIR indicated that aircraft must use remote parking facilities at hardstands in the North Cargo Area and passengers are bused to the terminal during peak periods when there are insufficient gates. The DEIR built upon the information presented in the ENF regarding challenges associated with current operations at Terminal E. Massport has clearly demonstrated the need for the project and made a compelling case for the expansion.

The project is proposed in two phases. Phase 1 will be constructed from 2018 – 2022 and will include construction of four new gates with associated passenger holdrooms and elevators/escalators to relieve existing deficiencies and accommodate interim growth. A partial new concourse will be constructed to allow for future expansion to a seven-gate facility at full build-out. Phase 1 will not require modifications to roadway realignment. Phase 2 will be built by 2028 and will provide three additional gates and the MBTA connection. The project will be fully constructed and operational by 2030.

The project will displace ground service equipment (GSE), other airside activities, existing surface parking, the cell phone lot, and the gas station which will be relocated within existing airport boundaries. Relocation of ground facilities that conflict with the new concourse location, including the gas station, will occur in Phase 1.

Environmental Status and Planning Report (ESPR) and Environmental Data Reports (EDRs)

The MEPA environmental review process for Logan Airport occurs on two levels: airport-wide and project-specific. The ESPR and EDR provide a "big picture" analysis of the environmental impacts of current and anticipated levels of airport-wide activities (including aircraft operations and passenger activity), and presents comprehensive strategies to avoid, minimize and mitigate impacts. The ESPR is generally updated on a five-year basis; the most recent ESPR for the year 2011 was filed in April 2013 and it contained updated passenger activity levels and aircraft operations forecasts through 2030. EDRs evaluate environmental conditions for the reporting year as compared to the previous year and are filed in the years

between ESPRs. The most recent EDR for the year 2014 was filed in October 2015. The EDR provided a comprehensive cumulative analysis of the effects of all Logan Airport activities based on actual passenger activity and aircraft operation levels in 2014 and presents environmental management plans for addressing environmental impacts. The ESPR is supplemented by (and ultimately incorporates) the EDRs and the detailed analyses and mitigation commitments that emerge from project-specific reviews. This process provides a comprehensive and continuous review of airport programs, projects, environmental impacts and associated data.

The 2015 EDR Scope includes, but is not limited to, reporting on noise, air quality, and long-term parking management. The 2015 EDR and 2016 ESPR should reflect the proposed connection to the Airport Station, provide updates on the planning and design of the connection, and identify the anticipated ridership, changes in the HOV mode share, and ground access planning considerations.

The MEPA regulations (Section 11.06(2)) indicate that during the course of an ENF review I may review any relevant information from any other source to determine whether to require an EIR, and, if so, what to require in the Scope. To provide context for this project-specific review and because many issues raised by commenters relate to airport-wide operations and impacts, this Certificate refers to documents from the ESPR process (EEA#3247/5146).

Logan Airport and Project Site

The Airport boundary encompasses approximately 2,400 acres in East Boston and Winthrop, including approximately 700 acres underwater in Boston Harbor. The Airport is surrounded on three sides by Boston Harbor and is accessible by two public transit lines and the roadway system. The airfield is comprised of six runways and approximately 15 miles of taxiway. Logan Airport has four passenger terminals, A, B, C, and E, each with its own ticketing, baggage claim, and ground transportation facilities.

Terminal E is located adjacent to the North Cargo Area, closest to the MBTA Blue Line Airport Station. Land uses in the area of the proposed project include UPS aircraft parking and loading area, the airport's Remain Over Night aircraft parking area, the North Cargo Area equipment storage area, a building occupied by United Parcel Service (UPS), the MBTA Blue Line Airport Station, airport roadways, various short-term and cell phone parking lots, and a gas station.

The project site is located within the coastal zone of Massachusetts. The entirety of the project site is comprised of previously disturbed impervious area. It is not located in Priority or Estimated Habitat as mapped by the Division of Fisheries and Wildlife's (DFW) Natural Heritage and Endangered Species Program (NHESP). The project site does not contain wetland resource areas regulated pursuant to the Wetland Protect Act and its implementing regulations (310 CMR 10.00).

The ENF identified the following projects within the vicinity of Terminal E that have been reviewed under MEPA: Terminal A Replacement (EEA#9329), Terminal E Modifications (EEA#9324), Federal Inspection Services (FIS) Facility and West Concourse Project / International Gateway (EEA#9791), and Terminal B, Pier A Improvements/Satellite FIS Facility (EEA#12235).

Permitting and Jurisdiction

The project is undergoing MEPA review and required an ENF pursuant to 301 CMR 11.03(6)(b)(6) because it will be undertaken by a State Agency and results in the expansion of an existing terminal at Logan Airport by greater than 100,000 sf.

The project requires a Sewer Permit Modification from the Boston Water and Sewer Commission (BWSC) and may require an Industrial User Permit from the Massachusetts Water Resource Authority (MWRA). The project may be subject to Massachusetts Office of Coastal Zone Management (CZM) federal consistency review.

The project requires approval by the Federal Aviation Administration (FAA) for changes to the Airport Layout Plan and, therefore, requires an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA). The project also requires a National Pollutant Discharge Elimination System (NPDES) General Permit for Construction from the U.S. Environmental Protection Agency.

Because the project will be undertaken by a State Agency, MEPA jurisdiction is broad in scope and extends to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations.

Environmental Impacts and Mitigation

As described in the ENF, the project includes construction of approximately 500,000 to 700,000 sf of new floor area (for a maximum 1,500,000 sf total), and will increase both water consumption and wastewater generation by approximately 25,600 gallons per day (76,800 gpd total). The project will not create new impervious area and will eliminate approximately 60 parking spaces. The DEIR indicated that the project will accommodate existing and forecasted passenger levels and operations and, therefore, will not increase passenger enplanements or vehicle trips.

Measures to avoid, minimize and mitigate project impacts include reducing air emissions, greenhouse gas (GHG) emissions, and energy consumption compared to existing conditions by improving access to gate plug-ins, pre-conditioned air, and reducing busing operations. In addition, the building is designed to act as a noise barrier to the adjacent residential areas and Memorial Stadium Park.

Review of the FEIR

The FEIR was responsive to the scope issued in the Certificate on the DEIR. It included responses to comments filed on the DEIR and revised draft Section 61 Findings that outline Massport's mitigation commitments for the project. The FEIR included an Executive Summary of the DEIR both in English and a translated version in Spanish. The FEIR included the FAA's revised draft Finding of No Significant Impact/Draft Record of Decision (Draft FONSI/DROD) which was updated since the DEIR. This Certificate applies to the MEPA review of the project.

MEPA review cannot and does not restrict the ability of the federal government to act on those aspects of the project subject to the National Environmental Act (NEPA).

The only change to the project since the review of the DEIR is incorporation of additional mitigation measures to reduce GHG emissions (described below). No other changes to project programming, layout, or anticipated environmental impacts are identified. State Agencies did not request additional MEPA review or identify further analysis that would warrant additional MEPA review.

Response to Comments

The Response to Comments contained a copy of the DEIR Certificate and a copy of each comment letters received on the DEIR. A total of 186 comment letters were provided on the DEIR, of which 120 consisted of form letters. The FEIR contained a summary table that identified each commenter, the issues identified in their comment letter, and the corresponding section(s) of the FEIR to assist in locating the response. The FEIR contained both thematic responses to frequent comments and separate responses to individual comments. I commend Massport for providing a comprehensive response to comments and recognize the time and effort that Massport has invested in the preparation of the FEIR.

Responses to individual comments were provided for state agencies, municipalities, elected officials, and key stakeholders. Thematic responses were provided for the following categories: alternatives, cumulative impacts, environmental justice, ground transportation, health effects, induced growth, MEPA process, mitigation, noise, parking, regionalization, resiliency, RNAV departure procedures, and stakeholder outreach. Many of the comments received on the DEIR identify concerns related to existing airport operations and noise levels and potential increases in impacts associated with long-term growth. As noted in past Certificates, the EIR is not intended to address broad concerns associated with airport operations and growth. The venue for addressing cumulative environmental impacts is through the Environmental Status and Planning Reports (ESPR) and Environmental Data Reports (EDR). The Response to Comments refers to future EDRS and/or ESPRs to address these issues which are not within the Scope of this review.

As required in the Scope, the response to comments section of the FEIR provided a direct response to comments from the Department of Energy Resources (DOER) that clarified the GHG reduction measures proposed for the project and included a revised GHG analysis. Based on the revised analysis, the project incorporated two additional and significant mitigation measures: a 25,000 square feet (sf) rooftop solar photovoltaic (PV) system (300 kW) and solar thermal heating of domestic hot water for public restrooms. These two measures will reduce GHG emissions by 363 tons per year (tpy) compared to the proposed as presented in the DEIR. With these additional mitigation measures, the Preferred Alternative will reduce CO_2 emissions associated with the terminal expansion by 1,390 tpy, for a total of 3,818 tpy, or a twenty-seven percent decrease. The FEIR revised the draft Section 61 findings to reflect the revised mitigation measures.

The FEIR also evaluated and quantified the potential GHG reduction associated with the following five mitigation measures: Dual Box Minimum, Fin Tube Radiation, Energy Recovery Wheel, Dynamic V8 Filtration, and additional 50,000 sf of solar PV panels. The incorporation of

these measures would reduce GHG emissions by fifty-percent. Massport has committed to continue evaluating these measures as design progresses. The FEIR also included an analysis of additional wall, roof, and fenestration improvements which indicated they are not effective GHG reduction strategies for the project. It included an evaluation of solar thermal for the concession-area hot water; however this measure remains under deliberation as concession needs are still being developed.

I acknowledge and appreciate the consultation between Massport and DOER which has resulted in the identification and commitment to additional and significant GHG emission reductions.

Mitigation/Draft Section 61 Findings

The FEIR identified measures to avoid, minimize, and mitigate environmental impacts and included draft Section 61 Findings for use by State Agencies. The FEIR clarified that the timing and responsibility for implementation of each measure. The direct connection to the Airport MBTA Blue Line Station, full sound barrier benefits associated with extending the full width of the terminal, and curb improvements will be implemented during the second phase of the project. The other energy reduction and greenhouse gas reduction measures will be implemented in the first phase of the project. Measures to avoid, minimize, and mitigate environmental impacts include:

Operational Impacts

- The Terminal E expansion has been sited and will be designed to act as a noise barrier to the adjacent East Boston neighborhoods and Memorial Stadium park to the southwest of the North Apron. The new structures will have a minimum height of 45-ft above ground level.
- New gates will have electric power and pre-conditioned air to allow aircraft to plug in at gate rather than be serviced remotely to reduce need for on-board engine/auxiliary power unit operation, thereby reducing aircraft air emissions and GHG emissions.
- New gates will increase ramp efficiency and reduce movements on North Apron and the need to bus passengers between terminal and remote aircraft parking locations, thereby reducing ground transportation related air emissions and mobile source GHG emissions.
- Roadway and curb improvements which will improve vehicle flow and high-occupancy vehicle access.
- Construction of a weather-protected pedestrian connector from the Terminal to the MBTA Airport Blue Line Station (proposed as part of Phase 2).

Sustainable Design Features/Greenhouse Gas Emissions

- Project will seek LEED Certification at the Silver level rating or better and meet or exceed the goals of the MA LEED Plus program.
- Improved building envelope (wall insulation of U-0.05, roof insulation of U-0.037, improved glazing of U-0.34, and reduced window to wall ratio of 25%).
- Improved Air Handling Units.
- Efficient water loops with reduced water supply temperature and wider return temperatures to reduce demand on the pumping and fan systems.
- Reduced interior lighting power density of 0.62 W/SF and reduced exterior lighting power of 9.3 kW.

- The roof design will incorporate materials with a minimum reflectance rating of 0.70 and emittance value of at least 0.75 for a minimum of 75% of the available roof area. Roofing materials will be non-glare to reduce heat island effect.
- Final design will incorporate infrastructure for collection, storage, and handling of recyclable materials.
- Massport will establish a project-specific goal for sourcing materials extracted, harvested, recovered, and or manufactured within New England.
- The project will be designed to achieve energy efficiencies of a minimum of 20% below the MA Energy Code.
- The project will reduce operational-related GHG emissions associated with the Project by a minimum of 30%.
- The project will include water conservation devices that reduce water use by 20% below the MA Plumbing Code.
- The project will be built 'solar ready' to accommodate rooftop solar.
- The Terminal E rooftop will include a minimum 25,000 sf of rooftop solar PV (300 kW).
- Solar thermal PV system will be used to provide hot water for the restrooms.
- Project will incorporate occupancy sensors in all indoor areas to reduce electrical demand.
- Continue to evaluate feasibility of the following measures as design progresses: Energy Recovery Wheel, additional rooftop solar PV, Dual Box Minimum, and Dynamic Filtration.
- A self-certification will be provided to the MEPA office upon completion of the project construction signed by an appropriate professional (e.g. civil engineer, traffic engineer, architect, general contractor) indicating that all of the GHG mitigation measures, or equivalent measures that are designed to collectively achieve the proposed stationary source GHG emission reduction committed to in the FEIR, have been incorporated into the project.

Air Quality

- Project will result in a decrease in carbon monoxide (CO) emissions in the area of Terminal E and the associated aircraft apron by approximately 9%, nitrogen oxide (NO_x) emissions by approximately 44%, and sulfur oxides (SO_x) emissions by approximately 33%.
- Project will result in decrease of Volatile Organic Compounds (VOCs) in the project area by approximately 6% and particulate matter (PM_{10} and $PM_{2.5}$) by approximately 9% and 25%, respectively.

Construction Period Impacts

- Development of a construction waste management plan that requires diversion or reduction of construction waste by a minimum of 75%.
- Use of high efficiency space heating/cooling systems in temporary work spaces.
- Work hours will be limited to 7:00 AM to 7:00 PM unless constrained by operational conditions at the Airport. The sound levels from construction activities will employ measures to voluntarily comply with the City of Boston's noise standards.
- Soil Management Plan will be developed based on sub-surface investigations to address identification and disposal of contaminated materials.
- Implement Indoor Air Quality (IAQ) Management Plan during construction.

- Stormwater Pollution Prevention Plan will be developed to keep sediment and contaminants out of the stormwater management system during construction.
- Soil and groundwater management during construction will be conducted in accordance with the appropriate submittals (i.e., Release Abatement Measures, Immediate Response Actions, and/or Safety Management Plans) and subsurface contamination (if encountered) will be remediated in compliance with the Massachusetts Contingency Plan.
- Measures to reduce impacts from the approximately 60 daily truck trips associated with project construction include:
  - Construction-related traffic will be required to use the North Gate using only state and federal highways and the airport roadway network to keep construction-related traffic off of local East Boston roadways.
  - Use of police detail, as necessary, to manage traffic and ensure public safety.
  - Construction companies will be required to provide off-Airport parking for their employees and to provide shuttle services or other HOV service from these locations.
- The following measures will address construction phase air quality impacts:
  - Contractor will comply with MassDEP's Clean Air Construction Initiative regarding installation of emission control devices (such as diesel oxidation catalyst and/or particulate filters) on equipment;
  - Enforcement of construction vehicle anti-idling provisions;
  - Retrofitting diesel construction equipment with diesel oxidation catalysts and/or particulate filters;
  - Fugitive dust will be controlled via wetting or sweeping and all trucks hauling materials from the construction site will be covered.

Conclusion

Based on a review of the FEIR, comment letters, and consultation with State Agencies, I find that the FEIR adequately and properly complies with MEPA and its implementing regulations. Future EDRs and ESPR submittals will continue to document potential impacts and trends and propose measures to implement the broad goal of maintaining or reducing Logan's overall environmental impacts, even as annual passenger volumes rise in the future. Massport and State Agencies should forward copies of the final Section 61 Findings to the MEPA Office for publication in accordance with 301 CMR 11.12.

November 10, 2016
Date

Matthew A. Beaton

Comments received:

10/08/16 David Waite
10/10/16 Sarah James
10/10/16 Peter Houk
10/15/16 Marjorie Smith
10/18/16 Lahra Tillman

10/18/16 Maureen Wing
10/18/16 Reena Freedman
10/18/16 John Vitagliano
10/21/16 David Bowen
10/21/16 Ken Bader
10/23/16 Estella and David Keefer
10/24/16 Carolann Barrett
10/25/16 Shelia Mooney
10/27/16 Luke Preisner
10/28/16 Frederick Salvucci
10/28/16 Mary Ryan
10/31/16 Amelia Kantrovitz
10/31/16 Caslynn Carambelas and Vaishal Patel
10/31/16 Elizabeth Gazda
10/31/16 Juan Carlos Garzon
10/31/16 Stephen Raymond
10/31/16 Scott Johnson
10/31/16 Julie Vail
11/01/16 Sema Bekiroglu
11/01/16 Catherine Stacy
11/01/16 Cady Landa
11/01/16 Dominica Bonanno
11/01/16 Congressman Michael Capuano
11/01/16 Hull Neighbors for Quiet Skies
11/02/16 Tonya Saccardo
11/02/16 Robert Saccardo
11/02/16 Milton Board of Selectmen
11/02/16 Matthew Stachler, M.D., Ph.D.
11/03/16 Barbara L Lawrence
11/03/16 Magdalena Ayed
11/03/16 City of Lynn, Bill Bochnak, Massport CAC & Logan Airport Member
11/03/16 G. Bernadette Cantalupo, 156 Porter St.
11/03/16 William Schneiderman
11/04/16 Gail Miller
11/04/16 Massachusetts Department of Environmental Protection (MassDEP)
11/04/16 Chris Marchi
11/04/16 James Linthwaite
11/04/16 Catherine Stalberg
11/04/16 Mary Ellen Welch (1 of 2)
11/04/16 Mary Ellen Welch (2 of 2)
11/04/16 Department of Energy Resources (DOER)
11/04/16 Vickie Livermore
11/04/16 City of Revere, Mayor Arrigo
11/04/16 AIR Inc., Aaron Toffler
11/04/16 Deborah Hartman
11/04/16 Mimi Callum
11/04/16 Andrea Vilanova
11/04/16 Ann Jansen
11/04/16 John Casamassima
11/04/16 Alyssa Vangeli
11/04/16 Tara Ten Eyck
11/04/16 Boston Harbor Now

11/07/16 28 Form Letters from Residents of the Porter156 Condominium Association
11/07/16 Jesse Borthwick

MAB/PRC/prc

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Copy of the Secretary of the Executive Office of Energy and Environmental Affairs Certificate Issued for the Logan Airport Parking Project Final Environmental Impact Report

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The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

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January 30, 2020

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
FINAL ENVIRONMENTAL IMPACT REPORT

PROJECT NAME	: Logan Airport Parking Project
PROJECT MUNICIPALITY	: Boston
PROJECT WATERSHED	: Boston Harbor
EEA NUMBER	: 15665
PROJECT PROPONENT	: Massachusetts Port Authority (Massport)
DATE NOTICED IN MONITOR	: December 23, 2019

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G.L. c. 30, ss. 61-62I) and Section 11.08 of the MEPA Regulations (301 CMR 11.00), I have reviewed the Final Environmental Impact Report (FEIR) and hereby determine that it **adequately and properly complies** with MEPA and its implementing regulations.

Project Description

As described in the FEIR, the project includes the phased construction of 5,000 additional commercial parking spaces at the Logan International Airport (the "Airport"). The project will construct a structured parking garage with 2,000 parking spaces in the location of the existing Terminal E surface parking lot followed by the addition of 3,000 new spaces at the Economy Garage through expansion of the existing facility. The Terminal E Garage will open in 2022 and the Economy Garage expansion will open by the end of 2025. The parking spaces are intended to accommodate existing and anticipated air passenger demand for parking at the Airport. According to the FEIR, the project will reduce drop-off/pick-up activity at the Airport and will reduce regional air-passenger-related vehicle miles traveled (VMT) and associated air emissions.

In addition to the overall air quality benefits, the FEIR indicated that Massport is implementing additional high occupancy vehicle (HOV) mode improvement measures in conjunction with this project. These HOV mode improvement measures include trip reduction strategies that target different methods in how people get to the airport. Parking strategies are one part of the overall trip reduction strategies which includes enhancing Logan Express bus service through expanded parking at existing locations and increased frequency of service, and expanding the Logan Express service area to new suburban locations and urban/downtown areas based on the success of the Back Bay Logan Express pilot program. The FEIR also indicated that Massport has committed to purchase additional Silver Line buses to increase service capacity to the Airport. Additionally, Massport has just began in December 2019 to centralize transportation network company (TNC) (e.g. Uber, Lyft, etc.) operations (i.e. drop-offs and pick-ups) on the ground floor of the Central Garage complex to reduce congestion outside the terminals. Finally, Massport is evaluating mechanism to decrease the number of TNC drivers that leave the Airport without a passenger (i.e., deadhead trips). These mechanisms include both a program called "rematch" at the Central Garage where TNC drivers come in and drop off passengers for the Airport and then the driver is paired up with a passenger who is leaving the Airport, and also a new fee structure for TNCs that decreases the cost of the ride if the TNC driver does a drop-off and then a pick-up.

Project Background and Context

The number of commercial and employee parking spaces allowed at Logan Airport is regulated by the Massachusetts Department of Environmental Protection (MassDEP) through the Massport/Logan Airport Parking Freeze (310 CMR 7.30), an element of the Massachusetts State Implementation Plan (SIP) under the federal Clean Air Act. As previously described in the Environmental Notification Form (ENF) and the Draft EIR (DEIR), peak daily demand for on-Airport (on-site) parking was increasing, resulting in daily demand frequently nearing the Logan Airport Parking Freeze cap. Massport worked with MassDEP on an amendment to the Parking Freeze. The ENF was filed concurrent with MassDEP's issuance of a draft regulation to amend the Parking Freeze to allow the creation of an additional 5,000 commercial parking spaces at the Airport. After the Certificate on the ENF was issued, MassDEP approved the requested parking increase and promulgated the amended regulation on June 30, 2017. The EPA issued a proposed rule approving the revision of the SIP and incorporating the amended Parking Freeze on March 6, 2018, and the rule went into effect on April 5, 2018. The MassDEP regulations provide the larger framework setting overall caps for the Logan Airport Parking Freeze, while project-specific impacts and mitigation measures were intended to be analyzed through the MEPA review process for the Logan Airport Parking Project.

The approved regulations increased the Logan Airport commercial parking limit by 5,000 spaces (from 18,640 to 23,640 spaces) and increased the total cap to 26,088 commercial and employee parking spaces (comprised of 23,640 commercial spaces and 2,448 employee parking spaces). The regulations (310 CMR 7.30(8)) required that Massport complete the following studies, which were completed on September 30, 2019, to identify ways to further support alternative transit options to the airport:

1. A study to evaluate the costs, feasibility, and effectiveness of potential measures to improve HOV access to the Airport. The study should consider, among other things,

possible improvements to Logan Express bus service and the benefits of adding Silver Line buses with service to the Airport.

2. A study of costs and pricing for different modes of transportation to and from the Airport to identify a pricing structure and the use of revenues so generated to promote the use of HOV modes of transportation by air travelers and visitors to the Airport. The study will include evaluation of short-term and long-term parking rates and their influence on different modes of Airport transportation.
3. A study of the feasibility and effectiveness of potential operational measures to reduce non-high occupancy vehicle pick-up/drop-off modes of transportation to the Airport, including an evaluation of emerging ride-sharing and transportation network company modes.

Logan Airport and Project Site

The Airport boundary encompasses approximately 2,400 acres in East Boston and Winthrop, including approximately 700 acres underwater in Boston Harbor. The airfield is comprised of six runways and approximately 15 miles of taxiway. Logan Airport has four passenger terminals, A, B, C, and E, each with its own ticketing, baggage claim, and ground transportation facilities. The Airport is surrounded on three sides by Boston Harbor and is accessible by two public transit lines and the roadway system. The preferred locations for the parking structures are the Economy Garage and the Terminal E surface parking lot. The Economy Garage is located in the northwest portion of the Airport campus at the intersection of Service Road and Prescott Street. It is comprised of two levels and provides over 2,700 spaces. The Economy Garage has an existing rooftop solar photovoltaic (PV) system on its top level which will be relocated or replaced on the top level of the garage following construction. The Terminal E surface parking lot is located within the Airport interior and adjacent to Terminal E.

The Airport is served by several Massachusetts Bay Transportation Authority (MBTA) public transit routes, including Blue and Silver Lines for the rapid transit system, commuter ferry service, and local and express bus routes. Specifically, Massport provides free shuttle service between the Blue Line Airport Station and all Airport terminals and subsidizes the Silver Line Logan Airport Route (SL1) by providing free outbound Silver Line trips from the Airport on eight Silver Line buses purchased for this route by Massport. Massport also operates an extensive Logan Express Bus service, serving five locations. The airport is also served by other private express bus service and intercity bus service as part of the range of HOV modes available for ground access.

The Economy Garage and the Terminal E parking lot sites are both located within the coastal zone of Massachusetts. Both locations are comprised of previously disturbed impervious area. They are not located in Priority or Estimated Habitat as mapped by the Division of Fisheries and Wildlife's (DFW) Natural Heritage and Endangered Species Program (NHESP). The parking lot sites do not contain wetland resource areas regulated pursuant to the Wetland Protect Act and its implementing regulations (310 CMR 10.00).

Environmental Impacts and Mitigation

The project includes construction of 5,000 new commercial parking spaces at two locations. The project is located within previously altered impervious area and will not create new impervious area. The new spaces are intended to accommodate existing and anticipated air passenger demand for parking at the Airport while minimizing pick-up and drop-off activity and decreasing regional air passenger-related VMT and associated vehicle emissions. The project will reduce carbon dioxide (CO_2), volatile organic compounds (VOC), and oxides of nitrogen (NO_x) emissions by 10%, 11%, and 11%, respectively, in 2022 when the first 2,000 parking spaces are constructed and 12%, 12% and 11%, respectively, in 2030 when all 5,000 spaces are constructed, as compared to the future No-Build Alternative.

In addition to the overall project benefits in reducing air pollution, Massport is undertaking additional HOV measures in conjunction with the construction of the proposed 5,000 parking spaces. These include: enhancing and expanding existing Logan Express scheduled bus service; exploring Logan Express scheduled bus service in the urban/downtown area; and investing in additional MBTA Silver Line buses.

Jurisdiction and Permitting

The project is undergoing MEPA review and requires preparation of a mandatory EIR pursuant to 301 CMR 11.03(6)(a)(7) because it will be undertaken by a State Agency and will construct greater than 1,000 parking spaces in a single location.

The project may require a Sewer Permit Modification from the Boston Water and Sewer Commission (BWSC). The project may be subject to Massachusetts Office of Coastal Zone Management (CZM) federal consistency review. The project requires approval by the Federal Aviation Administration (FAA) for changes to the Airport Layout Plan and, therefore, requires an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA). The project also requires a National Pollutant Discharge Elimination System (NPDES) General Permit for Construction from the EPA.

Because the project will be undertaken by a State Agency, MEPA jurisdiction is broad in scope and extends to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations.

Changes since the Filing of the DEIR

The FEIR identified changes to the project since the DEIR was filed. Changes to the new garage in front of Terminal E include a plan is to install an approximately 20,000-square foot (sf) solar PV installation on the garage's eastside. This is an increase from the 10,000-sf solar PV installation proposed in the DEIR. This expanded solar PV system will produce approximately 467,000 kilowatt-hours (kWh) per year, or about 217,000 kWh per year more than the system proposed in the DEIR. This expanded system will offset 50 percent of the proposed garage's total energy (i.e., electricity and natural gas) consumption. In addition, the project will now include construction of additional electric vehicles (EV) charging stations. The DEIR indicated that Massport would install 15 single-port EV charging stations at the new garage in front of Terminal E. The FEIR indicates that Massport, instead, will install 11 double-port stations at this location to accommodate 22 dedicated EV charging parking spaces. As demand grows, Massport

will add EV charging stations to ensure that the garage can accommodate 150 percent of demand.

Changes to the design of the Economy Garage expansion since the filing of the DEIR relate to advancing installation of the additional EV charging stations. The additional EV infrastructure was accelerated to take place at the existing Economy Garage with construction that began in 2019. Massport will also increase the number of EV charging stations as part of the Economy Garage expansion to accommodate 150 percent of demand. Massport has committed to reevaluate the need for the additional 3,000 parking spaces planned as part of the Economy Garage expansion prior to beginning that facility's design and construction process.

Review of the FEIR

Massport filed a joint FEIR and Final Environmental Assessment (Final EIR/EA) to satisfy MEPA, NEPA, and the Federal Aviation Administration's (FAA's) implementing procedures (Order 1050.1F and Order 5050.4B).

This Certificate applies to the review of the project under MEPA only, and does not restrict the ability of the federal government to act on those aspects of the project subject to NEPA or FAA rules. The FEIR described the proposed project, identified existing conditions, described potential environmental impacts and mitigation measures, and provided an expanded discussion of greenhouse gas (GHG) emissions. The FEIR included an update on state, local, and federal permitting and provided a discussion of permitting requirements and the project's consistency with regulatory standards.

Though the Executive Office of Energy and Environmental Affairs' (EEA) *Environmental Justice (EJ) Policy* is not applicable to this project, Massport conducted outreach consistent with the enhanced public participation provisions of the EJ Policy including providing translators at all public meetings, notice of availability of the ENF, DEIR and FEIR in local newspapers in several languages, and translation of the Executive Summary/Introduction for the ENF, DEIR and FEIR.

Alternatives Analysis

The location of the Preferred Alternative (Economy Garage, Terminal E surface lot) has not changed since the ENF was filed. The DEIR included an expanded alternatives analysis that evaluated various massing and circulation alternatives for the Terminal E garage which was expanded in the FEIR. The ENF indicated that the planning process considered six alternative on-airport locations for the structured parking facilities. All of the sites are paved and developed areas that are currently used for parking or vehicle storage. The ENF indicated that each of the sites are comparable in terms of regional VMT and emissions reductions since regional access routes will not vary as a result of the garage siting.

- Harborside Drive – Structured parking in location of existing vehicle layover space
- Porter Street – Structured parking over existing taxi pool
- North Cargo Area – Expand Economy Garage in the location of existing surface parking and the Massachusetts State Police building

- Southwest Service Area – Structured parking in location of current bus/limousine pool and overflow parking
- Economy Garage (Preferred Alternative) – Additional spaces above existing garage
- Terminal E Surface Lot (Preferred Alternative) – Structured parking in location of existing surface parking lot

According to the ENF, the Preferred Alternative was selected based on input from the East Boston Logan Impact Advisory Group (LIAG). The ENF indicated that Harborside Drive and Porter Street sites were eliminated due to potential wayfinding and operational challenges and the North Cargo Area was eliminated due to the need to relocate the existing uses. The Southwest Service Area was eliminated as it would require construction of a new parking structure and integration of existing uses into the ground floor. The ENF indicated that the No-Build alternative was eliminated as it would result in higher pollutant emissions and roadway congestion due to the higher VMT associated with the drop-off/pick-up mode. The ENF identified the Economy Garage and Terminal E Surface Lots as the Preferred Alternative. The ENF indicated the Economy Garage location was selected as the Preferred Alternative because the site access is well defined, it does not require significant changes to existing roadway infrastructure, and it is adjacent to compatible land uses and the Terminal E Surface Lot location was selected due to its proximity to Airport terminals, compatibility with adjacent land uses, and location within the Airport interior to minimize impacts to adjacent communities.

The location of the Preferred Alternative (Economy Garage, Terminal E surface lot) has not changed since the DEIR was filed. The massing and height of the Economy Garage was determined by FAA airspace height restrictions, structural considerations, and cost. The Preferred Alternative for the Terminal E garage includes a pedestrian bridge connection to the Central Garage with five parking levels on the west side and six parking levels on the east side of the pedestrian bridge. The garage will have two access points for public vehicles, a separate access point for limousines, and a vehicle bridge to the Central Garage complex. The vehicular bridge will be used by Massport to transfer vehicles under overflow conditions. This direct connection will remove vehicles from on-Airport circulation, reduce on-Airport VMT, and provide air quality benefits. The Preferred Alternative for the Economy Garage will construct three additional parking levels on top of the existing structure and a six level addition on the facility's south side. The FEIR indicates that the project will provide an adequate number of parking spaces, reduce on-Airport VMT, and provide operational efficiencies; it is also adjacent to compatible land uses and/or Airport terminals, and will not require significant changes to existing roadway infrastructure. According to the FEIR, the project will provide sufficient parking to accommodate approximately 10 years of peak-day parking demand.

The Terminal E garage will be constructed first to achieve construction efficiencies with other construction projects at the Airport and to provide increased operational flexibility in managing the parking supply. Additionally, the parking supply in the Terminal E garage will compensate for the loss of 1,000 revenue-generating parking spaces associated with centralizing TNC operations in the Central Garage complex.

Air Quality

As described in the FEIR, if the project were not constructed, the commercial parking supply would become more constrained and approximately 77% of "would-be parkers" would switch to drop-off/pick-up modes. The project is anticipated to shift mode share from drop-off/pick-up modes and result in reductions in regional off-Airport VMT and improvements to on-Airport roadway conditions compared to the future No-Build scenario. The VMT analysis presented in the ENF assumed that all 5,000 spaces would be operational by 2022. The DEIR included a revised analysis that incorporated construction phasing and evaluated both interim (2022; 2,000 spaces in Terminal E Garage operational) and full-build (2030; both garages operational with 5,000 spaces) scenarios which remain the same in the FEIR. As noted, the project is expected to result in CO_2, VOC, and NO_x reductions of 10%, 11%, and 11%, respectively, in 2022 and 12%, 12% and 11%, respectively, in 2030, compared to the future no-build scenario. According to the FEIR, the project will comply with the Clean Air Act General Conformity Rule, the SIP, and will not cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS) for these pollutants. The FEIR also presented the results of a microscale analysis, which demonstrated the carbon monoxide (CO) concentrations will be below the NAAQS for both the 1-hour and the 8-hour concentrations.

The analysis is predicated on and Massport has committed to achieving a future HOV mode share goal of 40% by 2027. The FEIR identified the following commitments which Massport plans to implement to improve HOV mode share:

- Providing preferred taxi and TNC line privileges to electric vehicles (EV);
- Training ground transportation personnel to encourage passengers to share rides;
- Increasing Logan Express capacity, measured in available seats, by 10%; and,
- Purchasing eight more (16 total) MBTA Silver Line buses by 2024 (dependent upon MBTA procurement).

The FEIR also provides a summary of what Massport has already begun implementing to improve HOV mode share including:

- Relocating Back Bay Logan Express service to the MBTA's Back Bay Station, eliminating the fare from the Airport to Back Bay, and reducing the fare from Back Bay to the Airport from $7.50 to $3.00. This has already resulted in a substantial increase in ridership since the relocation in May 2019.
- Increasing peak-hour frequency on the Logan Express Braintree service from 30-minute to 20-minute headways.
- Advancing a new urban Logan Express service at North Station with free service from the Airport. Buses for the service have been ordered.
- Offering priority access at the Airport Security Line to customers who take Back Bay Logan Express or any mode of water transportation to the Airport.
- Initiating studies of a new suburban Logan Express location with parking.
- Implementing a new Ride App drop-off fee of $3.25 (in addition to the current $3.25 pick-up fee) and providing a discounted fee of $1.50 for shared-ride (such as UberPool and Lyft Line) customers.
- Implementing parking pricing that discourages short-term parking that is associated with pick-up and drop off uses.

- Piloting use of the South Boston Waterfront Emergency Access Ramp to reduce travel time on the MBTA Silver Line service to help encourage use.
- Consolidating Ride App operations at dedicated areas on the ground floor of the Central Garage to make it easier for drivers to pick up arriving air passengers after dropping off departing passengers without having to circulate around the Airport.

I note that further monitoring and reporting on the progress towards achieving the goals and success of the mitigation program can be addressed in future Environmental Status and Planning Reports (ESPRs) and Environmental Data Reports (EDRs) (EEA#3247). The ESPR provides analysis of the environmental impacts associated with current and projected activity levels and presents a comprehensive strategy to minimize impacts. The ESPR analysis is supplemented by (and ultimately incorporates) the detailed analyses and mitigation commitments of project specific EIRs. The ESPR is generally updated on a five-year basis. The EDRs are filed in the years between ESPRs. The EDR is a retrospective document that is filed annually and identifies environmental impacts based on actual passenger activity and operations.

In addition to Massports' mitigation measures for this project, Massport has committed to implement additional measures to reduce air emissions from Airport operations, including: providing high-speed EV charging stations in taxi, limousine, and TNC lots; working with airlines/tenants to convert commercially available ground source equipment (GSE) to electric power; and working with airlines to increase the use of electric tugs to 60% of aircraft that need re-positioning.

I refer Massport to comments from the Metropolitan Area Planning Council (MAPC) which identify methods for incorporating measures to reduce emissions for this project and methods for Massport's notification when reevaluating the need for the additional 3,000 parking spaces planned as part of the Economy Garage expansion prior to the start of its construction. Comments from the Conservation Law Foundation (CLF) identify additional measures that Massport has agreed to implement to support HOV use and reduce air emissions, including free Blue Line service from the Airport Station for employees, implementation of variable-rate parking and Airport pass-through rate (if warranted based on study results), and incentivizing ride-sharing through reduced fees.

Climate Change

Executive Order 569: Establishing an Integrated Climate Change Strategy for the Commonwealth (EO 569; the Order) was issued on September 16, 2016. EO 569 recognizes the serious threat presented by climate change and directs agencies within the administration to develop and implement an integrated strategy that leverages state resources to combat climate change and prepare for its impacts. The Order seeks to ensure that Massachusetts will meet GHG emissions reduction limits established under the Global Warming Solution Act of 2008 (GWSA) and will work to prepare state government and cities and towns for the impacts of climate change.

The GHG Policy and requirements to analyze the effects of climate change through EIR review is an important part of a statewide strategy. These analyses advance proponents' understanding of the projects' contribution and vulnerability to climate change.

Greenhouse Gas Emissions

The project is subject to review under the May 5, 2010 MEPA Greenhouse Gas Emissions Policy and Protocol ("the Policy"). The parking garages will be naturally ventilated and airconditioned space in both will be limited to mechanical/electrical rooms, elevator lobbies, and cashier booths.

The DEIR included a GHG analysis that quantified the CO_2 emissions associated with the project's energy use (stationary sources), primarily associated with interior and exterior lighting. Mobile source GHG emissions were calculated using a similar method as the air quality analysis and were based on the anticipated reduction in VMT under future conditions. The Scope detailed in the DEIR required that FEIR should include analysis on the feasibility and GHG mitigation benefits of expanding the proposed canopy solar PV arrays as recommended by Department of Energy Resources (DOER) during the review of the DEIR.

The analysis provided in the FEIR estimates the area available for solar canopies on each of the top parking levels, states the assumed panel efficiency, estimates the electrical output of the system, and identifies associated GHG reductions. The analysis is also supported by conceptual plans that identify the "usable areas" for potential solar PV canopy systems and other appurtenances. The analysis presented in the FEIR evaluates the east and west sides of the Terminal E Garage and the entire top level of the Economy Garage.

The project's stationary source GHG emissions were estimated at 1,337 tpy in the Base Case. The Preferred Alternative will reduce stationary source GHG emissions by 367 tpy, for a total of 970 tpy, or a 32.5% decrease. The project's mobile source emissions have not changed from the review of the DEIR and are summarized in the below table.

Year	Condition	Regional VMT of "would be parkers"	CO_2 Emissions (tpy)
2017	Existing	327,280	153
2022	No-Build	13,584,217	5,079
	Build/Proposed Project	12,279,027	4,497
	Difference	**1,305,190 (-10%)**	**582 (-11%)**
2030	No-Build	52,130,253	15,126
	Build/Proposed Project	46,922,626	13,314
	Difference	**5,207,627 (-10%)**	**1,812 (-12%)**

The reduction in mobile source emissions is primarily attributed to the reduction in regional VMT as compared to the future No-Build Alternative. As described above, this will be achieved through shifting "would be parkers" from drop-off/pick-up modes to parking; reducing the number of trips associated with "would-be parkers" traveling to and from the Airport; reducing recirculation at the Terminal E curbsides and decreasing on-Airport VMT; and reducing on-Airport emissions related to improved curbside operations at Terminal E as air passengers shift from drop-off/pick-up modes to parking in the garages.

Adaptation and Resiliency

The project's design incorporates measures for increasing its resiliency to the effects of climate change. The project will incorporate redundant or back-up power sources to protect against extreme weather conditions that may cause power outages. It will also include drought tolerant landscaping along the façade of the Terminal E Garage to minimize the heat island effect and reduce irrigation needs. Stormwater runoff from the Terminal E garage will be collected and used to offset a portion of cooling tower water consumption at the Central Heating Plant. The project will be consistent with Massport's Disaster and Infrastructure Resiliency Planning Study and Floodproofing Design Guide. Critical equipment and infrastructure will be elevated above future projected flood elevations. Critical infrastructure that will raised above the designated design flood elevation for the new facilities, as defined by Massport's Floodproofing Design Guide, include incoming electrical and telecommunications lines.

Construction Period

Construction of the Terminal E garage will commence in spring 2020 and will be completed in 2022. The six levels on the east side of the pedestrian bridge will be constructed first, followed by the five parking levels on the west side of the bridge. Massport has agreed to reevaluate the need for the additional 3,000 parking spaces planned as part of the Economy Garage expansion prior to the start of its construction. Currently construction of the Economy Garage expansion will begin in 2023 and be completed by the end of 2025. Construction of the Economy Garage will start at the west end of the garage and proceed towards the east end. I refer Massport to comments from MAPC which recommend constructing the Economy Garage expansion only if/when warranted by demand.

The Terminal E garage will be constructed simultaneously with the Terminal E Modernization Project (EEA# 15434) and Terminal C Canopy, Connector, and Roadway Project. Massport has committed to measures to reduce construction period traffic impacts, including: developing specific truck routes, coordinating arrival of large equipment, requiring contractors to park off-site, and development of traffic management plans. Measures to reduce construction period air quality impacts include: limiting vehicle idling, using low- or zero-emissions equipment where practicable; retrofitting construction equipment, dust suppression, stabilizing exposed areas, and suspending construction during high-wind conditions. Massport will also voluntarily comply with the City of Boston's noise control regulations during construction. Portions of the project site are regulated pursuant to the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000). An Activity and Use Limitation (AUL) is located on the Economy Garage site. Therefore, a Release Abatement Measure (RAM) Plan must be submitted to MassDEP prior to any subsurface work on this site.

Mitigation and Draft Section 61 Findings

The FEIR includes a separate chapter summarizing proposed mitigation measures. The FEIR also includes an Appendix with draft Section 61 Findings for each area of impact associated with Massport's Preferred Alternative. The FEIR contains clear commitments to implement these mitigation measures, estimates the individual costs of each proposed measure, identifies the parties responsible for implementation (either funding design and construction or performing actual construction), and a schedule for implementation. To ensure that all GHG

emissions reduction measures adopted by Massport in the Preferred Alternative are actually constructed or performed by Massport, Massport has agreed to provide a self-certification to the MEPA Office indicating that all of the required mitigation measures, or their equivalent, have been completed. A summary of the measures Massport has committed to implement to avoid, minimize, and mitigate, environmental impacts is provided below. Refer to Appendix C Table 1 on page C-6 of the FEIR for a description which also estimates the individual costs of each proposed measure and identifies the parties responsible for implementation.

Ground Access Improvement and Trip Reduction

- Advance the electrification of ground service equipment, pursuant to which all ground service equipment will be replaced no later than the end of 2027 (as available);
- Expand Logan Express capacity by 10 percent; and,
- Increase the percentage of zero emission taxi, livery, and Ride App vehicles (i.e., those associated with companies such as Uber and Lyft) by providing: high-speed electric vehicle charging stations at all taxi, livery, and Ride App pools; and taxi and Ride App queue priority to electric vehicles (subject to negotiation with companies).

Project Planning and Design

- Accommodating existing and anticipated air passenger demand for parking to reduce the environmentally undesirable drop-off/pick-up mode share and its associated vehicle miles traveled (VMT) and on and off-Airport air emissions;
- Reusing existing developed areas (i.e., the Project sites avoid undeveloped, greenfield lands);
- Selecting Project sites with community input that are in areas already used for parking (i.e., not introducing a new use), are on existing bus/shuttle routes, and are separated from nearby residential communities;
- Providing added noise barrier benefits to nearby residences and recreation areas, in conjunction with the Terminal E Modernization Project, through the expansion of the existing Economy Garage;
- Providing drivers with roadway and parking information through internal and external wayfinding systems to reduce on- Airport and in-garage circulation, as well as associated VMT and air emissions;
- Providing convenient passenger access between the new garage in front of Terminal E and the terminal buildings and to the pedestrian bridge that connects Terminal E to the Central Garage complex (which includes the West and Central Garages);
- Incorporating the following ground access features into the design of the new garage in front of Terminal E: a secondary entrance for public parkers to reduce on-Airport recirculation and associated VMT; a vehicular bridge connected to the Central Garage complex to enable more efficient operational movements by Massport's Ground Transportation Unit; relying on existing roadway infrastructure, bus routes, and signage for the Economy Garage expansion; and, encouraging parkers to pay their fees prior to returning to their vehicles via Massport's pay-by-foot system, which uses automated kiosks to enable the efficient flow of vehicles exiting the garages and reduce vehicle idling and associated air emissions.

Climate Change Adaptation and Resiliency/ Greenhouse Gas Emissions

- Incorporating measures from the U.S. Green Building Council's (USGBC) Parksmart rating system into the Project's technology, structural design, and operation;
- Reducing lighting power densities from a base of 0.19 watts per square foot to a maximum of 0.05 watts per square foot;
- Installing occupancy sensors and photocells on all applicable interior and exterior lighting;
- Installing programmable thermostats, where applicable (i.e., mechanical/electrical rooms);
- Conditioning electrical and telecommunications rooms with split system heat pumps capable of operating at or below temperature of 0°F;
- Designing the parking decks to be open air, negating the need for ventilation systems
- Performing building commissioning in accordance with ASHRAE Guideline 0-2005 and ASHRAE Guideline 1.1-2007;
- Incorporating a solar PV system at the new garage in front of Terminal E capable of offsetting 50 percent of the facility's total energy consumption, including all lighting and power required for its electric vehicle (EV) charging stations;
- Relocating the existing solar PV system at the Economy Garage to the top of the facility's new highest level upon completion of Project construction (the installation of a newer, more efficient system will be evaluated for feasibility as that construction period gets closer);
- Designing and building the proposed garages to accommodate expanded solar in the future as it becomes more cost effective/feasible;
- Reserving parking spaces for alternative fuel vehicles (e.g., EVs) amounting to at least 1 percent of total spaces and assigning preferred parking spaces for other low-emitting and fuel-efficient vehicles amounting to at least another 1 percent of total spaces;
- Installing 11 EV charging stations (22 ports) in the new garage in front of Terminal E;
- Designing and building the proposed garages to accommodate expanded EV charging infrastructure to accommodate 150 percent of demand;
- Providing tire inflation services for each garage to promote increased fuel efficiency and vehicle safety;
- Integrating vertical landscaping into the façade of the new garage in front of Terminal E;
- Planting water-conserving ground landscapes that apply the principles of xeriscaping (e.g., use of native plants);
- Specifying water efficient fixtures and faucets in a staff restroom at the new garage in front of Terminal E;
- Applying durable design principles to extend the facilities' lifespan and avoid greenhouse gas emissions caused by future large-scale construction and renovation activities;
- Preparing/adhering to a preventative maintenance plan to extend facility lifespan and avoid greenhouse gas emissions caused by future large-scale construction and renovation activities;
- Installing and applying only no- or low-volatile organic compound (VOC) coatings, paints, and sealants;
- Installing halon-free fire suppression systems in each garage Massport/ Construction;

- Complying with Massport's Floodproofing Design Guide and elevating critical equipment and systems above the designated design flood elevations;
- Ensuring redundant or back-up power sources to reduce disruption from extreme weather conditions that may cause power outage;
- Performing frequent sweeping (at least monthly) to reduce the need for constant pressure washing and associated water use;
- Implementing an active recycling program to reduce the amount of waste sent to regional landfills/incinerators and to reduce GHG associated with material disposal;
- Displaying educational materials to convey the facilities' environmentally sustainable design and operations;
- Participating in a recognized sustainable purchasing buying program applicable to non-capital equipment/materials; and,
- Implementing environmentally safe cleaning supplies and providing necessary training to use, maintain, and dispose of these products.

Construction Period Mitigation

- Providing on-Airport storage areas for construction materials;
- Developing specific truck routing and/or staging plans for implementation by the various contractors;
- Encouraging construction companies to provide off-Airport parking for their employees and to provide shuttle services from these locations (shuttles are required to use the Coughlin Bypass road to access the Airport);
- Requiring all construction vehicle/equipment to follow anti-idling procedures and all construction managers to provide associated training;
- Requiring the use of low- or zero-emissions equipment, where practicable;
- Requiring the retrofitting of appropriate diesel construction equipment with diesel oxidation catalyst and/or particulate filters;
- Requiring contractors to use Ultra Low Sulfur Diesel Fuel (ULSD);
- Deploying air quality and fugitive dust management best practices, such as reducing exposed erodible surface areas through appropriate materials and equipment staging, covering exposed surface areas with pavement or vegetation in an expeditious manner, and stabilizing soil with cover or periodic watering;
- Requiring trucks to access the Project sites by Route 1A, Interstate 90, Coughlin Bypass road, and the main Airport roadway only or other routes in compliance with transportation safety requirements;
- Prohibiting trucks from using local streets;
- Putting into place an Erosion and Sedimentation Control Program, in compliance with the Stormwater Pollution Prevention Plan, to protect water quality and to minimize construction phase impacts to Boston Harbor; and,
- Deploying spill prevention measures and sedimentation controls throughout the construction phases to prevent pollution from construction equipment and erosion.

Conclusion

Based on a review of the FEIR and comment letters, and consultation with State Agencies, I have determined that the FEIR adequately and properly complies with MEPA and its implementing regulations. The project may proceed to permitting.

January 30, 2020
Date

K. Theoharides
Kathleen A. Theoharides

Comments received:

01/23/2020 Conservation Law Foundation (CLF)
01/23/2020 Metropolitan Area Planning Council (MAPC)

KAT/ACC/acc

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Copy of the Secretary of the Executive Office of Energy and Environmental Affairs Certificate Issued for Runway 27 End Runway Safety Area (RSA) Improvement Project Final Environmental Impact Report

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The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
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January 30, 2023

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
FINAL ENVIRONMENTAL IMPACT REPORT

PROJECT NAME	: Boston Logan International Airport Runway 27 End Runway Safety Area (RSA) Improvement Project
PROJECT MUNICIPALITY	: Boston
PROJECT WATERSHED	: Boston Harbor
EEA NUMBER	: 16433
PROJECT PROPONENT	: Massport
DATE NOTICED IN MONITOR	: December 16, 2022

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G.L. c. 30, ss. 61-62L) and Section 11.08 of the MEPA regulations (301 CMR 11.00), I have reviewed the Final Environmental Impact Report (FEIR) and hereby determine that it **adequately and properly** complies with MEPA and its implementing regulations.

Project Description

As described in the Final Environmental Impact Report (FEIR), the Massachusetts Port Authority (Massport) is proposing improvements to the Runway Safety Area (RSA)[1] located at the end of Runway 27 at Boston Logan International Airport. The Federal Aviation Authority requires that airports receiving federal funding for airport improvement projects and commercial service airports provide standard RSAs where possible.[2] The RSA is intended to reduce the risk of damage to aircraft and protection of passengers in the event of an unintentional excursion from the runway.[3]

The project proposes the construction of an approximately 650-foot long by 306-foot-wide RSA on a pile-supported deck with an Engineered Materials Arresting System (EMAS) bed installed on the deck. An EMAS is constructed of collapsible concrete blocks which can decelerate an aircraft in a way that minimizes damage to the aircraft and potential injuries. An EMAS is often used when a full-dimension RSA (1,000 ft long by 500 ft wide) is not possible due to lack of available land or to minimize environmental impacts; an EMAS provides an FAA-approved level of safety equivalent to an RSA built to the full-length dimensions. It is expected that the 306-foot-wide deck would extend between 450 feet over Boston Harbor. The deck will be supported by 326 20-inch square concrete piles. Two emergency access ramps are proposed on each side of the deck. The 20-foot wide perimeter access road on the north side of Runway 27 will also be straightened and realigned to enhance vehicular site lines.

As indicated in the FEIR, the proposed RSA improvement is a safety improvement and does not extend the runway or have any effect on runway operations, runway capacity, or the types of aircraft that can use the runway.

Project Site

The project is located within Logan International Airport (Logan Airport), which is owned and operated by Massport. Logan Airport is New England's primary international and domestic airport and includes approximately 2,400 acres in East Boston and Winthrop, including 700 acres in Boston Harbor. Logan Airport is one of the most land-constrained hub airports in the nation and is surrounded on three sides by Boston Harbor. The airfield has six runways (which vary in length from 2,557 feet to 10,081 feet), 15 miles of taxiways, and approximately 240 acres of concrete and asphalt apron.

The 10-acre project area is focused on the east end of Runway 9-27 which is comprised of Runway 9 on the west end and Runway 27 on the east. The project site includes the existing Runway 27 end and the armored coastal shoreline and intertidal and subtidal areas seaward of the existing runway end. Runway 9-27 is 7,001 feet long, 150 feet wide, and is constructed of asphalt pavement. The runway has 75-foot-wide paved shoulders on either side. At the approach end of Runway 9 (western end of the runway), the existing RSA meets the full dimensions set forth in the FAA design standards. The approach end of Runway 27 (eastern end of the runway) does not meet the current FAA design standards for length. This runway was constructed before the current FAA design guidelines were in place. The Runway 27 End RSA is only 150 feet long and therefore does not meet the RSA length requirement of 1,000 feet for a full dimension RSA.

[1] As described by the Federal Aviation Authority (FAA), an RSA is a defined surface surrounding the runway, typically 500-feet wide and extending 1,000-feet beyond each runway end.

[2] Because many runways were built before the 1000-foot RSA standard was adopted approximately 20 years ago, the FAA implemented the Runway Safety Area Program to make practicable improvements to existing RSAs for priority runways.

[3] An excursion from the runway can include an overrun (when an arriving aircraft fails to stop before the end of the runway), an undershoot (when an aircraft arriving on a runway touches down before the start of the paved runway surface), or an event in which an aircraft veers off to one side of a runway.

Portions of the project site include Priority Habitat as mapped by the Natural Heritage and Endangered Species Program (NHESP) *Massachusetts Natural Heritage Atlas* (15th Edition). The project is located adjacent to and within Boston Harbor and contains coastal wetland resource areas including Coastal Bank, Coastal Beach, Land Subject to Coastal Storm Flowage (LSCSF), Land Subject to Tidal Action, Land Containing Shellfish (LCS), and Land Under Ocean (LUO). The project site includes areas within mapped Federal Emergency Management Agency (FEMA) flood zone VE (an area that is subject to high velocity waters and waves and is inundated by a 100-year storm) with a base flood elevation (BFE) of elevation (el.) 13 ft NAVD88. The landward area of the project site is mapped as FEMA flood zone AE (an area inundated by a 100-year storm but not subject to high velocity waters), with BFE el. 12 ft NAVD88 according to FEMA flood insurance rate map (FIRM) number 25025C0082J effective March 16, 2016.

The project site is located within two Environmental Justice (EJ) populations characterized as Minority and is within one mile of two EJ Populations also characterized as Minority. The DEIR identified the "Designated Geographic Area" (DGA) for the project as 1 mile around EJ populations, included a review of potential impacts and benefits to the EJ populations within this DGA, and described public involvement efforts undertaken to date.

Changes Since the Filing of the DEIR

The FEIR states that the project has not changed since the DEIR filing; however, project mitigation has been updated to include replacement/restoration of intertidal and subtidal wetland resource areas impacted by piles and egress ramps and replacement of lost grassland habitat impacted by changes to the perimeter access road.

Environmental Impacts and Mitigation

Environmental impacts associated with the project include creation of 3.8 acres of new impervious surface (3.3 acres RSA deck, and 0.5 acres approach slab and perimeter road), as well as permanent alteration of 390 linear feet (lf) of Coastal Bank, 2,660 sf of Coastal Beach, 97,200 sf of LSCSF, 45,420 of Land Subject to Tidal Action, 66,760 sf Land Containing Shellfish, and107,700 sf of LUO. The project will impact 154,120 sf of flowed tidelands.

The project will minimize and mitigate environmental impacts by adhering to time-of-year (TOY) restrictions for marine fisheries and provide a mitigation fee for impacts to LCS; providing 1:1 replacement/restoration of intertidal and subtidal wetland resource areas; installing stormwater management in compliance with the Stormwater Management Standards (SMS); using turbidity curtains around in-water construction and employing erosion and sediment control and other construction best management practices to reduce noise, air and water quality impacts during the construction period.

Jurisdiction and Permitting

The project is subject to the preparation of a Mandatory EIR pursuant to 301 CMR 11.03(3)(a)(5) because it requires Agency Action and involves a new non-water dependent use or Expansion of an existing non-water dependent structure, provided the use or structure occupies one or more acres of waterways or tidelands. The project also exceeds the ENF threshold at

11.03(3)(b)(1)(f) because it will result in the alteration of one-half or more acres of any other wetland (LUO, Coastal beach, Land Containing Shellfish, LSCSF). The project requires a Chapter 91 (c. 91) License (Modification) and 401 Water Quality Certification (WQC) from MassDEP. The project will require Federal Consistency review by the Massachusetts Office of Coastal Zone Management (CZM). It may require a Conservation and Management Permit (CMP) from NHESP.

The project requires an Order of Conditions (OOC) from the Boston Conservation Commission (or in the case of an appeal, a Superseding OOC from MassDEP). The project will require a National Pollutant Discharge Elimination System (NPDES) Stormwater General Permit from the Environmental Protection Agency (EPA). The Project will also be subject to review by the FAA under the National Environmental Policy Act (NEPA).

Because Massport, an Agency within the meaning of MEPA, is the Proponent, MEPA jurisdiction is broad and extends to those aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment as defined in the MEPA regulations.

Review of the FEIR

The FEIR included a project description, existing and proposed conditions plans, estimates of project-related impacts including new information on greenhouse gas (GHG) emissions from construction period activities, and a summary of stormwater management measures. It contained updates on coordination with permitting agencies and the status of project permits. As requested in the Certificate on the DEIR, the FEIR included additional mitigation for project impacts including wetland and habitat replacement/restoration. The FEIR provided a response to comments on the DEIR[4] including additional review of project alternatives. The FEIR included draft Section 61 Findings and a summary of project mitigation. It also contained an updated assessment of the public health impacts of the project and information related to impacts on EJ populations consistent with 301 CMR 11.07(6)(n).

The FEIR also serves as the Draft Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) and is referred to in the filing as the Draft EA/Final EIR.

Alternatives Analysis

The FEIR contained a summary of the six alternatives identified as part of the *Boston Logan Airport Runway Incursion Mitigation Study/Runway 9-27 Runway Safety Area (RSA) Alternatives Study* (the RIM/Runway 9- 27 RSA Alternatives Study). The alternatives, as previously described in the DEIR, included:

- No Build Alternative
- Alternative 1 Declared Distances
- Alternative 2 Displaced Threshold Markings

[4] On November 15, 2022, MEPA issued a memorandum acknowledging the inadvertent omission of comment letters on the DEIR from Air Impact Relief, Inc. (Air Inc.) and the Town of Winthrop due to technical issues with the on-line public comment portal and failed mail delivery. These letters were provided to Massport and responses to these comments were included in the FEIR.

- Alternative 3A Full RSA in Boston Harbor, Fill Option
- Alternative 3B Full RSA in Boston Harbor, Deck Option
- Alternative 4A EMAS on 500-Foot-Wide Deck
- Alternative 4B EMAS on 306-Foot-Wide Deck (Preferred Alternative)

In response to comments, the FEIR provided additional detail to substantiate the dismissal of Alternatives 1 and 2. As stated in the FEIR, Alternative 1, Declared Distances was dismissed not only because it would reduce the ability of Runway 9-27 in accommodating approximately 75% of aircraft using that runway, but would also result in those aircraft having to take weight penalties (reduce their takeoff weight). The FEIR also describes the southwest corner of the airfield, where pavement markings would be adjusted, as a Massport and FAA-identified "hot spot" where measures have already been implemented to reduce the possibility of pilot confusion including runway status lights, enhanced markings, and signage. The FEIR states that any shifting or relocating of runways in this area will complicate a complex area even further. Alternative 2, Displaced Thresholds would restripe a segment of Taxiway M pavement immediately west of the existing Runway 9 End. This alternative would decrease the existing RSA length deficiency from 850 feet to 655 feet, increasing the RSA length only marginally but not resulting in the Runway 27 End meeting FAA's design requirements. The FEIR also responds to comments requesting consideration of alternatives not previously proposed including the possibility of reconfiguring or shifting Taxiway E to or making other airfield alterations to facilitate capacity needs with a shortened runway. The FEIR provides a discussion of why these alternatives are not feasible including issues of safety and taxiway congestion.

As stated in the FEIR, Massport, in consultation with FAA, previously selected RSA Alternative 4B (EMAS on 306-foot-wide deck) as the Preferred Alternative. This alternative was selected because it would provide full FAA-required overrun and undershoot protection, while maintaining the airfield utility and efficiency. It would do so with reduced impacts to environmental resources in Boston Harbor and the navigation channel, compared to the other alternatives that would achieve the project goals. Comments on the DEIR questioned the FAA's role in selecting the Preferred Alternative. The FEIR notes that based on the findings of the RIM study, the existing runway cannot be improved to enhance safety. In addition, the FAA will need to approve the final runway design and construction, since a portion of the project will be funded by the FAA.

Environmental Justice

As noted above, the project site is located within two EJ populations characterized as Minority (Census Block Groups 9901.01[5] and 9813 Block Group 2) and is within one mile of two additional EJ populations also characterized as Minority (Census Block Groups 1804 Block Group 2 and 9801.01 Block Group 1). Within the Census Tracts containing the above four EJ populations within one mile of the project site, the following languages are identified as those spoken by 5% of more of residents who also identify as not speaking English very well: Spanish and Spanish Creole.

The FEIR provided a summary of ongoing public outreach which included the following when the FEIR was filed:

[5] Census Tract 9901.01 is not associated with any data as it is located with Boston Harbor.

- Posted a social media announcement notifying the public of the filing.
- Notice of Availability in English and Spanish published in *Boston Herald, East Boston Times, Winthrop Transcript*, and *El Mundo*.
- Circulated the FEIR electronically to the EJ Reference List provided by MEPA.
- Translated the Notice of Availability and Executive Summary into Spanish and posted a copy on Massport's website.
- Posted the FEIR on Massport's website at the time of the filing, allowing for approximately an additional week of review time.

The FEIR provided additional detail on how flights redirected during the Runway 27 closure might impact EJ populations as flights will temporarily shift to other runways. The FEIR notes that the approach and departure routes depend on FAA air traffic control safety determinations including wind and weather. While the airport is surrounded by communities containing both EJ and non-EJ populations, it is not expected that any one population will be disproportionately affected. The FEIR provides the following summary of potential flight paths:

Northeast flow FAA traffic pattern: Aircraft that depart from Runway 9 would primarily shift to Runway 4R departures. Aircraft departing Runway 4R fly a route that generally travels northeast of the airport over communities of Boston, Winthrop, and Revere at varying altitudes. Communities located northeast of the airport, below the Runway 4R departure routes, include a mix of both non-EJ and EJ populations.

Southwest flow FAA traffic pattern: Aircraft that would have landed on Runway 27 are expected to primarily shift to Runway 22L arrivals. On descent, aircraft would fly over the same communities listed for the Northeast flow. If shifted to the northeast flow, aircraft would primarily shift to Runways 4R and 4L arrivals which generally overfly southwest of the airport over communities of Boston, Milton, and others.

Northwest flow FAA traffic pattern: Aircraft that would have landed or departed on Runway 27 are expected to shift primarily to Runway 33L. Runway 33L departures generally travel northwest of the airport over the communities of Boston, Chelsea, and Everett (both EJ and non-EJ communities). Runway 33L arrivals generally come from the southeast over Boston Harbor (away from close-in residential land uses) but also overfly at higher altitudes South Shore communities including Hull, Weymouth, and Cohasset

The FEIR also notes that during a similar closure of Runway 9-27 in the summer of 2020, Runway 9 departures shifted to Runway 4R and a small portion to Runway 15R. The Runway 27 departures shifted primarily to Runway 22R. However, as stated above, the choice of runways to be used by FAA will be based on wind, weather, and safety requirements and cannot be predicted in advance. A review of the EJ map provided in the FEIR shows the airport is within and surrounded by EJ communities. As noted above, only arrivals from the southeast, over Boston harbor, are away from residential areas and EJ populations.

Temporary construction impacts associated with the project are expected to include marine vessel trips which will generate additional GHG emissions. The FEIR describes the anticipated routes of these marine vessels, indicating that the contractor's offsite yard will likely be in Quincy, East Boston, or Charlestown. As discussed further below, the FEIR provides the number and types of vessels to be used and quantifies the expected emissions. It is anticipated that barges and other vessels supporting construction would operate in an area up to 220 feet on

either side of the footprint of the RSA deck during the two 60-day runway closure periods. The DEIR previously indicated that the nearest residences are 2,400 feet from the project. The FEIR also notes the location of other sensitive receptors including schools, daycare centers, children's health clinics, or any other concentrated populations of children, indicating that the closest facility is a daycare in Winthrop, approximately 5,000 feet north of the project site.

The FEIR assesses potential impacts to water quality and indicates that the project will comply with the MassDEP Stormwater Management Standards (SMS). As discussed further below, although the project proposes an increase in impervious area, stormwater discharges will be to a tidal area and will not affect floodplain levels. The FEIR included summaries of interagency meetings with the Division of Marine Fisheries and the U.S. Coast Guard which documented that access to shellfish beds will continue for badged shellfishers upon completion of construction, and that the project would not preclude use of the navigational channel by the public during construction.

Impervious Area and Stormwater

The project will increase impervious area by 3.3 acres of RSA deck over open water and by 0.5 acres of perimeter road pavement and approach slab some of which is in currently grassed uplands. Comments on the DEIR from MassDEP indicated that treatment of the runoff from the deck would be required to provide water quality treatment and reduce the velocity of the runoff. The FEIR responds that the Notice of Intent application will describe the stormwater management measures and address each of the ten SMS with supporting calculations. The preliminary stormwater design includes scuppers to collect runoff on the RSA deck connected to a trunk line to carry the runoff to the outer end of the deck to be released into deep water. Correspondence from Massport[6] states that runoff from the RSA will be clean unimpacted water that does not require treatment prior to discharge. This conflicts with prior MassDEP comments indicating that water quality treatment would be required and should be addressed during permitting. The FEIR describes stormwater treatment for the new pavement associated with the relocated perimeter road stating that the runoff would be allowed to sheet flow onto adjacent grassed or crushed stone surfaces for infiltration. The proposed stormwater management will be subject to review and approval by the Boston Conservation Commission under a Notice of Intent filing (or in the case of an appeal, a Superseding Order of Conditions from MassDEP).

Wetlands and Fisheries

As noted above, the following wetland resource areas will be impacted by the deck: 45,420sf of Land Subject to Tidal Action, 2,660 square feet of Coastal Beach, 97,200sf of LSCSF (100-year Floodplain), 107,700 sf of LUO, and 66,760sf of LCS. The impacts are summarized in the table below:

[6] Email from Stewart Dalzell, Massport, to Jennifer Hughes, MEPA Analyst, dated January 20, 2023.

Table 5-1 Runway 27 End RSA Direct Impacts to Coastal Wetland Resources - Proposed Project

Wetland Resource Area	Jurisdiction	Impacts			
		RSA Deck (shading)	Piles (Number/Area[1])	Emergency Access Ramps	Total[2]
Land Under the Ocean	Local and State	107,700 sf	246 / 690 sf	0	107,700 sf
Coastal Beach	Local and State	2,170 sf	6 / 20 sf	490 sf	2,660 sf
Coastal Banks	Local and State	310 lf	N/A	80 lf	390 lf
Salt Marsh	Local and State	0	0	0	0
Land Containing Shellfish	Local and State	58,130 sf	124 / 350 sf	8,630 sf	66,760 sf
Land Subject to Tidal Action	Local and State	35,960 sf	70 / 200 sf	9,460 sf	45,420[3]
Land Subject to Coastal Storm Flowage	Local and State	92,000 sf	10 / 30 sf	5,200 sf	97,200 sf
Land Below Annual High Tide	Federal	143,660 sf	316 / 880 sf	9,460 sf	153,120 sf
Mud Flat (Special Aquatic Site)	Federal	37,210 sf	100 / 280 sf	490 sf	37,700 sf

All square footages are approximate values as they have been rounded to the nearest value of ten (most values were rounded up).
1 Each 20-inch square pile is 2.78 square feet (sf). Direct impact of all 326 piles is 906 square feet.
2 Area of impact under the RSA Deck or area of upland. Area of piles or approach slab not included, since included in the overall deck area.
3 Includes 1,230 square feet for RSA Deck approach slab.
lf = linear feet
sf = square feet
N/A = Not Applicable

In the FEIR, Massport indicates that it will provide mitigation for permanent impacts to LUO and Coastal Beach (mudflat) associated with the placement of 252 piles and the installation of safety/egress ramps. This mitigation will be detailed as part of the Notice of Intent filing but is expected to include some form of shoreline restoration in Boston Harbor or Chelsea Creek or could involve mudflat creation similar to work conducted to offset impacts associated with the 33L RSA project. The FEIR also addressed the overshadow of approximately 2.7 acres of LUO and Coastal Beach by the RSA deck and states that the shaded area will continue to be influenced by the tides which will supply phyto- and zooplankton for filter feeding species and organic detritus for scavengers/detritivores. The FEIR also notes that there are no vascular plants, saltmarsh, or aquatic bed species present within the deck area that would be impacted by the lack of sunlight. As noted above, restoration/replacement will be provided as mitigation for the 700 sf of coastal wetland resource area altered by the deck piles.

As requested by the Division of Marine Fisheries (DMF), the FEIR contained a record of project coordination between DMF and other resource agencies (NOAA, USEPA, CZM, Boston Conservation Commission) regarding the development of a detailed mitigation plan for permanent impacts to shellfish and mud flat habitat. The record of the meetings indicates that mitigation for impacts to LCS will be in the form of a contribution to the shellfish restoration program. The FEIR states that badged shellfishers will be temporarily restricted from the mudflats in the work area during construction but upon completion, the shellfishers would have access to areas previously open for harvest which includes areas under the deck; however, boat access under the deck would be restricted. The FEIR indicates that project mitigation will include the DMF recommended TOY restriction for in-water, silt-producing work from February 15 to June 30 to minimize impact to winter flounder. In addition, the project will use turbidity curtains to contain turbidity associated with in-water silt-producing work occurring outside of the recommend TOY to minimize impacts to spawning and early life history stages of shellfish species in the vicinity of the project.

Chapter 91 and Tidelands

The FEIR includes additional information regarding the location of the State Harbor Lines relative to the project site and indicates that the proposed RSA deck will extend up to 460 feet seaward of the line established by Chapter 733 of the Acts of 1966. The FEIR asserts that the Massport Enabling Act[7] contains broad authorization for Massport to utilize adjacent underwater areas for airport purposes should the need arise in the future, including seaward of the State Harbor Line. Comments from the MassDEP Waterways Regulation Program (MassDEP Waterways) state that MassDEP does not agree with this assertion but indicate that the matter can be worked out during licensing. MassDEP Waterways recommends that Massport request a prefiling consultation to clarify this point. To the extent such consultation results in the need to make design changes to meet c. 91 requirements, Massport should consult with the MEPA Office about whether further review may be needed in the form of a Notice of Project Change (NPC) filing.

Public Benefit Determination (PBD)

The project site is comprised of tidelands subject to the provisions of *An Act Relative to Licensing Requirements for Certain Tidelands* (2007 Mass. Acts ch. 168) and the Public Benefit Determination (PBD) regulations (301 CMR 13.00). I must issue a PBD for any project in tidelands required to under an EIR review process. The FEIR included more detailed information describing the nature of tidelands affected by the non-water dependent project and documented compliance with the requirements for public benefits. The FEIR indicates that the project will protect Boston Harbor in the event of an overrun or undershoot event, by preventing aircraft from entering the harbor. The FEIR notes that, under the Massachusetts Port Authority Enabling Act, preservation of public safety and security at Logan Airport has been legislatively determined to be an appropriate use of the affected tidelands. Other potential public interests in tidelands that might be affected by the proposed safety project are limited due to existing Airport security restrictions. As noted above, shellfish harvesting by licensed clammers is allowed within the Security Zone with prior notice from DMF. The FEIR also indicates that boats operating in the outer 250-foot security zone will need to divert around the footprint of the RSA deck. However, boats are not currently permitted to anchor within the existing Logan Airport 500-foot security zone and the proposed RSA deck would not change the existing restriction on boating activities.

I will issue a PBD within 30 days of the issuance of the FEIR Certificate.

Rare Species

As noted above, the proposed project site is mapped as *Priority Habitat* for a state-listed species: Upland Sandpiper (*Bartramia longicauda*), Endangered and Eastern Meadowlark (*Sternella magna*), Special Concern as indicated in the *Massachusetts Natural Heritage Atlas* (15th Edition). The FEIR details the impacts to Priority Habitat, including 17,400 sf of impacts from relocating the vehicle perimeter road to a safer, more perpendicular crossing of the Runway 27 End. The FEIR further states that in the new position, the grass area between the existing

[7] Massachusetts Port Authority Enabling Act, Chapter 465 of the Acts of 1956, Section 4, Paragraph 6.

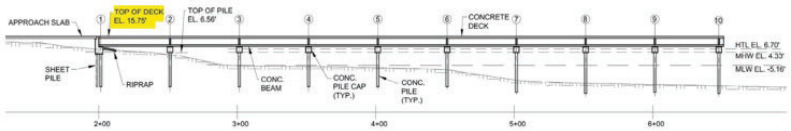
roadway and the new road will be replaced with crushed stone to eliminate the need for mowing. An additional area of approximately 3,000 sf of grassland will be impacted by paving an area on the south side of the runway end to provide a continuous 300-foot wide paved area for the runway and shoulders as required by FAA. In total, the FEIR reports that 20,300 sf of grassland habitat would be permanently altered. To mitigate these impacts, Massport will work with the FAA, NHESP and airport operations to identify an area on the airfield where an equal amount of pavement could be removed to avoid a Take and the need for a CMP.

The FEIR identifies temporary impacts associated with construction staging and equipment operations that will impact an additional 22,000 sf of grassland habitat. The temporary impacts will be for two 60-day construction periods between July and October. Once construction is completed, the disturbed area will be restored and reseeded with a seed mix approved by NHESP to establish the grassland habitat. In an email dated January 24, 2023, NHESP indicates that comments prepared in response the DEIR remain largely applicable to the FEIR submission and further indicates that provided permanent impacts to grassland habitats are replaced and temporary grassland impacts repaired, then NHESP would anticipate the project may be conditioned to avoid a prohibited Take of state-listed species.

Climate Change

Adaptation and Resiliency

The Certificate on the DEIR required that Massport discuss whether the elevation of the runway safety area is consistent with recommendations from the MA Resilience Design Tool for the 2050 and 2070 planning horizon. The FEIR contained the figure below illustrating that the top of the deck would have an elevation of approximately 15.75 feet NAVD88.



The final EIR also provided the table below, showing the current and projected elevations for the mean low water line, mean high water line, water surface elevation, and wave action elevation based on the MA Resilience Design Tool Report included in the FEIR, which recommended that the RSA deck be designed to be resilient to the 100-year storm event in 2070. Based on the elevations below, the top of the deck would be above the projected water surface elevation for the 100-year storm in 2070, but slightly under the projected "wave action" water elevation which takes into account the effect of wave action on the site.

Table 3-6 RMAT Sea Level Rise Projections for 2050 and 2070 Planning Horizons (feet, NAVD 1988)

Measure	Current	2050	2070
Mean Low Water	-5.16	-2.3	-0.7
Mean High Water	4.3	7.3	9.2
Water Surface Elevation	5.51	12.5	14.3
Wave Action Elevation	9.49	13.6	15.9

Current values from NOAA, *Tide Predictions; Datum for 8443970, Boston, MA*, https://tidesandcurrents.noaa.gov/datums.html?id=8443970.
Projected values from the RMAT Output Report, see Appendix E.3 for further methodology.

The Certificate on the DEIR indicated that that the recommendation provided by the MA Resilience Design Tool appears to be correlated to a "Medium" criticality assessment of project assets, which is understated given the critical function of Logan Airport as a key transportation hub for the Northeast region. For "High" critical assets, the MA Resilience Design Tool guidance recommends planning for the 200-year storm (as of 2070 and interim planning horizon of 2050) for most buildings/facilities for the sea level rise/storm surge parameter, and up to the 500-year storm for transportation assets. The FEIR states that the project design will not be able to meet these design recommendations since it will not be possible to raise the entire airfield and runway system. According to the FEIR, Massport recognizes that some assets may be inundated by flooding or excessive precipitation and has worked to flood-proof light vaults and other features, and to identify operational changes to runways and taxiways to accommodate drying out before being returned to service. In addition, in 2020 Massport elevated the runway 27 threshold by 10 inches and improved the drainage system.

The FEIR notes that the elevation of the Runway 9-27 deck will be higher than those constructed at the Runway 4R End light pier and the Runway 33L RSA deck in 2017 and 2014, respectively. The Certificate on the DEIR required that Massport discuss adaptive management strategies to improve resiliency to project assets if the project design does not meet the recommended Tool recommendations. The FEIR references the Massport *Floodproofing Design Guide* introduced in 2014 which was created with the intent of protecting airport assets from climate change related impacts. The FEIR notes that the Massachusetts Coastal Flood Risk Model (MC-FRM) is also used to assess potential flooding vulnerabilities for Massport projects. The FEIR also references several ongoing programs to improve resiliency at the airport as well as lessen the airport's overall impact to climate change including an evolving sustainability policy, development of a Climate Action Plan, and a net zero GHG emissions roadmap titled *Roadmap to Net Zero by 2031*.

Greenhouse Gas (GHG) Emissions

The FEIR included an air quality analysis that identifies the project-related construction emissions, including marine vessel emissions, and indicates that they are below the *de minimis* standards for General Conformity with the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. To estimate exhaust emissions from on-road vehicles and construction equipment, emissions factors were developed using the USEPA's Motor Vehicle Emissions Simulator model (MOVES3) (on road and nonroad modules). The methodology associated with the analysis is further detailed in an appendix to the FEIR. The construction period emissions inventory is shown in the table below.

Table 3-3 Construction Period Emission Inventory by Source (Tons/Year)

Category	2025					
Source	CO	NO_x	VOC	PM_{10}	$PM_{2.5}$	SO_2
On Road	0.004	0.101	0.079	0.002	0.002	0.0002
Off Road Equipment (Land + Marine)	0.49	5.19	7.96	0.29	0.28	0.01
Marine Vessels	1.46	8.60	0.23	0.18	0.17	0.01
Fugitive Dust	-	-	-	0.91	0.13	-
Total (2025)	1.95	13.89	8.27	1.38	0.58	0.01
Category	**2026**					
Source	CO	NO_x	VOC	PM_{10}	$PM_{2.5}$	SO_2
On Road	0.003	0.076	0.062	0.001	0.001	0.0001
Off Road Equipment (Land + Marine)	0.17	1.65	2.65	0.10	0.10	0.00
Marine Vessels	1.32	7.77	0.21	0.16	0.15	0.01
Fugitive Dust	-	-	-	0.87	0.12	-
Total (2026)	1.49	9.50	2.93	1.13	0.37	0.01

The FEIR further reports on short-term increases in GHG emissions due to construction activities. Based on a preliminary estimate of construction equipment and vehicles that are anticipated during the two 60-day construction periods, a maximum of 45 trucks and automobiles and a maximum of 15 marine vessels could be deployed daily. As requested in the Certificate on the DEIR, a GHG emission inventory by source was conducted and is summarized in the table below.

Table 3-5 Construction-Period GHG Emissions Inventory by Source (Tons CO_2/Year)

Source/Year	2025	2026
On Road	48	37
Off Road Equipment (Land and Marine)	2,845	1,125
Marine Vessels	649	586
Total	3,542	1,748

Source: WSP, May 2022.

Construction-period air quality mitigation measures detailed in the FEIR include:

- Dust suppression techniques will be implemented to control fugitive dust emission sources and are anticipated to reduce PM10 and PM2.5 emissions by 75 percent.
- Construction equipment will be maintained according to manufacturers' specifications and operated using USEPA-compliant fuels to minimize emissions.

- Contractors will be required to use Tier III or Tier IV equipment where feasible, limit idling, and implement construction worker vehicle trip management techniques.
- Contractors will be required to use Ultra Low Sulfur Diesel fuel and/or operate vehicles using alternative fuels, where feasible.
- Contractors will be required to use after-engine emissions controls, such as oxidation catalysts or diesel particulate filters, where feasible.

Mitigation and Draft Section 61 Findings

The FEIR provides final mitigation commitments and draft Section 61 Findings for use by Participating Agencies, which are summarized below. The Section 61 Findings should be provided to Participating Agencies to assist in the permitting process and issuance of final Section 61 Findings. As an Agency undertaking the project, Massport should also issue Section 61 Findings including all mitigation commitments for the project.

Environmental Justice/Public Health

- Continue public outreach as outlined in the *Updated EJ Outreach Plan*.
- Provide erosion and sedimentation control during construction and stormwater management in accordance with the MassDEP Stormwater Standards to protect water quality.
- Minimize engine idling in accordance with Massachusetts anti-idling regulations.
- Retrofit appropriate diesel construction equipment with diesel oxidation catalysts and/or particulate filters to minimize emissions.

Wetlands and Fisheries

- Provide 1:1 replacement/restoration of intertidal and subtidal wetlands impacted by piles and egress ramps.
- Provide stormwater management system to control and treat stormwater runoff in compliance with the Massachusetts Stormwater Management Standards
- Implement winter flounder time-of-year (TOY) restriction from February 15 to June 30 for in-water construction activities
- Provide mitigation fee to DMF) for off-site restoration.
- Use turbidity curtains for in-water construction.

Chapter 91 and Tidelands

- Continue to allow shellfish harvesting by licensed clammers within the Security Zone with prior notice from DMF.

Rare Species

- Provide 1:1 replacement of lost upland grassland habitat

Climate Change

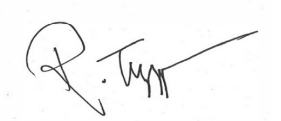
- Elevate the RSA deck above the projected water surface elevation for the 100-year storm in 2070.

Construction Period

- Develop and implement a comprehensive Soil Erosion and Sediment Control Plan in accordance with NPDES and MassDEP standards.
- Apply water to dry soil to prevent fugitive dust.
- Maintain mufflers on construction equipment.
- Minimize engine idling in accordance with Massachusetts anti-idling regulations.
- Retrofit appropriate diesel construction equipment with diesel oxidation catalysts and/or particulate filters.
- Fit any air-powered equipment with pneumatic exhaust silencers.
- Implement construction worker vehicle trip management techniques.

Conclusion

Based on review of the FEIR, comment letters, and consultation with reviewing Agencies, I find that the FEIR adequately and properly complies with MEPA and its implementing regulations. No further MEPA review is required, and the project may proceed to permitting. Participating Agencies and Massport should forward copies of the final Section 61 Findings to the MEPA Office for publication in accordance with 301 CMR 11.12.



January 30, 2023
Date

Rebecca L. Tepper

Comments received:

01/05/2023 John Vitagliano
01/12/2023 B. Cooney
01/18/2023 Division of Marine Fisheries (DMF)
01/20/2023 D. Hickey
01/23/2023 K. Dimes
01/23/2023 Air Inc.
01/23/2023 MassDEP Waterways Regulation Program (WRP)
01/24/2023 Natural Heritage and Endangered Species Program (NHESP)

RLT/JAH/jah

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Copy of the Secretary of the Executive Office of Energy and Environmental Affairs Certificate Issued for Runway 27 End Runway Safety Area (RSA) Improvement Project Notice of Project Change

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The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

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June 30, 2025

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
NOTICE OF PROJECT CHANGE

PROJECT NAME	: Boston Logan International Airport Runway 27 End Runway Safety Area (RSA) Improvement Project
PROJECT MUNICIPALITY	: Boston
PROJECT WATERSHED	: Boston Harbor
EEA NUMBER	: 16433
PROJECT PROPONENT	: Massport
DATE NOTICED IN MONITOR	: May 7, 2025

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G. L. c. 30, ss. 61-62L) and Section 11.10 of the MEPA regulations (301 CMR 11.00), I have reviewed the Notice of Project Change (NPC) submitted for this project and hereby determine that it **does not require** an Environmental Impact Report (EIR).

Original Project

The original project received a Certificate on the Final Environmental Impact Report (FEIR) on January 30, 2023, which found that the filing adequately and properly complied with MEPA. As previously described in the FEIR, the Massachusetts Port Authority (Massport) proposed improvements to the Runway Safety Area (RSA)[1] located at the end of Runway 27 at Boston Logan International Airport. The Federal Aviation Authority requires that airports

[1] As described by the Federal Aviation Authority (FAA), an RSA is a defined surface surrounding the runway, typically 500-feet wide and extending 1,000-feet beyond each runway end.

receiving federal funding for airport improvement projects and commercial service airports provide standard RSAs where possible.[2] The RSA is intended to reduce the risk of damage to aircraft and protection of passengers in the event of an unintentional excursion from the runway.[3]

The project proposed the construction of an approximately 650-foot long by 306-foot-wide RSA on a pile-supported deck with an Engineered Materials Arresting System (EMAS) bed installed on the deck. An EMAS is constructed of collapsible concrete blocks which can decelerate an aircraft in a way that minimizes damage to the aircraft and potential injuries. An EMAS is often used when a full-dimension RSA (1,000 ft long by 500 ft wide) is not possible due to lack of available land or to minimize environmental impacts; an EMAS provides an FAA-approved level of safety equivalent to an RSA built to the full-length dimensions. It is expected that the 306-foot-wide deck would extend approximately 450 feet over Boston Harbor. The deck would be supported by 326 20-inch square concrete piles. Two emergency access ramps were proposed on each side of the deck (located within Coastal Beach/Mud Flat) to provide safe access for emergency response personnel to the harbor and to provide egress for any passengers or crew that might be in the harbor and able to get to shore. The 20-foot wide perimeter access road on the north side of Runway 27 would also be straightened and realigned to enhance vehicular site lines.

As indicated in the prior FEIR, the proposed RSA improvement would be a safety improvement and would not extend the runway or have any effect on runway operations, runway capacity, or the types of aircraft that can use the runway.

Project Change

According to the NPC, in advancing the design of the two emergency access/egress ramps located on either side of the RSA deck, the design/build engineers identified the following adjustments that were needed to achieve the functional and safety requirements for emergency ramps:

- The landside connections to Logan Airport's perimeter road and grades landward of the new bulkhead (located at the end of the existing runway) needed to be raised to align with grades for the planned pile-supported deck
- The lower end of the ramps needed to be extended seaward to achieve the design criteria of being a minimum of one foot below mean lower low water (MLLW). To achieve these requirements, portions of both ramps needed to be elevated and extended. The ramps will be supported by sloped rock fill

Coordination among Massport's design, construction, and environmental staff, Massport Fire and Rescue, and the design build team determined that the longer ramps were essential for incident response. The changes will also result in the perimeter road being temporarily relocated to the west in order to avoid the construction for the ramps. The perimeter road alteration will

[2] Because many runways were built before the 1000-foot RSA standard was adopted approximately 20 years ago, the FAA implemented the Runway Safety Area Program to make practicable improvements to existing RSAs for priority runways.
[3] An excursion from the runway can include an overrun (when an arriving aircraft fails to stop before the end of the runway), an undershoot (when an aircraft arriving on a runway touches down before the start of the paved runway surface), or an event in which an aircraft veers off to one side of a runway.

require landside fill which will be seeded with grass following construction; this was not discussed in prior filings. In response to coordination with Massachusetts Department of Environmental Protection (MassDEP), stormwater improvements have been added to the design to handle stormwater from the RSA deck. Stormwater from the RSA deck will be directed to a nearby outfall; this change will require additional impacts to upsize the outfall appropriately.

Project Site

The project is located within Logan International Airport (Logan Airport), which is owned and operated by Massport. Logan Airport is New England's primary international and domestic airport and includes approximately 2,400 acres in East Boston and Winthrop, including 700 acres in Boston Harbor. Logan Airport is one of the most land-constrained hub airports in the nation and is surrounded on three sides by Boston Harbor. The airfield has six runways (which vary in length from 2,557 feet to 10,081 feet), 15 miles of taxiways, and approximately 240 acres of concrete and asphalt apron.

The 10-acre project area is focused on the east end of Runway 9-27 which is comprised of Runway 9 on the west end and Runway 27 on the east. The project site includes the existing Runway 27 end and the armored coastal shoreline and intertidal and subtidal areas seaward of the existing runway end. Runway 9-27 is 7,001 feet long, 150 feet wide, and is constructed of asphalt pavement. The runway has 75-foot-wide paved shoulders on either side. At the approach end of Runway 9 (western end of the runway), the existing RSA meets the full dimensions set forth in the FAA design standards. The approach end of Runway 27 (eastern end of the runway) does not meet the current FAA design standards for length. This runway was constructed before the current FAA design guidelines were in place. The Runway 27 End RSA is only 150 feet long and therefore does not meet the RSA length requirement of 1,000 feet for a full dimension RSA.

Portions of the project site include Priority Habitat as mapped by the Natural Heritage and Endangered Species Program (NHESP) *Massachusetts Natural Heritage Atlas* (15th Edition). The project is located adjacent to and within Boston Harbor and contains coastal wetland resource areas including Coastal Bank, Coastal Beach, Land Subject to Coastal Storm Flowage (LSCSF), Land Subject to Tidal Action, Land Containing Shellfish (LCS), and Land Under Ocean (LUO). The project site includes areas within mapped Federal Emergency Management Agency (FEMA) flood zone VE (an area that is subject to high velocity waters and waves and is inundated by a 100-year storm) with a base flood elevation (BFE) of elevation (el.) 13 ft NAVD88. The landward area of the project site is mapped as FEMA flood zone AE (an area inundated by a 100-year storm but not subject to high velocity waters), with BFE el. 12 ft NAVD88 according to FEMA flood insurance rate map (FIRM) number 25025C0082J effective March 16, 2016.

The FEIR previously identified that the project site was located within two Environmental Justice (EJ) populations characterized as Minority and was within one mile of two additional EJ populations also characterized as Minority. The NPC presents updated EJ population information, based on updated data from the EJ Maps Viewer, following the release of 2020 Census data. The project is within one EJ population characterized by Minority and

within one mile of two EJ populations characterized by Income (1) and Minority (1).[4] The NPC notes that the ENF for the project was filed prior to the implementation of the MEPA EJ Protocols (effective January 1, 2022); however, the DEIR and FEIR voluntarily provided information in compliance with EJ Protocols, and the NPC continued to update information on impacts within the "Designated Geographic Area" (DGA) identified as 1 mile around the project site. The NPC also detailed ongoing outreach conducted for the project change.

Environmental Impacts and Mitigation

As reported in the FEIR, impacts associated with the original project included creation of 3.8 acres of new impervious surface (3.3 acres RSA deck, and 0.5 acres approach slab and perimeter road), as well as permanent alteration of 390 linear feet (lf) of Coastal Bank, 2,660 sf of Coastal Beach, 97,200 sf of LSCSF, 45,420 of Land Subject to Tidal Action, 66,760 sf Land Containing Shellfish, and107,700 sf of LUO. The project will impact 154,120 sf of flowed tidelands.

As compared to the originally proposed project, the NPC form indicated that the project change would increase land alteration by 3.1 acres and impervious area by 3.0 acres. Supplemental information from the Proponent[5] clarified that the lengthened emergency access ramps will result in a decrease in impervious area of 0.05 acres (compared to the original project) as the access ramps, as proposed in the FEIR, were wider (0.34 acres of impervious) while the lengthened ramps proposed in the NPC will be narrower (0.29 acres of impervious area). According to the supplemental information, there will be no change in total impervious area from the project change as any increase in impervious area (as a result of the 100% design changes) will be offset by removal of portions of a perimeter road (a decrease of 0.13 acres) that was not previously disclosed in the FEIR.

According to the NPC, increased impacts to coastal wetland resource areas are associated with the lengthening of the emergency access ramps (including solid fill base) as well as changes associated with final design (100% design) of the project. The NPC indicates that changes to the project associated with a 100% design included a reduction in the number of piles, from 326 20-inch piles to 300 19-inch piles, and additional impacts associated with landward fill for bulkhead support, new pavement and a stormwater outfall stone apron. Impacts to each coastal wetland resource area associated with the changed project elements are shown in the tables below (by resource area).

[4] MEPA guidance released at the time of the 2022 EJ Maps View update stated that any project for which an EIR Scope was issued prior to January 4, 2023 should continue to apply the EJ mapping in place at the time of the Scope. For this reason, the FEIR filed in December 2022 did not update this information. Given the changes in project design and to update disclosures, this NPC now presents updated EJ Populations reflecting the 2022 EJ Maps update.

[5] Email from Vivian Kimball, VHB to Jennifer Hughes, MEPA, dated June 24, 2025.

Table 1-3 Land Under Ocean Impacts

	FEIR	100% Design[4]	Difference from FEIR to 100% Design
Deck Shading (sf)	107,700	106,406	-1,294 (reduction)
Piles (count/sf)[1]	246/690	229/515	-17 / -175 (reduction)
Egress Ramps and Associated Grading (sf)	N/A	6,874	6,874
Fill Landward of Bulkhead (sf)[2]	N/A	N/A	N/A
Bulkhead Rip Rap Support (sf)[2]	N/A	N/A	N/A
New Pavement (sf)[2]	N/A	N/A	N/A
Stormwater Outfall Stone Apron (sf)[2]	N/A	N/A	N/A
Total (sf)[3]	**107,700**	**113,795**	**6,095**

Table 1-4 Coastal Beach Impacts

	FEIR	100% Design[4]	Difference from FEIR to 100% Design
Deck Shading (sf)	2,170	8,351	6,181
Piles (count/sf)[1]	6/20	14/32	8/12
Egress Ramps and Associated Grading (sf)	490	5,390	4,900
Fill Landward of Bulkhead (sf)[2]	N/A	N/A	N/A
Bulkhead Rip Rap Support (sf)[2]	N/A	N/A	N/A
New Pavement (sf)[2]	N/A	N/A	N/A
Stormwater Outfall Stone Apron (sf)[2]	N/A	10	10
Total[3]	**2,660**	**13,751**	**11,091**

Table 1-5 Coastal Bank Impacts

	FEIR	100% Design[4]	Difference from FEIR to 100% Design
Deck Shading (lf)	310	0	-310 (reduction)
Piles (count/lf)[1]	-	-	-
Egress Ramps and Associated Grading (lf)	80	56	-24 (reduction)
Fill Landward of Bulkhead (lf)[2]	N/A	180	180
Bulkhead Rip Rap Support (sf)[2]	N/A	N/A	N/A
New Pavement (lf)[2]	N/A	417	417
Stormwater Outfall Stone Apron (lf)[2]	N/A	N/A	N/A
Total[3]	390	653	-263 (reduction)

Table 1-6 Land Containing Shellfish Impacts

	FEIR	100% Design[4]	Difference from FEIR to 100% Design
Deck Shading (sf)	58,130	58,226	96
Piles (count/sf)[1]	124/350	120/270	-4 / -80 (reduction)
Egress Ramps and Associated Grading (sf)	8,630	19,408	10,778
Fill Landward of Bulkhead (sf)[2]	N/A	N/A	N/A
Bulkhead Rip Rap Support (sf)[2]	N/A	N/A	N/A
New Pavement (sf)[2]	N/A	N/A	N/A
Stormwater Outfall Stone Apron (sf)[2]	N/A	175	175
Total[3]	66,760	77,809	11,049

Table 1-7 Land Subject to Tidal Action Impacts

	FEIR	100% Design[4]	Difference from FEIR to 100% Design
Deck Shading (sf)	35,960	30,606	-5,354 (reduction)
Piles (count/sf)[1]	70/200	41/92	-39 / -108 (reduction)
Egress Ramps and Associated Grading (sf)	9,460	15,910	6,450
Fill Landward of Bulkhead (sf)[2]	N/A	1,856	1,856
Bulkhead Rip Rap Support (sf)[2]	N/A	3,722	3,722
New Pavement (sf)[2]	N/A	554	554
Stormwater Outfall Stone Apron (sf)[2]	N/A	175	175
Total[3]	45,420	52,813	7,393

Table 1-8 Land Subject to Coastal Storm Flowage Impacts

	FEIR	100% Design[4]	Difference from FEIR to 100% Design
Deck Shading (sf)	92,000	137,700	45,700
Piles (count/sf)[1]	10/30	270/607	260/577
Egress Ramps and Associated Grading (sf)	5,200	24,823	19,623
Fill Landward of Bulkhead (sf)[2]	N/A	68,344	68,344
Bulkhead Rip Rap Support (sf)[2]	N/A	4,535	4,535
New Pavement (sf)[2]	N/A	64,982	64,982
Stormwater Outfall Stone Apron (sf)[2]	N/A	175	175
Total[3]	97,200	300,559	203,359

All square footages are approximate values as they have been rounded to the nearest whole value.

1 The piles were reduced in overall number and size as a result of the design update. There are now a total of 300 eighteen-inch piles.

2 These impacts were not previously included in MEPA filings.

3 Does not include sf associated with piles.

4 Since filing the NPC, design has progressed to 100%. These tables reflect updated numbers based on the final design.

sf = square feet

N/A - not applicable

The project will minimize and mitigate the increased environmental impacts associated with the project change by adhering to time-of-year (TOY) restrictions for marine fisheries; providing a mitigation fee for impacts to LCS; providing 1:1 replacement/restoration of intertidal and subtidal wetland resource areas; installing stormwater management in compliance with the Stormwater Management Standards (SMS); using turbidity curtains around in-water construction and employing erosion and sediment control and other construction best management practices to reduce noise, air and water quality impacts during the construction period.

Jurisdiction and Permitting

The original project was subject to the preparation of a Mandatory EIR pursuant to 301 CMR 11.03(3)(a)(5) because it requires Agency Action and involves a new non-water dependent use or Expansion of an existing non-water dependent structure, provided the use or structure occupies one or more acres of waterways or tidelands. The project also exceeded the ENF threshold at 11.03(3)(b)(1)(f) because it will result in the alteration of one-half or more acres of any other wetland (LUO, Coastal beach, LCS, LSCSF). The original project required a Chapter 91 (c. 91) License (New or Amended) and 401 Water Quality Certification (WQC) from MassDEP. The project will require Federal Consistency Review by the Massachusetts Office of

Coastal Zone Management (CZM). The original project was anticipated to require a Conservation and Management Permit (CMP) from NHESP; however, a conditional "No-Take" determination was received on June 21, 2024. The project continues to require the above permits with the changes disclosed in this NPC; no additional permits or Agency Actions will be required due to the project change.

The project requires an Order of Conditions (OOC) from the Boston Conservation Commission (or in the case of an appeal, a Superseding OOC from MassDEP). The project will require a National Pollutant Discharge Elimination System (NPDES) Stormwater General Permit from the Environmental Protection Agency (EPA). The project will also be subject to review by the FAA under the National Environmental Policy Act (NEPA).

Because Massport, an Agency within the meaning of MEPA, is the Proponent, MEPA jurisdiction is broad and extends to those aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment as defined in the MEPA regulations.

Review of the NPC

The NPC included a description of the original project, the revisions proposed to design, estimates of impacts related to the project change, updated measures to avoid, minimize and mitigate environmental impacts and updated Section 61 Findings. The Proponent provided supplemental information on May 20, 2025 and June 9, 2025 which included a copy of the Notice of Intent plans (prepared for a filing with the Boston Conservation Commission) for the project change and a response to agency input provided during the NPC review period. The Proponent subsequently provided clarification of project impacts via email.[6] For purposes of clarity, all supplemental information provided by the Proponent are included in references to the "NPC," unless otherwise indicated.

Alternatives Analysis

As noted, in advancing the design of the two emergency access/egress ramps, the design/build engineers identified the need for adjustments to achieve the functional and safety requirements for emergency ramps. The NPC acknowledges an increase in impacts associated with the project change and indicates that alternatives were evaluated to avoid/minimize these impacts, while achieving the purpose of the project change to address functional and safety requirements. The NPC evaluated the following alternatives as related to the project change:

- No Emergency Ramps
- A Single Emergency Ramp
- Narrower Emergency Ramps
- Shorter Emergency Ramps (similar to the FEIR design)
- Preferred Alternative

According to the NPC, Massport Fire and Rescue has stated that emergency ramps are essential for incident response and are needed to provide safe footing for both rescue personnel and incident victims. The ramps also facilitate the launching of small boats that could be needed

[6] Email from Vivian Kimball, VHB to Jennifer Hughes, MEPA, dated June 24, 2025.

to rescue individuals further from the shoreline. Eliminating the ramps also fails to achieve the stated purpose of this project change to achieve functional and safety requirements for the ramp system. For these reasons, the No Emergency Ramps Alternative was dismissed.

The Singe Emergency Ramp, which would be constructed on one side of the pile-supported deck only, was considered but rejected because there is no way of predicting where individuals might be stranded in the water; in addition, the grid of pilings would provide obstacles to quick and efficient rescue operations were the incident to occur on the opposite side of the deck from a single ramp. The NPC also notes that in an emergency situation, more access to the water is preferred.

The Narrower Emergency Ramps Alternative would consider a narrower width of the ramps in order to reduce overall wetland impacts. The NPC indicates that the emergency access ramps are proposed to be 25-ft wide, similar to the ramps constructed at the Runway-End 33, and that any dimension narrower would significantly constrain two-way rescue operations. For this reason, the Narrower Emergency Ramps Alternative was dismissed.

The Shorter Emergency Ramps, similar to the design described in the FEIR and incorporated into the Preferred Alternative at the FEIR stage, would not extend into the water at low tide and would severely restrict the launching of a small rescue boat. Also, absent a stable base at the water's edge, movement by rescue personnel and/or victims would be much more difficult in the existing marine substrate. As noted above, these safety issues with the emergency ramps were identified during final design of the project after conclusion of FEIR review. For these reasons, this alternative was dismissed.

During the review period, Agencies requested that the Proponent consider a Pile-Supported Ramp Alternative, in addition to the alternatives described above, as a way to further reduce wetland impacts. Permanent and temporary impacts to wetland resource areas from each alternative are shown in the tables below.

Table 1-1 Permanent Impacts for Access/Egress Ramp Alternatives

		LUO	Coastal Beach	Coastal Bank[1]	LCS	LSTA	LSCSF
Egress Ramp Design	**Previous Disturbance**						
Proposed Design	Prev. Disturbed	--	--	56 lf	4,372 sf	5,694 sf	6,380 sf
	Prev. Undisturbed	6,874 sf	5,390 sf	--	15,036 sf	10,216 sf	18,443 sf
Alternative 2 – Single Ramp	Prev. Disturbed	--	--	56 lf	1,037 sf	2,409 sf	3,273 sf
	Prev. Undisturbed	3,429 sf	4,505 sf	--	9,610 sf	8,237 sf	13,011 sf
Alternative 3 – Narrower Ramps	Prev. Disturbed	--	--	56 lf	4,372 sf	5,741 sf	6,606 sf
	Prev. Undisturbed	4,733 sf	4,408 sf	--	10,580 sf	7,902 sf	13,997 sf
Alternative 4 – Shorter Ramps	Prev. Disturbed	--	--	56 lf	4,372 sf	5,694 sf	6,380 sf
	Prev. Undisturbed	456 sf	5,310 sf	--	8,533 sf	10,126 sf	11,934 sf
Alternative 5 – Pile-Supported Ramps	Prev. Disturbed	--	--	--	263 sf	350 sf	88 sf
	Prev. Undisturbed	438 sf	175 sf	--	175 sf	175 sf	438 sf

1 The Coastal Bank is previously disturbed and is a manmade structure. Linear foot impacts measured along Top of Coastal Bank (existing contour 9.0 feet), near the seaward end of the current runway. There are no differences in impacts to Coastal Bank as all alternatives would result in the same impacts at this location.

LUO = Land Under Ocean, LCS = Land Containing Shellfish, LSTA = Land Subject to Tidal Action, LSCSF = Land Subject to Coastal Storm Flowage

Table 1-2 Temporary Impacts for Access/Egress Ramp Alternatives

Egress Ramp Design	Previous Disturbance	LUO	Coastal Beach	Coastal Bank[1]	LCS	LSTA	LSCSF
Proposed Design	Prev. Disturbed	--	--	14 lf	711 sf	783 sf	2,511 sf
	Prev. Undisturbed	1,998 sf	1,016 sf	--	3,861 sf	2,265 sf	5,513 sf
Alternative 2 – Single Ramp	Prev. Disturbed	--	--	14 lf	385 sf	454 sf	2,182 sf
	Prev. Undisturbed	1,009 sf	845 sf	--	2,501 sf	1,736 sf	3,994 sf
Alternative 3 – Narrower Ramps	Prev. Disturbed	--	--	14 lf	711 sf	783 sf	2,511 sf
	Prev. Undisturbed	1,834 sf	1,038 sf	--	3,902 sf	2,393 sf	5,475 sf
Alternative 4 – Shorter Ramps	Prev. Disturbed	--	--	14 lf	711 sf	783 sf	2,511 sf
	Prev. Undisturbed	701 sf	1,093 sf	--	2,790 sf	2,356 sf	4,283 sf
Alternative 5 – Pile-Supported Ramps	Prev. Disturbed	--	--	--	5,237 sf	7,315 sf	8,018 sf
	Prev. Undisturbed	7,523 sf	3,050 sf	--	9,713 sf	3,051 sf	7,523 sf

1 The Coastal Bank is previously disturbed and is a manmade structure. Linear foot impacts measured along Top of Coastal Bank (existing contour 9.0 feet).

The NPC notes that pile-supported ramps would result in substantial reductions in permanent impacts to wetland resource areas compared to the proposed design; however, temporary impacts would at least double due to the need for coffer dams to facilitate construction. Furthermore, although the direct fill impacts would be mostly limited to the footprint of the piles and pile caps, the ramp decks would be fairly close to the surface of the existing mudline, especially as the ramps approach MLLW, and, therefore, there would likely be additional fill impacts for scour protection under the deck. The area around the ramp decks would also likely be heavily shaded, limiting its habitat value. The DEIR previously noted that the hard surface of the ramps and adjacent sloped riprap/rock would provide new blue mussel habitat. According to the NPC, the emergency repair of pile-supported decks would also be more complicated and would take much longer than repair of a rock slope. Lastly, the sudden drop off the sides of the ramps poses a safety concern even if railings are installed. Because ensuring safety of passengers during emergency events is the primary objective of the project, the pile-supported alternative was determined to be an inferior alternative to achieve safety goals and was dismissed.

The Preferred Alternative, as described in the NPC, will include a solid fill base (sloped rip rap/rock) and will extend to one foot below MLLW, which Massport has determined is the design which best supports safe movement of rescue equipment, personnel and/or victims. The NPC indicates that while this increases wetland impacts, it is the design that best achieves the purpose of the project change to provide safe and efficient access for rescue and firefighting personnel (and equipment) during an emergency. As discussed further below, comments from Agencies indicated that the proposed design involves a significant amount of solid fill and armoring on the coastal beach, intertidal flats, and land under the ocean. Given the extent of fill associated with the emergency ramp expansions and grading changes, revisions to the mitigation package currently proposed are needed.

Environmental Justice

As noted above, the NPC provided an updated characterization of EJ populations based on the 2022 EJ Maps update, which was released after FEIR submittal. The project site is located within one EJ population characterized as Minority and is within one mile of two additional EJ populations characterized by Minority (Census Tract 1805 Block Group 3)[7] and Income (Census Tract 1802 Block Group 3). Within the Census Tracts containing the above EJ populations within the DGA, the following languages are identified as those spoken by five percent of more of residents who also identify as not speaking English very well: Spanish and Spanish Creole. The project site is within a census tract (9813.00) and within one mile of a census tract (9801.01)[8] in which five percent or more of the population have limited English proficiency (LEP) and are identified as speaking Spanish or Spanish Creole as their primary language (20.2% and 6.4%, respectively).

The NPC described public involvement activities conducted prior to filing the NPC, including advance notification of the project to a list of project-specific community-based organizations (CBOs) and tribes/indigenous organizations (the "EJ Reference List") developed by the Proponent from a list provided by the MEPA Office. The NPC is also posted on Massport's website in addition to a public outreach plan previously included in the FEIR (Appendix E.4). The NPC included an introductory letter (translated into Spanish) summarizing the project change and providing contact information for the project.

Based on the updated EJ mapping above, the NPC provided an updated baseline assessment of any existing unfair or inequitable Environmental Burden and related public health consequences impacting EJ populations in accordance with 301 CMR 11.07(6)(n)1. and the MEPA Interim Protocol for Analysis of EJ Impacts. According to the NPC, the data surveyed show some indication of an existing "unfair or inequitable" burden impacting the identified EJ populations. The DPH EJ Tool identifies the City of Boston and four Census Tracts in Winthrop (Tracts 1802, 1804, and 1805) within the one mile DGA as exhibiting "vulnerable health EJ criteria"; this term is defined in the DPH EJ Tool to include any one of four environmentally related health indicators that are measured to be 110% above statewide rates based on a five-year rolling average.[9] Specifically, vulnerable health EJ criteria are met for the following parameters:

- Childhood asthma (Boston)
- Childhood blood lead (Winthrop Census Tracts 1802, 1804, and 1805)
- Low birth weight (Winthrop Census Tract 1805)

[7] This EJ population is incorrectly identified in the NPC as Census Tract 1804 Block Group 2.
[8] Note that this census tract does not contain any EJ Populations as defined in 301 CMR 11.02. However, language outreach is still required under MEPA EJ protocols. As noted, the same languages were identified as spoken by LEP residents within EJ Populations in the DGA, and language services were offered in those languages.
[9] See https://matracking.ehs.state.ma.us/Environmental-Data/ej-vulnerable-health/environmental-justice.html. Four vulnerable health EJ criteria are tracked at the municipal level in the DPH EJ Viewer (heart attack hospitalization, childhood asthma, childhood blood lead, and low birth weight); of these, two (childhood blood lead and low birth weight) are also available at the census tract level.

In addition, supplemental information provided for the NPC indicates that the following sources of potential pollution exist within the one mile DGA, based on the mapping layers available in the DPH EJ Tool:

- Major air and waste facilities: 3
- M.G.L. c. 21E sites: 2
- "Tier II" toxics use reporting facilities:
- MassDEP sites with AULs: 1
- MassDEP public water suppliers: 2
- Underground Storage Tanks: 1
- Transportation infrastructure: 1 (Logan Airport)
- MBTA bus and rapid transit: (11 bus routes and 1 rapid transit line – Blue Line)

Although not required by the MEPA Interim Protocol for Analysis of EJ Impacts, the DEIR and FEIR surveyed environmental indicators tracked through the U.S. EPA's "EJ Screen." According to the NPC, there have been no changes to the findings related to the EJ Screen since the filing of the DEIR and FEIR. Namely, the one-mile project buffer area displays 4 out of the 12 environmental indicators at or above the 80th percentile: diesel particulate matter (DPM) concentrations, National Air Toxics Assessment (NATA) cancer risk, NATA non-cancer risk, and lead paint exposure.

As previously noted in the FEIR, temporary construction impacts associated with the project are expected to include marine vessel trips which will generate additional GHG emissions. The FEIR previously described the anticipated routes of these marine vessels, indicating that the contractor's offsite yard will likely be in Quincy, East Boston, or Charlestown. It is anticipated that barges and other vessels supporting construction would operate in an area up to 220 feet on either side of the footprint of the RSA deck for two 60-day runway closure periods. The FEIR indicated that the nearest residences are 2,400 feet from the project. The FEIR also previously noted the location of other sensitive receptors including schools, daycare centers, children's health clinics, or any other concentrated populations of children, indicating that the closest facility is a daycare in Winthrop, approximately 5,000 feet north of the project site. The NPC indicates that all short-term construction impacts are expected to be limited to on-Airport roadways with minimal impact to local roadways. All trucks would access the site by Route lA, Interstate 90, and the main Airport roadways only. Trucks would be prohibited from using local streets unless they are seeking construction-related access to or from local businesses. The FEIR previously detailed how flights redirected during the Runway 27 closure might impact EJ populations as flights will temporarily shift to other runways. The FEIR notes that the approach and departure routes depend on FAA air traffic control safety determinations including wind and weather. While the airport is surrounded by communities containing both EJ and non-EJ populations, it is not expected that any one population will be disproportionately affected. The NPC indicates that the project expects a maximum of 38 total daily construction truck trips and is expected to have minimal impact on Airport or regional roadways. The NPC also indicates that no additional construction period impacts are expected due to the project change.

The NPC notes that while the project is identified as having a high exposure to extreme precipitation (urban flooding) and sea level rise/storm surge, the project site and immediately

adjacent areas do not contain any residential areas and therefore, the project is not expected to impact EJ populations.

Impervious Area and Stormwater

The FEIR previously reported that the project would increase impervious area by 3.3 acres of RSA deck over open water and by 0.5 acres of perimeter road pavement and approach slab some of which is in currently grassed uplands. Supplemental information provided during the review period clarified that the FEIR did not include a 0.2 acre portion of the approach slab located over the existing crushed rock Inclined Safety Area (ISA). With this area included, the total impervious area should be 4.0 acres (not 3.8), as reported under "previously reviewed" in the NPC impact table.

According to the NPC form, the project change will result in an approximately 3.1 acre increase in impervious area; however, in supplemental information, Massport confirmed that while there are increases in wetland impacts, there will be no increase in impervious area. As noted above, the longer ramps will be narrower than those proposed in the FEIR, and additional areas of perimeter roadway will be removed resulting in no change in impervious area as reported in the FEIR (4.0 acres). The NPC notes that the increase does not meet or exceed any new review thresholds. The NPC indicates that in response to coordination with MassDEP, stormwater improvements have been added to the design to handle stormwater from the deck. This stormwater will be directed to a nearby outfall which provides water quality treatment; that change will require additional minimal impacts to upsize the outfall appropriately. The upsized outfall will require a stone apron that will alter approximately 10 sf of Coastal Beach/Mud Flat, 175 sf of LSCSF, and 175 sf of LCS/LSTA. The proposed stormwater management will be subject to review and approval by the Boston Conservation Commission under a Notice of Intent filing (or in the case of an appeal, a Superseding Order of Conditions from MassDEP).

Wetlands and Fisheries

As noted above, the following wetland resource areas will be impacted by the project change: 18,958 sf (15,910 permanent, 3,048 sf temporary) of LSTA, 6,496 sf (5,390 sf permanent, 1,106 temporary) of Coastal Beach, 32,874 sf (24,823 sf permanent, 8,024 sf temporary) of LSCSF (100-year Floodplain), 8,872 sf (6,874 permanent, 1,998 temporary) of LUO, and 20,482 sf (15,910 sf permanent, 4,572 temporary sf) of LCS. The NPC indicates that total impacts associated with the emergency ramps is approximately 168,071 sf (some resource areas overlap), which includes impacts associated with the shorter ramps reported in the FEIR.

According to the NPC, Massport will be required to provide a plan for replacement of all permanent intertidal and subtidal areas (Coastal Beach, LUO, and LCS) impacted by the project change in subsequent permitting. In the FEIR, Massport proposed a wetland mitigation goal of 1:1 restoration or replacement of approximately 1,200 sf of filled wetland area (impacts associated with RSA deck piles and shorter emergency ramps) via construction or restoration of mud flat based on current USACE and MassDEP guidance. Massport indicates that it is committed to meeting this 1:1 goal with respect to the additional impacts associated with the project change. In close coordination with the permitting agencies, mud flat mitigation is expected to be provided in the form of shoreline restoration within Boston Harbor. In coordination with the USACE, Massport will provide a payment to the Massachusetts

Department of Fish and Game In-Lieu Fee program, as recommended by Division of Marine Fisheries (DMF), for the impacts to shellfish resources and shellfishing. Additionally, Massport will conform to the Time of Year Restriction during construction to protect spawning winter flounder, manage and treat stormwater runoff in compliance with MA Stormwater Management Standards, develop and conduct Erosion and Sedimentation Control Program, and use turbidity curtains for the in-water construction work areas.

Comments from MassDEP indicate that payment of an in-lieu fee does not meet the performance standards contained in the Wetlands Protection Regulations for all resource areas, and that Massport should evaluate additional mitigation measures to address the increased impacts to wetland resource areas from the project change. Comments from CZM and MassDEP note that Massport has proposed a preliminary mitigation site (the Saratoga Street Mitigation Project) but states that this site may be insufficient to fully mitigate the impacts on coastal and marine resources associated with the project. In addition, Agencies have raised concern with expanding the proposed excavation of filled tidelands at the mitigation site to extend beyond the limits of the existing solid fill pier at Saratoga Street, as this may cause unintended impacts on the adjacent roadway. These concerns were expressed at the inter-agency meeting regarding the Saratoga Street Mitigation area on May 6, 2025. Comments indicate that Massport should analyze potential indirect impacts of design at the mitigation parcel and propose additional mitigation to address the increased impacts from the project change. Proposed work at the mitigation site, in addition to any additional mitigation that may be required for this project, is anticipated to undergo separate MEPA review, and full disclosures of impacts will be provided at that time.

Comments from the DMF include recommendations for TOY restrictions (February 15 to June 30); erosion and sediment control (recommending use of a turbidity curtain, conducting work in the "dry" at low tide, avoiding storage of construction material/equipment in the intertidal zone, and working in the intertidal zone from either a floating barge or from upland portions of the site to the extent practicable); post-construction site access (DMF concurs that badged shellfishers will be allowed access to the site following construction); and mitigation in the form of replacement and restoration. Comments from DMF include additional recommendations related to mitigation as follows:

- DMF supports the compensatory mitigation outlined in both Massport's proposed restoration at Saratoga Street and EPA's recommended restoration in the Rumney Marsh. DMF notes that the recommended Rumney Marsh restoration provides an opportunity to provide compensatory mitigation of a magnitude that it believes to be commensurate to the impact of the project. DMF is concerned that the proposed Saratoga Street restoration alone is insufficient to mitigate for the project's impacts.
- DMF also notes that the proposed Saratoga Street restoration effort is within shellfish growing area GBH5.14 classified as Prohibited for shellfish harvest and the recommended Rumney Marsh restoration effort is within shellfish growing area N26.6 also classified as Prohibited for shellfish harvest. The LCS impacted by the project includes shellfish growing areas classified as Conditionally Restricted for shellfish harvest. Thus, while restoration efforts at Saratoga Street and/or Rumney Marsh may provide replacement shellfish habitat, they will not provide replacement opportunity for shellfishing in Boston Harbor.

- DMF notes in-kind mitigation of impacts to shellfishing resources in Boston Harbor may not be feasible. Specifically, following review of the performance of previous shellfish restoration efforts in Boston Harbor and the current suitability of Boston Harbor for shellfish restoration, DMF does not believe a contribution to the DMF shellfish restoration program is an optimal means to mitigate the project's impacts to shellfish resources and shellfishing.
- In order to provide a possibility for project mitigation to occur in areas where shellfishing opportunities are available, DMF continues to support compensatory mitigation via payment into the USACE In-Lieu-Fee Program.
- DMF requests Massport continue to coordinate with regulatory agencies to identify appropriate mechanisms to mitigate for project impacts.

As noted, Massport indicates that it remains committed to a 1:1 restoration or replacement goal to account for the wetland impacts of the project, including the increased impacts of the project change. However, the details of the mitigation, including the design of the Saratoga Street Mitigation Project, are not yet finalized. Massport should continue to work with resource agencies to refine and finalize design of the Saratoga Street Mitigation Project with supplemental mitigation as appropriate. As noted, work proposed at the Saratoga Street Mitigation Project site, together with any additional mitigation that may be required for this project, is anticipated to be the subject of separate MEPA review. Final mitigation commitments for this project should continue to be updated through subsequent permitting, including Chapter 91 licensing, 401 WQC, and CZM Federal Consistency.

Chapter 91 and Tidelands

The NPC indicates that as a result of the project change, additional areas of flowed tidelands will be impacted. The NPC notes that the safety improvements would be constructed within the Logan Airport Security Zone and would be approximately 175 feet from the edge of the navigation channel at its nearest point. As previously stated in the FEIR, the proposed RSA deck would not limit vessel navigation outside the deck or between the deck and the navigation channel. Changes to the emergency ramps would also not affect vessel navigation. Comments from the MassDEP Waterways Program (MassDEP Waterways) note that the proposed project change identified in the NPC does not appreciably change the project as related to Chapter 91 and the regulations at 310 CMR 9.00, but note that the NPC did not specify the proposed mitigation measures/compensation with respect to c.91 requirements as stipulated in 310 CMR 9.21 and 9.55. The FEIR stated that the project would be located up to 460 feet seaward of the State Harbor Line and indicated that the Massport Enabling Act[10] "grants the authority broad authorization for Massport to utilize adjacent underwater areas for airport purposes that should arise in the future." Comments from MassDEP Waterways on the FEIR stated that the Department did not agree with this statement but that this jurisdictional matter could be worked out during licensing. Comments MassDEP Waterways on the NPC state that the c.91 License will ensure that the project adequately mitigates for unavoidable impacts to c.91 interests. The NPC indicates that Massport submitted a c.91 application with a request for a variance on August 20, 2024 which is currently being reviewed by MassDEP Waterways.[11] As noted by MassDEP

[10] 7 Massachusetts Port Authority Enabling Act, Chapter 465 of the Acts of 1956, Section 4, Paragraph 6.
[11] The ENF previously identified that the permitting pathway for this project was a Variance. The project changes do not affect this determination.

Waterways, the c.91 application for variance will need to be modified to include the project changes disclosed in the NPC.

Public Benefit Determination (PBD)

The project site is comprised of tidelands subject to the provisions of *An Act Relative to Licensing Requirements for Certain Tidelands* (2007 Mass. Acts ch. 168) and the Public Benefit Determination (PBD) regulations (301 CMR 13.00). A PBD for the project was issued on February 23, 2024 and determined that the previously reviewed project would have a public benefit. As noted, MassDEP Waterways has confirmed that the project change identified in the NPC does not appreciably change the project as related to Chapter 91 and regulations at 310 CMR 9.00. The site does not contain landlocked tidelands outside areas subject to Chapter 91 licensing and MassDEP jurisdiction. Accordingly, I will not issue an Amended PBD.

Rare Species

As noted above, the proposed project site is mapped as *Priority Habitat* for a state-listed species: Upland Sandpiper (*Bartramia longicauda*), Endangered and Eastern Meadowlark (*Sternella magna*), Special Concern as indicated in the *Massachusetts Natural Heritage Atlas* (15th Edition). The NPC indicates that the project change will decrease the amount of permanent grassland impacts from 22,000 sf to 15,000 sf. The existing and temporary perimeter roads would be removed and reseeded at the conclusion of construction. Additionally, the majority of fill landward of the bulkhead would be restored to grassland habitat. During construction, 29,000 sf of grassland will be temporarily altered for during in order to reroute the perimeter road around the project site. As noted above, NHESP issued a Conditional No-Take on June 21, 2024. Comments from NHESP[12] indicate that the project change reduces permanent impacts; however temporary impacts have increased. Comments state that NHESP has approved the changes as consistent with the previous Conditional No-Take Determination.

Mitigation and Draft Section 61 Findings

The NPC summarizes the proposed mitigation measures provided in the FEIR and includes revised Section 61 Findings for the project with the changes described in the NPC. It contains commitments to implement these mitigation measures, identifies the parties responsible for implementation, and includes a schedule for implementation. These draft Section 61 Findings should be provided to Agencies to assist in the permitting process and issuance of final Section 61 Findings. As an Agency undertaking the project, Massport should also issue Section 61 Findings including all mitigation commitments for the project. As described in the NPC, the Proponent has committed to implement the following measures to avoid, minimize and mitigate Damage to the Environment.

Environmental Justice/Public Health

- Continue public outreach as outlined in the *Updated EJ Outreach Plan* included in the FEIR
- Minimize engine idling in accordance with Massachusetts anti-idling regulations.

[12] Email from Amy Hoenig, NHESP, to Jennifer Hughes, MEPA dated June 23, 2024.

- Retrofit appropriate diesel construction equipment with diesel oxidation catalysts and/or particulate filters to minimize emissions
- Barges and other vessels will operate in an area up to 220 feet on either side of the RSA deck for two 60 day closure periods. The nearest residences are 2,400 feet from the project and the nearest sensitive receptor (a daycare in Winthrop) is approximately 5,000 ft to the north
- Trucks carrying construction materials, equipment, and personnel would have a minimal, temporary impact on ground transportation in the vicinity of Logan Airport. Construction vehicles would be prohibited from local roads

Wetlands and Fisheries

- Provide 1:1 replacement/restoration of intertidal and subtidal wetlands impacted by piles and egress ramps
- Provide stormwater management system to control and treat stormwater runoff in compliance with the Massachusetts Stormwater Management Standards
- Implement winter flounder time-of-year (TOY) restriction from February 15 to June 30 for in-water construction activities
- Provide mitigation fee to DMF for off-site restoration
- Provide Mud Flat mitigation in the form of shoreline restoration in Boston Harbor
- Use turbidity curtains for in-water construction
- Continue to coordinate with resource agencies to finalize the design of the Saratoga Street Mitigation Program with supplemental mitigation as appropriate to fully mitigate for impacts of the project change. Work required at mitigation sites is anticipated to undergo separate MEPA review.

Chapter 91 and Tidelands

- Continue to allow shellfish harvesting by licensed clammers within the Security Zone with prior notice from DMF.

Rare Species

- Provide 1:1 replacement of lost upland grassland habitat

Climate Change

- Elevate the RSA deck above the projected water surface elevation for the 100-year storm in 2070. The project is not able to meet the elevation to be above the 200-year storm event of 2070 (as provided by the output report from the MA Resilience Tool) because it is not possible to raise the runway system

Construction Period

- Develop and implement a comprehensive Soil Erosion and Sediment Control Plan in accordance with NPDES and MassDEP standards.
- Apply water to dry soil to prevent fugitive dust.

- Maintain mufflers on construction equipment.
- Minimize engine idling in accordance with Massachusetts anti-idling regulations.
- Retrofit appropriate diesel construction equipment with diesel oxidation catalysts and/or particulate filters.
- Fit any air-powered equipment with pneumatic exhaust silencers.
- Implement construction worker vehicle trip management techniques.

Conclusion

The NPC has sufficiently described the nature and general elements of the project for the purposes of MEPA review and described measures to avoid, minimize and mitigate the environmental impacts of the project change. Comments from Agencies do not request additional MEPA review. Accordingly, I find that an EIR is not required for this project change.

June 30, 2025
Date

Rebecca L. Tepper

Comments received:

01/05/2023 John Vitagliano (resubmitted 05/13/2025)
05/20/2025 Division of Marine Fisheries (DMF)
06/17/2025 Office of Coastal Zone Management (CZM)
06/20/2025 MassDEP Waterways Regulation Program (WRP)
06/20/2025 MassDEP NERO
06/23/2024 NHESP (via email)

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B. Comment Letters and Responses to Comments

The Secretary received comment letters on the *2022 ESPR* from the following agencies, organizations, and public commenters. Massport has provided responses to the comments raised, following each comment letter.

1. Massachusetts Department of Energy Resources B-2
2. City of Boston B-14
3. Town of Milton B-54
4. Airport Impact Relief, Inc. (AIR, Inc.) B-105
5. BlueSkies Advocates B-203
6. Conservation Law Foundation (CLF) B-207
7. Massport Community Advisory Committee B-231
8. Mothers Out Front B-240
9. Christopher Eliot, PhD B-243
10. Aubrey Harnett B-250
11. Regina Marchi B-253
12. Amy McCoy B-257
13. Gail Miller B-266
14. Donna Reilly B-269
15. Fred Salvucci B-274
16. Nancy Timmerman B-286

1. Massachusetts Department of Energy Resources

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF
ENERGY AND ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENERGY RESOURCES
100 CAMBRIDGE ST., SUITE 1020
BOSTON, MA 02114
Telephone: 617-626-7300
Facsimile: 617-727-0030

Maura Healey
Governor

Kim Driscoll
Lt. Governor

Rebecca Tepper
Secretary

Elizabeth Mahony
Commissioner

17 October 2024

Rebecca Tepper, Secretary
Executive Office of Energy & Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02114
Attn: MEPA Unit

RE: 2022 Environmental Status and Planning Report, Boston Logan International Airport, Boston EEA #3247

cc: Jo Ann Bodemer, Director of Energy Efficiency, Department of Energy Resources
Elizabeth Mahony, Commissioner, Department of Energy Resources

Dear Secretary Tepper:

We've reviewed the Environmental Status and Planning Report (ESPR) for 2022 (published May 2024) for Boston Logan International Airport. Environmental Status and Planning Reports (ESPRs), filed periodically, complement Environmental Data Reports (EDRs), filed annually. Many of the recommendations presented below were also contained in our 31 January 2023 comments on the most recent EDR.

The scope of our review and recommendation is limited to decarbonization and emissions reduction of Logan's buildings and power plant.

Executive Summary

It's recommended that Logan upgrade its new building standards to mandate the Specialized Code with electrification. For existing building renovations, mandate low air infiltration and ventilation energy recovery when renovating. Finally, reassess central plant heating utilization based on fossil fuel elimination strategy described herein.

Recommendations

- New building design standards should be updated to mandate conformance with the all-electric pathway of the Massachusetts Specialized Opt-in Code. The ESPR states that both electrification and meeting the Opt-in are only "encouraged". This is out of step with current decarbonization state of practice now routinely being delivered across the Commonwealth. Committing to this standard would greatly advance the building component of Massport's stated goal of net zero. The Specialized Opt-in Code, which results in unprecedented building decarbonization, is **already mandatory in Boston and in more than 40 other communities**. In almost all cases, building projects choose the all-electric pathway of this code. New buildings are now routinely built to this standard across Massachusetts. Massport should elevate the all-electric pathway of the Opt-in from being just "encouraged" to mandatory. 1-1 1-2

- For existing building renovations, Massport should mandate the following as part of the renovation: 1-3
  - Air infiltration and ventilation energy recovery standards of the Massachusetts Stretch Code.
  - If the scope of the project includes replacement of punched windows, conformance to Stretch Code fenestration standards and thermal bridge mitigation of the fenestration/exterior wall intersection.
  - Or, alternatively to above two sub-bullets, meet the Enerphit standard.

- Commit to no new fossil fuel boilers (or furnaces) for space heating and create a decommissioning plan for existing fossil fuel boilers and furnaces, if any. 1-4

- Commit to no new fossil fuel water heating and create a decommissioning plan for existing fossil fuel water heating, if any. 1-5

- Develop and commit to a decarbonization plan for the central heating and power plant to transition off fossil fuels based on the following approach: 1-6
  - Minimize electric power production to lowest possible level (preferably eliminating power production) and reassess amount of recovered heat using the following process: 1-9
    - Assess whether ongoing power production is necessary;
    - Assess whether power equipment can be reduced to emergency backup only, with no regular production; 1-10
    - Reduce regular electric power production to zero, if possible; 1-11
    - If regular power production is necessary, assess the quantity of recoverable heat than can be captured based on the lowest possible level of power production (e.g. "*recovered heat*"); 1-12
    - Ideally, *recovered heat* will be zero based on being able to eliminate power production, and thus fossil fuels.

- Assess the maximum heating output feasible using new central heating plant based on electric heat pumps sourced from air, ground, and/or Boston Harbor (e.g. "*heat pump heat*"). This value will be based on available space and, in the case of Boston Harbor source, environmental and water access constraints. 1-7
    - Heat production should be from electric heat pumps and no electric resistance should be used.
- Estimate total available for building space heating as: *recovered heat + heat pump heat*
    - In the likely circumstance that this total is less than the heat currently recovered from the heating plant, quantify the difference and undertake a program to reduce central plant heating use to meet this total by swapping central plant heating with in-building heat pump retrofits. 1-8
    - In the circumstance that this total is more, downsize air- water- Boston Harbor- source heat pump plant to meet the need.
- Assess option of eliminating central plant heating by converting all building heating to in-building heat pumps. 1-13

Sincerely,

Paul F. Ormond, P.E.
Energy Efficiency Engineer
Massachusetts Department of Energy Resources

Massachusetts Department of Energy Resources Comment Responses

1-1: Air Quality/Emissions Reduction (GHG)

New building design standards should be updated to mandate conformance with the all-electric pathway of the Massachusetts Specialized Opt-in Code.

As discussed above and in Comment A-69 in **Appendix A, *MEPA Certificate and Responses to Comments*,** Massport has established a new benchmark for sustainable development as part of its *Roadmap Net Zero by 2031* program in response to Department of Energy Resources (DOER)'s comment letter. While the adoption of the Massachusetts Specialized Opt-in Code with the All-Electric Pathway is still optional for municipalities, Massport will meet the same standards and achieve the same outcomes as this will be integral to achieving the *Roadmap Net Zero by 2031* Program's goals.

Additionally, the recently updated Massport *Sustainable Design Guidelines* (SDGs) are based on the latest and most stringent building energy codes in the Commonwealth of Massachusetts along with reputable third-party sustainability rating systems. 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™ Leadership in Energy and Environmental Design (LEED®) rating system, Green Business Certification Inc.™ ParkSmart® rating system, and the Institute for Sustainable Infrastructure™ Envision® rating system. Given Massport's internal directives and the mandated SDGs, projects built on Massport property are already required, when feasible, to meet more stringent standards than the state's baseline codes, including the Massachusetts Specialized Opt-in Code with the All-Electric Pathway option.

For more information on Massport's on-going initiatives and investments to achieve Net Zero GHG emissions for its Scope 1 and Scope 2 sources by 2031 refer to **Chapter 11, *Sustainability and Climate Resilience***. The SDG requirements are summarized in **Section 11.1.2.1 of Chapter 11** and the full publication is available at https://www.massport.com/environment/sustainability/sustainable-design-and-construction.

1-2: Air Quality/Emissions Reduction (GHG)

Massport should elevate the all-electric pathway of the Opt-in from being just encouraged to mandatory.

As discussed above in Comment 1-1 and in Comment A-69 in **Appendix A, *MEPA Certificate and Responses to Comments*,** Massport has established a new benchmark for sustainable development as part of its *Roadmap Net Zero by 2031* program in response to DOER's comment letter. This standard is based on the latest and most stringent building energy codes in the Commonwealth of Massachusetts, along with reputable third-party sustainability rating systems. Given Massport's internal directives and the mandated SDGs, projects built on Massport property are already required, when feasible, to meet more stringent standards than the state's baseline codes, including the Massachusetts Specialized Opt-

in Code with the All-Electric Pathway option. However, Massport will still encourage projects with vertical components to follow the current version of the Massachusetts Stretch Energy and Municipal Opt-In Specialized Building Code. Of the three compliance pathways available, projects are encouraged to follow the "All Electric" pathway.

For more information on Massport's on-going initiatives and investments to achieve Net Zero GHG emissions for its Scope 1 and Scope 2 sources by 2031 refer to **Chapter 11, *Sustainability and Climate Resilience***. The SDG requirements are summarized in **Section 11.1.2.1 of Chapter 11** and the full publication is available at https://www.massport.com/environment/sustainability/sustainable-design-and-construction.

1-3: Air Quality/Emissions Reduction (GHG)

For existing building renovations, Massport should mandate the following as part of the renovation:

- **Air infiltration and ventilation energy recovery standards of the Massachusetts Stretch Code.**
- **If the scope of the project includes replacement of punched windows, conformance to Stretch Code fenestration standards and thermal bridge mitigation of the fenestration/exterior wall intersection.**

As discussed above in Comment 1-1, Massport has recently updated Massport *Sustainable Design Guidelines* (SDGs), which are based on the latest and most stringent building energy codes in the Commonwealth of Massachusetts along with reputable third-party sustainability rating systems. *Section C: Technology and Structure Design Guidelines, Measure 4, Heating, Ventilation, And Air Conditioning (HVAC) Systems – Occupied* requires "one or more of the following energy-efficient mechanical systems has been installed in equipment serving the occupied spaces: geothermal heat pumps (GHP), air source heat pumps (ASHP), variable-frequency drive (VFD), variable refrigerant flow (VRF), heat recovery ventilation/energy recovery ventilation (HRV/ERV)."

The SDGs further stipulate that, "In alignment with the Massachusetts State Building Code and Stretch Energy Code, achieve enhanced insulation levels across all building components and include high-performance windows with low U-values and appropriate solar heat gain coefficient (SHGC) values to maximize energy efficiency and comfort. Mitigate thermal bridging by implementing a continuous thermal insulation barrier and by using thermal break materials at window and door frames, structural framing that crosses the thermal envelope, and slab edges. Apply air sealing to all joints, seams, and penetrations. Conduct building leakage testing to ensure results are less than 0.35 cfm/sf @75 Pa. Install reflective roofing materials to deflect heat and reduce cooling loads."

The SDG requirements are summarized in **Section 11.1.2.1 of Chapter 11** and the full publication is available at https://www.massport.com/environment/sustainability/sustainable-design-and-construction.

1-4: Air Quality/Emissions Reduction (GHG)

Commit to no new fossil fuel boilers (or furnaces) for space heating, and create a decommissioning plan for existing fossil fuel boilers and furnaces, if any.

Massport has recently updated the SDGs, as discussed above in Comment 1-1, which are based on the latest and most stringent building energy codes in the Commonwealth of Massachusetts along with reputable third-party sustainability rating systems. The SDG requirements are summarized in **Section 11.1.2.1 of Chapter 11** and the full publication is available at https://www.massport.com/environment/sustainability/sustainable-design-and-construction.

In *Section 5.2, Additional Vertical Project Guidelines*, the SDGs state that, "On a project-by-project basis, Project Teams shall evaluate the available power capacity needed to provide new, fully electric systems and equipment. All existing systems and equipment running on fossil fuels should be evaluated to determine the end of their useful service life. If fossil fuel equipment is identified within the project boundary and has less than three years of service life remaining, this equipment should consider replacement with electric-powered or clean fuel alternatives."

In addition, the SDGs' *Attachment B, Sustainability Guidelines Compliance Checklist* provides direction on completing an inventory of such equipment and documenting remaining service life estimates, and stipulates that fossil fuel systems and equipment with less than three years remaining service life must be replaced with electric-powered alternatives.

1-5: Air Quality/Emissions Reduction (GHG)

Commit to no new fossil fuel water heating, and create a decommissioning plan for existing fossil fuel water heating, if any.

The recently updated SDGs, as discussed above in Comment 1-4, require project teams to evaluate the feasibility of installing new, fully electric systems and equipment in new buildings and renovations. Existing systems and equipment running on fossil fuels identified as having less than three years of service life remaining will be considered for replacement with electric-powered or clean fuel alternatives. This would include water heating equipment. In addition, the SDGs' *Attachment B, Sustainability Guidelines Compliance Checklist* provides direction on completing an inventory of such equipment and documenting remaining service life estimates. Attachment A in the SDGs further mandates that project design considerations must also include options for low-temperature hot water for building hydronic systems and hydronic heat recovery. For more information, refer to **Section 11.1.2.1 of Chapter 11,** and the full SDG publication available at: https://www.massport.com/environment/sustainability/sustainable-design-and-construction.

1-6: Air Quality/Emissions Reduction (GHG)

Develop and commit to a decarbonization plan for the central heating and power plant to transition off fossil fuels based on the following approach: minimize electric power production to lowest

possible level (preferably eliminating power production), and reassess amount of recovered heat using the following process:

- **assess whether ongoing power production is necessary;**
- **assess whether power equipment are reduced to emergency backup only, with no regular production;**
- **reduce regular electric power production to zero, if possible;**
- **if regular power production is necessary, assess the quantity of recoverable heat than are captured based on the lowest possible level of power production (e.g. "recovered heat");**
- **ideally, recovered heat will be zero based on being able to eliminate power production, and thus fossil fuels.**

Massport appreciates the suggestion regarding a recommended approach for decarbonizing Logan Airport's Central Heating and Power (CHP) Plant. Massport will consider how to integrate this approach into its planning and assessments regarding the feasibility of possible CHP alternatives or retrofits as part of implementing the *Roadmap Net Zero by 203*1 Program.

Massport remains dedicated to achieving its Net Zero goals and will continue to explore innovative approaches to decarbonization. This includes assessing the feasibility of minimizing electric power production and transitioning to alternative energy sources. Additionally, Massport will evaluate the necessity of on-going power production and explore the potential to reduce operations to emergency backup only. However, these evaluations will also consider operational continuity, current aviation safety regulations, and facility energy requirements before making a final determination on the feasibility of this approach.

1-7: Air Quality/Emissions Reduction (GHG)

Develop and commit to a decarbonization plan for the central heating and power plant to transition off fossil fuels based on the following approach: assess the maximum heating output feasible using new central heating plant based on electric heat pumps sourced from air, ground, and/or Boston Harbor (e.g. "heat pump heat"). This value will be based on available space and, in the case of a Boston Harbor source, environmental and water access constraints. Heat production should be from electric heat pumps, and no electric resistance should be used.

Massport acknowledges the importance of transitioning to sustainable heating solutions as part of achieving its Net Zero goals and appreciates this suggestion regarding the use of electric heat pumps that employ diverse technologies and heat sources. Massport is committed to exploring innovative technologies and will consider the feasibility of implementing electric heat pumps sourced from air, ground, or Boston Harbor, taking into account available space, environmental constraints, operational continuity, current aviation safety regulations, and facility energy requirements.

1-8: Air Quality/Emissions Reduction (GHG)

Develop and commit to a decarbonization plan for the central heating and power plant to transition off fossil fuels based on the following approach: estimate total available for building space heating as: recovered heat + heat pump heat. In the likely circumstance that this total is less than the heat currently recovered from the heating plant, quantify the difference and undertake a program to reduce central plant heating use to meet this total by swapping central plant heating with in-building heat pump retrofits. In the circumstance that this total is more, downsize air- water- Boston Harbor- source heat pump plant to meet the need.

Massport acknowledges the importance of transitioning to sustainable heating solutions as part of achieving its Net Zero goals and appreciates this suggestion regarding the use of electric heat pumps employing diverse technologies and heat sources. Massport is committed to exploring innovative technologies and will consider the feasibility of implementing electric heat pumps sourced from air, ground, or Boston Harbor, taking into account available space, environmental constraints, operational continuity, current aviation safety regulations, and facility energy requirements.

Massport is governed by a Board of Directors, which periodically receives updates from the Office of the CEO regarding the *Roadmap to Net Zero by 2031* (Roadmap to Net Zero) and approves related funding allocations. As discussed in **Section 11.2.1 of Chapter 11**, ***Sustainability and Climate Resilience***, in 2023, the Board of Directors voted to approve $500 million in investments to Net Zero projects, laying the groundwork for future reductions. This funding supplements routine funding requests that incorporate the Roadmap to Net Zero. Massport has committed to achieving Net Zero GHG emissions for its Scope 1 and Scope 2 sources by 2031 and absolute Net Zero GHG emissions across these scopes, without relying on renewable energy credits (RECs) or carbon offsets, by 2040.

1-9: Air Quality/Emissions Reduction (GHG)

Develop and commit to a decarbonization plan for the central heating and power plant to transition off fossil fuels based on the following approach: minimize electric power production to lowest possible level (preferably eliminating power production), and reassess amount of recovered heat using the following process: assess whether ongoing power production is necessary.

As discussed above and in Comment A-69 in **Appendix A, *MEPA Certificate and Responses to Comments*,** Massport has established a new benchmark for sustainable development as part of its *Roadmap Net Zero by 203*1 program in response to DOER's comment letter. This standard is based on the latest and most stringent building energy codes in the Commonwealth of Massachusetts, along with reputable third-party sustainability rating systems. For more information on Massport's on-going initiatives and investments to achieve Net Zero GHG emissions for its Scope 1 and Scope 2 sources by 2031 refer to **Section 11.2 of Chapter 11, *Sustainability and Climate Resilience***.

1-10: Air Quality/Emissions Reduction (GHG)

Develop and commit to a decarbonization plan for the central heating and power plant to transition off fossil fuels based on the following approach: minimize electric power production to lowest possible level (preferably eliminating power production), and reassess amount of recovered heat using the following process: assess whether power equipment are reduced to emergency backup only, with no regular production.

As discussed above and in Comment A-69 in **Appendix A, *MEPA Certificate and Responses to Comments*,** Massport has established a new benchmark for sustainable development as part of its *Roadmap Net Zero by 203*1 program in response to DOER's comment letter. This standard is based on the latest and most stringent building energy codes in the Commonwealth of Massachusetts, along with reputable third-party sustainability rating systems. For more information on Massport's on-going initiatives and investments to achieve Net Zero GHG emissions for its Scope 1 and Scope 2 sources by 2031 refer to **Section 11.2 of Chapter 11, *Sustainability and Climate Resilience***.

1-11: Air Quality/Emissions Reduction (GHG)

Develop and commit to a decarbonization plan for the central heating and power plant to transition off fossil fuels based on the following approach: minimize electric power production to lowest possible level (preferably eliminating power production), and reassess amount of recovered heat using the following process: reduce regular electric power production to zero, if possible.

As discussed above and in Comment A-69 in **Appendix A, *MEPA Certificate and Responses to Comments*,** Massport has established a new benchmark for sustainable development as part of its *Roadmap Net Zero by 203*1 program in response to DOER's comment letter. This standard is based on the latest and most stringent building energy codes in the Commonwealth of Massachusetts, along with reputable third-party sustainability rating systems. For more information on Massport's on-going initiatives and investments to achieve Net Zero GHG emissions for its Scope 1 and Scope 2 sources by 2031 refer to **Section 11.2 of Chapter 11, *Sustainability and Climate Resilience***.

1-12: Air Quality/Emissions Reduction (GHG)

Develop and commit to a decarbonization plan for the central heating and power plant to transition off fossil fuels based on the following approach: minimize electric power production to lowest possible level (preferably eliminating power production), and reassess amount of recovered heat using the following process: if regular power production is necessary, assess the quantity of recoverable heat than are captured based on the lowest possible level of power production (e.g. "recovered heat").

As discussed above and in Comment A-69 in **Appendix A, *MEPA Certificate and Responses to Comments*,** Massport has established a new benchmark for sustainable development as part of its *Roadmap Net Zero by 203*1 program in response to DOER's comment letter. This standard is based on the latest and most stringent building energy codes in the Commonwealth of Massachusetts, along

with reputable third-party sustainability rating systems. For more information on Massport's on-going initiatives and investments to achieve Net Zero GHG emissions for its Scope 1 and Scope 2 sources by 2031 refer to **Section 11.2 of Chapter 11, *Sustainability and Climate Resilience***.

1-13: Air Quality/Emissions Reduction (GHG)

Develop and commit to a decarbonization plan for the central heating and power plant to transition off fossil fuels based on the following approach: assess option of eliminating central plant heating by converting all building heating to in-building heat pumps.

As discussed above in Comment 1-8, Massport appreciates the suggestion to transition building heating systems to in-building heat pumps as part of its decarbonization efforts. The organization is committed to exploring all viable options to reduce reliance on fossil fuels and enhance energy efficiency. Massport will assess the feasibility of eliminating central plant heating and converting to in-building heat pumps, considering factors such as infrastructure requirements, energy efficiency, aviation operations and safety, and environmental impact. For more information on Massport's on-going initiatives and investments to achieve Net Zero GHG emissions for its Scope 1 and Scope 2 sources by 2031 refer to the *2023/2024 EDR* **Section 11.2 of Chapter 11, *Sustainability and Climate Resilience.***

2. City of Boston

City of Boston
Environment

City of Boston
Mayor Michelle Wu

October 11, 2024

Rebecca Tepper. Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114
Attn: Jennifer Hughes, Deputy Director, MEPA Office

Re: 2022 Environmental Status and Planning Report,
Boston Logan International Airport, EEA# 3247

Dear Secretary Tepper:

The City of Boston Environment, Energy and Open Space Cabinet welcomes this opportunity to comment on the Logan International Airport 2022 Environmental Status and Planning Report (2022 ESPR). We thank MEPA Office Director Tori Kim for coordinating multiple meetings over the past year to facilitate discussions about how the stakeholders can take the best advantage of this process.

After a thorough review of the 2022 ESPR, the City of Boston respectfully submits the following comments in response to both what is contained in the report as filed and the data that we feel is missing or insufficiently specific. We recognize the economic value and other benefits of having an international airport within the city while also aspiring to ensure that the negative impacts are reduced or mitigated wherever possible in explicitly trackable ways. Our comments focus on the structure of the report, general air quality issues, differentiating and improving climate actions, and a range of transportation issues.

DOCUMENT TIMING, FORMAT AND CONTENT

Massport continues to reference its filing of annual documents and then, once again, asks to file a two-year Environmental Data Report (EDR) in 2025 rather than one for 2023. It also continues to intersperse in this 2022 ESPR references to 2023 accomplishments: four new gates opening in Terminal E, Piers Park II completed in December 2023, Bayswater Embankment Airport Edge Buffer EENF filed with MEPA in December 2023, etc. We believe annual EDR filings and timely ESPR filings are important, and should be limited to conforming data and references, by a date certain, so that year-to-year comparisons are meaningful. 2-1

ESPRs with unsupported expectations about the future and the extensive and repeated use of generalities are challenging to evaluate. Massport has standardized this framework with the use of the conceptual 10- to 15-year Future Planning Horizon. The phrase "in the Future Planning Horizon," is too general a reference that serves to obviate firm commitments. It is used 21 times in the text of the main document. For example, estimated Greenhouse Gas (GHG) Emissions are identified as "in the future planning horizon." Firmer time horizons are needed. The current format runs counter to a goal to tighten the link and process between future expectations, goals, and mitigation.

The Secretary has shown via the thorough and incisive Draft Environmental Impact Report (DEIR) Certificate for the L.G. Hanscom Field North Airfield Development (EEA#16654) [Certificate], her willingness to require that Massport substantiate, in some cases justify, assertions made in project-related documents. In a significant stipulation, the Certificate requires that the Supplemental DEIR propose mitigation measures that are commensurate with the level of impacts of the project by quantifying those impacts and by presenting a SC-C (social cost of carbon) analysis. These two requirements are noteworthy and, as standards, will serve environmental justice communities particularly well. The GHG benefits associated with mitigation measures already proposed are also to be included in the SDEIR. The Certificate specifically notes that credit should not be taken for any measures for which actual implementation is not yet definitive. We believe that this well-balanced perspective should also be applied to the planning, impact expectations, and mitigation base for EDR/ESPR discussions.That said, we recognize the differences between project review and the EDR/ESPR process.

ESPRs from Logan often read as a listing of Massport's accomplishments rather than as 1) detailed chronicles of sometimes opaque information valuable to the people affected by and evaluating the operation of Logan and 2) as a way to suggest what Massport may realistically expect to change or accomplish in the future in order to plan to appropriately mitigate, unforeseen circumstances and uncontrollable factors notwithstanding.

Representatives from the community have suggested that a mitigation framework with metrics based on threshold triggers such as passenger numbers and flight activity is preferable to the currently accepted format by which Massport generates forecasts in ESPRs that are not looked at again until the next ESPR. This suggestion is based on the recognition that there is a need for more timely attention to forecasts that are not accurate, to a broader range of impacts, to impacts that exceed expectations, and to the responses required to address them.

We agree that the current process does not result in accurate forecasts with mitigation plans that get to the heart of impacts and we appreciate the added certainty that the communities are seeking. But, we are not sure if, as described, impact-triggered mitigation

might actually work to provide that predictability. And, despite discussion, we are unclear about a reliable trigger-to-mitigation path. Our suggestion is that a reasonably sized, multi-party working group be convened to address what are seen as the multiple existing deficiencies in the ESPR planning, impact identification and mitigation process so that it be made more effective in preventing or addressing damage to health and the environment. 2-2

Some detailed information in the ESPR is historical with little current value. For example, Massport has indicated in numerous EDRs/ESPRs that it is committed to multi-modal regional transportation options and cites its participation in the New England Regional Aviation System Plan (NERASP) and other regional planning efforts. However, Massport's role in furthering multi-modal regional transportation is never discussed. What is the function of this section in these filings unless there is something that demonstrates concrete contributions to regional efforts and the potential effects on the environment, demand and/or capacity? In general, what is the function of decades of historical data without a relevant tie to the very recent past, the present and future? 2-3

Some information in the ESPR is relegated to the Technical Appendices and summarized rather than spelled out (see Dwell and Persistence - meaningful if you live under a flight path; see 2022 DNL Values at U.S. Census 202 Block Groups with no indication as to how to make the Block Group IDs meaningful). Setting parameters for when data is relegated to the appendices and how it should be made accessible is important, and presently missing.

Other information is repeated in various formats in the same section (see Air Quality and Greenhouse Gas Emissions) and/or discussed in multiple locations in the document making it time-consuming and difficult to grasp the full picture of an issue. As only one example, Environment Department staff found it necessary to take copious notes and go back and forth in the document, Appendices and prior documents, in order to seek a coherent and complete understanding of existing ground transportation conditions, mitigation history, planned mitigation going forward, and the claimed benefits of mitigation. Despite that, we do not consider the effort completely successful. Both the City and Massport lose under this scenario. We likely do not have a complete picture and, equally likely, are not able to credit Massport for all of its efforts.

We join with the Massport Community Advisory Committee (MCAC) in requesting that the data included in several of the technical appendices to the 2022 ESPR regarding operations and impacts be made available to the public in a format that is accessible, and which allows impacted community members to ask questions of the data. The charts and graphs in these appendices provide a wealth of useful operational information. If these data were presented in an electronic format which is searchable and allows interested users to query the data regarding area-specific impacts and compare them over time, this would allow for meaningful, data-driven conversations about impacts and mitigation.It would be a benefit 2-4

to both community members and Massport. In its current analog format, it is nearly impossible to answer basic operational questions that are important in ensuring a shared understanding of impacts.

We suggest a process designed to revamp the format of these documents to reduce the non-relevant information; condense information into smaller discrete subject sections; and make them more readable. 2-5

ADDITIONAL TRANSPARENCY

In the past, Massport was required to file with MEPA an Environmental Notification Form (ENF) to report all new routes proposed for Logan. The practice was eliminated, leaving the public, environmental agencies, and other interested parties uninformed about these additions. While both Massport and the FAA emphasize their lack of control over service entrants, Massport has an active marketing team that seeks new entrants and new routes. International routes, which seem to have dominated the increases over the past several years, have created new capacity at Logan by extending the departure and arrival hours of flights to meet the needs of arrival and origin locations in significantly different time zones. This capacity increase results in increased noise disturbance time-frames for those under flight paths. We strongly recommend that an ENF be required for all new or renewed routes so that very basic information, including mandatory identification of flight schedules and the aircraft to be flown, is provided to a full range of stakeholders. 2-6

AIR QUALITY AND EMISSIONS

Massport identifies itself as a national leader in studying, tracking, and reporting on the air quality environment of Logan Airport and in implementing measures to reduce emissions. It is clear that Massport has made strides on any number of fronts to address air quality—providing pre-conditioned air (PCA) and 400-Hertz (Hz) power at all aircraft contact gates to reduce emissions associated with aircraft idling and APU use, replacing older Massport fleet vehicles with alternative fuel vehicles (AFVs) or EVs, replacing diesel-powered GSE with eGSE where commercially available, installing charging stations for eGSE equipment, the use of CNG buses. The concerns we have are the extent of claims about activities not in Massport's control and technologies such as alternative aviation fuel not proven to have an air quality benefit for the end user (so therefore not benefitting those harmed by Logan activities).

In general, Chapter 8, *Air Quality and Greenhouse Gas Emissions*, suggests Massport's belief that it can continue to grow from 2022's 22,678,000 annual air passengers to 53.3 million and from 266,034 aircraft operations to 495,000 "over the Future Planning Horizon of the next 10 to 15 years." During the same time-frame, operations sources of VOCs, NOx, PM10/PM2.5, and CO are expected to remain at "similar" (well below 1990 benchmark) levels due to:

- converting ground service equipment (GSE) to viable electric alternatives (not entirely under Massport's control);
- lower motor vehicle emissions due to greater efficiency and cleaner technologies (dependent on manufacturers and the purchasers of vehicles);
- changes in the aircraft fleet mix (also dependent on manufacturers and the purchasers of aircraft); and
- emission reduction due to the Net Zero by 2031 program efforts.

There follows a list of strategies that include:

- "facilitating" the replacement of gas and diesel GSE;
- "encouraging" single engine taxiing;
- installing EV charging stations available for public use (while the Massport Board is contemplating charging for their use);
- committing to LEED green building standards (which are dependent upon the credits chosen); and
- investing in renewable energy installations.

None of these actions are quantified, and there is a lack of detail about plans for 'facilitating' and 'encouraging.' It is clear, for example, in other areas of the document, that single engine taxiing is not pursued by Massport diligently as it is a practice that pilots do not choose to use at Logan for a variety of reasons. We suggest that more detail is necessary about how these goals are to be attained, particularly for strategies that are not under Massport's direct control. As written, we find them to be unsubstantiated. 2-7

We also note that the ESPR refers the reader for more information to Chapter 8, Section 8.6, which doesn't exist. There is a Table 8-12 which itemizes Air Quality Emissions Reduction Goals, but there are no actual performance goals. This would suggest that much of the reductions expected by individual contributors are not accurately quantifiable.

Transportation accounts for 37% of the total greenhouse gas emissions in Massachusetts. While off-airport parking with shuttle services for construction workers is identified as construction mitigation and employee parking in Chelsea with shuttles to Logan is identified as an employee transportation management measure, these strategies shift the air quality burden. They do nothing to address close-in issues in the case of Chelsea or Revere or regional emission issues that contribute to local burdens. Providing free or subsidized parking for employees who have other travel options encourages driving and has an impact on the roadways they use in addition to the areas in which they park. A creative and active mitigation plan would work with airport employers to incentivize local hires and promote strategies for getting as many employees as possible out of single-occupant vehicles and into high occupancy or no- or low-emission vehicles for commuting.

NOISE

When the FAA's TRACON software was updated it no longer worked with the software that Massport had used for the Preferential Runway Assignment System (PRAS). Massport continues to provide data it identifies as PRAS but there is no longer a functioning assignment system. We suggest that it be eliminated from future EDRs & ESPRs. 2-8

It is noted that reduced-engine taxiing is encouraged but little additional detail is provided. How often and by what means? How is success measured? If it's not presently successful, is there a better strategy? Do other windy airports have more successful strategies? This is identified as an air quality mitigation measure but it is not practiced regularly by airlines and no air quality benefit is quantified. 2-9

Answers to additional questions would be useful. How successful have the efforts to maximize late-night over water operations been? What percentage of eligible flights make use of the option? How could the number be improved? Has the ban on nighttime engine run-ups and use of APUs been successful? How is success measured? 2-10

BUILDING SOUND INSULATION

Massport identifies itself as having one of the longest-standing and most extensive Residential Sound Insulation Programs (RSIP) of any airport in the nation, having insulated 5,467 residences and 36 schools. We ask that the number of insulations be broken down by the years in which they were completed for both the residences and schools. 2-11

We note that soundproofing is proceeding in Revere and Winthrop and that new noise contours have been established for 2024 that will include East Boston.

CATEGORIZING AND REPORTING ON CLIMATE ACTION

Chapter 2 of the ESPR is titled *Sustainability, Outreach, and Environmental Justice* with a sub-section titled *Sustainability, Climate Adaption (sic), and Resiliency*. While sustainability and resilience actions are both appropriate responses to climate change, they are not the same. Given the importance of each, we would recommend distinct chapters on sustainability and climate resilience going forward. 2-12

The ESPR does not specifically provide the climate resilience measure information requested by the Secretary. Given the scale and nature of Massport's footprint, we would encourage a future chapter on resilience to focus explicitly on the plans and projects that actively address the risks of extreme heat, intense precipitation, and coastal flooding, including efforts focused on employees, guests, operations, assets and adjacent properties. On the BERDO Covered Buildings List alone, Massport is listed as the owner of 59 buildings, many of which are in the Logan vicinity, many in the floodplain. Numerous tenanted 2-13

buildings would benefit from guidance and a clear course of action detailed in future ESPRs.

The ESPR does mention that Massport published a 2020/2021 Massport Sustainability and Resiliency Report. No details are provided; it is not included in the 2020/2021 EDR; we did not find a report on the website; and, a link to Sustainability and Resiliency in that EDR lands at a page of Sustainability goals. That EDR also mentions an annual Sustainability and Resiliency Report but there are no links in the ESPR and mentions of it focus on the sustainability agenda.

We request that EDRs and ESPRS include the annual Sustainability and Resiliency Report and that it be prominently posted in the Environmental section of Massport's website. At present, only regulatory documents are posted. 2-14

COMMUNITY AND ENVIRONMENTAL JUSTICE OUTREACH

Massport indicates that its commitment to engaging with nearby communities and enhancing the quality of life of its neighbors is carried out by its Community Relations & Government Affairs Department and the Massport CAC [Community Advisory Committee]. We note that the Massport CAC is a legislatively created body and that it is funded by Massport. It does not, however, function as an agent of Massport and is not charged with responsibility for Massport's community and environmental justice activities. Section 2.3.2.2 should be edited to reflect that the Massport CAC was established by the Massachusetts General Court in 2014. 2-15

Consigning what is described as EJ supporting documentation to the Appendices seems inappropriate given the significance of these issues. It is of note, however, that the documentation does not actually provide detail on how Massport might be working specifically to address airport impacts in EJ communities. Providing census tract data without instructions for how to identify where those census tracts are located is not useful.

IMPROVING REPORTING ON EMPLOYEE TDM MEASURES

The Secretary's Certificate on the Boston Logan International Airport 2020/2021 EDR, dated January 2023, requires that the 2022 ESPR address, "Strategies for enhancing services and increasing employee membership in the Logan Airport TMA."

These are the references to the TMA in the main text of the ESPR:

1. West Garage, Table 10-1, Mitigation Measures - Massport will form a Transportation Management Association (Logan TMA) for Logan Airport employees in order to provide new opportunities for the development of targeted Transportation Demand Management (TDM) strategies for Massport and airport tenant employees.
   Implemented. Massport continues to support the TDM strategies by funding the Logan Sunrise Shuttle at a cost in 2022 of approximately $161,000. Massport continues to conduct outreach through new hire orientation materials and other communication methods to raise awareness of employee commute options with a focus on high-occupancy vehicle (HOV) modes of transportation.

We have the following questions: Is there a TMA? Has this been implemented? If so, how does the TMA operate? What does it do? How many members does it have? What percentage of employees does that represent? How does it measure success?

2. West Garage, Table 10-1, Mitigation Measures - Massport will develop, coordinate, and implement effective TDM strategies to reduce the number of single-occupant trips made by all Logan Airport employees, including outreach to employees about transportation options
   Implemented. Massport supports TDM strategies by providing services to Logan Airport employees and by periodically conducting the Massport Employee Survey. Findings from the 2022 Logan International Airport Air Passenger Ground Access Survey are summarized in Chapter 6, Section 6.5.2. Massport surveys its employees as part of its Massachusetts Department of Environmental Protection (MassDEP) Rideshare reporting requirements.

We note that this response is not specific to the requirements of the mitigation measure. What is its status? Massport's Air Passenger Ground Access Survey is not relevant here. We have never seen the Mass DEP Rideshare survey results and there is no reason to expect that it would address the issues of an urban airport comprehensively. Detailed information about outreach strategies and their relative success should be provided in EDRs and ESPRs. 2-16

3. West Garage, Table 10-1, Mitigation Measures - Massport will report on the formation and activities of the Logan TMA in the next Generic Environmental Impact Report (GEIR). [Now ESPR].
   Implemented. Massport continues to support TDM strategies by funding the Logan Sunrise Shuttle at a cost in 2022 of approximately $161,000. Massport conducts outreach through new hire orientation materials and other communication and engagement methods to raise awareness of employee commute options with a focus on HOV modes of transportation.

In addition to the comments above, we have the following questions: What information do new hire materials provide to employees? Are they the same for all employers? How often are they updated and sent to employers? Does the TMA provide advice and assistance to employers? If so, what is that advice and assistance?

4. Replacement Terminal A, Table 10-4, Mitigation Measures - Delta Air Lines, Inc. to join Massport's Logan TMA and designate an Employee Transportation Advisor. **Implemented.**
   Additionally, Delta Air Lines will provide the following services as part of their Transportation Demand Management Program (DMP) through the Logan TMA: Transportation subsidy for full-time Delta Air Lines employees at Logan Airport; ride matching/carpooling; vanpooling; guaranteed ride home; preferential parking for high-occupancy vehicles (HOVs); shuttle to and from employee parking. **Implemented**.

It would seem that these are not one-time measures, but should be ongoing. What is the current status? Do some employers provide parking for their employees off-site? How many employers offer parking as a benefit and how many employee spaces are occupied by these employees? How many shuttles are operated by entities other than Massport and what are their characteristics?

5. Table 10-5 Logan Airside Improvements Planning Project (EEA #10458) Details of Ongoing Section 61 Mitigation Measures (as of December 31, 2022) Report on Progress of Logan Transportation Management Association (TMA).
   Implemented.

We have been unable to find this report.

6. Table 10-6 Southwest Service Area (SWSA) Redevelopment Program- Requires rental car companies to participate in the Logan Transportation Management Association (TMA).
   Implemented.

It would seem that this is not a one-time measure, but should be ongoing. What is the current status of rental car companies vis a vis the TMA?

7. EEA# 3247 2020/2021 EDR Certificate, January 30, 2023 - The 2022 ESPR should report on 2022 ground access conditions at the airport and provide a comparison to 2019, 2020, and 2021 for the following (includes):
- Logan Airport Employee Transportation Management Association services

This does not appear to be included in the 2022 ESPR in a comprehensive way.

Massport identifies the following as TDM measures:
- Encourage employees to use alternative transportation to commute.
- Encourage employees to utilize public transit through a comprehensive employee transportation system that includes includes a 24/7 free shuttle bus service to the Terminals with off-Airport employee parking in Chelsea; shuttle buses connecting Airport Station to Southwest Service Area, South Cargo Area locations, and Terminals; early morning and late-night Logan Express bus trips that provide nearly 24 service to several locations with significant discounts for Airport-wide and Massport employees; the Sunrise Shuttle that offers early morning services from East Boston, Winthrop, and Revere before the commencement of MBTA operations.
- Subsidies for water transportation, transit use.
- Financial support for the Sunrise Shuttle.
- Discounted HOV and transit fare options.
- Bike racks or posts for securing bikes at all new facilities and at appropriate existing facilities to promote employees biking to work. Bicycle racks or posts for securing bikes are currently provided at the RCC, Terminal A, Terminal E, Logan Office Center, MBTA's Airport Station, Economy Parking Garage, Signature general aviation facility, and the Green Bus Depot (Bus Maintenance Facility, for authorized personnel).

We believe Massport should detail the current status of the TMA beginning with the following information:
- the number of employers on the airport;
- the number of employees who commute to a job at the airport;
- the number of employers that were members of the TMA in 2019, 2020, 2021 and 2022;
- the range of services offered/sponsored by the TMA in 2019, 2020, 2021 and 2022, utilizing a checklist, with at least the following categories;
  - subsidized transit pass,
  - subsidized fares for HOV use (enumerate - ex. Logan Express, commuter bus, ferry/water shuttles),
  - free shuttle services-identify all,
  - subsidized shuttle services (identify all and specify subsidy),
  - secure bicycle parking protected from the elements,
  - showers and changing rooms,
  - ride matching service (explain process),
  - number of three-person (or more) car/vanpools, and
  - guaranteed ride home for commuters who qualify as walkers, transit-, HOV-, or bicycle-users (we do not see Logan Express as a blanket guaranteed ride home).

2-17

In addition, Massport should provide information about TDM and Massport employees as outlined in the following questions: 2-18

- Does Massport provide free and/or subsidized parking to its employees? If there are charges to riders, please explain. If, for example, carpool or vanpool vehicles are offered incentives, please identify them.
- How many parking spaces does Massport provide off of the airport for its employees and where are the off-airport spaces located? Is 2,448 the correct number of on-airport spaces available to Massport employees? 2-19
- How do employees access the airport from those parking locations? If they are served by shuttles, please indicate the hours and frequency of operation. If this does not include Park N Ride locations, please identify the Park N Ride locations served by shuttles. 2-20
- How many employee showers and employee changing areas serve employees on the airport, where are they located and how are employees made aware of them? Are they available 24-hours/day? 2-21
- How often are free employee shuttles run from Airport Station to employment areas in SWSA and South Cargo Area? 2-22
- What are the transit & water shuttle subsidy rates for Massport employees? 2-23
- Is the 'new' employee Park N Ride in Quincy for employees who use the Braintree Logan Express? If so, how do they get to the Logan Express? 2-24

8. EEA# 3247 2020/2021 EDR Certificate, January 30, 2023 - The 2022 ESPR should address the following topics (includes):

- Strategies for enhancing services and increasing employee membership in the Logan Airport TMA.

We note that this does not appear to be in the 2022 ESPR.

We appreciate that as a 24-hour operation with many, many independent employers in the mix, implementing TDM is a challenge. That said, there are attractive TDM options available or potentially available to all employees, many created specifically by Massport, throughout most working hours of the day and night. This population can be influenced to give up the single-occupant vehicle (SOV) trip if there is a broad menu with incentives that incorporate various ways of commuting.

Each EDR and ESPR should provide some basic information about TDM measures that are available to employees with specific information from employees sought through a periodic (we suggest annual) survey. We believe that a commitment to doing a survey on a scheduled basis is necessary to ensure attention to this issue and are requesting that each EDR/ESPR provide detail about the most recent employee survey to include: date, a copy of the survey tool, method of administration, number of respondents, and a table of 2-25

answers. The survey should not be limited to asking about current transportation habits but should also be used to assess what additional methods might encourage employees not to drive, particularly in SOVs.To start, we suggest a check-list of existing amenities/measures and employees should be asked if they are aware of them and if they are made available to them so that the survey tool can also serve as an educational opportunity. 2-25

We ask that the following TDM measures be considered as part of a standard, comprehensive plan by all employers if they are not already offered: 2-26

- Free or subsidized transit pass
- Reduced-fee Logan Express-needs to indicate charges for employee parking and bus ticket
- Guaranteed Ride Home program - needs not to be Logan Express (see notes below)
- A ride-matching service for employees who may want/need to commute by car and are looking to carpool/vanpool
- Advantageous (on-airport) parking for carpoolers (3 or more employees)/vanpoolers
- Free shuttle from off-site car/vanpool parking locations in addition to Chelsea
- Bicycle amenities/programming (see notes below)
- Showers and changing rooms in various areas of the airport; some available 24-hours, with safe transportation to work locations

Guaranteed Ride Home (GRH): Logan Express will not get all employees home or close to home and should not be considered a GRH program in and of itself. GRH programs provide employees with an occasional free or partially subsidized ride home in cases such as unscheduled overtime or other unanticipated change in schedule, a family illness or emergency, the sudden illness of the employee or their family members. They address a common objection to the use of alternative modes of transportation. Employees who walk, bike, take transit, or carpool/vanpool to work are reimbursed for the cost of their ride home. Reimbursements from these programs typically cover taxis, transportation network companies (e.g. Lyft or Uber), transit costs, and rental cars. Employers may cap reimbursements for each employee at a mile or dollar amount (e.g., $30 per month). The cost of offering this service tends to be low because it is rarely used.

Bicycle Program:The ESPR indicates that bicycle racks or posts are located throughout the airport with sheltered parking racks at the Rental Car Center (RCC) and covered bike parking at Terminal A. A comprehensive bicycle support program would include multiple bicycle storage rooms in various locations with at least one of them including a repair station that offers a tire pump, chain lube, a few allen keys and maybe the Big Blue Book of

Bicycle Repair. It is our experience that protection from the elements is a significant factor in the successful promotion of a bicycle-commuting program.

Ensuring and publicizing safe bicycle access and pathways is also essential. Describe the ways and provide graphics that show the routes into and out of the airport that are being made safe and obviously available to bike riders. Offering to sponsor or subsidize training in safe riding skills for cyclists can be a valuable and welcomed service for employees.

We suggest that a bicycle storage room (perhaps with a repair station), showers and changing rooms be part of the 4,300-space parking garage to be built in front of Terminal E. In addition, we suggest consideration of employee parking spaces for verified three- or more person carpools and vanpools in easy on- and off- locations in the new garage. 2-27

IMPROVING PASSENGER GROUND TRANSPORTATION

Logan Express

The ESPR indicates that bus customer facilities and secure parking are provided at the four Logan Express suburban locations with no customer parking provided for the urban Back Bay route. The cost of an adult bus trip is $12 each way for a standard fare and $9 each way with advanced online ticket purchases (identified on the Massport Logan Express Website as a time-limited price). Although a discount for Seniors is indicated, there is no way to take advantage of such a discount. Back Bay Logan Express tickets are $3 to Logan, and free from Logan to Back Bay. Parking at suburban lots is $7 per day.

A site in Danvers to be opened in 2024 has opened; however, it is identified as a new suburban location. As it is replacing the Peabody location, just under a mile away, it is a new facility but not one that expands the number of Logan Express offerings.

Limited parking disclaimers, though honest, deter the users of these services. This is always posted on LoganExpress.com: "Parking at all Logan Express locations is limited. We cannot guarantee parking and are strongly recommending getting picked up and dropped off at Logan Express. Please visit our website for alternative options for getting to and from Logan Airport." This is not reassuring and encourages four vehicle trips rather than two in local areas. It also means that an unexpected late arrival back at Logan resulting in a late arrival back at the Express parking lot, may result in pick-up problems. It is not unusual for there to be more specific alerts on the Website indicating that a Logan Express lot is full, particularly at Braintree and Framingham, or that it is making use of off-site overflow parking, potentially creating a timing problem. It would seem that there is value in the limited amount of self-control that Logan Express offers. It is important that the service function to maintain that level.

We note that there are plans to expand the garage in Framingham by about 1,000 spaces and to increase the frequency of service from every 30 minutes to every 20 minutes at an unidentified time in the future.

There is no easy way for passengers to compare Logan Express sites in terms of schedules and it appears that they do not operate on a universal time-table. If a passenger wanted to drive to one location and saw online that the lot was full, there should be a convenient way to see whether another location had a scheduled trip that they could get to readily. We suggest that the Website post a one-page Master Schedule that would allow for passengers to quickly assess potential options. It's also not clear if the very early and very late trips are exclusively for employees and serve limited sites or if they serve all sites and are open to anyone who has a ticket. Clarification on the nature of these trips would be helpful. 2-28

Potential new sites for Logan Express include North Station and somewhere in Metro West. We support Massport's proposal for a North Station location and suggestion of a Metro West-area site and we agree with Air Inc.'s recommendation for a total of three new locations. There have been suggestions to utilize one of the former I-90 toll plaza sites. Given the popularity of the Framingham Logan Express, a location west of that might well capture the greater-Worcester area population that doesn't want to use the Turnpike or deal with the Commuter Rail and then the MBTA. We would also suggest a site in the area of JFK/UMass. 2-29

While there are inherent benefits to taking a bus to the airport, the Airport Security Line Priority is an additional incentive. It is identified in some materials as a benefit of using Logan Express, but we would like clarity on the current status of the program. 2-30

In the longer term, we suggest planning for certain remote sites to become TSA security screening locations so that passengers can clear security and check baggage which will be transported separately and securely to Logan. Perhaps these locations can start with passengers who have cleared TSA pre-check or who are not checking bags. They will then use a dedicated Logan Express to take them as close to the gates as possible. The more convenient this makes the commute and accessing the terminals, the more likely families will be inclined to use the service. We suggest asking on the next air passenger survey if this level of convenience would entice passengers to use this kind of service. 2-31

The comfort and convenience of passengers is foremost at Logan but not at the Logan Express sites. We would like Massport to address the following questions about these sites. Are there safe, indoor waiting areas available for the earliest passengers and for those whose flights may arrive late and may, therefore, delay ultimate passenger pick up? How does Logan Express work for the suburban sites when flights are delayed and arrive after the last bus is scheduled to leave Logan? Given that passengers don't have reservations on Logan Express, are they then left on their own to get from Logan to Framingham at 2 am, 2-32

for example? Is this tracked somehow? Do we know why Peabody wasn't more popular? Does Danvers address deficiencies that were present in Peabody? 2-33

Other High Occupancy Vehicles

In most contexts, a High Occupancy Vehicle (HOV) refers to vehicles with two or or more passengers, including the driver, but the high number of vehicles arriving and departing at Logan with a driver who is not an air passenger blurs the accuracy of the reporting. In the event that a taxi, black car limousine, and RideApp driver drops off and picks up passengers on the same trip, such service may be seen as reducing overall traffic volumes compared with a passenger who is being dropped off or picked up by someone who would not otherwise make the trip.

The 2020/2021 Environmental Data Report (EDR November 2022) indicates that, "Starting with the 2019 Logan International Airport Air Passenger Ground-Access Survey, Massport has used this updated definition of HOV that considers vehicle occupancy among taxi, black car limousine, and RideApp modes. Previously, Massport counted taxis and RideApp services as non-HOV and black car limousines as HOV, regardless of the number of passengers transported. Under the updated definition, taxis, black car limousines, and RideApp services that carry two or more air passengers per vehicle are defined as HOV. With this new definition, Massport has a goal of reaching 35.5 percent HOV by 2022, and 40 percent HOV by 2027." This seems reasonable to us so long as an accurate count of air passengers can be assured. What remains unclear is, how does Massport document the number of air passengers in any vehicle? We understand that they can count taxis that use the taxi pool to wait for a fare leaving Logan, for example, because the driver must buy a ticket to park in the taxi pool. Is there a way to count taxis that drop off but don't go to the taxi pool? How are the number of passengers in an arriving taxi counted? We have the same question for RideApp vehicles, identified as the predominant mode of travel to Logan. In general, how are RideApp operations tracked? Is someone in the parking garages counting the number of people who get out of RideApp vehicles that enter the drop-off parking garages? How do things work for black car limousines so that Massport has an accurate count? 2-34 2-35 2-36

There are numerous references in the EDR to the contributions of RideApp Management to congestion and emissions reduction but the actual strategies or how strategies are implemented are nebulous. These are our questions:

- What specific strategies have been identified to meet the goals of the RideApp Management Plan (2020/2021 EDR)? We have gleaned that the dedicated drop-off/pick-up in the Central Garage and reduced fees for shared rides are being relied upon to increase RideApp shared rides, reduce deadhead trips and reduce congestion. How are potential riders made aware that sharing a trip would save them money? How does Massport quantify the improvement it makes in congestion and in a related drop in GHG emissions? 2-37
- Please identify other RideApp strategies and describe what success looks like, how is it quantified? 2-38

We are also curious to learn more about the following:

- What does exploring RideApp Last Mile connections mean? 2-39
- How many parking spaces are in the co-located RideApp Pool Lot/Cell Phone Waiting Lot on Porter Street? How is it monitored for idling and the five-minute idle law enforced? 2-40
- How does Ride Rematch work, how has it been advertised and facilitated and how has success been measured? What are the numbers? 2-41
- What percentage of RideApp drivers who drop off a passenger or passengers stay on-airport to wait for a passenger to leave Logan? 2-42
- How have passenger-shared rides been advertised and facilitated and how successful have the efforts been? How has success been measured? 2-43
- How are numbers obtained in order to calculate the 38.4% HOV mode share? 2-44

Congestion Pricing and Other Potential Pricing Strategies

Massport had agreed in 2017 to conduct a Congestion Pricing Study to determine if the strategy would reduce auto emissions at Logan. It was expected to be completed by July 2019. In April 2018, the Boston Globe reported that Massport had decided against congestion pricing but it did not reference the study. The then-CEO stated that many people who drive to Logan pay a toll at the harbor tunnels and that an added fee for the airport could seem unfair. We believe it could seem equally unfair to people living near Logan that they bear the associated air quality and health impacts, including those caused by airport traffic.The best way to determine if a strategy can help to minimize impacts is an unbiased, well-designed study (or perhaps a real-time test) to determine if a fee would result in a quantified level of traffic reduction.

Other strategies that might bear study are a combination of roadway access or curb access pricing and multiple pricing scales for Logan Express to determine potential effect on demand.

EVs/AFVs/APVs

In the discussion of Air Quality and Greenhouse Gas Emissions, the ESPR identifies encouraging the conversion to AFVs/APVs - Alternative Fuel Vehicles/Alternative Power Vehicles - as an air quality emission reduction goal. (Confusingly, the Acronyms section identifies "APV" as Approach Procedure with Vertical Guidance.)

Policies such as a 50 percent discount in ground access fees to limousines, vans, and buses; and preferred parking for hybrid and AFVs/APVs at Logan Airport parking facilities, and

free "high-speed" EV charging to RideApp companies and taxis serving Logan Airport are specified as strategies. We would like definitions for preferred parking and descriptions of how limousines, van services and buses are notified of the incentives and how qualified vehicles are recognized. A summary of the marketing and use of these incentives should be provided annually. 2-45

The ESPR indicates that by the end of 2022, there were over 70 EV charging ports across Logan Airport available for use by shared-ride companies (i.e., RideApp companies, rental cars, taxis, and limousine vehicles) and the general public, with additional ports owned and proposed by rental car companies at the Rental Car Center (RCC). We request that Massport identify the locations of all chargers and any limits, if any, on who may access and use them. 2-46

Massport identifies the installation of EV charging stations available for public use, including RideApp vehicles, black car limousines, and taxis as an air quality management strategy to reduce criteria air pollutant and GHG emissions. Massport currently provides free "high-speed" EV charging to RideApp companies and taxis serving the airport and is working with the Massachusetts Clean Energy Center (MassCEC) to study opportunities to enable the conversion of ride-for-hire fleets serving Logan Airport to EVs.

We understand that the Massport Board has recently discussed charging a fee for the use of EV charging portals. We understand that having a vehicle parked at a charging portal for an extended period of time may be part of the problem. If a passenger leaves a car in that spot during a three-day trip, the charger is not available to anyone else so Massport does not get the most out of their investment. At the same time, the goal to reduce GHG emissions is important enough to merit additional charging portals. We suggest that at least 15% of spaces in the new parking garage have a charging portal. 2-47

Air Passenger Ground Access Survey

The surveying methodologies and results were not fully described in the ESPR. What was the 2022 Air Passenger Ground Access Survey protocol? What was the sample target? How many passengers participated in the survey? For HOV users, ask about how many in their traveling party used and HOV to get to Logan. 2-48

The way in which respondents are asked about the number of people in a vehicle is phrased by asking about "occupants," not about "passengers" or "air passengers." This may well result in some respondents including the driver as an occupant when they are not also an air passenger. A distinction that indicates that the question is looking for the number of air passengers or does not want to count someone who is just a driver may result in different information.

In the past, community comments have noted that the surveys have not sought information about what might make Logan Express more attractive to passengers. Although the 2022 survey is not replicated in the ESPR, the results seem to suggest that it is very limited in scope. We suggest that Massport make the most of this one opportunity to get information from passengers and ask if their HOV trip was satisfactory and if there are improvements to HOV options in general that would make them more attractive. Focusing on Logan Express should be predominant. 2-49

There are also no questions about the use of EV chargers at Logan and the survey would be an opportunity to learn more about EV users. We suggest the following questions: 2-50

- Did you drive an electric vehicle (EV) to Logan and park it here during your trip?
- Did you park it and leave it at a charging station?
- How many kWh does your car need to charge?
- If you needed to charge your car when you left it, how much charging time did it need?
- If there had been a cost to charge your car and then move it to a preferred parking space without a charger for your pick-up, would you still drive your EV to Logan?

City of Boston staff is available to meet with you, your staff, or with Massport on any of the issues raised in this letter. We look forward to your Certificate and to Massport's response to our comments.

Sincerely,

Chief Brian Swett
City of Boston, Environment, Energy & Open Space Cabinet
Office of Mayor Michelle Wu

Cc:
Roberto Gomez, Office of Neighborhood Services
Aaron Toffler, Executive Director, MCAC
John Nucci, MCAC, Massport Board of Directors
Chris Marchi, AIR, Inc
Gail Miller, AIR, Inc.

City of Boston Comment Response

2-1: Logan Airport Environmental Review and Planning

Annual EDR filings and timely ESPR filings are important, and should be limited to conforming data and references, by a date certain, so that year-to-year comparisons are meaningful.

As discussed in Comments A-3 and A-4 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport has employed multiple strategies to improve the timing of document and annual data publication. These strategies include an in-depth review of prior report development procedures, creating a new User's Guide reference document, limiting data reported in EDRs and ESPRs to applicable reporting years, and developing an EDR and ESPR website. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary,*** also has an overview of document changes in the *2023/2024 Environmental Data Report (2023/2024 EDR)*. Before filing the *2023/2024 EDR*, Massport developed a new webpage specifically for EDR and ESPR filings (https://www.massport.com/environment/boston-logan-edr-espr-data-portal). For more on the EDR and ESPR website, refer to **Section 1.2.2.2 of Chapter 1**.

2-2: Logan Airport Environmental Review and Planning

Our suggestion is that a reasonably sized, multi-party working group be convened to address what are seen as the multiple existing deficiencies in the ESPR planning, impact identification, and mitigation process so that it can be made more effective in preventing or addressing damage to health and the environment.

As discussed in Comments A-1 and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to active participation in the Work Group established in collaboration with the Massachusetts Environmental Policy Act (MEPA) Office and the Office of Environmental Justice & Equity (OEJE). MEPA's Logan Airport Work Group, launched in February 2025, includes representatives from state agencies, local officials, and community stakeholders and is co-moderated by MEPA and OEJE to promote an inclusive and transparent process.

The Work Group's primary objective is to assess and discuss potential supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations among environmental justice (EJ) communities in East Boston, Winthrop, and Chelsea. The Work Group may also serve as the proper forum to discuss the ESPR planning process as suggested.

2-3: Regional Transportation

Massport has indicated in numerous EDRs/ESPRs that it is committed to multi-modal regional transportation options and cites its participation in the New England Regional Aviation System Plan (NERASP) and other regional planning efforts. However, Massport's role in furthering multi-modal regional transportation is never discussed.

The *New England Regional Airport System Plan* (NERASP), completed in 2006, assessed long-term aviation demand across the six New England states and explored how the regional airport network could help manage growth at Logan Airport. The study concluded that existing regional airports, such as Rhode Island's T. F. Green International Airport (PVD), Manchester-Boston Regional Airport (MHT), and Worcester Regional Airport (ORH), could accommodate projected passenger demand through 2020 without the need for a new airport. NERASP identified Logan as the primary hub, drawing passengers from surrounding markets, which resulted in high rates of passenger leakage from nearby airports. To address this imbalance, the plan recommended improving airline service at regional airports and encouraged coordination across the system to better distribute demand. Massport integrated NERASP forecasts into Logan's ESPR and delayed the *2004 ESPR* publication to ensure consistency with regional planning data.

2-4: Logan Airport Environmental Review and Planning

We join with the Massport Community Advisory Committee (MCAC) in requesting that the data included in several of the technical appendices to the 2022 ESPR regarding operations and impacts be made available to the public in a format that is accessible, and which allows impacted community members to ask questions of the data.

As discussed in Comments A-1, A-5, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport remains committed to enhancing data transparency and accessibility. On-going engagement with the MEPA Office, the OEJE, and other stakeholders will continue so that data requests are addressed and relevant information is presented in a clear and accessible manner. Massport will collaborate with MEPA and stakeholders to refine the structure and presentation of EDRs and ESPRs, enhancing readability and public comprehension by improving summaries, visuals, and key findings. These efforts build upon recent improvements, including those discussed elsewhere in **Appendix A**, **Appendix B,** and **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary***.

2-5: Logan Airport Environmental Review and Planning

We suggest a process designed to revamp the format of these documents to reduce the non-relevant information; condense information into smaller discrete subject sections; and make them more readable.

As discussed above, as well as Comments, A-1, A-3, A-4, A-5, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport remains committed to enhancing data transparency, accessibility, and the clarity of ESPRs and EDRs. Massport improved the usability and reduced the length of the *2023/2024 EDR* by focusing the main chapters solely on annual data updates and introducing a User's Guide that outlines regulatory frameworks and methodologies, enhancing document transparency and efficiency. In addition, the *2023/2024 EDR* narrowed the focus of data analysis on reporting and benchmark years, supported by the newly developed EDR and ESPR webpage. This webpage includes historical EDRs and ESPRs with extensive data to be posted in a

searchable format in the near future. In addition to the historical data, the webpage will also include links to data sources referenced within EDRs and ESPRs that provide data in the interim before the availability of the EDR and ESPR. These data sources are often hosted by other state agencies, federal databases, and other reputable sources. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary,*** also has an overview of document changes in the *2023/2024 EDR* and further information on the EDR and ESPR website.

2-6: Logan Airport Environmental Review and Planning

We strongly recommend that an ENF be required for all new or renewed [scheduled flight] routes so that very basic information, including mandatory identification of flight schedules and the aircraft to be flown, is provided to a full range of stakeholders.

The approval of new routes falls within the federal purview of the Federal Aviation Administration (FAA), and Massport will comply with FAA reporting requirements associated with new or renewed routes to the extent that these requirements apply to Massport.

In the early 2010s, airlines began consolidating flights to primary hubs such as Logan Airport, while reducing service at secondary airports like PVD, MHT, and ORH. This shift accelerated after the 2008 financial crisis as airlines restructured networks to improve profitability and operational efficiency. As a result, today's airline carriers prioritize high-demand markets and streamline routes to focus on hub-and-spoke models that concentrate traffic at major airports, such as Logan Airport.

As discussed in Comment 6-13, **Chapter 5, *Regional Transportation*** of the EDR and ESPR, continues to track new developments and the relationships between Logan Airport and other regional airports, in addition to transportation alternatives such as rail transport modes.

2-7: Air Quality/Emissions Reduction (GHG)

We suggest that more detail is necessary about how [air quality and GHG emission] goals are to be attained, particularly for strategies that are not under Massport's direct control.

As discussed in Comment A-69 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport aims to reach absolute Net Zero GHG emissions across all scopes, without relying on renewable energy credits (RECs) or carbon offsets, by 2040. For more information on these efforts, see **Chapter 11, *Sustainability and Climate Resilience.*** As discussed in **Section 11.2.1 of Chapter 11**, in 2023, the Board of Directors voted to approve $500 million in investments to Net Zero projects, laying the groundwork for future reductions over the next five years. This funding supplements routine funding requests that incorporate the R*oadmap to Net Zero by 2031* Program. For instance, at its January 14, 2025, meeting, the Board approved the purchase of up to 50 electric shuttle buses for Logan Airport, in collaboration with the Massachusetts Bay Transportation Authority (MBTA). Massport has committed to achieving Net Zero GHG emissions for its Scope 1 and Scope 2 sources by 2031.

Additionally, Massport aims to reach absolute Net Zero GHG emissions, without relying on renewable energy credits (RECs) or carbon offsets, by 2040, as discussed in **Section 11.2 of Chapter 11.**

2-8: Noise

Massport continues to provide data it identifies as PRAS, but there is no longer a functioning assignment system. We suggest this be eliminated from future EDRs & ESPRs.

Although the Preferential Runway Advisory System (PRAS) program has been discontinued, Massport continues to report key PRAS statistics for public information purposes, as part of its commitment to transparency regarding the effects of Logan Airport operations on surrounding communities. However, background information on the PRAS program and goals have been relocated to the **User's Guide, Section U7.5.1.2** to enhance the EDR and ESPR Noise chapter's overall readability, while **Table I-16 in Appendix I, Section I.1.2** compares the effective runway use for the current reporting years to the prior reporting year and the benchmark year.

2-9: Noise

It is noted that reduced-engine taxiing is encouraged but little additional detail is provided. How often and by what means? How is success measured? If it's not presently successful, is there a better strategy? Do other windy airports have more successful strategies?

Reduced-engine taxiing procedures at Logan Airport are encouraged as a voluntary measure to reduce noise impacts, particularly by minimizing engine use on the side of the aircraft closest to the community. However, its implementation is subject to airline procedures, taxiway routings, and safety considerations. The success of reduced-engine taxiing is measured through on-going coordination with airlines and feedback from pilots. A survey conducted by Massachusetts Institute of Technology (MIT) in cooperation with Massport and the FAA found that single-engine taxiing was widely used on arrivals, but less frequently on departures due to safety and feasibility concerns, such as short taxi times. Massport continues to explore strategies to enhance the effectiveness of noise reduction measures, including reduced-engine taxiing, and stays informed about practices at other airports. The FAA and Massport are involved in on-going research to address aviation noise, which includes exploring alternative metrics and strategies. For further details, please refer to the *2023/2024 EDR*, **Section 7.4 of Chapter 7, *Noise*,** and the **User's Guide, Section U7.5.6**.

2-10: Noise

How successful have the efforts to maximize late-night over water operations been? What percentage of eligible flights make use of the option? How could the number be improved? Has the ban on nighttime engine run-ups and use of APUs been successful? How is success measured?

Massport has continued its efforts to maximize late-night over-water operations, aiming to minimize noise impacts on surrounding communities. The preferential use of Runway 15R for departures and Runway 33L for arrivals has been maintained through 2023 and 2024, to keep flights over Boston

Harbor and away from noise-sensitive areas. While specific percentages of eligible flights utilizing this option are not detailed in the current documents, Massport is committed to on-going collaboration with the FAA and airlines to enhance the effectiveness of these operations. This includes exploring new technologies and procedures that could further increase the number of flights utilizing over-water routes.

Regarding the ban on nighttime engine run-ups and the use of Auxiliary Power Units (APUs), Massport has continued these restrictions through 2023 and 2024 as part of its efforts to minimize nighttime noise. Success is measured through the Noise and Operations Monitoring System (NOMS), which tracks compliance and noise levels at various community noise monitor locations around Logan Airport. For more detailed information, please refer to the *2023/2024 EDR*, **Table 7-4** in **Section 7.4 of Chapter 7, *Noise*,** and the **User's Guide, Section U7.5**.

2-11: Noise

We ask that the number of insulations be broken down by the years in which they were completed for both the residences and schools.

As discussed in Comment A-64 in **Appendix A, *MEPA Certificate and Responses to Comments***, the *2023/2024 EDR* summarizes the RSIP's implementation timeline and progress status from 2023 through the end of 2024. The *2023/2024 EDR*, **Section 7.4.2 Chapter 7, *Noise*** and the **User's Guide, Section U7.5.2,** discuss the RSIP's goals and objectives in greater detail, progress data and years, and also provide key project milestones with achievement status updates. See **Table U7-4** the **User's Guide, Section U7.5.2** for a list of schools treated under Massport's RSIP between 1982 and 2004.

2-12: Climate Change

While sustainability and resilience actions are both appropriate responses to climate change, they are not the same. Given the importance of each, we would recommend distinct chapters on sustainability and climate resilience going forward.

As discussed in Comments A-8 and A-67 in **Appendix A, *MEPA Certificate and Responses to Comments***, the *2023/2024 EDR* includes a new **Chapter 11, *Sustainability and Climate Resilience*** which is dedicated to Massport's climate resiliency reporting and initiatives with linking to other Massport sustainability and resiliency resources. While these two distinct topics are collocated in the same chapter, the chapter separates these discussions into two distinct sections, with sustainability discussed in **Section 11.1**, **Section 11.3** focused on climate resilience, and a third section, **Section 11.2**, devoted to Massport's Net Zero programs and initiatives. The chapter also introduces the new Office of Climate Innovation and Resilience (OCIR), led by the Chief Climate and Resilience Officer, which 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.

2-13: Climate Change

We would encourage a future chapter on resilience to focus explicitly on the plans and projects that actively address the risks of extreme heat, intense precipitation, and coastal flooding including efforts focused on employees, guests, operations, assets and adjacent properties.

As discussed in Comments A-8 and A-67 in **Appendix A, *MEPA Certificate and Responses to Comments***, the *2023/2024 EDR* includes a new section in **Section 11.3 of Chapter 11, *Sustainability and Climate Resilience*,** dedicated to Massport's climate resiliency measures. Since 2013, Massport has maintained and continuously enhanced a comprehensive set of climate resiliency measures to protect critical infrastructure and surrounding communities from climate change impacts, including extreme heat, intense precipitation, and coastal flooding and sea level rise. Climate resiliency is an embedded practice in Massport's planning, design, construction, and daily operations. 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. 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.

Chapter 11 reports the initiatives Massport has taken, and continues to take, to protect critical infrastructure, maintain operational continuity, and safeguard employees and surrounding communities from these evolving risks. Massport commits to providing updates on these initiatives in future EDR and ESPR filings and via the Net Zero website.

2-14: Climate Change

We request that EDRs and ESPRS include the annual Sustainability and Resiliency Report and that it be prominently posted in the Environmental section of Massport's website.

As discussed above in Comments 2-12 and 2-13 and in Comments A-8 and A-67 in **Appendix A, *MEPA Certificate and Responses to Comments*,** the *2023/2024 EDR* includes a new section in **Chapter 11, *Sustainability and Climate Resilience,*** dedicated to Massport's climate resiliency measures, with information on the initiatives Massport has taken and continues to take. Massport commits to providing updates on these initiatives in future EDR and ESPR filings and will continue reporting on sustainability initiatives and progress through the recently launched [WEBSITE NAME / HYPERLINK] website.

2-15: Environmental Justice

Section 2.3.2.2 should be edited to reflect that the Massport CAC was established by the Massachusetts General Court in 2014.

Massport will review the referenced section in *the 2022 ESPR and revise as appropriate,* as well as confirm this information is presented correctly in the *2023/2024 EDR* and the User's Guide.

2-16: Ground Access to and From Logan Airport

We have never seen the MassDEP Rideshare survey results and there is no reason to expect that it would address the issues of an urban airport comprehensively. Detailed information about outreach strategies and their relative success should be provided in EDRs and ESPRs.

Detailed information on Massport's outreach efforts and strategies to promote HOV and Shared Ride use are provided in **Sections 6.1 and 6.4 of Chapter 6, *Ground Access*,** and the efficacy of these programs are also provided in the *Logan Air Passenger Ground Access Survey* reports for 2022 and 2024, summarized in **Section 6.5 of Chapter 6,** and available online for the public here: https://www.massport.com/logan-airport/about-logan/air-passenger-survey.

Below are some highlights of the outreach strategies and their relative success for air passengers. Updates on employee outreach initiatives are provided in response to Comment 2-17.

Massport has fully implemented Ride App shared ride incentives in partnership with Uber™ and Lyft™ to reduce Ride App vehicles through gateways by increasing vehicle occupancies. The Rematch Program matches drivers dropping off passengers with passengers seeking pick-up, thereby increasing the number of drivers leaving the Airport with a passenger customer. Massport implements a $3.25 per-trip fee for the Ride App. In March 2025, Massport signed an agreement with Lyft™ and Uber™ to increase the per trip fee to $5.50, while shared rides will be subject to a lower fee of $1.50 per trip. Ride App pick-up and drop-off transaction counts are provided in **Section 6.1.4 of Chapter 6**, and these have continued to increase each year, while the number of rental car and taxi dispatch transactions continues to decrease each year.

Massport is currently constructing approximately 1,000 additional parking spaces at the Framingham Logan Express garage site. The Peabody Logan Express was relocated to Danvers in 2023, and a new Danvers Logan Express facility will be completed by 2028, providing more parking for both passengers and employees and encouraging Logan Express use.

HOV ridership data demonstrating usage trends is provided in **Section 6.1.2 and Section 6.1.3 of Chapter 6.** HOV use among Logan Express Bus, MBTA Transit, and Water Transportation increased in 2023 and 2024, except for private water taxi use, which has substantially decreased over time, and the MBTA Silver Line, which increased ridership in 2023 but remained close to the same ridership in 2024.

2-17: Ground Access to and From Logan Airport

We believe Massport should detail the current status of the TMA beginning with the following information:

- **the number of employers on the airport;**
- **the number of employees who commute to a job at the airport;**
- **the number of employers that were members of the TMA in 2019, 2020, 2021 and 2022;**

- the range of services offered/sponsored by the TMA in 2019, 2020, 2021 and 2022, utilizing a checklist, with at least the following categories;
    - subsidized transit pass,
    - subsidized fares for HOV use (enumerate - ex. Logan Express, commuter bus, ferry/water shuttles),
    - free shuttle services-identify all,
    - subsidized shuttle services (identify all and specify subsidy),
    - secure bicycle parking protected from the elements,
    - showers and changing rooms,
    - ride matching service (explain process),
    - number of three-person (or more) car/vanpools, and
    - guaranteed ride home for commuters who qualify as walkers, transit-, HOV-, or bicycle-users (we do not see Logan Express as a blanket guaranteed ride home).

Section 6.4 of Chapter 6, *Ground Access* presents current employee ground transportation initiatives and parking programs and initiatives. Massport continues to adopt comprehensive ground transportation initiatives for employees traveling to and from Logan Airport. The ground transportation strategy is designed to offer a choice of HOV, transit, and shared-ride options that are convenient and reliable, and that reduce environmental and community impacts.

Massport designates preferred parking for hybrid and electric vehicle (EV) charging stations. The Economy Garage is not directly connected to the terminals; therefore, Massport offers a free, 24-hour shuttle bus service between the garage and the terminals.

Massport offers employee parking in Chelsea, along with free shuttle bus transportation to the Airport. The shuttle bus to the Terminals (Route 77) operates 24 hours a day, seven days a week. Massport also provides an employee parking lot at Wonderland, the Blue Line terminus in Revere, with shuttles to the Airport. In 2023, Massport opened a new employee park-and-ride lot in Quincy, offering shuttle service to the Airport. Logan Express sites operate early-morning and late-night bus service to encourage use and better serve Logan Airport employees. Massport offers reduced employee rates to promote the use of Logan Express facilities. Massport also supports the Sunrise Shuttle, which provides early-morning bus service for employees from East Boston and parts of Winthrop and Revere before the start of MBTA service.

In addition to providing a $300 per month subsidy to Massport employees for MBTA, Commuter Rail, Logan Express bus service, and water taxis, Massport also operates free shuttle buses between Airport Station and employment areas in the Southwest Service Area and the South Cargo Area locations (Routes 44, 66, and Logan Office Center). Free shuttle buses operate between the MBTA Airport Station and the Terminals (Routes 22, 33, 55, and 88).

Massport maintains a comprehensive sidewalk and walkway system at Logan Airport to facilitate pedestrian access and circulation. Bicycle racks are available at Terminal A, Terminal E, the Logan Office Center, the Signature General Aviation Terminal, the Economy Parking Garage, the Green Bus Depot, and the Airport MBTA Blue Line Station. Covered (sheltered) bike parking is provided at Terminal A, the Rental Car Center, and the Economy Parking Garage. Covered shelter bike parking is provided at Terminal A, the Rental Car Center, and the Economy Parking Garage. Massport also provides showers and changing facilities at the Logan Office Center for its employees.

Massport advises Airport employers on transit benefits, including transit subsidies, and provides information on available commuting alternatives, ride-matching services, and reduced-rate HOV and transit fare options. Massport also provides its employees with subsidies for water transportation and transit use. Consistent with Logan Airport transportation management goals, Massport offers financial support for the Sunrise Shuttle and other benefits as noted above.

2-18: Ground Access to and From Logan Airport

Massport should provide information about TDM and Massport employees as outlined in the following questions: Does Massport provide free and/or subsidized parking to its employees? If there are charges to riders, please explain. If, for example, carpool or vanpool vehicles are offered incentives, please identify them.

As discussed above in Comments 2-16 and 2-17, and in Comment A-61 in **Appendix A, *MEPA Certificate and Responses to Comments***, **Section 6.4.4 of Chapter 6, *Ground Access***, and the **User's Guide, Sections U6.5.4**, Massport has implemented several employee ground transportation and parking programs and initiatives.

Massport provides a free, 24-hour shuttle bus service between the Economy Garage and terminals; employee parking in Chelsea with free shuttle bus transportation to the Airport; and free shuttle buses between Airport Station and employment areas in the Southwest Service Area and the South Cargo Area locations (Routes 44, 66, and Logan Office Center). Massport also advises Airport employers on transit subsidies and reduced-rate HOV and transit fare options, in addition to providing Massport employees with subsidies for water transportation and transit use.

Massport continues to adopt comprehensive ground transportation initiatives for employees traveling to and from Logan Airport. The ground transportation strategy is designed to offer a choice of HOV, transit, and shared-ride options that are convenient and reliable, and reduce environmental and community impacts. An update and comparison of recent ground access conditions are presented in **Sections 6.1 of Chapter 6**.

2-19: Ground Access to and From Logan Airport

Massport should provide information about TDM and Massport employees as outlined in the following questions: How many parking spaces does Massport provide off of the airport for its

employees and where are the off-airport spaces located? Is 2,448 the correct number of on-airport spaces available to Massport employees?

Incentives for Massport employees are discussed above in Comments 2-17, 2-18, and A-61 in **Appendix A, *MEPA Certificate and Responses to Comments***, and **Section 6.4.4 of Chapter 6, *Ground Access***, presents the current employee parking spaces inventory, and 2,448 is the correct number of allowed on-Airport spaces for employees. Of the 2,448 spaces allowed, 2,360 spaces were in service in 2023, and 2,304 spaces were in service in 2024.

2-20: Ground Access to and From Logan Airport

Massport should provide information about TDM and Massport employees as outlined in the following questions: How do employees access the airport from those parking locations? If they are served by shuttles, please indicate the hours and frequency of operation. If this does not include Park N Ride locations, please identify the Park N Ride locations served by shuttles.

As noted in **Table 6-11 of Chapter 6, *Ground Access***, Massport provides employee parking in Chelsea with free shuttle bus transportation to the Airport. Massport offers reduced employee rates to encourage the use of Logan Express facilities. Additional early morning and late-night bus service has been added to Logan Express sites to promote use and better serve the schedules of Logan Airport employees. Massport supports the Sunrise Shuttle, which provides early morning bus service for employees from East Boston and parts of Winthrop and Revere before the start of MBTA service.

2-21: Ground Access to and From Logan Airport

Massport should provide information about TDM and Massport employees as outlined in the following questions: How many employee showers and employee changing areas serve employees on the airport, where are they located, and how are employees made aware of them? Are they available 24-hours/day?

Massport also provides showers and changing facilities for its employees within the Logan Office Center at 1 Harborside Drive, which are part of the building's fitness center. This information is included on Massport's careers website here: https://www.massport.com/working-here/benefits. Other showers and changing facilities are available for tenants and other employees, interspersed among Airport and Massport facilities and close to employee work areas.

2-22: Ground Access to and From Logan Airport

Massport should provide information about TDM and Massport employees as outlined in the following questions: How often are free employee shuttles run from Airport Station to employment areas in SWSA and South Cargo Area?

Massport operates On-Airport Shuttle Routes 22, 33, and 55 between the MBTA Airport Station (Blue Line) and the Rental Car Center (RCC), located in the Southwest Service Area (SWSA). Routes 22 and 33 run daily from 9:00 AM to 10:00 PM, while Route 55 provides service during early morning and late

evening off-peak hours. Route 66 connects the MBTA Airport Station (Blue Line) to the Water Transportation Dock, near the South Cargo Area. This route operates daily from 5:00 AM to 11:00 PM. On-Airport Shuttle information and route details are found at: www.massport.com/logan-airport/getting-to-logan/on-airport-shuttle.

2-23: Ground Access to and From Logan Airport

Massport should provide information about TDM and Massport employees as outlined in the following questions: What are the transit & water shuttle subsidy rates for Massport employees?

Comment A-61 in **Appendix A, *MEPA Certificate and Responses to Comments***, **Chapter 6, *Ground Access*, Section 6.4.4**, and the **User's Guide, Sections U6.5.4**, Massport has implemented several employee ground transportation and parking programs and initiatives. Massport offers reduced employee rates to encourage the use of transit and water shuttle facilities, and provides a $300 per month subsidy to employees for transit. More information is provided here: https://www.massport.com/working-here/benefits

2-24: Ground Access to and From Logan Airport

Massport should provide information about TDM and Massport employees as outlined in the following questions: Is the 'new' employee Park N Ride in Quincy for employees who use the Braintree Logan Express? If so, how do they get to the Logan Express?

In 2023, Massport opened a new employee park-and-ride lot in Quincy, offering shuttle service to the Airport. The Braintree Logan Express service capacity for air passengers was increased in the short term by relocating employees to a new, dedicated park-and-ride lot in Quincy. Employees are picked up by a Logan Express bus directly from this lot, but they must show their employee identification before boarding the vehicle.

2-25: Ground Access to and From Logan Airport

Each EDR and ESPR should provide some basic information about TDM measures that are available to employees with specific information from employees sought through a periodic (we suggest annual) survey. We believe that a commitment to doing a survey on a scheduled basis is necessary to ensure attention to this issue and are requesting that each EDR/ESPR provide detail about the most recent employee survey to include: date, a copy of the survey tool, method of administration, number of respondents, and a table of answers. The survey should not be limited to asking about current transportation habits but should also be used to assess what additional methods might encourage employees not to drive, particularly in SOVs. To start, we suggest a check-list of existing amenities/measures and employees should be asked if they are aware of them and if they are made available

Massport appreciates the thoughtful suggestions provided regarding TDM measures and employee surveys. Massport recognizes the importance of soliciting employee input and continually improving

transportation options and amenities. These recommendations will be considered as part of on-going planning efforts to enhance access, encourage sustainable commuting, and better serve Logan Airport employees in the future.

2-26: Ground Access to and From Logan Airport

We ask that the following TDM measures be considered as part of a standard, comprehensive plan by all employers if they are not already offered:

- **Free or subsidized transit pass**
- **Reduced-fee Logan Express-needs to indicate charges for employee parking and bus ticket**
- **Guaranteed Ride Home program - needs not to be Logan Express (see notes below)**
- **A ride-matching service for employees who may want/need to commute by car and are looking to carpool/vanpool**
- **Advantageous (on-airport) parking for carpoolers (3 or more employees)/vanpoolers**
- **Free shuttle from off-site car/vanpool parking locations in addition to Chelsea**
- **Bicycle amenities/programming (see notes below)**
- **Showers and changing rooms in various areas of the airport; some available 24-hours, with safe transportation to work locations**

As discussed above, in particular the response to Comment 2-17, as well as in Comment A-61 in **Appendix A, *MEPA Certificate and Responses to Comments***, **Chapter 6, *Ground Access*, Section 6.4.4**, and the **User's Guide, Sections U6.5.4**, Massport has implemented several employee ground transportation and parking programs and initiatives. Those listed here have been discussed in the comment responses immediately preceding this response.

2-27: Ground Access to and From Logan Airport

We suggest that a bicycle storage room (perhaps with a repair station), showers and changing rooms be part of the 4,300-space parking garage to be built in front of Terminal E. In addition, we suggest consideration of employee parking spaces for verified three- or more person carpools and vanpools in easy on- and off- locations in the new garage.

Massport appreciates these suggestions and will evaluate the feasibility of incorporating these recommendations into future planning discussions for other on-airport facilities. As for the Terminal E Garage's 4,300 spaces, the preliminary design process considered current on-Airport parking conditions and reconfirmed the need for additional commercial parking spaces to encourage passenger long-term parking at the Airport, rather than drop-off and pick-up trips. Logan Airport is primarily an Origin and Destination (O&D) market, and the majority of passengers look for transportation modes that can accommodate luggage. As such, these recommendations for improvements focused on commuting employees would likely be more effective at other on-Airport

facilities, which Massport will take into consideration during the planning and development process for future onsite facilities.

2-28: Ground Access to and From Logan Airport

We suggest that the Website post a one-page Master Schedule that would allow for [Logan Express] passengers to quickly assess potential options. It's also not clear if the very early and very late trips are exclusively for employees and serve limited sites or if they serve all sites and are open to anyone who has a ticket. Clarification on the nature of these trips would be helpful.

Massport has a single-page schedule that covers all five Logan Express locations on the Massport website (https://www.massport.com/logan-airport/getting-to-logan/logan-express). As of this filing, the current schedule for the five service offerings is available at LEX Schedules 1Aug2024. The schedule is updated as service changes occur. Passengers can find real-time information and updates on bus locations and arrival times on the website https://www.massport.com/logan-airport/getting-to-logan/bus-locator. Alternatively, they can download the FlyLogan app and use the bus locator feature to track when buses are due to arrive.

2-29: Ground Access to and From Logan Airport

We would also suggest a [Logan Express] site in the area of JFK/UMass.

The MBTA Red Line stops at the JFK / UMass Station and is an approximately six-minute ride to South Station, where the Silver Line's SL1 service provides direct access to each Logan Airport terminal. SL1 service frequency is every 9 to 13 minutes, depending on the time of day. Silver Line buses are articulated, 60-foot vehicles with on-board storage areas for luggage. Silver Line (SL1) service from Logan Airport is free, as are transfers to the Red Line subway service at South Station. Massport offers free Silver Line boardings at the Airport, and the free-fare program is expected to continue indefinitely.

In addition to surveys from prior years, the *2024 Logan Air Passenger Ground Access Survey* informs Massport's evaluation of Logan Express sites. It supports a data-driven planning process for changing or expanding service options. As discussed above and in other comments, recent Massport initiatives have successfully encouraged Logan Express' use and improved its overall capacity. Information on these projects is found in **Sections 4.1.3 through 4.1.5 of Chapter 4**, ***Airport Planning***. Additional Logan Express service details are found in **Section 6.1.2.1 of Chapter 6, *Ground Access***.

2-30: Ground Access to and From Logan Airport

While there are inherent benefits to taking a bus to the airport, the Airport Security Line Priority is an additional incentive. It is identified in some materials as a benefit of using Logan Express, but we would like clarity on the current status of the program.

Back Bay Logan Express piloted priority airport passenger security line status for riders when operations at Back Bay restarted in October 2022. The priority program, Ticket to Skip, continues to be available to

Back Bay Logan Express and water transportation riders. **Section 6.1.2 of Chapter 6, *Ground Access*,** provides information regarding Logan Express and water transportation initiatives.

2-31: Ground Access to and From Logan Airport

We suggest planning for certain remote sites to become TSA security screening locations so that passengers can clear security and check baggage which will be transported separately and securely to Logan…We suggest asking on the next air passenger survey if this level of convenience would entice passengers to use this kind of service.

The Transportation Security Administration (TSA) holds the responsibility and authority to conduct security screening of travelers and baggage, and the TSA manages secure facilities with specialized equipment within Logan Airport for this purpose. In summer 2026, Massport will initiate a reservation-based pilot program of a remote access terminal at the Logan Express facility in Framingham. Should the pilot program be successful, and with the cooperation of TSA, Massport's next step would be evaluating the feasibility of rolling out the remote terminal model to other Logan Express facilities.

2-32: Ground Access to and From Logan Airport

We would like Massport to address the following questions about these sites. Are there safe, indoor waiting areas available for the earliest passengers and for those whose flights may arrive late and may, therefore, delay ultimate passenger pick up? How does Logan Express work for the suburban sites when flights are delayed and arrive after the last bus is scheduled to leave Logan? Given that passengers don't have reservations on Logan Express, are they then left on their own to get from Logan to Framingham at 2 am, for example? Is this tracked somehow?

The Logan Airport terminals, prior to TSA security checkpoints, remain open 24 hours a day, seven days a week, and offer safe, indoor waiting areas for early morning and late-night passenger arrivals.

The latest scheduled arrivals for flights to Logan Airport generally occur before 12 am, and the last Logan Express bus service for Braintree, Framingham, Danvers, and Woburn destinations is 1:15 am for Terminal A and a few minutes after 1:15 am for the other terminals. The last SL1 bus departs Logan at 1:18 am on weekdays and 2:15 am on Fridays and Saturdays. The previous Back Bay bus leaves at 10 pm.

Tickets can be purchased online for future travel and do not expire or restrict travel times as long as the buses are still running for a given day, so reservations are not necessary, and passengers can still board the bus to return to their original Logan Express station if flights are delayed. While safe, indoor waiting areas are provided at each Logan Express location, these may not remain open late at night or very early in the morning.

Should passengers miss the last bus departure, traditional ground transportation services, such as taxis and ride-sharing app services, remain available. The number of passengers who miss the previous

departing bus and are unable to use Logan Express services due to delayed flights is not currently tracked.

2-33: Ground Access to and From Logan Airport

Do we know why Peabody wasn't more popular? Does Danvers address deficiencies that were present in Peabody?

Massport relocated the Logan Express facility from Peabody to Danvers to improve service reliability and address operational limitations. The Peabody site experienced low ridership, constrained parking capacity, and reduced service frequency, which limited its effectiveness. The Danvers facility, which opened in August 2024, offers expanded parking, enhanced regional access via Route 128 and I-95, and permanent infrastructure designed to support long-term operations. This relocation strengthens Massport's commitment to providing efficient and accessible Logan Express service to North Shore communities.

2-34: Ground Access to and From Logan Airport

What remains unclear is, how does Massport document the number of air passengers in any vehicle?

The *Logan Airport Air Passenger Ground Access Survey* has been Massport's primary tool for understanding the changes in air passenger travel behavior, including ground access mode choices, travel patterns, and market characteristics. The survey data help determine how many air passengers are traveling together in the same ground-access vehicle among the various automobile modes. In 2024, the survey asked respondents how they arrived at Logan Airport and how many people were in the vehicle. These responses for passengers per vehicle were weighted according to the methodology outlined in Section 2.4, Sample Weighting, of the *2024 Logan Air Passenger Ground Access Survey*.

2-35: Ground Access to and From Logan Airport

In general, how are RideApp operations tracked?

The *Logan Air Passenger Ground Access Survey* has been Massport's primary tool for determining how many air passengers are traveling together in the exact ground-access vehicle among the automobile modes, including Ride App vehicles. Details on the survey and its methodology are provided in the **User's Guide, Section U6.4**, and the results for the *2024 Logan Air Passenger Ground Access Survey* are included in the *2023/2024 EDR*, **Section 6.5 of Chapter 6, *Ground Access*.**

In addition to the survey, Ride App trip data is also provided to Massport by transportation network companies Uber™ and Lyft™. Massport maintains an internal dashboard tracking monthly Ride App statistics and trends, including the number of deadhead trips. The internal dashboard aids Massport in planning future Ride App operations policy. Counts of automobile transportation modes for 2023 and 2024 are included in **Section 6.1.4 of Chapter 6**, and information on the Ride App Management is presented in the *2023/2024 EDR*, **Section 6.4.1 of Chapter 6.**

Massport also plans to conduct a study to collect dwell-time data from Ride App operations, which make up approximately 27 percent of Logan Airport's ground transportation vehicle counts, in designated pick-up areas within Logan Airport's parking garages. The study's data and results will augment the data provided by the Ride App companies and help refine operations tracking procedures in the future.

2-36: Ground Access to and From Logan Airport

How do things work for black car limousines so that Massport has an accurate count?

Since the late 1970s, the *Logan Air Passenger Ground Access Survey* has been Massport's primary tool for understanding the changes in air passenger travel behavior, including ground access mode choices, travel patterns, and market characteristics. The survey data help determine how many air passengers are traveling together in the exact ground-access vehicle among the various automobile modes. This helps with understanding travel characteristics for arriving via private vehicles, rental vehicles, taxis, Ride App services, and other car services, such as limousines. Details on the survey and its methodology are provided in the **User's Guide, Section U6.4**, and the results for the *2024 Logan Air Passenger Ground Access Survey* are included in the *2023/2024 EDR*, **Section 6.5 of Chapter 6, *Ground Access***.

2-37: Ground Access to and From Logan Airport

What specific strategies have been identified to meet the goals of the RideApp Management Plan (2020/2021 EDR)? We have gleaned that the dedicated drop-off/pick-up in the Central Garage and reduced fees for shared rides are being relied upon to increase RideApp shared rides, reduce deadhead trips and reduce congestion. How are potential riders made aware that sharing a trip would save them money? How does Massport quantify the improvement it makes in congestion and in a related drop in GHG emissions?

As discussed in Comment A-52, Massport has implemented a Ride App Management Plan since 2017 to facilitate the sustainable use of ride app services at Logan Airport. The strategy has implemented programs, including Ride App rematch, introducing rideshare, and developing a Ride App fee structure to support HOV. Roadway and garage projects have also included plans for centralization for Ride App pick-up and drop-off to help support shared rides, reduce deadhead trips, and reduce curbside congestion. Refer to *2023/2024 EDR*, **Section 6.4.1 of Chapter 6, *Ground Access*,** for more information on the Ride App Management Program, and see **Table 6-8** for a summary of the Ride App initiatives implemented and their overall efficacy.

2-38: Ground Access to and From Logan Airport

Please identify other RideApp strategies and describe what success looks like, how is it quantified?

As mentioned in Comment 2-37, details on the Ride App Management Program and its progress are found in the *2023/2024 EDR*, **Section 6.4.1 of Chapter 6, *Ground Access***, and the strategies

implemented are summarized in **Table 6-8**. As the program continues to develop and improve, more background information on the program will be included in the **User's Guide, Section U6.5.1**.

2-39: Ground Access to and From Logan Airport

What does exploring RideApp Last Mile connections mean?

Ride App last-mile connections at Logan Airport refer to initiatives designed to integrate ride apps (Uber™ and Lyft™) with other transportation modes, particularly Logan Express and other high-occupancy vehicle (HOV) options to complete the final leg of a passenger's journey to or from the Airport. This initiative advances Massport's goals of promoting sustainability, enhancing the passenger experience, and reducing environmental impacts.

Ride App last mile connections aim to:

- Encourage shared rides, including rapid transit, to reduce congestion and vehicle volume.
- Promote Logan Express usage by integrating Ride Apps, allowing passengers to connect from suburban transit hubs to the Airport.
- Support urban shuttle services to streamline connections and reduce single-occupancy (SOV) trips.

2-40: Ground Access to and From Logan Airport

How many parking spaces are in the co-located RideApp Pool Lot/Cell Phone Waiting Lot on Porter Street? How is it monitored for idling and the five-minute idle law enforced?

The Cell Phone Waiting Lot was relocated in 2023 to a site across from Terminal E, as noted in **Table 6-9 of Chapter 6, *Ground Access***. The Cell Phone Waiting lot contains 94 parking spaces. Massachusetts General Law (MGL) requires vehicles to shut off engines when vehicles are stationary for more than five minutes. Massport has enforcement mechanisms in place at the taxi, cell phone, Ride App, bus, and limousine pool areas.

2-41: Ground Access to and From Logan Airport

How does Ride Rematch work, how has it been advertised and facilitated and how has success been measured? What are the numbers?

Massport has implemented the Ride App Rematch Program as part of its Ride App management strategy. The program allows drivers who have just dropped off a passenger to quickly pick-up another passenger as part of the software app's features for drivers. This initiative is fully implemented and has been supported by infrastructure improvements, such as the creation of dedicated pick-up and drop-off areas in the Central Garage and Terminal E Garage, which means Ride App drivers no longer have to drive to the Cell Phone Waiting Lot, where they may sit with their cars idling, or drive around the Airport while waiting for their next customer. Although recently implemented, Massport now maintains an internal dashboard tracking monthly Ride App statistics and trends, including the number of

deadhead trips. The internal dashboard aids Massport in planning future Ride App operations policy, and this data will inform future EDR and ESPR reporting.

Massport has actively advertised shared ride services through partnerships with transportation network companies like Uber™ and Lyft™. The success of these efforts is measured through the *Logan Air Passenger Ground Access Survey*, which tracks changes in air passenger travel behavior, including ground access mode choices and vehicle occupancies. The survey data, along with transaction counts for Ride App pick-ups and drop-offs and curbside dwell time studies, are used to assess the effectiveness of shared ride initiatives. In 2024, Ride App activity surpassed the 2019 benchmark year's activity by about 15 percent for pick-up transactions and 4 percent for drop-off transactions. Refer to **Section 6.4.1 of Chapter 6, *Ground Access***, Comment A-52 in **Appendix A, *MEPA Certificate and Responses to Comments***, and **User's Guide, Section U6.5.1** for further information on Ride App management.

2-42: Ground Access to and From Logan Airport

What percentage of RideApp drivers who drop off a passenger or passengers stay on-airport to wait for a passenger to leave Logan?

As discussed in Comment 2-41 above, although recently implemented, Massport now maintains an internal dashboard tracking monthly Ride App statistics and trends, including the number of deadhead trips. The internal dashboard aids Massport in planning future Ride App operations policy and this data will inform future EDR and ESPR reporting.

The ability for a Ride App driver to immediately "rematch" or be dispatched from the Ride App pool varies greatly by time of day and is most successful during the times when arriving and departing aircraft are in balance. Overall, in 2023 and 2024 about 52 percent of drivers either rematched directly at the curb or waited in the Ride App lot after dropping off a departing passenger.

2-43: Ground Access to and From Logan Airport

How have passenger-shared rides been advertised and facilitated and how successful have the efforts been? How has success been measured?

Massport has actively promoted passenger-shared rides through partnerships with transportation network companies like Uber™ and Lyft™. These efforts include implementing shared ride incentives to increase vehicle occupancies and reduce congestion at Logan Airport. The Ride App management strategy, detailed in **Section 6.4.1 of Chapter 6, *Ground Access*** in the *2023/2024 EDR,* includes initiatives such as the Ride App Rematch Program and centralized pick-up and drop-off locations to facilitate shared rides.

Success is measured through the *Logan Air Passenger Ground Access Survey*, which tracks changes in air passenger travel behavior, including ground access mode choices and vehicle occupancies. The survey data help quantify improvements in congestion and reductions in greenhouse gas emissions.

Additionally, transaction counts for Ride App pick-ups and drop-offs are provided in **Section 6.1.4 of Chapter 6,** showing an increase in shared ride usage over time.

2-44: Ground Access to and From Logan Airport

How are numbers obtained in order to calculate the 38.4% HOV mode share?

HOV mode share data is obtained through the *Logan Air Passenger Ground Access Survey*. The complete *2022 Logan Air Passenger Ground Access Survey* Section 2.0 presents the Study Methodology. A total of 4,224 passengers across 437 flights participated in the survey. After reviewing and validating the data, a total of 4,093 surveys were used. Detailed results of the 2022 survey are presented in Section 4.0 of the report. The results of the *2024 Logan Air Passenger Ground Access Survey* are published on Massport's website at: https://www.massport.com/logan-airport/about-logan/air-passenger-survey and summarized in **Section 6.5 of Chapter 6, *Ground Access***.

2-45: Ground Access to and From Logan Airport

We would like definitions for preferred parking and descriptions of how limousines, van services and buses are notified of the incentives and how qualified vehicles are recognized. A summary of the marketing and use of these incentives should be provided annually.

Massport defines preferred parking as designated spaces for hybrid and electric vehicles (EVs) equipped with charging stations. Limousines, van services, and buses are notified of incentives through direct communication channels, including email and industry meetings. Qualified vehicles are recognized through a registration process that ensures compliance with Massport's environmental and operational standards. Massport provides annual summaries of the marketing and use of these incentives, which are detailed in **Section 6.4 of Chapter 6, *Ground Access***.

2-46: Ground Access to and From Logan Airport

We request that Massport identify the locations of all chargers and any limits, if any, on who may access and use them.

In January 2025, Massport updated the *Sustainability Design Guidelines (SDGs)* to align with the *Roadmap to Net Zero by 2031*. The electric vehicle (EV) charging services and capacity to be provided will correspond to the needs of airport users, with considerations incorporated into the planning process, including vehicle duration of stay on Airport property, parking space availability, and site limitations such as available electrical capacity. Massport will continue to update plans for accommodating EVs and the SDGs to meet increasing local and regional adoption of EV use.

Currently, more than 100 charging ports have been installed at Logan Airport and its Logan Express sites. Of these, 60 were available for public use in 2024, with four located at Framingham Logan Express, 46 located within the terminal area garages, and ten located in Economy Garage. See the

2023/2024 EDR, **Section 6.4.2 of Chapter 6, *Ground Access*,** and **Section 11.2.3.3 of Chapter 11, *Sustainability and Climate Resilience*** for more information.

2-47: Ground Access to and From Logan Airport

We suggest that at least 15% of spaces in the new parking garage have a charging portal.

In January 2025, Massport updated the *SDGs* to align with the *Roadmap to Net Zero by 2031*. The electric vehicle (EV) charging services and capacity to be provided will correspond to the needs of airport users, with considerations incorporated into the planning process, including vehicle duration of stay on Airport property, parking space availability, and site limitations such as available electrical capacity. Massport will continue to update plans for accommodating EVs and the SDGs to meet increasing local and regional adoption of EV use. Of these, 60 were available for public use in 2024, with 46 located within the terminal area garages and ten located in Economy Garage. See the *2023/2024 EDR*, **Section 6.4.2 of Chapter 6, *Ground Access*,** and **Section 11.2.3.3 of Chapter 11, *Sustainability and Climate Resilience,*** for more information.

2-48: Ground Access to and From Logan Airport

The surveying methodologies and results were not fully described in the ESPR. What was the 2022 Air Passenger Ground Access Survey protocol? What was the sample target? How many passengers participated in the survey? For HOV users, ask about how many in their traveling party used and HOV to get to Logan.

The complete *2022 Logan Air Passenger Ground Access Survey* Section 2.0 presents the Study Methodology. A total of 4,224 passengers across 437 flights participated in the survey. After reviewing and validating the data, a total of 4,093 surveys were used. Detailed results of the 2022 survey are presented in Section 4.0 of the report. The results of the *2024 Logan Air Passenger Ground Access Survey* are published on Massport's website at: https://www.massport.com/logan-airport/about-logan/air-passenger-survey and summarized in **Section 6.5 of Chapter 6, *Ground Access***.

As discussed in 4D-36 and 4D-37 and in Comments A-56 and A-57, recent Massport initiatives have successfully encouraged Logan Express' use and improved its overall capacity. Information on these projects is found in **Sections 4.1.3 through 4.1.5 of Chapter 4**, ***Airport Planning.*** Additional Logan Express service details are found in **Section 6.1.2.1 of Chapter 6, *Ground Access***.

In addition to surveys from prior years, the *2024 Logan Air Passenger Ground Access Survey* informs Massport's evaluation of Logan Express sites. It supports a data-driven planning process for changing or expanding service options. These studies surveyed passengers on how they would respond to various policy options and initiatives and evaluated how these policies would change passenger decisions regarding Airport access modes. These results are published on Massport's website at: https://www.massport.com/logan-airport/about-logan/air-passenger-survey and summarized in **Section 6.5 of Chapter 6, *Ground Access***.

2-49: Ground Access to and From Logan Airport

We suggest that Massport make the most of this one opportunity to get information from passengers and ask if their HOV trip was satisfactory and if there are improvements to HOV options in general that would make them more attractive. Focusing on Logan Express should be predominant.

As discussed in Comment A-56 in **Appendix A, *MEPA Certificate and Responses to Comments***, the *2024 Logan Air Passenger Ground Access Survey* informs future service adjustments and demand for increased and expanded Logan Express facilities. Recent Massport initiatives have successfully encouraged the use of Logan Express and improved overall capacity. The Braintree Logan Express service capacity for air passengers was increased in the short term by relocating employees to a new, dedicated park-and-ride lot in Quincy. The Braintree, Framingham, Woburn, and Back Bay Logan Express service frequencies have been improved, and construction has begun for approximately 1,000 additional parking spaces at Framingham. Massport enhanced marketing efforts to increase ridership and invested in a new, larger facility in Danvers to temporarily relocate the Peabody Logan Express. Information on these projects is found in **Sections 4.1.3 through 4.1.5 of Chapter 4**, ***Airport Planning***. Additional Logan Express service details are found in **Section 6.1.2.1 of Chapter 6, *Ground Access*.**

2-50: Ground Access to and From Logan Airport

There are also no questions about the use of EV chargers at Logan and the survey would be an opportunity to learn more about EV users. We suggest the following questions:

- **Did you drive an electric vehicle (EV) to Logan and park it here during your trip?**
- **Did you park it and leave it at a charging station?**
- **How many kWh does your car need to charge?**
- **If you needed to charge your car when you left it, how much charging time did it need?**
- **If there had been a cost to charge your car and then move it to a preferred parking space without a charger for your pick-up, would you still drive your EV to Logan?**

As discussed in Comment A-56 in **Appendix A, *MEPA Certificate and Responses to Comments***, the *2024 Logan Air Passenger Ground Access Survey* informs future service adjustments and demand for increased and expanded facilities. Massport appreciates this suggestion and will consider incorporating this element into future survey efforts. Massport endeavors to ensure the EV charging services and capacity provided corresponds to the needs of airport users, with considerations incorporated into the planning process for vehicle duration of stay on Airport property, parking space availability, and site limitations, such as available electrical capacity. Massport will continue to update plans for accommodating EVs and the SDGs to meet increasing local and regional adoption of EV use.

3. Town of Milton

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September 10, 2024

The Honorable Rebecca Tepper, Secretary
Executive Office of Energy and Environmental Affairs
Attn: Massachusetts Environmental Policy Act ("MEPA") Office
Jennifer Hughes, EEA No. 3247
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Comments of the Town of Milton on the Boston Logan International Airport 2022 Environmental Status and Planning Report (2022 ESPR)

Dear Secretary Tepper:

The Select Board of the Town of Milton ("Milton") is pleased to provide the following comments in response to the Boston Logan International Airport 2022 Environmental Status and Planning Report ("2022 ESPR"), which was submitted to you by the Massachusetts Port Authority ("Massport") on May 31, 2024.

1. **Request for Assistance and a Meeting with the Secretary**

As you will see from (a) our November 14, 2019 comment letter to your predecessor, Secretary Kathleen A. Theoharides, on the Boston Logan International Airport 2017 Environmental Status and Planning Report (the "2017 ESPR"), attached hereto as Exhibit A, and (b) our March 12, 2021 comment letter to Secretary Theoharides on the Boston Logan International Airport 2018-2019 Environmental Data Report (the "2018-2019 EDR"), attached hereto as Exhibit B, neither the Federal Aviation Administration ("FAA") nor Massport has addressed the serious environmental and public health concerns about airplane noise and pollution that we and many other overflight communities[1] affected by air traffic to and from Logan raised in response to the 2017 ESPR, the 2018-2019 EDR, and prior ESPRs and EDRs during the past decade. At this time, Milton and other overflight communities need assistance from State officials, including the EOEEA and the Massachusetts Department of Public Health ("DPH"). We urge the EOEEA and the DPH to engage with Massport, the FAA, and the affected overflight communities to achieve meaningful solutions to the public health issues that the FAA's concentration of flight paths has created for overflight communities such as Milton. 3-1

The noise from Logan operations impacts citizens of the Commonwealth across municipal boundaries, but, just like climate change, no one community is empowered to find a solution on its own. In fact, municipalities that have sought solutions on their own have been criticized for acting at the expense of others. Milton and the entire Logan overflight area need our leaders at the State level, including the EOEEA, for oversight, empowerment, and solutions to this significant cross-boundary problem.

For the reasons detailed herein and in Exhibits A and B, we make the following requests of the Secretary and EOEEA:

a. Not to certify the 2022 ESPR, and to direct Massport to prepare a supplemental ESPR which fully and realistically addresses projected increases to Logan operations and airport throughput, and the resulting environmental impacts. 3-2
b. Direct Massport to demand that the FAA test and implement all of the recommendations in Block 1 and Block 2 of the recent MIT Study, and specifically those relating to Runways 4R and 27. 3-3
c. Work with the FAA, Massport, and Milton to develop and implement late-night aircraft overflight restrictions which are protective of Milton and its residents, including consideration of an 11:00 PM to 6:00 AM landing prohibition on Runways 4R and 4L. 3-4
d. Direct Massport and the Massport Community Advisory Committee ("MCAC") to promptly develop a system for the fair and equitable distribution of aircraft overflights that provides real relief to the highly impacted surrounding communities, especially those that are under multiple RNAVs (defined herein). 3-5
e. Direct Massport to collaborate with DPH and DEP to develop and conduct noise and air pollution studies in highly impacted surrounding communities, especially those that are under multiple RNAVs. 3-6
f. Direct Massport to consider off-airport noise and pollution impacts, including but not limited to the health impacts from increased and concentrated arrival and departure operations due to RNAVs, in all communities under any RNAV, in all future EDRs and ESPRs. 3-7
g. Direct Massport to include all of the points made above in the scope of the 2022 ESPR. This includes impacts to health from noise and pollution from: off-airport impacts of growth, cumulative impacts of RNAV overflights, increased nighttime operations, moving to updated noise measurements which are more protective of human health and which account for acute impacts more realistically than the DNL standard; and working directly with impacted communities to more fully understand and evaluate the human health effects from Logan operations. 3-8
h. Include the hours from midnight to 7:00 AM in the dwell and persistence calculations to provide a clearer indication of the noise burden being borne by communities subject to nighttime operations. 3-9
i. For future public health existing conditions reviews and future ESPRs and EDRs, direct Massport to include impacts to environmental justice ("EJ") populations that are located in overflight communities. 3-10

[1] In its "Request for Comments on the Federal Aviation Administration's Review of the Civil Aviation Noise Policy" issued on May 1, 2023, the FAA defined "overflight communities" as "communities located under the flight paths of aircraft and vehicles that are distressed by aircraft noise and are located outside of the DNL 65 dB contour." *See* 88 Fed. Reg. 26,641 (May 1, 2023), footnote 28.

j. Direct Massport to consider, for future ESPRs and EDRs, the impacts of emerging advanced air mobility ("AAM") technology on communities overburdened by operations at Logan.

3-11

In addition to the above, we request a meeting with you and your staff to discuss in person the concerns that we have outlined here, as well as our specific requests for assistance. Our Town Administrator, Nicholas Milano, will follow up with your office to schedule a meeting. Please confirm your office's receipt of this comment letter.

2. **Executive Summary**

Like the two years that preceded it, 2022 was an anomaly due to the COVID-19 pandemic. As Massport noted in its May 31, 2024 letter to you, "[i]n 2022, Logan Airport continued to progress towards a recovery to pre-pandemic passengers and aircraft operations activity levels, but passenger activity still remained 15 percent less than 2019 levels and aircraft operations were 11 percent less than 2019." Section 1.1.1 of the 2022 ESPR further states that "[i]n 2020 and 2021, the pandemic caused a significant reduction in Airport activity." Because of the pandemic, data pertaining to operations at Boston Logan International Airport ("Logan") during the early years of this decade does not describe the true impacts that concentrated air traffic has had, pre-pandemic and post-pandemic, on overflight communities, including Milton.

Milton is overburdened by excessive aircraft noise and pollution from four (4) concentrated flight paths that bring airplanes arriving on Runways 4R and 4L and airplanes departing Runways 27 and 33L over our town. It is common for Milton to experience many consecutive days with several hundred airplanes flying over homes, schools, parks, playgrounds, and senior communities. Residents continue to complain to us about the adverse health and quality of life impacts from excessive airplane noise and pollution, including sleep disruption, the inability to work or to have a conversation in one's own home or yard, anxiety, and the inability to enjoy the outdoors. Milton residents continue to file a substantial number of noise complaints with Massport. A recent community health assessment conducted by our Health Department identified air traffic as one of the public health challenges facing Milton.

Like its predecessor ESPRs and EDRs, the 2022 ESPR does not address the many issues that we have raised in years past. The 2022 ESPR fails to address the impact of Logan's operations, and the cumulative effects of concentrated flight paths, on overflight communities. It relies on an outdated noise metric (DNL 65 dB) that cannot adequately measure the noise from several hundred airplanes a day on homes, schools, parks, playgrounds and senior communities. The 2022 ESPR fails to adequately address nighttime operations, dwell and persistence, and air pollution caused to overflight communities. Massport's forecast of a substantial increase in the number of future operations and passenger throughput at Logan requires immediate solutions to existing noise and air pollution problems. Although we are pleased that the 2022 ESPR analyzes Logan's operations on EJ populations in parts of Boston, such analysis does not go far enough because it ignores EJ populations living in overflight communities.

During the past dozen years, Milton engaged in extensive outreach to, and communication with, the FAA and Massport, but has received no relief from the noise and pollution burden caused by the FAA's implementation of performance-based navigation ("PBN"), including area navigation ("RNAV"), at Logan. At the request of the FAA and Massport, the Massachusetts Institute of Technology ("MIT") studied many of Logan's flight paths and, in 2022, recommended three flyable alternatives for Runway 4R that, if used in rotation, would reduce some of the noise burden on Milton. However, Massport and the FAA have not even tested, let alone implemented, MIT's alternative paths. It is long past time for the Commonwealth to direct Massport and the FAA to test and implement these alternatives, and for the EOEEA and the DPH to acknowledge the serious public health and environmental consequences that PBN/RNAV has had on overflight communities like Milton. We demand that the Commonwealth work with Massport and the FAA act to solve the problems that the FAA created.

3. **Background**

For the past dozen years, Milton has engaged in extensive communication with Massport and the FAA with respect to the FAA's PBN systems, including RNAV. PBN placed four (4) RNAVs over Milton. These RNAVs bring arriving airplanes over Milton on their approach to Runways 4R and 4L. They also bring airplanes departing Runways 27 and 33L over Milton. The most significant noise and pollution impacts to Milton come from the arrivals to Runways 4R and 4L, overburdening Milton residents by all too often placing several hundred airplanes a day at low altitudes over the same homes, schools, parks, playgrounds, senior communities, and other densely populated areas.

As noted in Section 2.2.3.4 of the ESPR, in 2022, MIT concluded its study of PBN/RNAV systems that the FAA had implemented during the prior decade (the "MIT Study"), with the goal of identifying opportunities to reduce noise impacts from concentrated flight paths. Block 2 of the MIT Study recommended three (3) feasible alternative flight paths for arrivals to Runway 4R. These alternative 4R flight paths would move some, but not all, of the arrivals to 4R from Milton to neighboring communities that were, prior to PBN, overflown by such arrivals. The multiple paths for 4R would be used in rotation, so that no one community would be overburdened, as Milton currently is. Milton has consistently advocated for such flyable 4R alternatives to be further studied and implemented. However, the FAA and Massport have failed to take any action on the Block 2 recommendations for Runway 4R.

The 2022 ESPR notes, at pages A-21 and A-55, that, despite the FAA's initial determination that no Block 2 procedures would be recommended, two procedures for Runways 22L and 22R were subsequently modified and Massport has recommended them to the FAA for implementation. It is completely unacceptable that Massport has not recommended that the FAA test and implement Block 2 procedures for Runway 4R. We will continue to advocate that the three alternative flight paths deemed flyable by MIT be implemented. We seek your help in addressing the serious public health impacts that Logan's operations have caused to Milton by, among other things, advocating for Massport to recommend, and the FAA to test and implement, the Block 2 procedures for Runway 4R.

The Milton Health Department recently completed a two-year Community Health Assessment (Summer 2024) ("Milton Community Health Assessment"). It identified several overall health challenges affecting residents of our town, including concern about air traffic noise and air pollution. The Milton Community Health Assessment notes, in part, the following:

> "Decades of scientific evidence show that noise may contribute to hearing loss, annoyance, sleep disruption, cardiovascular disease, metabolic disturbances, and exacerbation of anxiety and depression. It also has adverse impacts on communication, activities, learning, productivity, and quality of life. (American Public Health Assn, Policy Statement 202115, Oct. 26, 2021).
>
> Noise and air pollution generated by tens of thousands of aircraft using the 4L/R flight paths over Milton each year is a significant public health concern expressed by many Milton residents in our qualitative interviews. Noise pollution arising from Boston Logan International air traffic in certain areas of Milton has also raised environmental health concerns among residents. Residents have voiced that these health issues may disproportionately affect specific segments of the community, while others remain relatively unaffected.
>
> Besides noise, some residents have also expressed concern about trace metal soil contamination from fuels. One study, conducted by environmental health graduate students at Boston University found not soil contamination, but they recommended further study."

One of the top ten recommendations from the 410 respondents who took part in a Community Health Survey (which comprised one portion of the community health assessment process) was "less airplane traffic."

The findings of the Milton Community Health Assessment relating to air traffic impacts come as no surprise to us. Members of the Milton Select Board have been receiving complaints about airplane noise and pollution on a regular basis since the FAA implemented the RNAV for Runway 4R arrivals close to a decade and a half ago. The FAA's and Massport's inaction and failure to mitigate the impacts of PBN/RNAV on overflight communities has caused us and, we suspect, our colleagues on Select Boards in other towns, to spend considerable time and resources advocating for the public health interests of our constituents.[2] Overflight communities need much more help from State agencies, including the EOEEA and its MEPA Office, than we have received to date.

We implore you to take action to resolve the inequity and injustice that exists with respect to air traffic. Residents of all cities and towns in Greater Boston benefit from Logan; all should bear some of the noise and pollution burdens of Logan's operations. No community should experience hours and hours, let alone consecutive days, of constant airplane noise from several hundred airplanes, while neighboring communities experience little to no airplane noise. Justice demands a solution, and active engagement by EOEEA, the DPH, the Attorney General, and the Governor. A good starting point would be to demand that the FAA and Massport test and implement all of the recommendations in Block 1 and Block 2 of the MIT Study.

[2] Municipal leaders, including elected volunteers as well as salaried employees, confront many challenging issues on a daily basis: budgets with Proposition 2 ½ constraints, public safety, public works, and school issues, zoning, the creation of affordable housing, senior services, transportation challenges, and quality of life issues, to name a few. The FAA's implementation of PBN, with little or no planning for how PBN would affect communities subjected to excessive noise from concentrated RNAV flight paths, has created an exorbitant amount of work for municipal governments and has diverted precious time and resources from traditional municipal services.

The following detailed comments are directed primarily to Chapter 7 of the 2022 ESPR, which addresses noise from air traffic operations at Logan. However, we begin by noting one new comment (on a new topic in the 2022 ESPR) and some of our prior comments on earlier ESPRs that Massport and the FAA still have not addressed.

4. **New Comment**

We applaud Massport's consideration, at the Secretary's direction, of the impact of Logan's operations on EJ populations, which are discussed in Chapter 2, entitled *Sustainability, Outreach and Environmental Justice*. However, the 2022 ESPR's EJ analysis is woefully inadequate because the designated geographic area ("DGA") that Massport studied is much too small. Massport ignored the adverse impact that PBN operations has had on EJ populations that live several miles away from Logan.

According to the 2022 ESPR, Massport's consideration of EJ populations is limited to those located within a one (1) mile or five (5) mile radius of Logan. *See* Section 2.3.4 and Figure 2-4. As requested by the Secretary, Massport conducted "a public health existing conditions review for communities surrounding Logan Airport, with a focus on EJ communities." *See* Section 2.4. That review was limited to communities and EJ populations within only one (1) mile of Logan. Section 2.5 acknowledges that "[t]he municipalities within the DGA included in the existing conditions review are Boston, Chelsea, Revere and Winthrop."

Milton has EJ populations that are overburdened by noise and pollution impacts caused by arrivals to Runways 4L and 4R and departures from Runways 27 and 33L. Our neighbors in Mattapan, Dorchester, and Hyde Park (all located within Boston, but not within one mile of Logan) are also adversely affected by some of these flight paths. We suspect that several other cities and towns on the North Shore and the South Shore that are affected by PBN/RNAV have EJ populations. They, too, have been ignored by Massport's public health existing conditions review.

Massport's claim, in Section 2.3, that it "has demonstrated a consistent commitment to engaging with nearby communities and enhancing the quality of life of Massport's neighbors" rings hollow. Perhaps it is true for communities that are adjacent to, or immediately surround, Logan. But, despite knowing, for a dozen or more years, that the FAA's implementation of PBN/RNAV has imposed new noise and pollution burdens on overflight communities, Massport has shown very little interest in mitigating the burden on overflight communities. We urge you to require Massport, in future ESPRs and EDRs, to cast a much wider net in reviewing impacts on EJ populations and overflight communities generally.

3-12

5. **Unresolved Prior Comments**

We reiterate, and update, many of the comments that we made in response to the 2017 ESPR and the 2018-2019 EDR:

A. Inadequate Scope of 2022 ESPR

Like its predecessors, the 2022 ESPR is focused on the environmental impact of operations at Logan, rather than around Logan. Failing to fully address off-airport impacts ignores the robust science that demonstrates that airport operations can impact communities as far as 10 miles beyond the airport location, particularly where those communities are overflown by multiple RNAVs and the aircraft traffic is concentrated and persistent.

One of the many significant concerns is increased noise and annoyance due to the early deployment of landing gear for arrival into Logan. Lowered landing gear makes up a significant amount of the noise created by arriving planes. Milton has provided observer data that demonstrates that it is now commonplace for pilots to deploy an aircraft's landing gear over Milton, earlier than necessary (prior to the waypoint), which makes the noise burden on Milton and other overflight communities even worse.

B. Failure to Consider Cumulative Effects

There is no analysis of the cumulative impacts that multiple RNAVs have on some overflight communities. Milton is affected by four (4) RNAVs for Runways 4R, 4L, 27 and 33L. Looking at the impacts of each RNAV in isolation does not provide an actual assessment of on-the-ground, real-life impacts. We incorporate herein by reference the comments we provided in our 2021 comment letter on the 2018-2019 EDR.

C. Outdated, Inadequate Noise Metric

We reiterate our prior comment that the FAA's civil aviation noise policy (the "Noise Policy"), which relies on DNL 65 dB as its sole noise metric, is outdated and wholly inappropriate to measure noise in the PBN/RNAV context. As you may know, since 2023, the FAA has been engaged in a review of its Noise Policy. Last year, Milton joined thousands of other commenters from across the country in providing comments and recommendations on the Noise Policy. A copy of our September 28, 2023 detailed comment letter on the Noise Policy is attached hereto as Exhibit C. 3-13

Section 7 of the 2022 ESPR states the following:

> "Noise levels are calculated using the Day Night Average Sound Level (DNL) metric and presented as a series of contours of equal sound levels that are measured in decibels (dB). This *2022 Environmental Status and Planning Report* (ESPR) presents annual noise contours in 5 dB intervals between 60-75 dB, and also calculates the population within those areas. FAA currently considers DNL 65 "A"-weighted decibel (dBA) as 'the threshold of significant noise exposure' and therefore much of the noise discussion in this chapter focuses on the DNL 65 contour and populations within that contour. The FAA noise model acknowledges that nighttime noise can be more impactful than daytime noise; to adjust for quieter nighttime background noise, the model multiplies the noise of each individual nighttime operation (between 10 PM and 6 AM) by a factor of ten."

The DNL 65 dB standard must be discontinued for overflight communities such as Milton, which experience noise and pollution from several hundred aircraft in a given day. The logarithmic nature of the DNL standard, which has been widely criticized, combined with the fact that this calculation is most often calculated on an annual basis masks the acute impacts that several hundred aircraft flying over a home has on the occupants. It also masks the acute impacts felt in a community when it is overflown for hours on end, with little break in the incoming aircraft.

Massport has the ability to calculate DNL on a much more frequent basis, and is supposed to be calculating this figure monthly but chooses not to do so. Calculating DNL across shorter time periods (e.g., monthly, weekly), would provide a more accurate indication of the suffering that Milton residents are enduring as a result of concentrated flightpaths and long hours of overuse, and would compel Massport to act to reduce airplane noise in Milton and other communities.

D. Lack of Collaboration and Meaningful Engagement by Massport and FAA

We continue to urge real and substantive collaboration between Massport, the Secretary, the FAA, and the communities impacted by Logan overflights. Multiple communities surrounding Logan (not just Milton) take the brunt of the impact of the operations of Logan, and the situation has worsened substantially in the years since the FAA implemented PBN/RNAV. These communities should have direct and regular access to Massport and the Secretary, and both agencies should be willing to work on real and meaningful solutions to address the problems from airport operations – especially noise and pollution – occurring in those communities. While we understand that some of that work must be done via the MCAC, the large size and the organization of the MCAC has the unintentional effects of diluting the voices of the most affected communities and creating a zero-sum game. 3-14 3-15

E. Increased Airport Operations and Impacts on Surrounding Communities

It is important that Massport's forecasting of the number of airline operations and passenger throughput at Logan in its ESPRs be correct, because that forecast becomes the basis for planning and mitigation of the impacts of Logan operations for the next five years (at least). However, as we noted in our 2019 comment letter on the 2017 ESPR, Massport has consistently underestimated the increased number of airline operations and passenger throughput at Logan. 3-16

For example, Massport's forecasting of growth as set forth in its ESPR for 2011 was off by as much as 300%. According to that document, Logan throughput would grow by approximately 1.5% per year, and Logan would handle 38.9 million passengers by 2030. Instead, the 2017 ESPR reported that Logan surpassed 38.9 million passengers in 2017, 13 years ahead of forecasts. Passenger counts (and increased environmental impact from those passengers on the airport and off of the airport, including in the surrounding communities overflown by airport operations) increased by 12 million passengers, to 40.9 million in 2018.

Now, despite the pandemic-related decrease in operations at Logan from 2020 to 2022, the 2022 ESPR states that the 2017 ESPR's long-range (10 to 15 years) planning forecast

underestimated the number of passengers and operations significantly. Section 3.5.7 of the 2022 ESPR states, in relevant part:

> "The current *2022 ESPR* forecast of 53.5 million passengers is higher by about 3.4 million, or 7.0 percent, than the previous *2017 ESPR* forecast of 50.1 million passengers. The current *2022 ESPR* forecast of 495,000 aircraft operations is higher by about 8,600, or 2.0 percent, than the previous *2017 ESPR* forecast of 486,400 aircraft operations. The *2022 ESPR* planning forecast has an average of 108 passengers per aircraft operation compared to 103 passengers per aircraft operation in the *2017 ESPR* forecast."

If Massport's new forecast is correct, then the number of passengers traveling through Logan will increase from 38.9 million in 2017 to 53.5 million over the 10 to 15 year period following 2022 (*i.e.*, 2032 to 2037). Such a substantial increase in passengers and operations will exacerbate the noise and pollution over communities such as Milton that are already overburdened by airplane noise. Yet Massport provides no analysis or recognition that these increased operations come with a significant cost to overflight communities.

Additionally, we found no reference to, or discussion of, the emerging technology known as AAM in the 2022 ESPR. On May 17, 2023, the United States Department of Transportation ("DOT") published a "Request for Information on Advanced Air Mobility" that sought public input to help inform DOT's development of a national strategy for AAM. DOT defined AAM as "an emerging field in which novel aircraft currently in design and testing could provide new levels of accessibility, convenience, and connectivity for people and cargo – and thus transform our nation's transportation system to provide enhanced mobility for the traveling and shipping public."[3] AAM is expected to include electric-powered or hybrid aircraft that can takeoff and land vertically. Obviously, communities that are already overburdened by traditional aircraft operations at Logan have reason to be concerned about the additional noise impacts that AAM will have on them. Future ESPRs and EDRs must take into account AAM as it moves from the design stage to the testing and implementation stages.

3-17

While Logan plays a role in the economic development of New England, that development cannot come at the price of the right of citizens to peacefully co-exist within their homes. There must be a better balance between the economic success of the region, on the one hand, and the duty of Massport and the airlines to protect the neighbors and communities underneath the publicly owned airspace through which they travel, on the other hand. EOEEA, DPH, the Attorney General, and the Governor must lead the mitigation effort at the State level.

Given Massport's persistent understatement of the growth of its Logan operations, we believe the Secretary should not accept the 2022 ESPR as an accurate baseline planning tool without further scrutiny, and should require Massport to justify and explain why its ESPR projections consistently fall short of foreseeable growth rates.

F. Other Comments

[3] *See* 88 Fed. Reg. 31,593 (May 17, 2023).

1. Noise Complaints

Table 7-17 shows a substantial decrease in the number of complaints and the number of callers from Milton and many other communities from 2019 to 2022. That is not surprising, given the significant decrease in air travel during the COVID-19 pandemic. The pandemic years were an anomaly. The trend in recent years is far more significant. We reiterate our 2019 comment about noise complaints documents in Massport's 2017 ESPR:

> "Table 6-22 demonstrates that no single community made as many complaints on the Noise Complaint Line as Milton, although the numbers for other communities are catching up. Overall, and in Milton, both the number of complaints and the number of callers has increased. In 2016 Massport received 21,796 complaints from 466 callers. Those numbers increased to 23,940 complaints from 486 individual callers in 2017. For reference, the 2014 EDR reported 2,669 complaints and 4,991 were reported in the 2015 EDR. That represents almost a 900% increase in the number of complaints filed. Overall, Massport reports an 89% increase in the number of individual complainers on the noise complaint line, from 2016 to 2017 in all 15 reported overflown communities. Complaints on the Massport complaint line from Milton have continued to increase since 2012, coinciding with and increasing as the use of performance-based navigation at Logan has been implemented."

Like the 2017 ESPR, the 2022 ESPR does not discuss the importance of noise annoyance as a factor of environmental impact and harm. Noise annoyance in the Logan overflight communities – which includes lack of sleep, disrupted and interrupted sleep, interrupted conversation, and impacts on use of outside spaces such as decks and yards, playgrounds, parks, and civic spaces – is growing. This noise annoyance is not simple NIMBYism. It is a public health issue, as further discussed below. These are real impacts, suffered by real people, who live in nearby communities. It is outrageous that Massport virtually ignores these complaints in the 2022 ESPR, and still has no plan in place to address impacts on these citizens. The closest analogy is climate change, which impacts the day-to-day lives of many citizens. Further, like climate change, the noise from Logan operations impacts citizens across town boundaries, yet no one community is empowered to find a solution. Instead, we must turn to our leaders at the State level, including the EOEEA, for oversight, empowerment, and solutions.

3-18

2. Nighttime Operations

Nighttime operations at Logan are defined as flights between 10:00 P.M. and 7:00 A.M. Massport notes that, in 2022, Logan had approximately 137 commercial nighttime operations per night. That represents a 27% decrease from 2019, in which there were 186 commercial nighttime operations per night. *See* Table 7-4. That decrease is irrelevant, because it relates to the slow recovery of air travel from the COVID-19 pandemic.

Table 7-4 shows an upward trend in commercial nighttime operations between 1990 and 2019. Total commercial nighttime operations increased by more than 141% from 1990 to

2019. Half of that increase occurred during the nine (9) years before 2019. From 2010 to 2019, the increase was almost 73%.

Although the noise complaint data is not broken down by time of day, it follows that some portion of the complaints in Milton and other communities is driven by increased nighttime operations. Data continues to be developed which indicates airplane noise in overflown communities disrupts sleep patterns, which has been shown to result in adverse human health impacts. Many Milton residents continue to complain about noise from airplanes flying over their homes both after midnight and before 5:00 A.M.

Information from Milton residents indicates that the noise from airplanes in Milton is clearly heard above background noise in both commercial and residential areas. As elected officials, we hear frequently from Milton residents who suffer from interrupted sleep, anxiety and a reduced quality of life because of the noise pollution caused by very frequent – and some days continuous – flights over Milton at low altitudes. We cannot overstate the seriousness of the health problems that these RNAVs cumulatively pose for Milton residents, and the adverse cumulative environmental impact that the RNAVs and the low flying planes have on our entire community. Noise from airplane overflights can also negatively impact property values.

We request that the Secretary work with the FAA, Massport, and Milton to implement late night aircraft restrictions, similar to those set forth in 740 CMR 24.04, which are protective of Milton and its residents, as well as EJ populations in and around Milton. In particular, it is important to discuss restrictions on RNAV usage and routes that overfly residential neighborhoods, including spreading the routes further so that the nighttime noise is less concentrated in residential neighborhoods, or moving routes over the ocean during certain periods of time. Specifically, as there are already nighttime restrictions on arrivals to Runway 4L, we request the same restrictions (no arrivals between 11:00 PM and 6:00 AM) for Runway 4R. *See* Massachusetts Port Authority Noise Rules and Regulations I.1(b), Summary of Runway Use Restrictions, Boston Logan International Airport (May 2, 2016) (also referenced in FAA BOS ATCT Noise Abatement Order 7040.1H).

3-19

3-20

3-21

3. Air Pollution and Public Health

The 2022 ESPR only discusses air pollution from airport operations in the context of the actual operations of Logan airport, on Logan property. We repeat our comments to the 2014, 2015 and 2018-2019 EDRs and the 2017 ESPR that this perspective is overly and conveniently narrow. A study of Los Angeles International Airport ("LAX") (Hudda, *et al.*, May 2014) found ultrafine particle ("UFP") counts as far as ten miles from heavily used arrival runways at LAX. UFPs are believed to have negative effects on respiratory and cardiovascular health in humans. Massport does not dispute that UFP pollution is an issue at Logan[4]. As we were in 2019, we are disappointed that the 2022 ESPR did not consider the developed science on this important environmental impact to the citizens living in the Logan overflight area. The health of our residents, employees, and visitors depends upon policy and operational procedures that takes this data into account.

[4] https://www.wgbh.org/news/local-news/2019/09/24/air-pollution-from-logan-airport-harms-surrounding-communities-research-shows

We request that the Secretary direct Massport, in conjunction with DPH and the Department of Environmental Protection ("DEP"), to conduct noise and air pollution studies in Milton and other overflight communities that receive a substantial number of low-flying arrival aircraft. This work would be consistent with the evolving science on this point, and protective of the residents in these communities. We further request that (a) the scope of future ESPRs and EDRs be expanded to consider the health impacts from increased and concentrated arrival and departure operations due to RNAVs, and (b) pollution data be measured for every community under any of the many Logan RNAVs.[5]

3-22

3-23

4. Dwell and Persistence

Dwell and persistence relate to the length of time that noise impacts occur. As defined by Massport, dwell is a daily measure while persistence is calculated over a period of 3 days. Both measures define exceedance as being more than a set number of hours of operation between 7:00 AM and midnight (7 hours for dwell, 23 hours for persistence), meaning that the nighttime operations that Milton is often subjected to are not counted towards this measure. Also, in contrast to the annual Preferential Runway Advisory System ("PRAS") goals,[6] Massport uses the number of hours the runway is in operation, not the actual number of operations that take place on that runway, creating a misleading and inaccurate picture of what is happening on the ground.

The omission of night-time operations from the dwell and persistence calculations harms communities like Milton because it discounts the negative impact that constant operations have on daily life by ignoring the existence of sleep interruption created by these nighttime flights. This forecasted rise in air traffic means that more flights will be overhead when residents are trying to sleep at a time when Massport regularly fails to optimize over-water operations during nighttime hours.

6. **Conclusion**

Thank you for your attention to and consideration of our comments on the 2022 ESPR. The MIT Study and its recommendations with respect to Runways 4R and 27 demonstrate that there are solutions available to remedy and mitigate the ongoing impact of Logan operations on the residents of Milton and other overflight communities. We request that the Secretary work with Massport, Milton, the MCAC, and other affected communities to help remedy the multiple impacts discussed above.

[5] In our comment letter on the 2017 ESPR, we asked the EOEEA to ensure that no new RNAV overflight paths be put into use until such study is complete and all parties agree that no additional detrimental effects will be experienced by residents in communities bearing the brunt of low-flying airplane overflight. Notwithstanding this, and our opposition to the FAA's 4L RNAV, the FAA implemented the 4L RNAV over Milton in 2022.

[6] As noted above, although PRAS was abandoned many years ago, Massport continues to use PRAS for public reporting purposes. *See* 2022 ESPR, page 7-18.

As noted above, we seek a meeting with you and your staff to personally discuss the concerns we have outlined here, as well as our specific requests for assistance. Our Town Administrator, Nicholas Milano, will follow up with your office to schedule a meeting.

Sincerely,

Select Board of the Town of Milton

Richard G. Wells, Jr., Chair

Roxanne F. Musto, Vice Chair

John C. Keohane, Secretary

Erin G. Bradley, Member

Benjamin D. Zoll, Member

cc: U.S. Representative Stephen F. Lynch
U.S. Representative Ayanna S. Pressley
U.S. Senator Elizabeth A. Warren
U.S. Senator Edward J. Markey
State Senator Walter F. Timilty Jr.
State Representative William J. Driscoll Jr.
State Representative Brandy Fluker Oakley
Milton Board of Health
Milton Airplane Noise Advisory Committee
Town Administrator Nicholas Milano
Assistant Town Administrator Nicholas Connors
Town Counsel Karis North

Exhibit A

Milton's November 14, 2019 comment letter re: 2017 ESPR

See attached.

MICHAEL D. DENNEHY
TOWN ADMINISTRATOR

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SECRETARY
KATHLEEN M. CONLON
MEMBER
RICHARD G. WELLS, JR.
MEMBER

November 14, 2019

The Honorable Kathleen A. Theoharides, Secretary
Executive Office of Energy and Environmental Affairs
Attn: Massachusetts Environmental Policy Act ("MEPA") Office
Anne Canaday, EEA No. 3247
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Comments of the Town of Milton on the Boston Logan International Airport 2017 Environmental Status and Planning Report (2017 ESPR)

Dear Secretary Theoharides,

The Select Board of the Town of Milton ("Milton") is pleased to provide the following comments in response to the Boston Logan International Airport 2017 Environmental Status and Planning Report ("2017 ESPR"):

1. Scope of the 2017 ESPR

In Milton's January 2017 comments to Massport's 2015 Environmental Data Report ("EDR"), we noted several concerns we sought to be addressed in the 2016 ESPR (deferred to 2017):

A. The off-airport impacts of the growth of Boston Logan International Airport ("Logan"), including increased throughput and increased aircraft operations. We were specifically concerned about how the increased demand for airport services impacts the surrounding communities, including increasing the volume and concentration of overflights, and increasing the amount of nighttime operations and nighttime overflights. We noted that each of these impacts must be studied in order to have a true assessment of the environmental impacts resulting from operations at Logan.

We appreciate that the 2017 ESPR does address some off-airport impacts of Logan operations. However, we feel the bulk of the report is still focused on the environmental impact of operations at Logan, rather than around Logan. Failing to fully address off-airport impacts ignores the robust science that demonstrates that airport operations can impact communities as far as 10 miles beyond the airport location, particularly where those communities are overflown by multiple RNAVs and the aircraft traffic is concentrated and persistent.

B. We were and remain concerned that there is no analysis of the cumulative impacts from increasing numbers of RNAVs flown over surrounding communities. As discussed in numerous other comment letters, there are three RNAVs that overfly Milton, with two others proposed. Looking at these impacts in isolation does not provide an actual assessment of on-the-ground impacts – some of which are reflected in the increasing number of noise complaints filed in these communities.

C. We urged, and we repeat this request, that Massport and the Secretary must move to a more updated method for noise assessment (e.g., N70, which focuses on the number of noise events greater than 70 dB(A)[1]), and either discontinue using the DNL standard, or reduce the threshold at which noise impacts are considered significant, as well as increase the frequency with which it is calculated. The logarithmic nature of the DNL standard, which has been widely criticized, combined with the fact that this calculation is most often calculated on an annual basis "masks" the acute impacts a succession of aircraft flying over a home has on the sleeping residents within, and also masks the acute impacts felt in a community when it is overflown for hours on end, with little break in the incoming aircraft. Massport has the ability to calculate DNL on a much more frequent basis, and is supposed to be calculating this figure monthly but chooses not to do so. Calculating DNL across shorter time periods (e.g., monthly, weekly), would provide a more accurate indication of the suffering that Milton residents are enduring as a result of concentrated flightpaths and long hours of overuse, and would compel Massport to act to reduce airplane noise in Milton and other communities.

D. We continue to urge real and substantive collaboration between Massport, the Secretary, and the communities impacted by Logan overflights. Multiple communities surrounding Logan (not just Milton) take the brunt of the impact of the operations of Logan, and the situation has worsened substantially since the FAA implemented NextGen. These communities should have direct and regular access to Massport and the Secretary, and both agencies should be willing to work on real and meaningful solutions to address the problems from airport operations – especially noise and pollution -- occurring in those communities. While we understand some of that work must be done via the Massport Community Advisory Committee ("MCAC"), the large size and the organization of the MCAC has the unintentional effect of diluting the voices of the most affected communities. With respect to the MIT study, three years after it began, Milton's requests for specific analysis and relief through that study have not yet been acted upon.

[1] https://www.infrastructure.gov.au/aviation/environmental/airport_safeguarding/nasf/files/1.3_Guideline_A_attachment1.pdf

2. Increased Airport Operations and Impacts on Surrounding Communities

Massport consistently undersells the increased number of airline operations and passenger throughput at Logan, by comparing aircraft operation numbers to pre-2000 data. This comparison is no longer valid, as airlines have significantly changed their modes of operation in the intervening 15 years, by relying on progressively larger airplanes, with progressively larger, more powerful, and louder jet engines. Further, the implementation of the FAA's RNAV systems has also changed how aircraft arrive and depart over surrounding communities.

It is important that Massport's forecasting through its ESPR be correct, as that forecast becomes the basis for planning and mitigation of the impacts of Logan operations for the next five years (at least). Massport's forecasting of growth as set forth in the 2011 ESPR was off by as much as 300%. According to that document, Logan throughput would grow by approximately 1.5% per year, and Logan would handle 38.9 million passengers by 2030. Instead, the 2017 ESPR reports that Logan surpassed 38.9 million passengers in 2017, 13 years ahead of forecasts. Passenger counts (and increased environmental impact from those passengers on the airport and off of the airport, including in the surrounding communities overflown by airport operations) increased by 12 million passengers, to 40.9 million in 2018.

This is hardly surprising. In our 2015 EDR comments we indicated that we believed the growth in airport passenger traffic and airport operations would continue to increase. As set forth in the text above, the 2017 ESPR proves our beliefs to be correct. What is missing from the analysis, however, is recognition that these operations come with a cost -- the impacts to Milton and other communities continue to increase. While we understand and support Logan's role in the economic development of New England, we believe that development cannot come at the price of the right of citizens to peacefully co-exist within their homes. There needs to be a better balance between the economic success of the region and the duty of Massport and the airline community to protect the neighbors and communities underneath the publicly owned airspace through which they travel.

Such rapid growth is only going to continue, but once again, Massport under-projects growth. The 2017 ESPR growth forecasts predict 50 million passengers within the next 10-15 years. However, with the present 5% annual growth,[2] increasing operations of JetBlue and Delta which are building competing hubs at Logan,[3] and the improvements to Terminal E bringing in even more international flights, 50 million passengers will be reached by 2022, or 8-12 years ahead of the 2017 ESPR forecasts. Given Massport's persistent understatement of the growth of its Logan operations, we believe the Secretary should not accept the 2017 ESPR as an accurate baseline planning tool without further scrutiny, and should require Massport to justify and explain why its ESPR projections consistently fall short of foreseeable growth rates.

3. Increased Noise Complaints Reported

Table 6-22 demonstrates that no single community made as many complaints on the Noise Complaint Line as Milton, although the numbers for other communities are catching up. Overall, and in Milton, both the number of complaints and the number of callers has increased. In 2016 Massport received 21,796 complaints from 466 callers. Those numbers increased to 23,940 complaints from 486 individual callers in 2017. For reference, the 2014 EDR reported 2,669 complaints and 4,991were reported in the 2015 EDR. That represents almost a 900% increase in the number of complaints filed. Overall, Massport reports an 89% increase in the number of individual complainers on the noise complaint line, from 2016 to 2017 in all 15 reported overflown communities. Complaints on the Massport complaint line from Milton have continued to increase since 2012, coinciding with and increasing as the use of performance-based navigation at Logan has been implemented.

The 2017 ESPR does not discuss the importance of noise annoyance as a factor of environmental impact and harm. Noise annoyance in the Logan overflight communities -- which includes lack of sleep, disrupted and interrupted sleep, interrupted conversation, and impacts on use of outside spaces such as decks and yards, playgrounds, and civic spaces – is growing. This noise annoyance is not simple NIMBYism, it is a public health issue, as further discussed below. These are real impacts, suffered by real people, who live in nearby communities. It is outrageous that Massport virtually ignores these complaints in the 2017 ESPR, and still has no plan in place to address impacts on these citizens. The closest analogy is climate change, which impacts the day-to-day lives of many citizens. Further, like climate change, the noise from Logan operations impacts citizens across boundaries, yet no one community is empowered to find a solution. Instead, we must turn to our leaders at the state level, including the EOEEA for oversight, empowerment, and solutions.

4. Increased Nighttime Operations

Nighttime operations at Logan – defined as from 10:00 P.M. to 7:00 A.M. – continue to increase. Nighttime operations increased by 15% from 2016 to 2017 (Table 6-4). Total nighttime operations have increased by almost 100% since 1990.

Although the noise complaint data is not broken down by time of day (either that the complaint was filed, or that the complaint concerned), it follows that some portion of the increase in complaints in Milton and other communities is driven by increased nighttime operations. Data

[2] According to the 2017 ESPR (p. 2-3):

Logan Airport is an important origin and destination (O&D) airport both nationally and internationally and is one of the fastest growing major U.S. airports in terms of number of passengers over the past five years. From 2016 to 2017, U.S. passenger traffic grew by 3.5 percent, whereas Logan Airport experienced a passenger growth of 5.9 percent. In 2017, passenger activity levels reached an all-time high of 38.4 million passengers and aircraft operations totaled 401,371, in direct response to the strong national and regional economies. In 2018, passenger activity levels reached 40.9 million and aircraft operations totaled 424,024. Despite the increase in passengers, aircraft operations at Logan Airport for both 2017 and 2018 remained well below the 487,996 operations in 2000 and the historic peak of 507,449 operations reached in 1998 (Figure 2-1 and Figure 2-2). This has been the result of a steady increase in aircraft size at the Airport and improving aircraft load factors (passengers/available seats). Note also, as mentioned above, that JetBlue and Delta are building hubs at Logan.

[3] https://www.forbes.com/sites/tedreed/2019/07/23/jetblue-to-delta-in-boston-come-and-get-us/#556512660cc8

continues to be developed which indicates airplane noise in overflown communities disrupts sleep patterns, which has been shown to result in adverse human health impacts.

Information from Milton residents indicate that the noise from airplanes in Milton is clearly heard above background noise in both commercial and residential areas. As elected officials, we hear frequently from Milton residents who suffer from interrupted sleep, anxiety and a reduced quality of life because of the noise pollution caused by very frequent – and some days continuous – flights over Milton at low altitudes. Indeed, this is one of the two most common requests for relief we receive from residents. We cannot overstate the seriousness of the health problems that these RNAVs cumulatively pose for Milton residents, and the adverse cumulative environmental impact that the RNAVs and the low flying planes have on our entire community. The noise from airplane overflights can also negatively impact property values. Fewer buyers are willing to purchase a home in an area with known noise impacts, and prices can be suppressed. Meanwhile, recent buyers have been vocal on social media that they would not have purchased a home in Milton had they been aware of the amount of airplane noise in the town.

We request that the Secretary work with the FAA, Massport, and Milton to implement late night aircraft restrictions, similar to those set forth in 740 CMR 24.04, which are protective of Milton and its residents. In particular, it is important to discuss restrictions on RNAV usage and routes that overfly residential neighborhoods, including spreading the routes further so that the nighttime noise is less concentrated in residential neighborhoods, or moving routes over the ocean during certain periods of time. Specifically, as there are already nighttime restrictions on arrivals to runway 4L, we request the same restrictions (no arrivals between 11:00 PM and 6:00 AM) for runway 4R. See Massachusetts Port Authority Noise Rules and Regulations I.1(b), Summary of Runway Use Restrictions, Boston Logan International Airport (May 2, 2016) (also referenced in FAA BOS ATCT Noise Abatement Order 7040.1H). In addition, early-morning departures from runway 27 also routinely overfly Milton and the other communities under the runway 27 RNAV.

5. Air Pollution and Public Health.

The 2017 ESPR only discusses air pollution from airport operations in the context of the actual operations of Logan airport, on Logan property. We repeat our comments to the 2014 and 2015 EDRs that this perspective is overly and conveniently narrow. Recent studies at LAX (Hudda, et al., May 2014) found ultrafine particle (UFP) counts as far as ten miles from heavily used arrival runways. Although study of the negative effects of UFPs are ongoing, UFPs are believed to have negative effects on respiratory and cardiovascular health in humans, and Massport does not dispute that UFP pollution is an issue at Logan[4]. We are disappointed that the 2017 ESPR did not consider the developed science on this important environmental impact to the citizens living in the Logan overflight area. The health of our residents, employees, and visitors depends upon policy and operational procedures that takes this data into account.

We request that the Secretary direct Massport, in conjunction with the Department of Public Health ("DPH") and the Department of Environmental Protection ("DEP"), to conduct noise and air pollution studies in communities like Milton which receive a substantial number of low-flying arrival aircraft. This work would be consistent with the evolving science on this point, and protective of the residents in these communities. We further request that the scope of the future EDRs be expanded to consider the health impacts from increased and concentrated arrival and departure operations due to RNAVs, and that pollution data be measured for every community under any of the many Logan RNAVs, and that no new RNAV overflight paths be put into use until such study is complete and all parties agree that no additional detrimental effects will be experienced by residents in communities bearing the brunt of low-flying airplane overflight.

6. Dwell and Persistence

Dwell and persistence relate to the length of time that noise impacts occur. As defined by Massport, dwell is a daily measure while persistence is calculated over a period of 3 days. Both measures define exceedance as being more than a set number of hours of operation between 7:00 AM and midnight (7 hours for dwell, 23 hours for persistence), meaning that the nighttime operations that Milton is often subjected to are not counted towards this measure. Also, in contrast to the annual Preferential Runway Advisory System ("PRAS") goals, Massport uses the number of hours the runway is in operation, not the actual number of operations that take place on that runway, creating a misleading and inaccurate picture of what is happening on the ground.

For example, Figure 6-17, creates the false impression that dwell and persistence exceedance is a relatively small issue for people living under the 4s even though the 4s typically see the plurality of operations annually.[5] The reason for this is two-fold:

1. As defined, the period from midnight to 7:00 AM is not counted in these figures. Therefore, Milton could – and does – see constant air traffic through the night but not have this traffic count towards dwell and persistence exceedance counts.
2. Some runways are given "credit" towards dwell and persistence exceedance counts because they are available for use but are not experiencing any flight operations.[6]

This omission of night-time operations from the dwell and persistence calculations harms communities like Milton because it discounts the negative impact that constant operations have on daily life by ignoring the existence of sleep interruption created by these nighttime flights. This rise in air traffic means that more flights will be overhead when residents are trying to sleep at a time when a) Massport's calculations are demonstrably understated (in Table 6-20, Massport predicts that nighttime flights will only reach 167.75 per day for the Future Planning Horizon –

[4] https://www.wgbh.org/news/local-news/2019/09/24/air-pollution-from-logan-airport-harms-surrounding-communities-research-shows

[5] 2017 was an anomalous year as Runway 4R/22L was closed from May 15 - June 23, 2017 and had reduced availability through September 15th for 4R arrivals because of construction at Logan. In comparison, arrivals to 4R and 4L totaled (57,899 to 4R and 7,274 to 4L) in 2018, or 35.3% of all arrivals for the year. Also – please note that Table 6-6 erroneously notes this anomalous decline as an improvement in effective usage for 4R/L under PRAS.

[6] Logan will often report that 15R is available for arrivals when 4R is in use, giving 15R "credit" towards dwell and persistence calculations. However, arrivals on 15R are rarely if ever observed at times when 4R is in use, as demonstrated by the disparity in arrival numbers. In the anomalous 2017, 4R saw 21.6% of arrivals compared to 15R's 4.4%. The 2018 figures are more indicative of a typical year as 4R saw 31.4% of arrivals and 15R saw but 0.4%.

an increase of 0.15% despite double-digit growth in the years prior), and b) Massport regularly fails to optimize over-water operations during nighttime hours.

7. Conclusion and Request for Assistance.

Thank you for your attention to and consideration of our comments on the 2017 ESPR. We believe that there can be solutions available to remedy and mitigate the ongoing impact of Logan operations on the residents of Milton. We request that the Secretary work with Massport, Milton, the MCAC, and other affected communities to help remedy the multiple impacts discussed above. Specifically, the requests made are as follows:

a. Not to certify the 2017 ESPR and to direct Massport to prepare a Supplemental ESPR which fully and realistically addresses projected increases to Logan operations and airport throughput, and the resulting environmental impacts;
b. Work with the FAA, Massport, and Milton to develop and implement late-night aircraft overflight restrictions which are protective of Milton and its residents, including consideration of an 11:00 PM to 6:00 AM landing prohibition on runway 4R;
c. Direct Massport and the MCAC to promptly develop a system for the fair and equitable distribution of aircraft overflights that provides real relief to the highly impacted surrounding communities, especially those that are under multiple RNAVs;
d. Direct Massport to collaborate with DPH and DEP to develop and conduct noise and air pollution studies in highly impacted surrounding communities, especially those that are under multiple RNAVs;
e. Direct Massport to consider off-airport noise and pollution impacts, including but not limited to the health impacts from increased and concentrated arrival and departure operations due to RNAVs, in all communities under any RNAV, in all future EDRs
f. Direct Massport to include all of the points made above in the scope of the 2017 ESPR. This includes impacts to health from noise and pollution from: off-airport impacts of growth, cumulative impacts of RNAV overflights, increased nighttime operations, moving to updated noise measurements which are more protective of human health and which account for acute impacts more realistically than the DNL standard; and working directly with impacted communities to more fully understand and evaluate the human health effects from Logan operations.
g. Include the hours from midnight to 7:00 AM in the dwell and persistence calculations to provide a clearer indication of the noise burden being borne by communities subject to nighttime operations.

3-24

Lastly, as noted above, our position is that unless and until the FAA adequately resolves the significant noise and pollution burden it has imposed on our town and other communities through its implementation of NextGen's precision-based navigation, the FAA should pursue no new technology or measures that would add to that burden.

Thank you for your consideration of our comments.

Sincerely,

MILTON SELECT BOARD

Michael F. Zullas, Chair

Melinda A. Collins, Vice Chair

Anthony J. Farrington, Secretary

Kathleen M. Conlon

Richard G. Wells, Jr.

cc: U.S. Senator Edward J. Markey
U.S. Senator Elizabeth Warren
Representative Stephen F. Lynch
Representative Ayanna Pressley
Attorney General Maura Healey
State Senator Walter F. Timilty
State Representative William Driscoll, Jr.
State Representative Daniel R. Cullinane
Milton Airplane Noise Advisory Committee
Milton Community Advisory Committee Representative
Milton Town Counsel

We would appreciate a time to meet with you and your staff to personally discuss the concerns we have outlined here, as well as our specific requests for assistance.

Sincerely,

Select Board of the Town of Milton

Michael F. Zullas, Chair

Melinda A. Collins, Vice Chair

Anthony J. Farrington

Kathleen M. Conlon

Richard G. Wells, Jr.

cc: Representative Stephen F. Lynch
Representative Ayanna Pressley
U.S. Senator Elizabeth A. Warren
U.S. Senator Edward J. Markey
State Senator Walter F. Timilty
State Representative William Driscoll
State Representative Daniel Cullinane
Milton Board of Health
Milton Airplane Noise Advisory Committee Chair Andrew Schmidt
MCAC Representative Thomas Dougherty
Town Counsel Karis North

Exhibit B

Milton's March 12, 2021 comment letter re: 2018-2019 EDR

See attached.

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SECRETARY
RICHARD G. WELLS, JR.
MEMBER
MICHAEL F. ZULLAS
MEMBER

March 12, 2021

The Honorable Kathleen A. Theoharides, Secretary
Executive Office of Energy and Environmental Affairs
Attn: Massachusetts Environmental Policy Act ("MEPA") Office
Anne Canaday, EEA No. 3247
100 Cambridge Street, Suite 900
Boston, MA 02114

via EMAIL to env.internet@mass.gov and anne.canaday@mass.gov

Re: Comments of the Town of Milton on the Boston Logan International Airport 2018-2019 Environmental Data Report (2018-2019 EDR)

Dear Secretary Theoharides,

The Select Board of the Town of Milton ("Milton") is pleased to provide the following comments in response to the Boston Logan International Airport 2018-2019 Environmental Data Report (2018-2019 EDR).

We understand that this combined 2018-2019 EDR was prepared during the ongoing COVID-19 pandemic and includes updates through the fall of 2020. We note that the dramatic reduction in passengers and flight operations has provided some respite to the ongoing airplane noise and pollution issues experienced in Milton, but still no real solutions have been proposed to successfully insulate the on-the-ground impacts from increasing airplane overflights on the Logan Airport surrounding communities. We urge Massport and the FAA to use this period of respite to continue to consider the impacts noise and pollution has on your neighbors and customers.

1. Scope of the 2018-2019 EDR

Milton summarizes and repeats its comments on the 2017 ESPR concerning scope of Massport's review of environmental impacts, as we are specifically concerned about how the increased demand for airport services impacts the surrounding communities, including increasing the

volume and concentration of overflights, and increasing the amount of nighttime operations and nighttime overflights.

As is typical with these EDRs and the ESPR, the focus remains on environmental impact of operations at Logan, rather than around Logan. Failing to fully address off-airport impacts ignores the robust science that demonstrates that airport operations can impact communities as far as 10 miles beyond the airport location, particularly where those communities are overflown by multiple RNAVs and the aircraft traffic is concentrated and persistent.

2. Cumulative Impacts Analysis and PRAS

We repeat the need for an analysis of the cumulative impacts from increasing numbers of RNAVs flown over surrounding communities. As discussed in numerous other comment letters, there are three RNAVs that overfly Milton, with two others proposed. Looking at these impacts in isolation does not provide an actual assessment of on-the-ground impacts – some of which are reflected in the increasing number of noise complaints filed in these communities. Neither the EDRs, the ESPRs, nor the proposed rulemaking for the 4L RNAV approach appropriately analyzes cumulative impacts – and such analysis is required by law.

As defined in the FAA's own guidance (Order 1051.1F), cumulative impacts are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, whether Federal or non-Federal. The Massachusetts Environmental Protection Act (MEPA) also requires that projects be analyzed together, and segmentation to evade analysis of cumulative impacts is prohibited. While not directly applicable to the EDR analysis, the same theory applies -- when analyzing the environmental impacts of Massport operations, the off-premises operations must be analyzed in toto, and not evaluated in separate boxes.

When cumulative impacts are analyzed appropriately, then those impacts may be appropriately distributed among the impacted communities. This was the concept behind the Preferential Runway Advisory System (PRAS), which was unfortunately abandoned in 2012. PRAS was established "to provide an equitable distribution of Logan Airport's noise impacts on surrounding communities." The two primary objectives of the PRAS goals are: (1) to distribute noise on an annual basis; and (2) to provide short-term relief from continuous operations over the same neighborhoods at the ends of the runways. See EDR, page 6-19.

While no other guidelines are in place, Massport still reports runway usage with respect to the PRAS goals (Table 6-6). The PRAS goals offer at least some picture of what a fair distribution of aircraft traffic might look like using one particular tool, i.e. differential runways (being mindful that these PRAS goals were created well before RNAV concentrated flight routes were implemented). Thus, at this stage, only achieving balanced runway usage would not be sufficient to relieve those under the RNAVs, although it would be a step in the right direction.

Ultimately, a fair resolution of these ongoing noise issues in Milton will require further dispersion of the aircraft traffic from the concentrated RNAVs.

Milton continues to be ready to work on these equity issues, either via the MCAC, or directly with Massport and the EEA agencies. The 2018-2019 EDR's response to Milton's prior comments concerning equitable runway use, and a fair allocation of noise distribution, as set forth in section 7-2 to 7-4 of the Appendix is wholly insufficient. The response simply throws up its hands and shifts the burden of developing a procedure to the MCAC. As we all know, leaving it to the communities is unproductive, and pits neighbors against each other. We again request that the Secretary direct Massport and the EEA agencies, with the support of the MCAC, to promptly develop a system for the fair and equitable distribution of aircraft overflights that provides real relief to the highly impacted surrounding communities.

3. Evaluation and Updating of Noise Metric

We urged, and we repeat this request- Massport and the Secretary must move to a more updated method for noise assessment using currently available noise measurements (e.g., N70, which focuses on the number of noise events greater than 70 dB(A)[1] or Lmax[2]), and either discontinue using the DNL standard, or supplement its use with these additional metrics. The logarithmic nature of the DNL standard, which has been widely criticized, combined with the fact that this calculation is most often calculated on an annual basis "masks" the acute impacts a succession of aircraft flying over a home has on the sleeping residents within, and also masks the acute impacts felt in a community when it is overflown for hours on end, with little break in the incoming aircraft. Massport has the ability to calculate DNL on a much more frequent basis, and is supposed to be calculating this figure monthly but chooses not to do so. Calculating DNL across shorter time periods (e.g., monthly, weekly) would provide a more accurate indication of the suffering that Milton residents are enduring as a result of concentrated flightpaths and long hours of overuse, and would compel Massport to act to reduce airplane noise in Milton and other communities.

Massport's responses to Milton's comments from the 2017 ESPR are not encouraging. It simply notes, vaguely, that Massport uses a variety of noise metrics and measurements. This is not enough. There is significant evidence that the DNL significantly under-measures noise and annoyance. FAA has recognized this in the 1050.1F guidelines, and suggests that DNL can be supplemented. The guidance states:

> DNL analysis may optionally be supplemented on a case-by-case basis to characterize specific noise impacts. Because of the diversity of situations, the variety of supplemental metrics available, and the limitations of individual supplemental metrics, the FICON report concluded that the use of supplemental metrics to analyze noise should remain at the discretion of individual agencies.

[1] https://www.infrastructure.gov.au/aviation/environmental/airport_safeguarding/nasf/files/1.3_Guideline_A_attachment1.pdf

[2] The Lmax measurement measures "maximum sound level" during a single event. This measurement is successfully used by the Federal Highway Administration (FHA), a DOT agency just like FAA.

In comments we are also submitting this month on the Neighborhood Environmental Survey (NES), we make a similar point. DNL under-measures noise and annoyance, because it dilutes measurement of noise annoyance during in-use runway days by inclusion of days not in-use, and it fails to take into account the noise disturbance contribution of peak-time continual short-interval overflight aircraft separation. Supplemental metrics (which already exist) lower the measurement threshold for particular hours (like overnight), or take into account the short interval between noise events, are necessary to make the noise and sound measurement real and useful, in working with impacted overflight communities. We urge the Secretary to require Massport to update its measurements to use these supplemental metrics, when evaluating the impacts of airplane noise on the communities surrounding Logan.

4. Collaboration

We continue to urge real and substantive collaboration between Massport, the Secretary, and the communities impacted by Logan overflights. Multiple communities surrounding Logan (not just Milton) take the brunt of the impact of the operations of Logan, and the situation has worsened substantially since the FAA implemented NextGen. While, as noted above, the pandemic has lessened these impacts, the respite is temporary and now is the time to build better communications and collaboration for a region-wide approach to overflight noise, annoyance, and pollution. Direct and regular access to Massport and the Secretary/all EEA agencies may help develop real and meaningful solutions to address the problems from airport operations – especially noise and pollution -- occurring in those communities. While we understand some of that work must be done via the Massport Community Advisory Committee ("MCAC"), the large size and the organization of the MCAC has the unintentional effect of diluting the voices of the most affected communities. With respect to the MIT study, four years after it began, Milton's requests for specific analysis and relief through that study remains incomplete.

3. Increased Noise Complaints Reported

Table 6-16 demonstrates that no single community made as many complaints on the Noise Complaint Line as Milton, although the numbers for other communities are catching up. Overall, and in Milton, both the number of complaints and the number of callers continues to increase. Table 6-16 reports a total increase in calls from Milton in 2018 - 10,962 and total a further increase in calls in 2019 - 6,673. Total calls in 2018 were 34,902, and in 2019 were 41,575. For reference, the 2014 EDR reported 2,669 complaints and 4,991were reported in the 2015 EDR. That represents over a 1000% increase in the number of complaints filed. Overall, Massport reports more than a 400% increase in the number of individual complainers on the noise complaint line, from 2017 to 2019 in all 15 reported overflown communities. Complaints

on the Massport complaint line from Milton have continued to increase since 2012, coinciding with and increasing as the use of performance-based navigation at Logan has been implemented.

The 2018-2019 EDR continues to ignore the importance of noise annoyance as a factor of environmental impact and harm. Noise annoyance in the Logan overflight communities -- which includes lack of sleep, disrupted and interrupted sleep, interrupted conversation, and impacts on use of outside spaces such as decks and yards, playgrounds, and civic spaces – is growing. This noise annoyance is not simple NIMBYism, it is a public health issue, as further discussed below. These are real impacts, suffered by real people, who live in nearby communities. It is outrageous that Massport virtually ignores these complaints in the 2018-2019 EDR, and still has no plan in place to address impacts on these citizens. The noise from Logan operations impacts citizens across boundaries, yet no one community is empowered to find a solution. Instead, we must turn to our leaders at the state level, including the EOEEA for oversight, empowerment, and solutions.

4. Increased Nighttime Operations

Nighttime operations at Logan – defined as from 10:00 P.M. to 7:00 A.M. – continue to increase steadily. Nighttime operations increased by 15% from 2016 to 2017 increased again, by another 5.1% from 2018-2019 (Table 6-4). Total nighttime operations have more than doubled since 1990.

Although the noise complaint data is not broken down by time of day (either that the complaint was filed, or that the complaint concerned), it follows that some portion of the increase in complaints in Milton and other communities is driven by increased nighttime operations. Data continues to be developed which indicates airplane noise in overflown communities disrupts sleep patterns, which has been shown to result in adverse human health impacts.

Information from Milton residents indicate that the noise from airplanes in Milton is clearly heard above background noise in both commercial and residential areas. As elected officials, we hear frequently from Milton residents who suffer from interrupted sleep, anxiety and a reduced quality of life because of the noise pollution caused by very frequent – and some days continuous – flights over Milton at low altitudes. Indeed, this is one of the two most common requests for relief we receive from residents. We cannot overstate the seriousness of the health problems that these RNAVs cumulatively pose for Milton residents, and the adverse cumulative environmental impact that the RNAVs and the low flying planes have on our entire community. The noise from airplane overflights can also negatively impact property values. Fewer buyers are willing to purchase a home in an area with known noise impacts, and prices can be suppressed. Meanwhile, recent buyers have been vocal on social media that they would not have purchased a home in Milton had they been aware of the amount of airplane noise in the town.

We repeat the request we made in our comments to the 2017 ESPR, which were not sufficiently addressed in Appendix 7 to the 2018-2019 EDR, that the Secretary work with the FAA,

Massport, and Milton to implement late night aircraft restrictions, similar to those set forth in 740 CMR 24.04, which are protective of Milton and its residents. In particular, it is important to discuss restrictions on RNAV usage and routes that overfly residential neighborhoods, including spreading the routes further so that the nighttime noise is less concentrated in residential neighborhoods, or moving routes over the ocean during certain periods of time. Specifically, as there are already nighttime restrictions on arrivals to runway 4L, we request the same restrictions (no arrivals between 11:00 PM and 6:00 AM) for runway 4R. See Massachusetts Port Authority Noise Rules and Regulations I.1(b), Summary of Runway Use Restrictions, Boston Logan International Airport (May 2, 2016) (also referenced in FAA BOS ATCT Noise Abatement Order 7040.1H). In addition, early-morning departures from runway 27 also routinely overfly Milton and the other communities under the runway 27 RNAV.

5. Air Pollution and Public Health.

Once again the 2018-2019 EDR only discusses air pollution from airport operations in the context of the actual operations of Logan airport, on Logan property. We repeat our comments to the 2014 and 2015 EDRs, and the 2017 ESPR, that this perspective is overly and conveniently narrow. Recent studies at LAX (Hudda, et al., May 2014) found ultrafine particle (UFP) counts as far as ten miles from heavily used arrival runways. Although study of the negative effects of UFPs are ongoing, UFPs are believed to have negative effects on respiratory and cardiovascular health in humans, and Massport does not dispute that UFP pollution is an issue at Logan[3]. We are disappointed that the 2018-2019 EDR did not consider the developed science on this important environmental impact to the citizens living in the Logan overflight area. The health of our residents, employees, and visitors depends upon policy and operational procedures that takes this data into account.

We repeat the request we made in our comments to the 2017 ESPR, which were not sufficiently addressed in Appendix 7 to the 2018-2019 EDR, that the Secretary direct Massport, in conjunction with the Department of Public Health ("DPH") and the Department of Environmental Protection ("DEP"), to conduct noise and air pollution studies in communities like Milton which receive a substantial number of low-flying arrival aircraft. This work would be consistent with the evolving science on this point, and protective of the residents in these communities. We further request that the scope of the future EDRs be expanded to consider the health impacts from increased and concentrated arrival and departure operations due to RNAVs, and that pollution data be measured for every community under any of the many Logan RNAVs, and that no new RNAV overflight paths be put into use until such study is complete and all parties agree that no additional detrimental effects will be experienced by residents in communities bearing the brunt of low-flying airplane overflight.

7. Conclusion and Request for Assistance.

[3] https://www.wgbh.org/news/local-news/2019/09/24/air-pollution-from-logan-airport-harms-surrounding-communities-research-shows

Thank you for your attention to and consideration of our comments on the 2017 ESPR. We believe that there can be solutions available to remedy and mitigate the ongoing impact of Logan operations on the residents of Milton. We request that the Secretary work with Massport, Milton, the MCAC, and other affected communities to help remedy the multiple impacts discussed above. Specifically, the requests made are as follows:

a. Direct Massport to prepare a Supplemental EDR which fully and realistically addresses projected increases to Logan operations and airport throughput, and the resulting environmental impacts;
b. Work with the FAA, Massport, and Milton to develop and implement late-night aircraft overflight restrictions which are protective of Milton and its residents, including consideration of an 11:00 PM to 6:00 AM landing prohibition on runway 4R;
c. Direct Massport and the MCAC to promptly develop a system for the fair and equitable distribution of aircraft overflights that provides real relief to the highly impacted surrounding communities, especially those that are under multiple RNAVs;
d. Direct Massport to collaborate with DPH and DEP to develop and conduct noise and air pollution studies in highly impacted surrounding communities, especially those that are under multiple RNAVs;
e. Direct Massport to include all of the points made above in the scope of the 2018-2019 EDR and in all future EDRs. This includes impacts to health from noise and pollution from: off-airport impacts of growth, cumulative impacts of RNAV overflights, increased nighttime operations, moving to updated noise measurements which are more protective of human health and which account for acute impacts more realistically than the DNL standard; and working directly with impacted communities to more fully understand and evaluate the human health effects from Logan operations.
f. Direct Massport to utilize supplement metrics when measuring sound and annoyance from airplane overflights in Milton and all other communities.

We would appreciate a time to meet with you and your staff to personally discuss the concerns we have outlined here, as well as our specific requests for assistance.

Sincerely,

Melinda A. Collins, Chair

Kathleen M. Conlon, Vice Chair

Arthur J. Doyle, Secretary

Richard G. Wells, Jr.

Michael F. Zullas

Milton Select Board

cc: Representative Stephen F. Lynch
Representative Ayanna Pressley
U.S. Senator Elizabeth A. Warren
U.S. Senator Edward J. Markey
State Senator Walter F. Timilty
State Representative William Driscoll
State Representative Brandy Fluker Oakley
Milton Board of Health
Milton Airplane Noise Advisory Committee Chair Andrew Schmidt
MCAC Representative Thomas Dougherty
Town Counsel Karis North

Exhibit C

Milton's September 28, 2023 comment letter re: FAA's Civil Aviation Noise Policy

See attached.

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RICHARD G. WELLS, JR., MEMBER

BENJAMIN ZOLL, MEMBER

September 28, 2023

Docket Operations, M-30
U.S. Department of Transportation (DOT)
1200 New Jersey Avenue SE
Room W12-140, West Building Ground Floor
Washington, DC 20590-00001

Re: Docket No. FAA-2023-0855

Dear Sir or Madam:

The Town of Milton, Massachusetts ("Milton" or the "Town"), through its Select Board, is pleased to provide comments in response to the FAA's "Request for Comments on the Federal Aviation Administration's Review of the Civil Aviation Noise Policy" (the "Request for Comments").

As background, Milton is significantly overburdened with overflights to and from Boston's Logan International Airport ("Logan"). The noise and pollution burden has only increased during the past dozen years. The fleet mix has changed, with an increase in larger jets in operation; the volume of flights at Logan was increasing before the COVID-19 pandemic and is currently climbing back to pre-pandemic levels; and aircraft are overflying Milton at lower altitudes than they had previously, creating more and louder noise. However, the root of the problem is the FAA's implementation of Next Generation Air Transportation System ("NextGen") Performance-Based Navigation ("PBN"), which has caused flight paths to the Nation's airports, including Logan, to be concentrated over a fewer number of people. Prior to NextGen and PBN, air traffic was dispersed over wide geographic areas.

PBN has produced inequitable, unbearable and dangerous results for some neighborhoods, placing hundreds of loud, low-flying planes a day over the same people, disrupting sleep, creating anxiety, and increasing health risks for people exposed to concentrated airplane noise[1] and

[1] Residential exposure to aircraft noise and hospital admissions for cardiovascular diseases: multi-airport retrospective study *BMJ* 2013;347:f5561 doi: 10.1136/bmj.f5561 (Published 8 October 2013); Aircraft noise and cardiovascular disease near Heathrow airport in London: small area study *BMJ* 2013;347:f5432 doi: 10.1136/bmj.f5432 (Published 8 October 2013); Airport noise and cardiovascular disease *BMJ* 2013;347:f5752 doi:

pollution.[2] The noise burden has caused some residents to sell their homes. Post-pandemic, many people work from home full-time or part-time, but their work is interrupted by incessant airplane noise from the "highways in the sky" over their homes. We hear from residents of Milton who are not only annoyed by days of constant airplane noise, but are unable to sleep, work, enjoy being outdoors in their own backyards, and engage in conversation with neighbors because of the noise burden. In addition to residential neighborhoods, numerous public and private elementary schools and high schools, senior living communities, and a college are located under, and overburdened by, loud aircraft noise from concentrated RNAV arrival and departure flight paths at Logan. For the past decade, this Board and many of our employees and appointees have spent an exorbitant amount of time and resources battling the noise burden that the FAA's actions have imposed on our community.

Our comments herein respond to the numbered topics and questions raised by the FAA in Part II of its Request for Comments with respect to the civil aviation noise policy (the "Policy").[3]

Preliminarily, we make three important observations. First, we are not, nor should we be expected to be, noise experts. We are elected local government officials writing to you on behalf of our Town and on behalf of the approximately 28,000 residents of Milton. We believe our role is to identify existing noise conditions and problems with the FAA's current sole noise metric and suggest alternative noise measures for the FAA to evaluate and consider. The FAA employs many aviation specialists, noise experts, analysts, and scientists, and is in a much better position than most commenters will be to propose and analyze new noise metrics, particularly those of a technical nature. In our view, the FAA should consult with both the United States Congress and the United States Environmental Protection Agency ("EPA") about the relevance today of its decades-old Policy, the concerns raised by commenters, and proposed changes to the Policy. We urge you to do so.

Second, Milton is located approximately ten (10) miles southwest of Logan and, as such, would be characterized, for purposes of your Request for Comments, as an overflight or corridor community rather than as a community in the vicinity of an airport. Accordingly, our comments are directed at the FAA's Policy *as it relates to overflight communities*. As set forth below, we believe that both (a) the Day-Night Average Sound Level ("DNL") metric and (b) the FAA's use of DNL 65 dB as the level for determining whether noise impacts on overflight communities are significant are outdated, irrelevant and grossly inadequate in the age of NextGen/PBN aviation

10.1136/bmj.f5752 (Published 8 October 2013). *See also* Soumya Karlamamgla, "How Noise Can Take Years Off Your Life," *The New York Times*, June 14, 2023.

[2] Although this comment letter addresses only noise because that is what the FAA's Civil Aviation Noise Policy governs, we note that air traffic generally, and PBN in particular, raise significant pollution-related public health concerns. Aircraft noise and pollution must be addressed by the FAA through both policy and its regulation and oversight of the Nation's air traffic.

[3] The Request for Comments states that the "policy is set forth in various agency regulations, orders, guidance and policy statements."

Docket Operations, M-30
U.S. Department of Transportation (DOT)
September 28, 2023

operations. We leave to other commenters suggestions for the Policy as it relates to communities that are adjacent to or in the vicinity of an airport.

Third, in addition to the comments provided herein, we support and endorse the comment letter filed or soon to be filed by the Massport Community Advisory Committee ("MCAC"). Among other things, we agree with the MCAC's summary of existing noise conditions in overflight communities; its call for the FAA to treat aircraft noise as a public health issue; its recommendation that the National Academies of Medicine prepare a consensus report on the public health issues caused by aviation noise; and its call for strict enforcement of violations of new noise metrics through noise-based landing fees, noise surcharges, and other mitigation methods.

Executive Summary

Mr. Don Scata, Manager of the Noise Division in the FAA's Office of Environment and Energy, summarized the problem well in his introduction to each of your four (4) Noise Policy Review webinars:

> "Historically noise issues were airport-centric, [the] result of infrequent operations and dispersed flight paths, and very loud jet aircraft. Noise concerns were raised primarily by communities immediately adjacent to airports. In communities[,] lived experience included low cadence of relatively loud aircraft noise events separated by long intervals. Our current noise problem is an airspace or overflight noise problem resulting from frequent operations, concentrated flight paths, relatively quiet aircraft, and noise concerns raised primarily by corridor communities further from airports. Communities[']] lived experience includes a high cadence of daily, relatively quiet aircraft noise events separated by short intervals."[4]

For overflight or corridor communities such as Milton, DNL 65 dB is a wholly inadequate and outdated noise metric, and must be abandoned. A revised Policy must apply to commercial jets and all new entrants into the National Air Space, and create a system of metrics that captures noise burden by vehicle type, location and purpose. Such metrics should be companion, not supplemental, metrics. The FAA's Neighborhood Environmental Survey has shown that the Schultz Curve is outdated and not an appropriate method for representing community response to aircraft noise. We urge the FAA to revise its Policy to implement Number Above ("NA") 45 dB as an alternative noise metric for overflight communities.

As it revises the Policy, the FAA has an opportunity to reverse the public's negative perception and mistrust of the FAA, but that will happen only if the new Policy actually solves the noise problems that NextGen foisted upon overflight communities with no meaningful notice or public input. It is imperative that changes to the Policy, including the establishment of one or more noise metrics, be applied retroactively as well as prospectively. That is, a revised Policy must address

[4] FAA's Noise Policy Review Webinar #1 at 8:38 through 9:25, and Transcript, page 5. FAA's Noise Policy Review Webinar #2 at 8:37 through 9:25, and Transcript, pages 5-6.

current noise problems; it *cannot* be limited to only future decision-making and future environmental reviews. The FAA must collaborate with, and be much more responsive to, state and local government officials than it has been if it wishes to solve the serious public health issues caused by concentrating aircraft noise (and pollution) over residential and other populations.

Detailed Comments

1. Vehicle Type

Currently, the aviation noise that plagues Milton stems primarily from commercial jet arrivals to, and departures from, Logan. Helicopter activity (including but not limited to helicopter traffic over I-93 in East Milton) also contributes to the noise problem. We anticipate that, for the foreseeable future, these will remain the most significant causes of the noise burden on the Town. However, some areas of Milton have been impacted by noise from drones. Moreover, news reports and the Request for Comments indicate that advanced air mobility ("AAM") is an emerging system of automated transportation that is expected to carry passengers and cargo between relatively short destinations. As such, AAM, including but not limited to air taxis, can be expected to impose a substantial noise burden on communities across the country in the not too distant future.[5]

We urge the FAA to modify its Policy to apply to all current and future air vehicle activity. In addition to airplanes (commercial, private and governmental), the Policy should apply to drones, AAM and other future air vehicle activity. As required by the Aviation Safety and Noise Abatement Act of 1979 ("ASNA"), the Policy must use a system of metrics. The FAA now realizes that the system must capture noise burden by vehicle type, location (*i.e.*, in the vicinity of airport or vertiport or away from airport or vertiport (such as an overflight community)), and purpose (*e.g.*, for purposes of compliance with the National Environmental Policy Act of 1969 ("NEPA") or noise mitigation eligibility).

Your Request for Comments specifically mentions supersonic activity. In 2019, we provided comments to the United States Department of Transportation in response to the FAA's proposed revised regulations for "Special Flight Authorizations for Supersonic Operations" (Docket No. FAA-2019-0451). A copy of our comment letter dated August 21, 2019 is attached hereto as Exhibit A. In that letter, we objected to the proposed regulations, noting that until the FAA resolves the noise and pollution burdens that PBN has imposed on Milton and many other communities across the Nation, the FAA must not permit supersonic testing (let alone supersonic air travel) to occur. We also urged the FAA to seek guidance from the United States Congress and the EPA on the wisdom (or lack thereof) of permitting supersonic testing and travel. Our position with respect to supersonic activity has not changed since 2019. We reiterate the comments contained in our August 21, 2019 letter, and strongly oppose any consideration of supersonic activity by the FAA, whether through the Policy or any other means.

[5] Please see our comments on AAM in our letter to the U.S. Department of Transportation ("DOT") dated August 8, 2023 and submitted to Docket No. DOT-OST-2023-0079. Our comment letter was posted on August 10, 2023 with ID No. DOT-OST-2023-0079-0103.

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2. Operations of Air Vehicles

As noted above, Milton would be characterized as an overflight community rather than a community in the vicinity of an airport. (Request for Comments, Part II.2.b and Part II.2.c) However, as drone activity continues to grow and AAM operations emerge, it is possible, and perhaps even likely, that Milton could eventually fall within the FAA's categories of communities that are in the vicinity of vertiports or "in the vicinity of UAS (drone) package delivery or other newly emerging technology operations." (Request for Comments, Part II.2.e)

For current subsonic fixed-wing commercial overflight operations, we are concerned about noise from flights en route to and from Logan and, in particular, flights that are making their final descent and approach to Logan. In our view, the FAA's revised noise metric(s) should be used for both the FAA's decision-making and its public disclosure of noise impacts. A system of noise metrics should allow for different metrics and thresholds for the FAA's Part 150 regulations and decision-making with respect to land compatibility, Part 161 determinations of eligibility, and NEPA reviews.

Arrivals to Logan's closely spaced parallel Runways 4R and 4L are (1) flying over Milton at altitudes that are too low and (2) far too often deploying landing gear over Milton, sooner than is necessary for safety purposes. Deployment of landing gear contributes to the noise that is heard by residents. Additionally, the Town is impacted by noise from concentrated flight paths for aircraft departing Runways 27 and 33L at Logan.

As discussed below, for overflight communities, DNL is an outdated and grossly inadequate noise metric and must be replaced by one or more alternative noise metrics. Companion metrics, not supplemental metrics,[6] are required to address the multi-level matrix of noise exposure by vehicle type, location and regulation. Additionally, runway use restrictions (especially at nighttime) should be imposed, and the FAA should impose monetary penalties on commercial and private airlines that violate the restrictions. Noise complaint data can and should help inform the FAA's revision of the Policy as well as its future rulemaking and decision-making.

At this time, we are not in a position to comment on the type(s) of noise metric(s) that should apply to drones or AAM operations. AAM technology is too new and emergent for us to have sufficient knowledge of it to comment. However, for the reasons stated below, at a minimum, DNL should not be the metric for determining acceptable levels of noise from drones and AAM. We expect that, similar to the problems created by PBN flightpaths, the frequency of drone/AAM noise events, not the loudness/intensity of the event, should be the primary factor captured by the noise metrics used for decision-making about drone/AAM noise exposure. Additionally, we encourage the FAA to use C-weighted measurements and estimates.

[6] Our understanding, based on the Request for Comments and the FAA's Noise Policy Review Webinars, is that supplemental metrics would not be used by the FAA in connection with decision-making under NEPA, but that companion metrics would be so used.

3. DNL

The Request for Comments concedes that the Policy is "based on research conducted many decades ago." In response to the ASNA, the FAA established, and continues to use, a single metric – DNL – to measure and analyze how aircraft noise is experienced by people on the ground. According to the Request for Comments, ASNA

> "requires the FAA to develop a single system for analyzing aircraft noise exposure; however, the system does not have to be composed of a single metric. Rather the system must have a high degree of correlation between the projected noise exposure levels and the surveyed reactions of people to those noise levels and must account for the intensity, duration, frequency, and tone of noise-producing activity, as well as the time of occurrence."

Pursuant to FAA Order 1050.1F, the FAA considers aviation noise impacts significant only if they are DNL 65 dB or greater.[7]

DNL has long been criticized as an adequate measure of aviation noise impacts. DNL is a flawed metric because it measures sound and averages it over a 24-hour period (a so-called "representative day") on an annual basis. Therefore, DNL dilutes actual noise impacts by averaging noise data over a daily basis and an annual basis. For communities like Milton, DNL's flaws also include the fact that, because of input assumptions, the software used to estimate DNL (AEDT) does not adequately capture noise events resulting from deployment of an aircraft's landing gear. Regardless of whether DNL was ever an appropriate metric for aviation noise, the FAA's reliance on DNL as its sole measure of noise is obsolete and irrelevant in the age of NextGen and PBN.

By diluting overflight noise over a 24-hour period and on an annual basis, DNL does not accurately measure the real life noise impacts to people on the ground. PBN causes overflight communities like Milton to experience, on some days, flyovers from several hundred airplanes and, on other days, zero flyovers. Averaging them on an annual basis dilutes the true level of annoyance, sleep deprivation, work and school interruption,[8] conversation interruption, and adverse health impacts that are suffered by people on the ground in Milton on days on which hundreds of aircraft fly overhead, separated by very short time intervals (i.e., a minute or two). No citizen of the United States lives in the FAA's model DNL world or experiences a "representative

[7] ASNA requires that the FAA's single system for assessing aviation noise is one "which includes noise intensity, duration, frequency, and time of occurrence", which is different than accounting for frequency as stated in the above quotation. "Including" frequency means that the metric distinguishes aviation noise burdens from, say, one hundred 94.4dBA SEL noise events close to an airport compared with one thousand 84.4 dBA SEL noise events in overflight communities, both of which would have a DNL of 65 dBA despite the 10-fold difference in frequency. Although DNL "accounts" for frequency in its logarithmic average, it does not "include" frequency in its representation of noise burden.

[8] With more people working from home post-pandemic, PBN has caused greater work interruptions in overflight communities than it did even a few years ago.

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day" of airplane noise. People live in the real world and, all too often, the unlucky ones in overflight communities suffer the ill effects of hundreds of airplanes flying over them in an 18-hour period or longer.

The DNL metric also underrepresents the noise impacts attributable to the deployment of landing gear. When landing gear is being lowered, an airplane emits a loud whistling sound that is highly audible and disturbing to people on the ground. The deployment of landing gear only increases the noise annoyance that is already caused by the overflying aircraft. Our community has substantial experience with this issue, because pilots routinely deploy landing gear earlier than they need to, adding to the noise burden wrought by NextGen. At a minimum, the Policy should recognize early deployment of landing gear as a contributing factor to the noise burden in overflight communities, and take it into account in establishing one or more new noise metrics.

By the FAA's own admission, most overflight communities have DNL levels below 65 dB, yet still experience noise and disturbance at a level much greater than the DNL reveals.[9] During the FAA's Noise Policy Review Webinar #2, Ryan Weller, an environmental protection specialist with the FAA's Western Service Center, explained that DNL 65 dB is usually the level of noise experienced at an airport itself or by a community in the vicinity of an airport, whereas DNL contours for overflight communities are typically at lower levels (e.g., DNL dB ranges in the 40s and 50s). Mr. Weller observed that the FAA is considering and seeking comment on, among other things, whether "DNL is the right metric for addressing those communities that are farther away or, as we call them now, overflight communities, in the lower DNL levels, and does the DNL as a metric adequately address the impacts that those communities … are experiencing…."[10] During the same webinar, Andrew Brooks, Regional Environmental Program Manager for the FAA's Eastern Region Airports Division, referenced a presentation slide that showed both DNL contours for Logan and noise complaints filed by residents along Logan's arrival and departure RNAV corridors. Mr. Brooks acknowledged that

> "one of the things that we've realized, especially through the implementation of NextGen and precision based navigation, as these procedures come forward, is that the effects that communities are experiencing from these procedures are being experienced much farther afield than what our current Policy considers. And certainly seeing how those complaints have grown at farther areas, that's kind of our attempt to capture those concerns, those complaints, into a noise policy analysis to develop methods for analyzing those changes, disclosing those changes,

[9] In 2012, Milton residents filed 102 noise complaints with the Massachusetts Port Authority ("Massport"), which operates Logan. In 2016 and 2019, Milton residents filed 21,796 noise complaints and 41,575 noise complaints, respectively. Other communities that are impacted by departures and arrivals from and to Logan also experienced a significant increase in the number of noise complaints filed by residents.

[10] FAA's Noise Policy Review Webinar #2 at 1:02:50 through 1:04:45.

> informing communities underneath those changes, and determining how those would influence future decisions moving forward."[11]

We applaud the FAA for acknowledging what citizens and elected officials across the country have been arguing to it for years: that NextGen, PBN, and concentrated RNAV corridors have called into serious question the legitimacy and relevance of the FAA's use of DNL 65 dB as a valid measure of noise exposure in overflight communities. For residents of these communities, it is possible that none of the hundreds of aircraft flying over them in a single stream, hour after hour for most of a day, will produce noise at a level of 65 dB. However, that does not mean that the noise generated by those hundreds of planes, separated by only a minute or two from each other, is insignificant. To the contrary, the concentration of flight paths traveled by hundreds of planes per day produces near-constant noise and a much greater level of annoyance, sleep deprivation, speech interference, and other adverse health risks than would a single overflight with a noise level of 65 dB.[12]

We believe that, for overflight communities, DNL must be either lowered significantly, *i.e.*, from DNL 65 dB to DNL 45 dB, or replaced with one or more alternative metrics that will accurately measure the noise that is experienced by people under concentrated RNAV corridors. The FAA's use of DNL 65 dB as the measure of significant noise exposure for overflight communities is in no way reflective of current conditions on the ground.

The FAA's framing paper entitled "The Foundational Elements of the Federal Aviation Administration Civil Aircraft Noise Policy: The Noise Measurement System, its Component Noise Metrics, and Noise Thresholds" (the "Framing Paper") identifies various other noise metrics. Among those metrics identified as "Single Event/Operational" on pages 12 and 13 of the Framing Paper are NA[13] and Time Above ("TA"). NA is defined as "[a] metric that presents the number of noise events that exceeds a specified noise level over a set time interval." TA is defined as "[a] metric that presents the total duration of noise events above a specified noise level over a set time interval." Examples provided for NA and TA in the Framing Paper use 60 dB as a threshold.

We believe that NA and TA are potential alternative metrics to DNL, but only if a reasonable dB level is used as the threshold. In our view, 60 dB is too high a threshold for overflight communities like ours, which is ten miles from the airport and, post-RNAV, is overflown by several hundred large aircraft at low altitudes when Logan's Runways 4R/4L are in use. NA and TA would have to be measured at a much lower level than 60 dB because the noise

[11] FAA's Noise Policy Review Webinar #2 at 1:04:45 through 1:06:06.

[12] During the FAA's Noise Policy Review Webinar #2, Mr. Weller acknowledged, with respect to NextGen, that "it would be probably fairly annoying to have an aircraft fly over your house on a consistent basis where you only used to have one every so often…", and invited comments on alternative metrics. *See* FAA's Noise Policy Review Webinar #2 at 1:52:05 through 1:53:00. We agree with Mr. Weller except for his use of the word "fairly." We have been telling the FAA for years that hundreds of planes flying over Milton residents in an 18-hour period or longer is not only *extremely* annoying but unbearable and dangerous to public health.

[13] As noted above, NA means Number Above.

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is virtually constant for 18 hours or more. An appropriate level would be 45 dB, because ambient noise levels in communities like ours tend to be in the 40s range.[14] The threshold should be *no more than* 50 noise events per 24-hour period. Additionally, we believe the FAA should use C-weighted measurements and estimates or, at a minimum, study whether both A-weighting and C-weighting are appropriate tools for new noise metrics and a new Policy.

Lastly, we note that noise complaint data can help the FAA identify where noise problems exist in corridor communities. We believe such data should be considered in the FAA's decision-making processes for determining whether noise impacts are significant. The United States Court of Appeals for the District of Columbia Circuit has held that noise complaints, in and of themselves, constitute substantial evidence of a noise problem regardless of whether DNL is above 65 dB. *See Helicopter Assoc. Int'l, Inc. v. F.A.A.*, 722 F.3d 430, 435-37 (D.C. Cir. 2013). Indeed, in that case, the FAA itself based its decision-making on noise complaint data.

In *Helicopter Assoc.*, the FAA, seeking to abate helicopter noise over residential populations on Long Island, mandated a specific route for helicopters traveling between New York City and Long Island. 722 F.3d at 432. The FAA modeled the noise impacts and concluded that the sound levels were below DNL 45 dB. *Id.* at 433. Despite the fact that DNL was well below 65 dB, the FAA "relied on a host of externally generated complaints from elected officials and commercial and private residents of Long Island" and decided to mandate a new helicopter route. *Id.* at 435-436. The Court of Appeals noted that DNL 65 dB

> "was established for use in mapping noise exposure within the vicinity of airports, not residential areas far removed from an airport environment (citation omitted). It serves as a reference point from which the FAA can reasonably deviate when determining whether a particular noise reduction intervention is in the public interest (citation omitted)."

Id. at 436. Accordingly, the Court of Appeals concluded that the petitioning helicopter association failed to meet its burden of proving that the FAA used an incorrect methodology. *Id.* at 437.

Noise complaints filed by residents in overflight communities such as Milton have increased dramatically.[15] The *Helicopter Assoc.* decision established the validity of noise complaints as a measure of significant noise impacts and annoyance to overflown residents, and affirmed the FAA's use of such data for decision-making purposes. In addition to establishing an alternative noise metric to DNL 65 dB, the FAA should take into account noise complaint data when making decisions that will impact overflight communities.

[14] The World Health Organization recommends 45 dB (Lden) for aircraft noise exposure (and 40 dB (Lnight) for nighttime aircraft noise exposure). *See* https://cdn.who.int/media/docs/default-source/who-compendium-on-health-and-environment/who_compendium_noise_01042022.pdf?sfvrsn=bc371498_3.

[15] See footnote 9.

4. Averaging

For the reasons stated above, the FAA's use of DNL to model a representative day (referred to in the Request for Comments as an Average Annual Day ("AAD")) is outdated and irrelevant in the age of NextGen/PBN. Averaging dilutes the true level of annoyance, sleep deprivation, work interruption, and adverse health impacts that are suffered by people on the ground on days on which hundreds of aircraft fly overhead. Therefore, DNL, AAD and averaging are not appropriate ways to describe noise impacts for overflight communities burdened by NextGen. We do not believe that any other alternative averaging scheme is appropriate. For the reasons stated above, we recommend that NA 45 dB be used in place of any averaging for purposes of both decision-making and public disclosure of noise.

5. Decision-making Noise Metrics

With the implementation of NextGen/PBN beginning at least a dozen years ago at some airports, the FAA's decision-making metric for actions that are subject to NEPA and airport noise compatibility planning studies pursuant to 14 CFR part 150 is long overdue for an overhaul. DNL makes absolutely no sense as the FAA's metric when flight paths are concentrated over fewer people who experience hundreds of overflights on days that an RNAV path is in use. We reiterate that Milton often experiences overbearing, incessant noise from several hundred airplanes from early in the morning (i.e., approximately 5:00 a.m.) until well after midnight. On such days, there is no relief whatsoever. Yet DNL averages the 18 or more hours of constant noise on such days with the lack of noise that the same people experience when there are no overflights. The average result is misleading and in no way reflects the reality that people on the ground experience.

It has been disingenuous for the FAA, more than a dozen years after it began to implement NextGen, to cling to DNL as its sole noise metric when making decisions or taking any action. Increased noise complaint data from affected communities nationwide demonstrates how irrelevant and obsolete DNL has become. Moreover, elected officials at the federal, state, and local levels of government have, for years, brought to the FAA's attention serious public health concerns related to PBN's concentrated flight paths. Concerns and comments expressed by governmental officials on behalf of the people they represent should also be accorded weight by the FAA in its decision-making processes.

We identified above NA 45 dB as the noise metric that we believe should be used for overflight communities. Part II.5.b of the Request for Comments asks whether the FAA should "use a noise metric other than DNL to evaluate noise exposure in quiet settings, such as national parks, national wildlife and waterfowl refugees, etc." Our answer is yes, but the FAA's example is woefully inadequate. The FAA should use a noise metric other than DNL to evaluate noise exposure in all settings in overflight communities, and particularly those in which residential homes, schools, hospitals, senior living facilities, business districts, recreational facilities and the like are situated. Often, these areas are already subjected to noise from motor vehicle traffic, buses, trains, commercial and industrial operations, and everyday life. Residential populations should be accorded as much, if not greater, consideration than wildlife populations.

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6. Communication

First, the FAA can improve communication regarding changes in noise exposure by meeting in person (and not solely via Zoom or other online platforms) with elected officials and members of the public in communities that bear the burden of the FAA's actions. Such corridor communities are easily identifiable; they are the communities that have been pleading for relief from aviation noise and concentrated flight paths caused by NextGen/PBN for the past decade. Noise complaints in unaffected communities are non-existent or minimal, whereas residents and elected officials in affected communities file many complaints and continue to seek relief from the FAA and airport operators. Therefore, it is reasonable for affected communities to expect the nine (9) regional FAA offices to host regional meetings to provide information about changes in noise exposure and actions that the FAA plans to take.

Second, we urge the FAA to listen to, and take seriously, the public health concerns voiced by residents and elected officials, engage in meaningful dialogue, and propose real-world, workable solutions to noise problems. For far too long, public perception has been that the FAA acts in a manner that is dismissive of both noise complaints and requests for relief from NextGen. If safety truly is at the core of the FAA's mission, vision, and values (as its mission statement on its website states), then the FAA must give serious consideration to the safety (*i.e.*, the public health) of people on the ground whose daily lives and well-being have been adversely impacted by the FAA's decision-making and abolish DNL as the noise metric for overflight communities. For overflight communities, DNL 65 dB should be replaced with NA 45 dB.

In response to Part II.5.c of the Request for Comments, we suggest that the FAA hold regional public information sessions about emerging AAM trends and how the FAA will regulate drones, AAM and the noise that they will generate. We suspect that most U.S. citizens are not well informed on the topic of AAM generally. The public will benefit from proactive educational outreach by the FAA.

7. NEPA and Land Use Noise Thresholds Established Using DNL or for Another Cumulative Noise Metric

We were not surprised to read in the Request for Comments that the FAA's "Neighborhood Environmental Survey results show [a] higher percentage of people who self-identify as 'highly annoyed' by aircraft noise across all DNL levels studied in comparison to the Schultz Curve." That study demonstrates that, as a result of PBN, the Schultz Curve is outdated as a method for representing community response to aircraft noise. The Schultz Curve should be replaced by the National Curve.

8. FAA Noise Thresholds Using Single-Event or Operational Metrics

The FAA notes in the Request for Comments that its Neighborhood Environmental Survey demonstrated that "people are bothered by individual aircraft noise events, but their sense of annoyance increases with the number of those noise events." This is hardly surprising. NextGen has placed hundreds of aircraft over Milton on many days of the year. The incessant loud noise

produced by hundreds of overflights at low altitudes substantially increases both the burden on Milton and its residents and results in increased noise complaints that Milton residents file with Logan's operator, Massport. The FAA must adopt a noise metric that takes into account the fact that, thanks to NextGen, some residential populations are exposed to hundreds of "single events" a day, while others rarely or never experience any aircraft noise.[16]

As noted above, we recommend that the FAA consider NA and TA as potential alternative metrics to DNL, but only if a reasonable dB level, such as 45 dB, is used as the threshold. We believe that an alternative noise metric of NA 45 dB makes the most sense for overflight communities such as ours.

9. FAA Noise Thresholds for Low-Frequency Events

The Request for Comments identifies as an example of a low-frequency event "the launch and reentry of commercial space transportation vehicles authorized by the FAA Office of Commercial Space Transportation." As there are no spaceports (launch/reentry sites) in the New England area, we offer no comments on this issue.

10. Miscellaneous

In response to part II.10 of the Request for Comments, we make two important comments.

A. Retroactive Application of Revised Policy

Any changes to the Policy, including but not limited to the establishment of one or more alternative noise metrics for overflight communities, must be accompanied by the FAA's commitment to revisit (and, more importantly, to resolve the noise and pollution problems associated with) extant RNAV flight paths. Changes to the Policy must *not* be applied only prospectively to future decision-making and actions by the FAA; they must address current problems.

When NextGen and PBN were first implemented, the serious public health risks to people in overflight communities could not have been known by the public, but could and should have been anticipated and known by the FAA. Over the past decade, the FAA has continued to roll out more RNAV paths at airports nationwide despite the outcry from affected communities and elected officials at all levels of government. Notwithstanding that the FAA has had at least ten (10) years' notice of serious public health issues stemming from NextGen, the FAA has stubbornly clung to its obsolete DNL 65 dB metric and resisted, until now, considering any alternative noise metric.

[16] In addition to the weaknesses described above, utilization of DNL pits communities against each other, and makes it more challenging to find community-based solutions to overflight noise. Utilizing a more accurate measure of noise and annoyance would help communities assist the FAA and local airport operators in identifying real solutions to noise complaints.

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Through your various Noise Policy Review Webinars, FAA employees have stated that any revisions to the Policy will be applied only to future decision-making, and will not change existing noise exposure, existing flight paths, or completed or ongoing environmental reviews.[17] That position cannot stand the test of time. It would be unconscionable for the FAA not to use a revised Policy to solve serious, foreseeable, and existing public health problems that the FAA itself created when it implemented NextGen and PBN. The ongoing damage done to corridor communities across the country by the federal government only ensures the continuance of noise complaints, public outcry, and public pressure on Congress and the Executive Branch to act. The FAA would be wise to commit itself to using a revised Policy, among other measures,[18] to provide short-term and long-term relief to overflight communities.

B. FAA's Opportunity to Reverse Public Perception and Solve Problems

When reviewing comments and the Policy, the FAA should consider the adverse public perception of itself and its wholly inadequate response to community concerns about NextGen. In general, public trust in the federal government has declined in recent decades.[19] Specifically, the FAA's failure to abate civil aviation noise impacts on residential populations has created mistrust of the FAA, and will make it harder for the FAA to regulate AAM. It is imperative that the FAA relieve the noise burden on overflight communities in an expeditious, diligent manner and with a sense of urgency.

We cannot emphasize to you enough that Milton, and many other communities in Massachusetts and around the country, have been overburdened by aircraft noise (and pollution) for more than a decade. Despite substantial efforts since 2013 by Milton's local officials (including but not limited to this Board and our employees and appointed representatives to the Massport Community Advisory Committee and a volunteer advisory committee), State Senators, State Representatives, U.S. Senators, U.S. Representatives, and tax-paying residents, neither the FAA nor Massport has done *anything* to provide permanent or temporary relief to noise and pollution problems that the FAA created by implementing NextGen/PBN at Logan.

A multi-year study conducted by the Massachusetts Institute of Technology ("MIT") and funded pursuant to a joint agreement between the FAA and Massport produced, among other things, recommendations for regional dispersion of overflights arriving to Runway 4R at Logan (*i.e.*, three flyable alternative RNAV paths that would be used in rotation with the existing RNAV path) and the relocation of a waypoint for departures from Runway 27 at Logan. Both recommendations would help to reduce the substantial aviation noise burden on Milton. MIT delivered its recommendations to the FAA more than two years ago, but, to date, the FAA has

[17] *See, e.g.*, FAA's Noise Policy Review Webinar #3 at 46:48 through 48:20; FAA's Noise Policy Review Webinar #4 at 1:53:53 through 2:00:02.

[18] PBN technology itself can be used to disperse air traffic. The below-referenced MIT study of operations at Logan demonstrated that it is possible to use multiple flight paths for arrivals to a single runway in rotation with each other to disperse air traffic and noise more equitably.

[19] *See* https://www.pewresearch.org/politics/2022/06/06/public-trust-in-government-1958-2022/.

failed to implement them, even on a trial basis. Despite the fact that Milton engaged extensively with the FAA, Massport and MIT during the study, the FAA has had zero proactive communication with Milton about MIT's recommendations during the past two years. Therefore, it should come as no surprise that the perception many people have of the FAA is that it does not take seriously the valid public health concerns that were first brought to its attention a decade ago. Sadly, the perception is that the FAA cares more about efficiency and fuel cost savings for commercial airlines than it does about the safety and health of people on the ground. However, the FAA now has an opportunity to change that perception and to take a leadership role on a critical environmental and health issue. We urge you to do so.

As an agency of the federal government, the FAA should engage with elected officials at the federal, state and local levels with respect to the Policy in a collaborative and meaningful way. Local government officials are your colleagues in government, and represent some of the same people that the FAA and the DOT serve. We offer these comments on the Policy in good faith and in the spirit of collaboration. We desire to work with you to achieve solutions that will benefit the people we represent and others similarly situated while at the same time being workable for the FAA.

11. Literature Review

We call to your attention the health studies (one of which is cited in Appendix 1 to the Framing Paper) and the recent article published in *The New York Times* that are cited in footnote 1 to this comment letter.

Thank you for the opportunity to comment on the Policy and for your consideration of our recommended modifications.

Sincerely,

MILTON SELECT BOARD

Michael F. Zullas, Chair

Erin G. Bradley, Vice Chair
Roxanne Musto, Secretary
Richard G. Wells, Jr., Member
Benjamin Zoll, Member

cc: U.S. Secretary of Transportation Pete Buttigieg
U.S. Senator Edward J. Markey
U.S. Senator Elizabeth Warren

Representative Stephen F. Lynch
Representative Ayanna Pressley
Attorney General Andrea Campbell
State Senator Walter F. Timilty
State Representative William Driscoll, Jr.
State Representative Brandy Fluker-Oakley
Milton Airplane Noise Advisory Committee
Milton Community Advisory Committee Representative
Milton Town Counsel

Exhibit A

Town of Milton Select Board's August 21, 2019 letter to the U.S. Department of Transportation
(re: FAA's proposed revised regulations for
"Special Flight Operations for Supersonic Operations")

See attached.

MICHAEL D. DENNEHY
TOWN ADMINISTRATOR

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MEMBER

August 21, 2019

Docket Operations, M-30
U.S. Department of Transportation
1200 New Jersey Avenue SE
Room W12-140, West Building Ground Floor
Washington, DC 20590-00001

Re: Docket No. FAA-2019-0451

Dear Sir or Madam:

The Town of Milton, Massachusetts, through its Select Board, hereby objects to the FAA's proposed revised regulations for "Special Flight Authorizations for Supersonic Operations," to be codified as 14 C.F.R. § 91.818.

Supersonic civil flights are prohibited without the FAA's express authorization. 14 C.F.R. § 91.817. This little-used FAA regulation dating back to 1973 allows the FAA to authorize supersonic flights for the purpose of testing and developing new aircraft. Currently, application requirements are found in Appendix B to 14 C.F.R. Part 91. In its June 28, 2019 notice of proposed rulemaking (the "Notice"), the FAA states that it has received only "a handful of inquiries since 1973" and has granted only three (3) authorizations for supersonic flight testing, two (2) of which related to the testing of an experimental space vehicle attached to an airplane. Notwithstanding this, according to the Notice, the FAA "expects that renewed interest in the development of supersonic aircraft will lead to increased requests to authorize flights in excess of Mach 1."

As a preliminary matter, we note that, in the four decades since the FAA promulgated 14 C.F.R. § 91.817 and Appendix B, there have been material changes in aviation operations both in the United States and internationally. For example, today there are more airlines than there were

in the 1970s; the fleet mix has changed, with an increase in larger (and louder) jets in operation; and the volume of flights has increased. Perhaps most significantly, in recent years, the FAA has implemented NextGen precision-based navigation, causing a concentration of flight paths at airports around the country. NextGen has produced inequitable, unbearable and dangerous results for some neighborhoods, placing hundreds of loud, low-flying planes a day over the same people, disrupting sleep, creating anxiety, and increasing health risks for people exposed to concentrated airplane noise and pollution.[1] For years, communities located near airports around the United States have been sounding the alarm about NextGen, raising serious public health concerns and seeking relief from the FAA. Yet the FAA has failed to address the noise and pollution problems wrought by NextGen.[2] After several years, no solutions to this FAA-created problem have been forthcoming from the FAA.

As leaders of a community with neighborhoods that are already significantly overburdened with overflights to and from Boston's Logan International Airport, we are very concerned about what the FAA described in the Notice as "renewed industry interest in developing new civil supersonic aircraft." The Notice makes clear that the FAA's revisions to Appendix B to Section 91.817 "are intended to support the growth of the civil supersonic industry." The Notice further states that technological advances as well as renewed industry interest "have prompted the FAA to consider policy and regulatory changes to enable the domestic certification and operation of [supersonic] aircraft." The Town of Milton strongly objects to the FAA's supporting or in any way fostering the advent of supersonic flights to, over or from the United States. Unless and until the FAA resolves the very significant NextGen-related airplane noise and pollution concerns that we and so many other communities have raised, the FAA should take no action to further the aviation industry's apparent recent interest in supersonic air travel. No supersonic testing, let alone supersonic air travel, should be performed until the FAA has fully addressed the problems caused by NextGen.

By the FAA's own admission, in the four decades since the FAA promulgated its existing regulations on supersonic aircraft, the airline industry has shown little commercial interest in supersonic air travel. Indeed, Concorde, the only supersonic commercial jet ever to be placed in service, ended operations in 2003. The combination of NextGen and supersonic air travel would have a disastrous environmental impact on our town and other communities around the country. Therefore, we believe that, before the FAA takes any action to "support the growth of the civil supersonic industry," the United States Congress and the United States Environmental Protection Agency (the "EPA") should weigh in on whether, as a matter of public policy, the encouragement and development of supersonic aircraft is in the Nation's best interest. We are sending copies of this letter to our Congressional delegation with a request that they consider the wisdom of permitting supersonic aircraft to fly over the United States as well as its regulation by a federal agency that has thus far failed to resolve the serious damage that its NextGen program has caused to communities.

In addition to the foregoing general objection to the FAA's pursuit of supersonic air operations at this time, we offer the following comments on the specific text of the proposed revised regulation. The FAA proposes, in part, to move application criteria from Appendix B to 14 C.F.R. § 91.817 to a newly created Section § 91.818. While we do not object to a mere reorganization of existing application requirements, we do object to certain revisions to, and the substance of, portions of the proposed regulation. Additionally, in response to the FAA's request for comments on removing or retaining Section 91.818(b), we urge the FAA to remove such provision.

1. Time of Day

Proposed Section 91.818(a)(5) would require an applicant to include "the time of day the flights would be conducted." Section 91.818(a)(5) would make clear that "[p]roposed night operations may require further justification for their necessity." The increased noise from supersonic flights would be unduly burdensome during daytime hours, and even worse at night when people are trying to sleep. Under no circumstances should nighttime testing of supersonic aircraft be permitted. Communities that are already adversely affected by NextGen cannot and should not be subjected to the noise of supersonic jets, either during daytime or nighttime hours.

2. Additional Reason for Authorization

Currently, the FAA may authorize supersonic flights for only four (4) reasons: to show compliance with airworthiness requirements; to determine the sonic boom characteristics of an aircraft; to establish a means of reducing or eliminating the effects of sonic boom; and to demonstrate the conditions and limitations under which a supersonic flight will not cause a measurable sonic boom to reach the ground. To this list, the FAA proposes to add, through Section 91.918(a)(8)(v), a fifth reason: to measure the noise characteristics of an aircraft to either demonstrate compliance with noise requirements or determine limits for operation. The Notice describes this new reason for authorization as "forward-looking" because it may help establish noise limits for supersonic air travel, which do not currently exist. As stated above, unless and until the FAA adequately responds to and resolves the significant harm it has already imposed on communities as a result of its NextGen implementation, we object to any action that may add to the noise and pollution burden imposed upon people on the ground.

3. "Overocean" Testing

Section 91.818(a)(9) would require an applicant to show "why its intended operation cannot be safely or properly accomplished over the ocean at a distance ensuring that no sonic boom overpressure reaches any land surface in the United States." While the revised language is clearer and better than the existing text, we believe that the FAA must go further than requiring an applicant to justify its request for testing supersonic jet capability over land. Instead, the FAA should mandate that future supersonic testing be conducted over the ocean (in such a manner that no sonic boom overpressure reaches land) successfully before any testing over land is authorized.

[1] Residential exposure to aircraft noise and hospital admissions for cardiovascular diseases: multi-airport retrospective study *BMJ* 2013;347:f5561 doi: 10.1136/bmj.f5561 (Published 8 October 2013); Aircraft noise and cardiovascular disease near Heathrow airport in London: small area study *BMJ* 2013;347:f5432 doi: 10.1136/bmj.f5432 (Published 8 October 2013); Airport noise and cardiovascular disease *BMJ* 2013;347:f5752 doi: 10.1136/bmj.f5752 (Published 8 October 2013).

[2] In Boston, a study being performed by the Massachusetts Institute of Technology for the FAA and the airport operator is now in its third year. No interim relief has been provided to the affected communities, and none of the first round of recommendations has yet been implemented.

4. Duration of Authorizations

Section 91.818(e)(1) would authorize the Administrator to determine the length of time that is necessary for supersonic flights to be flown in a test area, presumably on a case-by-case basis. The Notice states that Appendix B does not currently specify a maximum time period for testing supersonic flights. We believe that a bright line test must be provided in the regulation. A maximum allowable testing duration, which may be shortened but not lengthened by the Administrator, must be stated. We further believe that the FAA should seek the input of the EPA in determining the maximum allowable testing duration.

We agree with the FAA that an applicant should submit separate applications for testing supersonic flights for different phases of a project. However, we believe that the FAA must do more than "encourage" such separate applications; the regulation should be revised to mandate separate applications for distinct phases of a project.

5. Test Areas

The Notice provides that:

> "[t]o support the current development efforts of the industry, the FAA seeks to provide supersonic flight test applicants with the broadest opportunity to request an appropriate flight test area, consistent with applicable regulations. Whether an applicant chooses to request an area already used for non-civil supersonic flights or an area in another location would be up to the applicant. The ability to request a flight test area appropriate for an applicant's needs would allow the applicant to control the costs and benefits of various options, and to develop its business plan accordingly. The requirement to submit the environmental impact information remains, which allows the FAA to determine the acceptability of the location and the effect on the environment of the proposed flights as well as its duty to determine the level of review required under NEPA."

This paragraph makes clear that the FAA prioritizes the airline industry's business purposes and costs, not the need to protect either the health of people on the ground who would be affected by supersonic test flights or the environment. Section 91.818(a)(6) should not leave it up to aviation industry applicants to designate a test area to be overflown. If overland flights are to be considered, the regulation must designate as a test area either an area that is unpopulated or, at worst, one of the military test ranges (the locations of which are not disclosed in the Notice) that the FAA approved for three (3) previous applicants. According to the Notice, environmental impact statements have already been approved for such military test ranges. The Notice also points out that using these military sites will be "more efficient and less costly" than establishing a new test area. Therefore, these sites, not residential areas, should be the approved test areas. Specifically, we object to any testing of supersonic aircraft at or near Boston's Logan International Airport.

6. Supersonic Operations Outside Test Area

The Notice invited public comment on whether the FAA should maintain or remove a provision (Appendix B, section 2(b)) of the existing regulation that allows an applicant to request supersonic non-test flights outside of a test area. For the reasons stated in the Notice, we strongly urge the FAA to remove Section 91.818(b) from the proposed regulation. According to the Notice, the "prerequisites for this supersonic operation are considerable" and would be "difficult" to satisfy, and "the FAA knows of no aircraft that can meet the 'no overpressure' provision." Forty-five years after the existing regulation was promulgated, "no operator has applied for an authorization to demonstrate a supersonic flight capable of producing no measurable sonic boom overpressure such as to qualify for this operating allowance." Lastly, the Notice points out that "speeds slightly above Mach 1 are often the least fuel-efficient and may have the most negative effects on an aircraft."

We submit that removal of Section 91.818(b) from the proposed regulation will have no measurable consequence upon any aircraft that may be under development. Testing is a necessary prerequisite to commercial flight operations and would continue to be governed by the re-codified regulation. If at some point in time, the aviation industry is able to successfully test a supersonic flight first over the ocean and then over an appropriate overland test area, the FAA will have adequate time to write a new and suitable regulation to govern flights outside of a test area. Such a regulation would be informed by current aviation practice and conditions, not aviation practice and conditions that existed in the 1970s.[3] We believe that the FAA must seek current guidance from the EPA and the United States Congress on the critical issue of whether supersonic air travel is in the Nation's best interest and, if so, under what conditions and limitations it should be authorized. Removing Section 91.818(b) and crafting an appropriate new regulation only after successful testing is demonstrated and Congressional, EPA and other governmental and public input is obtained, is in the best interests of the people we represent and, in our opinion, the entire Nation.

[3] We submit that the Notice itself provides the obvious answer to the question of whether Section 91.818(b) should be included in the final regulation. The Notice states that "[t]he records of the adoption of this provision in 1973 contain no discussion of how these flights would be included in the overall operation of the national airspace system (NAS). The sheer volume of increased activity in the NAS since 1973 would demand a more comprehensive consideration of the impact of supersonic flights. Moreover, in the event that some level of supersonic boom or other noise generated by supersonic flight is determined to be consistent with the FAA's statutory authority to protect the public health and welfare, the FAA would consider all available regulatory tools . . . to allow such flights, *rather than rely on a 45-year-old standard that was included in a regulation designed primarily to approve test flights* (emphasis added)."

Lastly, as noted above, our position is that unless and until the FAA adequately resolves the significant noise and pollution burden it has imposed on our town and other communities through its implementation of NextGen's precision-based navigation, the FAA should pursue no new technology or measures that would add to that burden.

Thank you for your consideration of our comments.

Sincerely,

MILTON SELECT BOARD

Michael F. Zullas, Chair

Melinda A. Collins, Vice Chair

Anthony J. Farrington, Secretary

Kathleen M. Conlon

Richard G. Wells, Jr.

cc: U.S. Senator Edward J. Markey
U.S. Senator Elizabeth Warren
Representative Stephen F. Lynch
Representative Ayanna Pressley
Attorney General Maura Healey
State Senator Walter F. Timilty
State Representative William Driscoll, Jr.
State Representative Daniel R. Cullinane
Milton Airplane Noise Advisory Committee
Milton Community Advisory Committee Representative
Milton Town Counsel

Town of Milton Responses to Comments

3-1: Logan Airport Environmental Review and Planning

We urge the EEA and the DPH to engage with Massport, the FAA, and the affected overflight communities to achieve meaningful solutions to the public health issues that the FAA's concentration of flight paths has created for overflight communities such as Milton.

As discussed above and in Comments A-1 and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to collaborating with communities, state agencies, and local officials to address environmental concerns associated with Logan Airport operations. To that end, Massport is an active participant in the MEPA's Logan Airport Work Group (Work Group) established in collaboration with the Massachusetts Environmental Policy Act (MEPA) Office and the Office of Environmental Justice & Equity (OEJE) in February 2025. The Work Group's primary objective is to assess and discuss potential supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations among environmental justice (EJ) communities.

Section 7.4.1 of Chapter 7, *Noise*, summarizes how Massport, the Federal Aviation Administration (FAA), the Massport Community Advisory Committee (Massport CAC), and Massachusetts Institute of Technology (MIT) have continued to collaborate on how to successfully design and implement Area Navigation (RNAV) procedures that comply with the 2016 memorandum of understanding (MOU) between Massport and the FAA. Implementing the Block 1 and 2 procedures requested by the Massport CAC and affected communities, which confines flight tracks to within a defined noise abatement corridor area of more compatible land use.

In 2025, Massport won the 2025 Jay Hollingsworth Speas Airport Award for Logan Airport for "excellent collaborative work by MIT and Massport to reduce aircraft noise for residents under Boston Logan International Airport approach paths while simultaneously reducing fuel burn and distance traveled. The award recognizes the collaborative effort between the FAA, Massport, and MIT to identify potential modifications to RNAV procedures, conduct outreach with community groups and operational stakeholders, and implement the procedures following FAA review.

3-2: Logan Airport Environmental Review and Planning

Not to certify the 2022 ESPR, and to direct Massport to prepare a supplemental ESPR which fully and realistically addresses projected increases to Logan operations and airport throughput, and the resulting environmental impacts.

Massport remains dedicated to identifying and pursuing opportunities to improve forecasting and environmental conditions reporting practices; however, Massport's current methodologies exceed prevailing FAA and current industry standards in both rigor and transparency. Massport recognizes the importance of reporting accurate, comprehensive data and will continue to refine approaches to better serve both stakeholders and impacted communities.

3-3: Noise

Direct Massport to demand that the FAA test and implement all of the recommendations in Block 1 and Block 2 of the recent MIT Study, and specifically those relating to Runways 4R and 27.

As discussed in Comment A-63, A-65, and A-66 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport, the FAA, the Massport CAC, and MIT have continued to collaborate on how to successfully design and implement Non-Area Navigation (RNAV) procedures that comply with the 2016 MOU between Massport and the FAA. As discussed in **Appendix I**, ***Noise Supporting Documentation,* Section I.8**, implementing the Block 1 and 2 procedures requested by the Massport CAC and affected communities has resulted in the recent *2023 Runway 27 Standard Instrument Departure (SID)* update, which confines flight tracks to within a defined noise abatement corridor area of more compatible land use and reduces the impacts from aircraft overflight noise.

The FAA completed a *Noise Screening Analysis Report* for Logan Airport's proposed RNAV SID in May 2024, concluding that there were no reportable or significant noise impacts, and that the update meets NEPA compliance. In a presentation to the Massport CAC in August 2024, the FAA also confirmed the Runway 9/27 SID update and implementation of Block 1 and 2 procedures has achieved the MOU goal to confine at least 68 percent of flight tracks to within a defined noise abatement corridor area of more compatible land use. Block 2 departure procedures were published on November 30, 2023 and modified the RNAV departures to include a speed restriction, which enables aircraft to turn to the east earlier in their departures and shifts aircraft tracks to the north and away from Hull. For more detailed information, please refer to the *2023/2024 EDR*, **Table 7-4** in **Section 7.4 of Chapter 7, *Noise*,** and the **User's Guide, Section U7.5**.

3-4: Noise

Work with the FAA, Massport, and Milton to develop and implement late-night aircraft overflight restrictions which are protective of Milton and its residents, including consideration of an 11 :00 PM to 6:00 AM landing prohibition on Runways 4R and 4L.

Massport appreciates the Town of Milton and its residents' concerns regarding late-night aircraft overflight restrictions and noise. Massport is committed to working collaboratively with the FAA and local communities to explore feasible noise abatement strategies that align with safety and operational requirements. Currently, Massport implements several noise abatement measures, including nighttime runway use restrictions and prioritization of late-night over-water operations to minimize noise impacts on surrounding communities. The use of Runways 4R and 4L is subject to operational constraints, including wind and weather conditions, which are critical for safe aircraft operations.

Massport continues to engage with the FAA and the Massport CAC to evaluate and implement noise mitigation strategies, including the potential for additional restrictions or procedural adjustments. For more detailed information on noise abatement strategies and runway use, please refer to the *2023/2024 EDR*, **Section 7.4** of **Chapter 7, *Noise*** and the **User's Guide, Section U7.5**.

3-5: Noise

Direct Massport and the Massport Community Advisory Committee ("MCAC") to promptly develop a system for the fair and equitable distribution of aircraft overflights that provides real relief to the highly impacted surrounding communities, especially those that are under multiple RNAVs (defined herein).

Massport, in collaboration with the FAA and the Massport CAC, is committed to exploring feasible solutions to address overflight noise concerns while also maintaining air safety and operational efficiency, and Massport continues to engage with the Massport CAC and other stakeholders to evaluate and implement noise mitigation strategies, including potential procedural adjustments to more equitably distribute overflights. As discussed in Comment 3-3 and **Section 7.4.1 of Chapter 7, *Noise*** in the *2023/2024 EDR* and **Section I.4.5 of Appendix I**, ***Noise Supporting Documentation***, the FAA and Massport have implemented several RNAV procedures, including RNAV SIDs and approaches for various runways, such as Runway 22L/R and Runway 33L, which are designed to keep traffic over water and away from densely populated areas. The RNAV Pilot Project also includes developing RNAV procedures to confine flight tracks to defined noise-abatement corridors, thereby reducing the concentration of noise over specific areas. For more detailed information, please refer to the *2023/2024 EDR*, **Table 7-4** in **Section 7.4 of Chapter 7, *Noise*,** and the **User's Guide, Section U7.5**

3-6: Logan Airport Environmental Review and Planning

Direct Massport to collaborate with DPH and DEP to develop and conduct noise and air pollution studies in highly impacted surrounding communities, especially those that are under multiple RNAVs.

EDRs and ESPRs provide areawide noise and emissions environmental data that focus on areas within the arrival and departure paths. For more information, refer to **Section 2.4 of Chapter 2, *Outreach and Environmental Justice,*** which presents a new section: "Public Health Existing Conditions Review".

As discussed above in Comment 3-1, and in Comments A-1 and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to collaborating with communities, state agencies, and local officials to address environmental concerns. Massport is an active participant in the MEPA's Logan Airport Work Group (Work Group) whose primary objective is to assess and discuss feasible supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations among EJ communities.

Chapter 7, *Noise*, Section 7.4.1, RNAV Procedures summarizes how Massport, the FAA, the Massport CAC, and Massachusetts Institute of Technology (MIT) have continued to collaborate on how to design and implement RNAV procedures successfully, implementing the Block 1 and 2 procedures requested by the Massport CAC and affected communities, which confines flight tracks to within a defined noise abatement corridor area of more compatible land use.

3-7: Logan Airport Environmental Review and Planning

Direct Massport to consider off-airport noise and pollution impacts, including but not limited to the health impacts from increased and concentrated arrival and departure operations due to RNAVs, in all communities under any RNAV, in all future EDRs and ESPRs.

The Executive Office of Energy and Environmental Affairs (EEA) Secretary's Certificate guides Massport's preparation of each EDR and ESPR. Each EDR and ESPR includes a detailed analysis of noise and emissions impacts of aircraft arrivals and departures. The FAA is responsible for developing and implementing RNAV procedures and has prepared a Federal Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) to consider the environmental and operational effects of RNAV procedures. The FAA continues to support the evaluation of those procedures. As directed by the Secretary, the EDR presents "any data used to measure the effectiveness of these improvements, including the number of noise complaints from the previously impacted areas."

EDRs and ESPRs provide areawide noise and emissions environmental data that focus on areas within the arrival and departure paths. For more information, refer to **Section 2.4 of Chapter 2, *Outreach and Environmental Justice,*** which presents a new section: "Public Health Existing Conditions Review".

3-8: Logan Airport Environmental Review and Planning

Direct Massport to include all of the points made above in the scope of the 2022 ESPR…includes impacts to health from noise and pollution from: off-airport impacts of growth, cumulative impacts of RNAV overflights, increased nighttime operations, moving to updated noise measurements which are more protective of human health and which account for acute impacts more realistically than the DNL standard; and working directly with impacted communities to more fully understand and evaluate the human health effects from Logan operations.

As discussed in Comment 3-7 above, the EEA Secretary's Certificate guides Massport's preparation of each EDR and ESPR. Each EDR and ESPR includes a detailed analysis of noise and emissions impacts of aircraft arrivals and departures. The FAA is responsible for developing and implementing RNAV procedures and prepared a federal EA under NEPA to consider the environmental and operational effects of RNAV procedures, and continues to support the evaluation of those procedures. As directed by the Secretary, the EDR presents "any data used to measure the effectiveness of these improvements, including the number of noise complaints from the previously impacted areas."

EDRs and ESPRs provide areawide noise and emissions environmental data that focus on areas within the arrival and departure paths. For more information, refer to **Section 2.4 of Chapter 2, *Outreach and Environmental Justice*,** which presents a new section: "Public Health Existing Conditions Review".

3-9: Noise

Include the hours from midnight to 7:00 AM in the dwell and persistence calculations to provide a clearer indication of the noise burden being borne by communities subject to nighttime operations.

Currently, the Day-Night Average Sound Level (DNL) metric, which is the primary means for evaluating the annual noise environment around Logan Airport, already accounts for nighttime noise by applying a 10 dB penalty to noise events occurring between 10:00 PM and 7:00 AM. This adjustment reflects the increased sensitivity to noise during nighttime hours. However, Massport's noise abatement strategies consider adopting possibly better analysis tools, noise research findings, and improved modeling techniques, as well as enhancements to the noise analysis method, after evaluating the feasibility and potential benefits of incorporating additional metrics or adjustments to existing calculations. For more information, please refer to the *2023/2024 EDR*, **Chapter 7, *Noise*, Section 7.1.2** and the **User's Guide, Section U7.1**.

3-10: Environmental Justice

For future public health existing conditions reviews and future ESPRs and EDRs, direct Massport to include impacts to environmental justice ("EJ") populations that are located in overflight communities.

As discussed in Comment A-39 in **Appendix A, *MEPA Certificate and Responses to Comments***, the *2023/2024 EDR* revised the content organization to dedicate **Chapter 2, *Outreach and Environmental* Justice,** exclusively to EJ, outreach, and community conditions and Massport's beneficial measures. The *2023/2024 EDR*, at the direction of MEPA, utilized Massachusetts Department of Environmental Protection (MassDEP)'s Cumulative Impact Analysis (CIA) framework to assess existing public health conditions within 1 mile of Logan Airport. These findings are presented in **Chapter 2, Section 2.4,** and the detailed data is included in **Appendix E, *Environmental Justice Supporting Documentation***. The **User's Guide, Section U2.3.1** provides the study's methodology and assumptions. For future ESPRs and EDRs, Massport will consider appropriate and scientifically supported methods to expand the scope of the existing conditions assessment, thereby more accurately capturing potential environmental impacts.

3-11: Activity Levels

Direct Massport to consider, for future ESPRs and EDRs, the impacts of emerging advanced air mobility ("AAM") technology on communities overburdened by operations at Logan.

Advanced air mobility (AAM) operations near airports can offer significant benefits to communities, including enhanced connectivity, reduced ground vehicle congestion, and faster transportation options. These benefits can positively impact local economies, potentially leading to innovative transportation solutions and job creation in new sectors. However, potential noise impacts, increased air traffic, new emissions sources, and airspace safety and management could be issues for neighboring communities. Therefore, when AAM becomes a more tangible transportation service option at Logan Airport, Massport will address this new technology and its possible effects on surrounding communities with the same diligence and concern as other transportation modes operating within Massport facilities.

3-12: Environmental Justice

We urge you to require Massport, in future ESPRs and EDRs, to cast a much wider net in reviewing impacts on EJ populations and overflight communities generally.

Massport is committed to working with MEPA to advance EJ and public health analysis within the EDRs. In addition to the existing public health conditions assessment discussed above in Comments 3-8 and 3-10, as well as in Comment A-39 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport will consider appropriate and scientifically backed methods to expand the scope of the existing conditions assessment to more accurately capture environmental impacts that may be associated with Airport operations. For more information, refer to the *2023/2024 EDR* **Chapter 2, *Outreach and Environmental* Justice Section 2.3 and Section 2.4** and **Appendix E, *Environmental Justice Supporting Documentation***. The **User's Guide, Section U2.3.1** provides the study's methodology and assumptions.

3-13: Noise

We reiterate our prior comment that the FAA's civil aviation noise policy (the "Noise Policy"), which relies on DNL 65 dB as its sole noise metric, is outdated and wholly inappropriate to measure noise in the PBN/RNAV context.

Evaluation of aviation noise is guided by FAA policies and regulations. Notwithstanding the referenced report, the FAA has yet to revise its federal noise policy. Massport will adjust its noise impact analyses in accordance with updates provided by the FAA. Massport continues to present a range of supplemental noise metrics in an effort to broaden the assessment of noise impacts beyond the DNL 65 dB metric. For more detailed information, please refer to the *2023/2024 EDR*, **Chapter 7, *Noise*, Section 7.1,** and the **User's Guide, Section U7.2**.

3-14: Noise

We continue to urge real and substantive collaboration between Massport, the Secretary, the FAA, and the communities impacted by Logan overflights.

As discussed in Comment A-66 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport continues to coordinate with FAA and the Massport CAC on matters related to noise. For more detailed information on the Massport *Noise Abatement Management Plan* and associated measures to reduce airport-related noise effects, please refer to the *2023/2024 EDR*, **Table 7-4** in **Section 7.4 of Chapter 7, *Noise*,** and the **User's Guide, Section U7.5**.

3-15: Noise

These communities should have direct and regular access to Massport and the Secretary, and both agencies should be willing to work on real and meaningful solutions to address the problems from airport operations - especially noise and pollution - occurring in those communities.

As discussed above and in Comments A-1 and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is an active participant in the MEPA's Logan Airport Work Group established in collaboration with the MEPA Office and the OEJE in February 2025. The Work Group includes representatives from state agencies, local officials, and community stakeholders and has a primary objective to assess and discuss potential supplemental mitigation measures that may address concerns among nearby communities.

Appendix A, *MEPA Certificate and Responses to Comments*, Comment A-66, summarizes how Massport continues to coordinate with FAA and the Massport CAC on matters related to noise. For more on Massport's *Noise Abatement Management Plan*, please refer to the *2023/2024 EDR*, **Table 7-4** in **Section 7.4 of Chapter 7, *Noise*,** and the **User's Guide, Section U7.5**.

3-16: Activity Levels

However, as we noted in our 2019 comment letter on the 2017 ESPR, Massport has consistently underestimated the increased number of airline operations and passenger throughput at Logan.

Massport follows industry best practices in preparing activity level estimates and future forecasts for passenger activity levels and operations, considering several key factors, including economic conditions, airplane manufacturers' plans, future aircraft in the fleet mix, social factors, and anticipated airline route plans. The assumptions, data sources, and enhanced methodologies Massport currently uses for these forecasts are documented in the **User's Guide, Section U3.4**. While Massport is committed to refining its forecasting methodologies to reflect realistic growth estimates and actual impacts more accurately, Massport's current methodologies exceed prevailing FAA and current industry standards in both rigor and transparency.

3-17: Activity Levels

Future ESPRs and EDRs must take into account AAM as it moves from the design stage to the testing and implementation stages.

Massport actively participates in AAM planning through its partnership with the MassDOT Aeronautics Division and a coalition of stakeholders selected by NASA. Massport contributes to infrastructure planning, operational use case development, and regulatory integration to support the safe and efficient deployment of AAM technologies across the state. Massport will continue to provide updates on AAM engagement in future EDR and ESPR filings. When AAM becomes a more tangible transportation service option at Logan Airport, Massport will address this new technology and its possible effects on surrounding communities with the same diligence and concern as other transportation modes operating within Massport facilities.

3-18: Noise

Like the 2017 ESPR, the 2022 ESPR does not discuss the importance of noise annoyance as a factor of environmental impact and harm.

As discussed in Comment 3-13, evaluation of aviation noise metrics is guided by FAA policies and regulations. In EDR and ESPR filings, Massport continues to present a range of supplemental noise metrics in an effort to broaden the assessment of noise impacts. For more on Massport's *Noise Abatement Management Plan*, please refer to the *2023/2024 EDR*, **Table 7-4** in **Section 7.4 of Chapter 7, *Noise*,** and the **User's Guide, Section U7.5**. Expanded discussion on annoyance factors was developed for the new User's Guide as well in **User's Guide, Section U7.1.2**.

3-19: Noise

We request that the Secretary work with the FAA, Massport, and Milton to implement late night aircraft restrictions, similar to those set forth in 740 CMR 24.04, which are protective of Milton and its residents, as well as EJ populations in and around Milton.

As discussed above in Comment 3-5, 3-4, and 3-14, and in Comment A-66 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport continues to coordinate with FAA and the Massport CAC on the Logan Airport noise mitigation program and to evaluate and implement noise mitigation strategies, including the potential for additional restrictions or procedural adjustments. Currently, Massport implements several noise abatement measures, including nighttime runway use restrictions and prioritization of late-night over-water operations to minimize noise impacts on surrounding communities. Information on noise abatement strategies and runway use is provided in the *2023/2024 EDR*, **Section 7.4 of Chapter 7, *Noise*** and the **User's Guide, Section U7.5.1**.

3-20: Noise

Discuss restrictions on RNAV usage and routes that overfly residential neighborhoods, including spreading the routes further so that the nighttime noise is less concentrated in residential neighborhoods, or moving routes over the ocean during certain periods of time.

As discussed above in 3-3, 3-5, and 3-13, and in Comments A-63, A-65, and A-66 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport continues to coordinate with FAA and the Massport CAC on Logan Airport noise mitigation initiatives. The *2023/2024 EDR*, **Section 7.4 of Chapter 7, *Noise***, and the **User's Guide, Section U7.5.5**, include information on the Massport *Noise Abatement Management Plan* and RNAV procedures.

3-21: Noise

There are already nighttime restrictions on arrivals to Runway 4L, we request the same restrictions (no arrivals between 11 :00 PM and 6:00 AM) for Runway 4R.

As discussed above in 3-3, 3-5, and 3-13, as well as in Comment A-66 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport continues to coordinate with FAA and the Massport CAC on the matters related to runway use and the on-going RNAV Pilot project. The *2023/2024 EDR*, **Section 7.4 of Chapter 7, *Noise***, and the **User's Guide, Section U7.5.5**, include information on the Massport *Noise Abatement Management Plan* and RNAV procedures.

3-22: Logan Airport Environmental Review and Planning

We request that the Secretary direct Massport, in conjunction with DPH and the Department of Environmental Protection ("DEP"), to conduct noise and air pollution studies in Milton and other overflight communities that receive a substantial number of low-flying arrival aircraft. This work would be consistent with the evolving science on this point, and protective of the residents in these communities.

Massport acknowledges the concerns regarding noise and air pollution in Milton and other overflight communities. Massport has a history of collaborating with the Massachusetts Department of Public Health (MassDPH) and other agencies to assess environmental impacts related to Logan Airport operations. For instance, Massport supported the MassDPH study, which focused on the noise and air quality impacts within a five-mile radius of Logan Airport. For more information, refer to **Section 2.4 of Chapter 2, *Outreach and Environmental Justice,*** which presents a new section: "Public Health Existing Conditions Review".

As discussed above in Comment 3-1, and in Comments A-1 and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is an active participant in the MEPA's Logan Airport Work Group (Work Group) whose primary objective is to assess and discuss feasible supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations.

Section 7.4.1 of Chapter 7, *Noise*, RNAV Procedures summarizes how Massport, the FAA, the Massport CAC, and Massachusetts Institute of Technology (MIT) have continued to collaborate on how to design and implement RNAV procedures successfully, implementing the Block 1 and 2 procedures requested by the Massport CAC and affected communities, which confines flight tracks to within a defined noise abatement corridor area of more compatible land use.

Massport remains committed to addressing environmental concerns and continues to engage in studies and initiatives aimed at understanding and mitigating the impacts of aviation emissions. Recent collaborations include studies conducted by Tufts University and Olin College, which focus on air quality monitoring in communities near Logan Airport. Additionally, Massport is involved in on-going research efforts with institutions such as Boston University and the FAA's ASCENT project, which assesses the contributions of aviation emissions to ultrafine particle concentrations.

Massport will continue to collaborate with relevant stakeholders, including the Department of Environmental Protection (DEP) and other community partners, to explore additional studies and initiatives that align with the evolving scientific understanding and aim to protect the health and well-being of residents in affected communities.

3-23: Logan Airport Environmental Review and Planning

We further request that (a) the scope of future ESPRs and EDRs be expanded to consider the health impacts from increased and concentrated arrival and departure operations due to RNAVs, and (b) pollution data be measured for every community under any of the many Logan RNAVs.

As discussed above in Comment 3-8, the EEA Secretary's Certificate guides Massport's preparation of each EDR and ESPR. Each EDR and ESPR includes a detailed analysis of noise and emissions impacts of aircraft arrivals and departures. The FAA is responsible for developing and implementing RNAV procedures and prepared a federal EA under NEPA to consider the environmental and operational effects of RNAV procedures, and continues to support the evaluation of those procedures. As directed by the Secretary, the EDR presents "any data used to measure the effectiveness of these improvements, including the number of noise complaints from the previously impacted areas."

EDRs and ESPRs are environmental data that focus on areas within the arrival and departure paths. For more information, refer to **Chapter 2, Section 2.4,** which presents a new section: "Public Health Existing Conditions Review". **Chapter 7, *Noise*, Section 7.4.1**, RNAV Procedures summarizes how Massport, the FAA, the Massport CAC, and Massachusetts Institute of Technology (MIT) have continued to collaborate on how to successfully design and implement RNAV procedures, which confine flight tracks to within a defined noise abatement corridor area of more compatible land use.

3-24: Noise

b. Work with the FAA, Massport, and Milton to develop and implement late-night aircraft overflight restrictions which are protective of Milton and its residents, including consideration of an 11:00 PM to 6:00 AM landing prohibition on runway 4R.

c. Direct Massport and the MCAC to promptly develop a system for the fair and equitable distribution of aircraft overflights that provides real relief to the highly impacted surrounding communities, especially those that are under multiple RNAVs.

d. Direct Massport to collaborate with DPH and DEP to develop and conduct noise and air pollution studies in highly impacted surrounding communities, especially those that are under multiple RNAVs.

e. Direct Massport to consider off-airport noise and pollution impacts, including but not limited to the health impacts from increased and concentrated arrival and departure operations due to RNAVs, in all communities under any RNAV, in all future EDRs.

f. Direct Massport to include all of the points made above in the scope of the 2017 ESPR. This includes impacts to health from noise and pollution from: off-airport impacts of growth, cumulative impacts of RNAV overflights, increased nighttime operations, moving to updated noise measurements which are more protective of human health and which account for acute impacts more realistically than the DNL standard; and working directly

with impacted communities to more fully understand and evaluate the human health effects from Logan operations.

g. Include the hours from midnight to 7:00 AM in the dwell and persistence calculations to provide a clearer indication of the noise burden being borne by communities subject to nighttime operations.

Massport has responded to similar commentary in responses to the Town of Milton's Comments within this section and within the **Appendix A, *Logan Airport Environmental Review and Planning*** section above, and in Comments A-63, A-65, and A-66 in **Appendix A, *MEPA Certificate and Responses to Comments***. The EEA Secretary's Certificate guides Massport's preparation of each EDR and ESPR. Each EDR and ESPR includes a detailed analysis of noise and emissions impacts of aircraft arrivals and departures. The FAA is responsible for developing and implementing RNAV procedures and prepared a federal EA under NEPA to consider the environmental and operational effects of RNAV procedures and continues to support evaluation of those procedures.

As directed by the Secretary, the EDR presents "any data used to measure the effectiveness of these improvements, including the number of noise complaints from the previously impacted areas." EDRs and ESPRs are wide-area noise and emissions environmental data analyses that focus on areas within the arrival and departure paths. **Section 2.4 of Chapter 2, *Outreach and Environmental Justice*** of this *2023/2024 EDR* also presents a new section: "Public Health Existing Conditions Review". **Chapter 7, *Noise*, Sections 7.1**, **7.2**, and **7.4,** and the **User's Guide, Sections U7.2**, **U7.3**, and **U7.5** include information on these topics.

4. Airport Impact Relief, Inc. (AIR, Inc.)

To: EEA
From: AIR, Inc.

June 26, 2024

Good Morning,
I'm writing today to express deep concerns with Massport's ESPR 2022 environmental documentation. After the Climate Roadmap Law, the public had a right to expect improvements on to many procedural complaints regarding Massport's iterative disclosure series detailed within comments to MEPA submitted by AIR, Inc. over many years.

Not only is the document NOT provided in a scalable, searchable format which is acceptable to stakeholders whose only internet connectivity is provided through smart phone use, but its length and complexity are still unacceptable. Unfortunately, it appears as though Massport has used the climate Roadmap as an opportunity to take its reporting further in the wrong direction. To this point I first call attention to the second chapter of the ESPR, titled *Sustainability, Outreach and Environmental Justice*. This chapter is a new addition to the document series which is intended to address Massport's responsibilities pursuant to the Climate Roadmap and recommendations in previous EEA certificates. In Ch 2, Massport misclassifies environmental justice as among 'informal' or voluntary commitments by asserting that 'formal' mitigation commitments are made as part of projects for which MEPA review is required.

The formal versus voluntary classification when applied to the ESPR / EDR series supports Massport's assertion that the document series are not subject to MEPA review. AIR, Inc. plans to challenge this on the grounds that such a conclusion could only be true if all impacts over the expected lifetime of MEPA-level project proposal EIR's had been evaluated within the EIR review in accordance with the standard MEPA review protocols.

However, the Weld / Cellucci era regulatory procedure which has been hand-crafted for and is unique to Logan removes air pollution emissions and noise impacts from consideration in the EIR review process for Logan projects, displacing them into the iterative annual documentation series. Importantly, the EDR / ESPR documents subsequently do not report air pollution and noise data on a project by project basis. This combination of #1 removal of consideration of public comment regarding environmental pollution from airport facilities project MEPA EIR review, and #2 failure to specifically track, report and make available for public comment the subsequent environmental pollution data of each individual project over time violates the state's environmental protection laws by denying the public a meaningful opportunity to comment on decisions which hold the likelihood of increasing adverse environmental burdens.

For example, the Terminal E EIR theorized that demand for air travel is driven NOT by the facilities Massport builds, but by a combination of external economic and industry conditions outside of Massport's control. AIR, Inc. objected to this claim in its comments, pointing out that the new terminal was built to address capacity constraints and would allow the Authority to process more passengers, increasing the negative environmental burdens. AIR, Inc. further commented that alternatives to building the expanded terminal capacity at Logan -such as offloading over-capacity demand to other regional commercial airports- existed, but were not evaluated in the scoping process for the project.

The Authority counterclaimed that they had considered alternatives (full build, half build, no build), and that if further congestion at Logan developed, the environmental consequences would be worse without the newer, more efficient facilities. In essence this says that it's better when you are being polluted more, to at least be polluted by a smaller increase. Nowhere is there an option not to be polluted more.

The result of the unique handling of Logan environmental filings under the regulatory review procedure created by a Republican administration over 20 years ago, which was not included in the recent MEPA regulatory review above AIR, Inc.'s objections, is that facilities get built to pave the way for the growth of aviation activities at Logan without any opportunity for public comment on environmental impacts, then growth just 'happens', and pollution rises.

A related issue of great concern is that due to the use of long range forecasts to predict passenger levels and associated impacts, when growth occurs at faster than forecasted rates, mitigation plans lag behind. So in this system, not only does the public not get any opportunity to comment on the projects which pollute them, nor do we ever receive specific data on the environmental performance of those projects, but the airport as a whole as a project with a rolling segmented growth agenda, is allowed to pollute first, and mitigate later.

All agencies under MGL Part I, Title III, Chapter 30, Section 61 are required to minimize environmental damage. The fact that under an internationally ineffective regulatory system, certain procedures allow EIR level environmental damage to be displaced into an iterative annual review of cumulative impacts, does not change that. Nowhere in the statute is there any grey area about who is required to minimize damage.

The law states: "All agencies, departments, boards, commissions and authorities of the commonwealth shall review, evaluate, and determine the impact on the natural environment of all works, projects or activities conducted by them and shall use all practicable means and measures to minimize damage to the environment." Massport is an Authority.

Thus, Massport is required to minimize damage and whether they report any determination of damage before or after the fact, and whether they report damage in EIR's, EDR's, or ESPR's, when they report damage they are issuing a determination of environmental impact, and therefore, they are required to issue findings that all feasible measures have been taken to avoid or minimize that damage. Thus, classification of Logan Express (LEX) HOV efforts, for

instance, as voluntary -which Massport does in the ESPR, is incorrect. Traffic congestion is an environmental impact. LEX is designed to reduce that impact. Massport is required to reduce that impact by the statue. Therefore LEX is not a voluntary environmental mitigation program. It is required.

Regarding expanded public outreach:

Massport has scheduled a public information session for tonight. The location for tonight's meeting, the Cathy Leonard McLean room, does not satisfy the requirements of public meeting space for environmental justice community public information meetings as provided by the Public Involvement Protocol for Environmental Justice Populations found within the Interim Protocol on Climate Change Adaptation and Resiliency as required by the Climate Roadmap law, which outlines public involvement requirements for projects identified as negatively affecting EJ populations and states that "The meeting(s) must be held at accessible locations near public transit to the greatest extent possible and facilitate remote attendance, with oral interpretation required with 48 hours' notice." 4A-1

Located 0.6 miles from the center of the Jeffries Point neighborhood, 1 mile from Maverick, 1.25 miles from Eagle Hill, 1.5 miles from Harborview, 1.8 miles from the Belle Isle Inlet area, and 2.15 miles from Orient Heights, the Cathy Leonard McLean Community room is unnecessarily remote from most of the residential environmental justice areas in East Boston. Its location in the airport's service area is difficult to find with no wayfinding signage posted in and around the area to assist meeting-goers on foot or in cars. This facility is also not located along any MBTA bus or train line.

Massport's government affairs and community relations staff have access to multiple appropriate meeting venues centrally located within walking distance to most of residential East Boston, all of which are also located along numerous bus routes reaching all neighborhoods of East Boston, and many in Chelsea, Winthrop, and Revere, as well as on within blocks of the Blue Line's WoodIsland station. Venues including the East Boston Public Library, Excel Academy, and Spinelli's function hall all satisfy the requirements for environmental justice public information meetings.

The timing of this public information meeting is also not ideal. Community stakeholders are offered an extended 60 day public comment period for airport filings due to their length and complexity. While public information sessions held prior to the release of the ESPR provided brief snapshots of the full report's contents, this 678 page technical document contains voluminous detail and should be expected to illicit many questions once thoroughly read. Holding a public information session 19 days after the inception of the comment period does not give the public access to the full comment period to sufficiently read the document and formulate questions.

Furthermore, any new information which might be provided in response to potential questions would alter the document and require additional extension of the comment period to provide the public with the time needed to analyze and respond accordingly.

AIR, Inc. reiterates its comments made in previous EDR and ESPR's as well as through our involvement in the recent MEPA regulatory review, that neither MEPA's standard 45 day nor its extended 60 comment period provide anywhere near an appropriate opportunity for public comment. These iterative documents take the Port Authority nearly a full year to develop and are compromised of a wide variety of dense technical concepts which require extensive analyses. We once again suggest that these environmental reporting documents be released in final draft form prior to their release formal submission for MEPA review. 4A-2 4A-3

We believe the current handling of Massport's Logan Airport environmental reporting violates both the letter and the spirit of Massachusetts law as during the antiquated disjointed comment and answer cycle, public stakeholders never get the opportunity to communicate objections such as these directly to EEA, nor do we have the opportunity to consult with the state's regulatory leaders about our concerns.

We ask that EEA specifically address our belief that:

1. The EIR - EDR/ESPR arrangement is illegal in that it denies the public due process (lack of opportunity to comment on environmental pollution from specific projects)

2. The long range impact forecasting system is illegal in that it allows environmental impacts of Logan to go unreported when growth of airport impacts accumulates beyond forecasted levels (failure to review, evaluate, and determine)

3. That Massport's refusal to evaluate alternatives to building further capacity at Logan and deferring and delaying of efforts to avoid and minimize impacts is illegal in that they are required to prove that they are taking all reasonable means (failure to provide findings that all measures have been taken)

We believe that at a minimum, the certificate for the 2022 ESPR should:

1. Require the Port Authority to provide data and respond to comment on the environmental impacts of all projects individually over time 4A-4

2. Review, evaluate, and determine environmental impacts in real time by yoking policy and mitigation planning to actual present and future impacts 4A-5

3. Require the Authority to provide findings that all environmental mitigation efforts have been and are being taken to minimize said environmental damage by developing and implementing real time mitigation strategies by or before the time impact increases are realized 4A-6

4 Require the Authority to report all mitigation efforts along a continuum of formal measures required to minimize or avoid environmental damage 4A-7

5 Require the Authority to release its next report closer to the end of the reporting period, and then it's next again closer 4A-8

6 Require the Authority to release a final draft report with a complete comment cycle | 4A-9

These are our thoughts for now. AIR, Inc. thanks you for your consideration of the above listed concerns. We would also like to schedule a time to meet with the Secretary or her staff privately. The last attempt we made to do so ended up to be a cbit version including MEPA, and Massport. And while we appreciate ld that opportunity, we believe that our concerns would be better addressed in discussion with EEA exclusively.

Sincerely,

Chris Marchi
Vice President
Airport Impact Relief, Incorporated
AIR, Inc.
161 Saratoga Street
East Boston, Ma 02128
617-417-2093
cbmarchi@gmail.com

From: Chris Marchi
To: Hughes, Jennifer (EEA)
Subject: Supplemental AIR, Inc. comment
Date: Friday, October 11, 2024 6:55:26 PM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

RE employee use of Logan Express:

AIR, Inc. believes that Logan Express must be reimagined as a high end transportation service. We understand that employee use of the service is sometimes as much as 50% of certain location's ridership. We believe that detailed investigations into the user experience and preferences of air travelers would reveal that commingling industrial employees is penny wise and pound foolish.

High volumes of airport employees could potentially compete and conflict with air travelers. Massport should commit to providing a level comfort and relative luxury commensurate with the requirements of modern air travel as well as to providing appropriate basic transportation options to its employees. 4B-1

Sent from my iPhone

From: Chris Marchi
To: Hughes, Jennifer (EEA)
Subject: Supplemental AIR, Inc. comments
Date: Friday, October 11, 2024 6:31:23 PM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

RE PRAS:

Massport continues to report in the Preferential Runway Assignment System, a computer program written in the 1980's, which sought to balance impacts at runway ends by setting target annual arrival and departure percentages considering population density at runway ends and calculating population weighted impacts. This Runway Use Program (RUP) produced runway use recommendations for Air Traffic Controller.

PRAS was in informal RUP, meaning that acceptance of PRAS suggestions was voluntary. However PRAS was extremely sophisticated in its design. Not only did it set target runway use goals, and factor in population weighted impacts at runway ends, it also placed limits on Dwell and Persistence -which respectively limited the the time over any one runway end that overflights could dwell to under 6 hours in any 24 hour period and the duration of persistence of overflights over any one runway end to less than 23 hours in any 72 hour period. Not of these limits directly address traditional core complaints in noise impacted communities about getting pounded with noise for unbearable periods of time.

The city of Boston suggests that we should eliminate this reporting. We understand the city's frustration with reviewing data for a program which is not in use. Only in the absurdly elusive confines of an Massport environmental report could such a practice be explained. Instead, however, AIR, Inc. recommends not that we give in to the futility which is the result Massport's divisiveness
-and eliminate PRAS reporting, but that we should double down on our convictions that we can and must do better, and require Massport to live up to its obligations to update and implement an effective Runway Use Program, which FAA gives them the authority and procedural power to create. 4C-1

PRAS is an avenue to fair sharing of noise burdens which equates to the very important concept of minimizing overburden. Massport is legally bound to continue PRAS by the 2002 FAA Record of Decision which ordered Massport to update PRAS or continue to use it until it is replaced. The ROD specifically directed this, as well as a study of Boston Logan Airport noise known as BLANS, the Boston Logan
Airport Noise Study to ensure that EJ communities under the 33L departure runway end in East Boston's Eagle Hill and Chelsea would not be adversely affected by runway use configuration changes as a result of construction of controversial runway 14/32.

The feared impact has in fact materialized, with EJ communities in East Boston and Chelsea at the
33L runway end getting between two and three times the target noise after 14/32.

Instead of updating PRAS as required, Massport suggested to the Logan Community Advisory Committee that they should vote to abandon PRAS (over AIR, Inc.'s objections) and then launched into an underfunded effort to replace the well thought out PRAS with a a rotational runway use plan which would have potentially subjected the same communities to the worst (most burdensome) noise exposure on a daily basis. The LCAC could not agree on a replacement RUP. And so Massport has not satisfied the 'u til replaced' condition, leaving the Authority legally bound by the FAA ROD to co ti is use of PRAS.

Massport should not be let off the hook for its responsibilities. Instead, it should be required to update PRAS and seek its proper implementation. 4C-2

Chris Marchi
AIR, Inc.

October 11, 2024

The Honorable Rebecca Tepper,
Secretary Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
100 Cambridge Street, Suite 900,
Boston, Massachusetts 02114
Re: Logan Airport 2020 / 2021 Environmental Status and Planning Report (2022 ESPR) EEA# 3247

Dear Secretary Tepper,
Airport Impact Relief, Incorporated (AIR, Inc.) thanks you for the opportunity to comment on the Massport 2022 Logan Airport Environmental Status and Planning Report (the ESPR, the Report, the Document). AIR, Inc. is a community volunteer-led 5013C established in 1981, by East Boston resident airport activists of the 1960's. We organize meetings, analyze airport plans and reports, consult with our members and experts in related fields, and conduct community engagement to promote understanding of the environmental impacts of Logan Airport.

AIR, Inc. participates in the Massachusetts Environmental Policy Act (MEPA) process to contribute the perspectives of the environmental justice communities which are exposed to the most severe impacts. Development of AIR, Inc.'s Logan comments involves reading, researching, fact-checking and analysis and discussions of key topics, formulation of comments, drafting, sharing, gathering feedback from other EJ agencies, final revision, sharing and promoting understanding of the issues within the community, and organizing community action when necessary. Unfortunately, the preliminary review, analyses and drafting efforts for the massive documents Massport continues to submit absorbs most of the comment period, leaving very little time for engagement of EJ communities.

Aviation topics can be technical and abstract. AIR, Inc. strives to make our comments as informative as possible, designing them to explain not only perspectives on Logan's impacts and Massport policies, but also to provide insights into aviation topics not included in the ESPR, but which have bearing on the review process. While these comments are very much focused on Massport's failures, AIR, Inc.'s goal is to advocate for improved environmental outcomes. For this reason, these comments include numerous examples of programmatic and policy alternatives not discussed in the ESPR, but which could significantly reduce environmental impacts of Logan Airport.

We recognize and regret the extreme length of these comments. AIR, Inc. has implored Massport and MEPA to reform this disclosure document series -particularly through streamlining and improving the filings' organization, but also by ceasing to pollute the important discussions with unhelpful pro-aviation industry narratives. In all cases, the Port Authority has failed. Instead, the Authority seems determined to use the ESPR as a public relations platform. For instance, the Authority ingrains the word 'efficiency' throughout the entire ESPR, making over 123 references to the word 'efficient' or its derivatives. The Authority goes out of its way to explain heating, ventilation, lighting and water fixture efficiencies, and insists through the report that modern aircraft are quieter and more fuel efficient, and that more people will travel on less flights, …increasing efficiency. They claim that increases in seat capacity utilization rates, and multiple on airport projects are aimed at increasing Logan's ability to efficiently handle passengers. Landside, airside, regional, airline networks, roadways… every possible efficiency claim is made. Regarding engine technology, Massport recites qualitative future benefits over and over, saying that newer engines are cleaner and quieter and more efficient at every possible opportunity. It is clear that the intention is to lean on the theory that technological improvements will keep pollution under control.

We cannot neglect to comment on these transgressions, or else we risk that MEPA and the Secretary will think we agree with Massport's claims. Therefore, throughout our comments, we must explain how Massport's framing of concepts such as their postulations and implications that improving efficiency will bring less pollution, noise and public health impacts are incorrect. These comments will show that Massport's claims are simply statements -nothing more than opinions, and that they are not based on facts.

Impacted communities are interested in quantifiable net impact reduction. The public looks to the ESPR to learn how much more or less noise, traffic, and emissions impacts might be, as well as how the Port Authority can combat potential increases. These comments will also detail how the Port Authority totally fails to explain basic facts and industry trends which are essential to understanding airport planning options. And we will provide the lacking explanations and offer examples of feasible alternative planning and mitigation options.

So throughout these comments, we must highlight the multiple misleading narratives Massport has submitted, and correct them. Consider that Massport states that 'enhancing the airports roadways can lead to vehicular circulation efficiency'. But, are Logan's roadways actually becoming more efficient? Can this be even while Logan's roads are increasingly choked with traffic? Throughout these comments we point out that Massport's intent is to mislead, parsing words to tell us what could be, while stating that the opposite is happening. This trend is repeated over and over in the ESPR to the extent where it is clearly not an accident, but instead is an intended initiative to report that environmental conditions are improving even while submitting data that show that environmental impact levels have not been, and will not be improving.

We encourage most readers of these comments to browse through the table of contents and read the sections which are of the most interest. To MEPA, we apologize for the length of these

comments, and suggest that the Secretary demand reform in the circuitous, duplicitous and inappropriate style of Massport's submissions.

- Environmental Justice
  - Plain language
  - Document format
- Airport Activity levels
- Regulatory approach
- Airport Planning
  - RE Regional Airport Cooperative Planning
- Organizational approach
  - EXAMPLE: Zero Idling Policy failure
- Compliance
  - Commitment and timetables
  - Establishment of a collaborative framework
  - Engagement of EJ communities in document development
  - Accepting public input before ESPR submission
  - Identifying metrics and thresholds that would trigger mitigation
  - Response to request for assessment of socialized costs
- Possibilities
- Mitigation possibilities
  - EXAMPLE: Airproofing program
  - EXAMPLE: Air Quality Sensor Network
  - EXAMPLE: Remote airport terminals
  - EXAMPLE: Logan transit hubs
  - EXAMPLE: Tourism and climate
  - EXAMPLE: Impact Triggered Mitigation
- Noise
  - Predicted impacts
  - Technological improvements
  - Backsliding
  - Nightime noise
  - Noise Mitigation
  - School soundproofing
- Climate
  - Climate Backsliding
  - Sustainable aviation fuel
  - Underestimated carbon impacts
- Emissions
  - Modeling
  - Reporting practices
  - Backsliding
  - Upgauging impacts
  - Standards
  - Fuel efficiency
  - Pollutant data
  - VOC
  - NOX
  - Particulate matter (PM)
  - CO
  - Ultrafine particulate pollution
- Regional Transportation
  - Regional economic impacts
  - Rail
- Public Health
- Ground Access
  - Data gaps
  - Logan Express
  - Air traveler survey
  - Ride apps

Environmental Justice

Regarding environmental justice and the Authority's performance in improving engagement, the ESPR lists a series of meetings held to explain the document. These meetings were examples of one way communications, which are unsatisfactory as EJ engagement measures. We also note that the location of these meetings, being in the Cathy Leonard McLean room, does not satisfy the requirements of public meeting space for environmental justice community public information meetings as provided by the Public Involvement Protocol for Environmental Justice Populations found within the Interim Protocol on Climate Change Adaptation and Resiliency as required by the Climate Roadmap law. This protocol outlines public involvement requirements for projects identified as negatively affecting EJ populations and states that "The meeting(s) must be held at accessible locations near public transit to the greatest extent possible and facilitate remote attendance, with oral interpretation required with 48 hours' notice." 4D-1

Located 0.6 miles from the center of the Jeffries Point neighborhood, 1 mile from Maverick, 1.25 miles from Eagle Hill, 1.5 miles from Harborview, 1.8 miles from the Belle Isle Inlet area, and 2.15 miles from Orient Heights, the Cathy Leonard McLean Community room is unnecessarily remote from most residential environmental justice areas in East Boston. Its location in the airport's service area is difficult to find with no wayfinding signage posted in and around the area to assist meeting-goers on foot or in cars. This facility is also not located along any MBTA bus or train line.

Massport's government affairs and community relations staff are well aware of the presence of multiple appropriate meeting venues centrally located within walking distance to most of residential East Boston, all of which are also located along numerous bus routes reaching all neighborhoods of East Boston, and many in Chelsea, Winthrop, and Revere, as well as within blocks of the Blue Line's WoodIsland station, including venues such as the East Boston Public Library, Excel Academy, and Spinelli's function hall. Any of these locations would satisfy the requirements for environmental justice public information meetings.

Plain language

The ESPR introduces the term stage length with no explanation. Stage length is an aviation industry planning term used by airlines in aligning aircraft capacity, fuel consumption and efficiency with flight distances / routes / seating demand. Stage length is calculated by factoring in route length, considering average on-route wind speeds to analyze profitability. It has little relevance to public stakeholders. We remind the Secretary of our previous requests in our 2016 EDR, and 2017 ESPR comments asking EEA to require that Massport cease polluting its public environmental disclosures with irrelevant and confounding terminology. Introduction of unfamiliar technical terminology must be limited to only necessary concepts, and when done must be carefully explained when audiences include readers with known low numeracy and literacy levels. Federal Plain Language guidelines recommend that writers of technical information should align their communications with their audiences by asking: Who is my audience? What does my audience already know about the subject? What does my audience need to know? What questions will my audience have? 4D-2

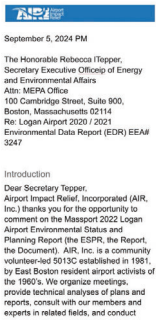
AIR, Inc. field tests its MEPA comments for comprehension, clarity and cultural appropriateness by pre-releasing them within a cross-section of environmental justice audiences and accepting feedback. We perform readability testing such as Flesch Reading Ease Scaling to identify areas where writing can be simplified.

Given our repeated comments to this effect, including in a separate meeting between AIR, Inc. and EEA to which Massport and its lead strategic planning and disclosure document development consultant were invited, use unfamiliar and unexplained terminology such as 'stage length', 'upgauging, 'Regional carrier affiliate', 'Mainline connectivity' are evidence that Massport refuses to make its disclosure documents plain and direct.

Overall, each chapter of the document should have a one - two page summary providing the essential concepts and numbers. Each new term should be linked to more detailed explanations. Instead, the ESPR uses a 'data pointillism' approach in which specific data is shared in too zoomed in detail with no big picture overview provided. 4D-3

Document format

AIR, Inc. has made multiple requests for the length and complexity of the Massport's filings to be reduced. We have outlined, explained and discussed this need with Massport and MEPA extensively. Yet the ESPR at 678 pages and its technical appendices at 474 pages reach an astounding 1,152 pages combined. Today we renew this request and **ask that the Secretary place a 200 page limit on future filings** inclusive of all relevant data and information. 4D-4



September 5, 2024 PM

The Honorable Rebecca lTepper,
Secretary Executive Officeip of Energy and Environmental Affairs
Attn: MEPA Office
100 Cambridge Street, Suite 900,
Boston, Massachusetts 02114
Re: Logan Airport 2020 / 2021 Environmental Data Report (EDR) EEA# 3247

Introduction

Dear Secretary Tepper,
Airport Impact Relief, Incorporated (AIR, Inc.) thanks you for the opportunity to comment on the Massport 2022 Logan Airport Environmental Status and Planning Report (the ESPR, the Report, the Document). AIR, Inc. is a community volunteer-led 5013C established in 1981, by East Boston resident airport activists of the 1960's. We organize meetings, provide technical analyses of plans and reports, consult with our members and experts in related fields, and conduct

Example of smartphone scalability

The vast majority of low income and minority residents connect to the internet through smartphones and few have access to PDF reader software. This makes the use of PDF formats inappropriate for sharing documents for which public engagement is needed. AIR, Inc. has invested great effort into explaining the disadvantages of PDF's, yet Massport has once again submitted the 2022 ESPR in PDF format. Without a search, or 'jump to' option, users embedded in the middle chapters are required to scroll to the table of contents to navigate the document.

In contrast, these comments are submitted in mobile-friendly Google Doc format to ensure that they are scalable to smart phone screens. Google docs can be locked to ensure that the contents remain secure, and provide a document outline feature which is always available from a pull down menu allowing for easy navigation. A 'find and replace' feature allows users to search for key terms and phrases. And Google docs also supports comments, which users can embed in situ within the document. To further improve Massport's MEPA filings, **we ask the Secretary to prescribe that the Authority provide filings in multiple formats, including Google docs.** 4D-5

Airport Activity levels

Throughout this ESPR, Massport reports as though its staff are still living in 2022, with the recovery ongoing, and the future uncertain. On multiple occasions, the pandemic is placed in front of readers as a factor in planning. Covid interrupted a 10 year annual growth trend which averaged 3 times over the previously forecasted levels. Starting in March 2020, Logan gained back 22% of its previous high March to March passenger volumes in 2021 with March 2021 reporting 31% of March 2019's benchmark. By March 2022, Logan had gained back another 40%, recovering to 62.5% of its previous annual March to March peak traveler volume, with March 2022 reaching 82% of March 2019. By March of 2023, Logan had gained back another 27.5%, reaching 90% of its 2019 March to March traveler volume, with March 2023 hitting 97% of March 2019. And by March of 2024, Logan had gained back another 7%, reaching 97% of its 2019 March to March traveler volume, with March 2024 equaling March 2019's traveler volume.

With 5 out of the last 10 reported passenger volumes by month equal to or in excess of 2019 peak levels, we have reached the point at which Logan's recovery has now transitioned back into growth. With 8 months reported, growth in 2024 is tracking at over 6%. AIR, Inc.'s monthly passenger tracking indicates that over the past 12 months (August 2023 - August 2024) of reported data, **a new all time peak 12 month passenger volume of 42.54 million passengers has been attained**. The previous annual high was 42.52.

In the 2022 ESPR, Masport reports that during 2022, passenger levels were down by 15% from 2019 peak levels, but flight operations were only down 11%. This confounds the reader, as the Port Authority also states that the trend is moving toward larger, cleaner, and quieter aircraft. Readers would therefore expect that 85% of the travelers would have been served by less than 85% of the operations – perhaps 80% of the operations. Instead the opposite is reported; 85% of 2019 peak passengers were transported not by less aircraft movements, but by 4% more.

Habitual underestimations and transgressions such as the clearly inaccurate prediction that peak level passenger volumes would be achieved by "about 2025" when they had clearly returned to pre-pandemic levels at the time the ESPR was submitted should not be overlooked. They are part of a systemic under-estimation and avoidance of mitigation.

The document confuses, reporting that in 2022 general aviation (GA) operations reached 98% of the peak high-level set in 2016 and that Regional Jet (RJ) connections in 2022 over 2019 levels while elsewhere reporting trends toward larger, more fuel efficient and cleaner aircraft. The growth in GA is not explained. Regarding the increase in RJ connections, Massport explains that this occurred "as carriers optimize their hub airport networks for connecting opportunities and continue to implement strategies to resume pre-pandemic services." This explanation is almost completely useless to the layman who does not know what carriers optimizing their hub airport networks for connecting opportunities means. One feasible consequence of this that carriers are eliminating RJ flights to Logan from New England cities forcing those passsengers to drive to Logan rather than fly in on a RJ, which has the effect of raising the already intolerable level of ground access traffic in nearby communities. The Secretary should require Massport to explain the consequences of reduced RJ activity at Logan on ground access and congestion. 4D-6

Massport's reporting of load factors is also confusing. The ESPR predicts an 84% average load factor and with 141 average available seats in the future planning horizon. But at the projected 495,000 operations, this average seating capacity would appear to bring 58.6 M passengers. The Secretary should require Massport to reconcile the passenger volumes implied by this discussion of load factors and average available seats with its passenger volume forecasts elsewhere in the document. 4D-7

Later, Massport states that the ESPR forecast is within 5% of the FAA Terminal Area Forecast (TAF) through the 10 - 15 year future planning horizon. However the Authority doesn't explain what the TAF is, or whether the 2022 ESPR forecast is 5% over or 5% below the FAA TAF. The Secretary should require Massport to specifically compare the TAF forecast to the Massport forecasts for the same forecasting periods. 4D-8

Year	2% Growth	3% Growth	4% Growth	5% Growth	6% Growth	7% Growth	8% Growth
2,025	43,031,783	43,453,664	43,875,544	44,297,424	44,719,304	45,141,185	45,563,065
2,026	43,892,419	44,757,274	45,630,566	46,512,295	47,402,463	48,301,068	49,208,110
2,027	44,770,268	46,099,992	47,455,788	48,837,910	50,246,610	**51,682,142**	**53,144,759**
2,028	45,665,673	47,482,992	49,354,020	51,279,806	**53,261,407**	55,299,892	57,396,340
2,029	46,578,986	48,907,481	51,328,181	**53,843,796**	56,457,091	59,170,885	61,988,047
2,030	47,510,566	50,374,706	**53,381,308**	56,535,986	59,844,517	63,312,847	66,947,090
2,031	48,460,777	51,885,947	55,516,560	59,362,785	63,435,188	67,744,746	72,302,858
2,032	49,429,993	**53,442,525**	57,737,223	62,330,924	67,241,299	72,486,878	78,087,086
2,033	50,418,593	55,045,801	60,046,711	65,447,470	71,275,777	77,560,960	84,334,053
2,034	51,426,965	56,697,175	62,448,580	68,719,844	75,552,324	82,990,227	91,080,777
2,035	52,455,504	58,398,090	64,946,523	72,155,836	80,085,463	88,799,543	98,367,240
2,036	**53,504,614**	60,150,033	67,544,384	75,763,628	84,890,591	95,015,511	106,236,619
2,037	54,574,706	61,954,534	70,246,159	79,551,809	89,984,026	101,666,596	114,735,548
2,038	55,666,200	63,813,170	73,056,006	83,529,400	95,383,068	108,783,258	123,914,392
2,039	56,779,524	65,727,565	75,978,246	87,705,870	101,106,052	116,398,086	133,827,544
2,040	57,915,115	67,699,392	79,017,376	92,091,163	107,172,415	124,545,952	144,533,747

Forecast uncertainty

The 2022 ESPR forecasts 53.5 million passengers within a 10 - 15 year timeframe termed the Future Planning Horizon. Massport explains that its forecasts are derived from a cadre of industry best practices, global and regional economic trends, technological changes, and predictable airline actions, and states that this forecast is in line with previous forecasts. With this reasoning, the Authority appears to be attemptimg to take the pandemic's effects in stride. But the 5 year pandemic pause was neither a global nor regional economic trend, nor a

technological change, nor a predictable airline action. It was a one-time depression in economic activity felt across the national economy that has now passed as passenger growth approaches historic levels.

At a conservative 3% growth rate -which is 40% below the pre-pandemic 5-year average, but without the depression in traffic caused by Covid, Logan would be at or around 49 million passengers today. The 2011 ESPR forecast had predicted only 38.5 million passengers by 2030; the 2017 ESPR forecast was equally inaccurate, predicting only 50 million passengers by 2032. If growth stabilizes at 2%, *which is 60% below* the pre-pandemic 5 year average, traveler volumes will reach 54.6 million passengers by 2032, the beginning of the 5 year open planning horizon window.

The 2022 ESPR forecast of 53.5 M within the 10 - 15-year window indicates an average annual growth rate ranging between 2.75% and 4%. However passenger volumes have grown at well over this range since rising 15% in calendar year 2023, reaching 40.8 million passengers. During 2024, growth is averaging over 7% in the past 12 months. During the first four months of calendar year 2024, passenger levels have grown 4.5% over 2023 levels.

Massport stresses that the forecasting methodology they use is in accordance with industry best practices, and considers key trends in the regional economy, the national airline industry, COVID-19 recovery, and competition within the airline industry, among other factors. However, the 2011 and 2017 ESPR forecasts were also presumably based on industry best practices and economic trends, and both forecasts were wrong. Passenger activity at Logan in the period of time between those forecasts and beyond grew at 5% per year, three times the forecasted rate. The result was a growing lag in planning and mitigation which reached 9 million passengers before it was interrupted by the pandemic. So, Massport's industry growth forecasting is unreliable.

Use of a 10 - 15 year planning window (the Future Planning Horizon) introduces an unacceptable level of uncertainty for a metric used to mitigate environmental impacts on affected populations. The 2022 ESPR reported 36 million passengers in 2022, and provides a forecast of 53.5 million within the 10 - 15 year horizon. This forecast indicates an increase of 17.5 million passengers by 2032 - 2037. The projected increase of 17.5 million passengers over 10 to 15 years indicates an average steady state annual growth rate between 2.75% and 4%. At the minimum forecasted growth rate, passenger volumes would rise by 1.167 M passengers per year over 15 years, with 11.7 M additional passengers (47.8 M) at the 10 year mark. At the maximum forecasted rate, an additional 1.75 M passengers per year would occur over ten years, a growth rate which would result 62.3 M annual passengers at the outer end of the Future Planning Horizon (in year 15). The potential difference in passenger growth from the lowest growth in the nearest term to the highest growth in the longest term is a swing of over 14.5 million passengers -an astounding 83% of the forecasted 17.5 M growth.

AIR, Inc.'s 12 month running total passenger volume calculations also indicate that in 2024 42.8 million passengers will use Logan. This indicates the addition of 6.8 million passengers between 2022 and 2024, and leaves only 10.7 M in growth headroom before the 53.5 M level is reached, with 8 years left before the near term planning horizon is reached. Logan's growth would need to slow to a steady state annual rate of under 2% to avoid a third consecutive inaccurate ESPR under-forecasted growth condition. The growth we are seeing for 2024 is between 6% and 7%, two or three times the presumed steady state growth rate indicated in the present forecast.

If reduction of potential negative impacts is to be achieved, realistic, higher growth scenarios must be analyzed. AIR, Inc.'s proposal of an impact triggered mitigation schedule allows for real time monitoring of growth and 'just-in-time' mitigation.

The Secretary should find that the inaccurate Massport forecasting method is inappropriate for use in developing a mitigation strategy for public health impacts on human populations. 4D-9

Regulatory approach

The Massachusetts Environmental Policy Act sets out regulations in 301 CMR 11.00 which state its purpose as "*to provide meaningful opportunities for public review of the potential environmental impacts of projects …and to assist each agency in using …all feasible means to avoid damage to the environment.*"

Residents of the Commonwealth should expect MEPA to identify and prevent potential negative environmental impacts. However, the MEPA review for Logan Airport is mired in the environmental politics of the 1990's, when small government reformers saw Logan as the 'engine of our economy' and dead-ended environmental review for airport projects with a certification process that is not consistent with the MEPA goals.

This has been a recipe for disaster, as state-level political leaders have consistently exercised the option to 'look the other way' as Logan and its environmental impacts have expanded. **We ask the Secretary to build on her strong requirements within her 2020/2021 EDR certificate by prescribing that MEPA meet with specific groups such as AIR, Inc. and GreenRoots, specifically for the purpose of developing a new framework for environmental review and impact-related mitigation.**. 4D-10

The current MEPA procedure for Logan was developed on the heels of the Dukakis Massport's strong environmental performance, and extends an administrative 'benefit of the doubt' to Massport, as though the Authority has earned immunity from causing environmental harm by virtue of its previous good deeds. One of those good deeds was the development of a voluntary environmental reporting system. In 1979, Massport began producing bi-annual environmental assessments called Generic Environmental Impact Reports (GEIRs). These documents were produced voluntarily and were filed with MEPA, not for formal review, but in order to take advantage of the structured public engagement process employed by that agency.

The presumption of good will is a critical flaw in the current Logan MEPA review procedure. Based upon the presumption of the sufficiency of future mitigation and impact reduction

programming, environmental reporting for MEPA level airport facilities projects removes air pollution and noise impacts from Logan project EIRs and displaces these dialogues into unrelated EDR and ESPR documents which report on cumulative airport impacts, but do not report of air pollution and noise data on a project by project basis. This effectively allows *Logan facilities project filings to be certified at the state level as being adequately and properly compliant with state environmental laws prior to the review of their environmental impacts*.

In addition to denying the public an opportunity to review specific impacts from specific projects, the second major flaw in the informally amended regulatory procedure is that the iterative EDRs and ESPRs are often submitted as long as two years after the end of the reporting period. In an ever-changing aviation and economic environment, this delay is absurd; as the public attempts to participate in the environmental review process, we are relegated to analyzing and commenting on decisions which have been made years earlier while the Port Authority reports on past conditions and mitigation strategies it was considering two years ago. The accumulation of hardships this system inflicts on community stakeholders is unfair.

Perhaps the biggest flaw in the Logan review system is that it employs forecasts as planning tools to predict future airport passenger and flight activity growth. These forecasts are then used to assess mitigation needs. As has been chronicled in AIR, Inc.'s past MEPA comments and acknowledged by the Secretary on numerous occasions, these forecasts have been proven to be inherently unreliable.

In 2022, MEPA had an opportunity to revise and update its Logan disclosure system while it conducted a regulatory review of its procedures pursuant to the requirement that all state agencies meet new and more stringent public engagement standards set forth in the Climate Roadmap law. AIR, Inc. participated in this review process. However, discussion of Logan Airport applications were deferred to promised later discussions, which have not been scheduled. Today, the Weld era MEPA filing system for Logan remains in effect.

The environmental consequences of this dysfunctional review procedure disproportionately affect low income populations. For example, over the past 20 years, Massport has shared no data regarding the environmental performance of the 2005 Boston Logan Airport Terminal A Redevelopment Project, a $500 million, 675,000 square feet terminal expansion. Clearly, the additional capacity this facility provided has enabled a portion of the 20 million passenger volume growth experienced at Logan over the past 20 years.

More recently, the Terminal E EIR theorized that demand for air travel is driven NOT by the facilities, but by external economic and industry conditions aka 'demand'. Alternatives to building the expanded international terminal capacity at Logan existed, but were not evaluated in the scoping process for the project. The Authority considered only full build, half build, and no build alternatives, and posited that if further congestion at Logan developed, the environmental consequences would be worse without newer, more efficient facilities. This essentially argued that a smaller increase in pollution was preferable to a larger increase in pollution. Nowhere was the option to be polluted less sought out.

The 2022 ESPR joins past Massport filings in asserting that Logan Airport facilities do not induce demand, but rather respond to it. This is yet another absurd position. AIR, Inc. has researched the history of Logan facilies' development, and our findings clearly refute this claim. Logan Airport's facility development history shows that renovations, optimizations, and modernizations of Logan's facilities, along with additional gates, larger gates, runways, and acreage has tracked directly with passenger growth. Clearly, expansion of Terminal facilities opens the door for passenger volume growth.

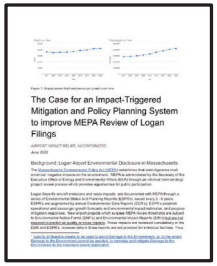
Year	65 DNL		65 DNL		Traffic (AWDT)		NOX		PM kg/ day		VOC		CO		Year	Year	Passengers	Flights
2000	17745		17745		101446		5707				1777		13112		2000	2000	27726833	
2001	14246		14246		91588		5168						12056		2001	2001	24474930	
2002	8309		8309		89731		4103						10952		2002	2002	22696141	
2003	7183		7183		93680		3694						10177		2003	2003	22791169	
2004	10720		10720		106278		4290						9851		2004	2004	26142516	
2005	6477		6477		112600		4107		83				9566		2005	2005	27087905	
2006	5583		5583		*111500*		4151		78				8927		2006	2006	27725443	
2007	8099		8099		119200		4457		128				9233		2007	2007	28102455	
2008	5968		5968		100107		4204		81				8361		2008	2008	26102651	
2009	4335		4335		93670		4061		71				7925		2009	2009	25512086	
2010	3830		3830		98968		3980		64		1025		7962		2010	2010	27462962	
2011	3937		3937		104863		4077		67		1109		6919		2011	2011	28909267	368987
2012	4569		4569		104439		4099		72		1090		6738		2012	2012	29236087	354869
2013	4307		4307		107656		4020		92		1187		7340		2013	2013	30218970	361339
2014	8922		*5300*		113564		4073		95		1177		6987		2014	2014	31634445	363797
2015	14097		*6300*		119288		4262		98		1188		7243		2015	2015	33449580	372930
2016	7450		7450		125715		5300		96		1280		7350		2016	2016	36288042	391222
2017	7933		7933		130601		5935		77		1308		7524		2017	2017	38412419	401371
2018	7034		7034		137105		6152		90		1270		8106		2018	2018	40941925	424024
2019	8768		8768		143189		6440		92		1295		8267		2019	2019	42522411	427176
	Corr'n Pass Vol - 65 DNL RAW DATA	36.30%	Corr'n Pass Vol - 65 DNL EDITED DATA	93.88%	Corr'n Pass Vol - ADWT	99.72%	Corr'n Pass Vol - NOX	97.20%	Corr'n Pass Vol - PM	36.54%	Corr'n Pass Vol - VOC	90.23%	Corr'n Pass Vol - CO	92.83%	Corr'n Pass Vol - Night Ops	98.35%		
	Corr'n Flgts- 65 DNL RAW DATA	22.39%	Corr'n Flgts- 65 DNL EDITED DATA	86.12%	Corr'n Flgts- ADWT	96.41%	Corr'n Flgts- NOX	97.37%	Corr'n Flgts- PM	22.95%	Corr'n Flgts- VOC	83.76%	Corr'n Flgts- CO	93.85%	Corr'n Flgts- Night Ops	91.84%		

Despite its 678 page length endless tables and charts, neither the 2022 ESPR, nor the 474 page technical appendices provide a comprehensive analysis of the correlation between passenger and flight growth, and the onslaught of environmental damage. In its 2022 proposal *The Case for Impact Triggered Mitigation*, AIR, Inc. compiled Massport's data, normalized the data sets, and performed statistical correlation calculations comparing the deviation of the data sets. This effort returned equally clear conclusions that Massport's data show a near perfect

correlation between both passenger and flight operation levels, and all reported negative environmental impacts.

Since airport facility development tracks with passenger growth and passenger growth tracks with environmental damage, then airport facility development tracks with environmental damage. Therefore, in order for the public to have meaningful input on specific airport facilities projects completed in the past, **we ask the Secretary to require Massport to include modeled environmental impacts from Logan facilities project filings approved in the past in EDRs and ESPRs and to include evaluation of predicted environmental performance over the expected lifetime of all future ENF and EIR project filings, including at all future capacity levels of service.** Neither of these conditions is met by the current MEPA procedure.

4D-11



The Case for an Impact-Triggered Mitigation and Policy Planning System to Improve MEPA Review of Logan Filings

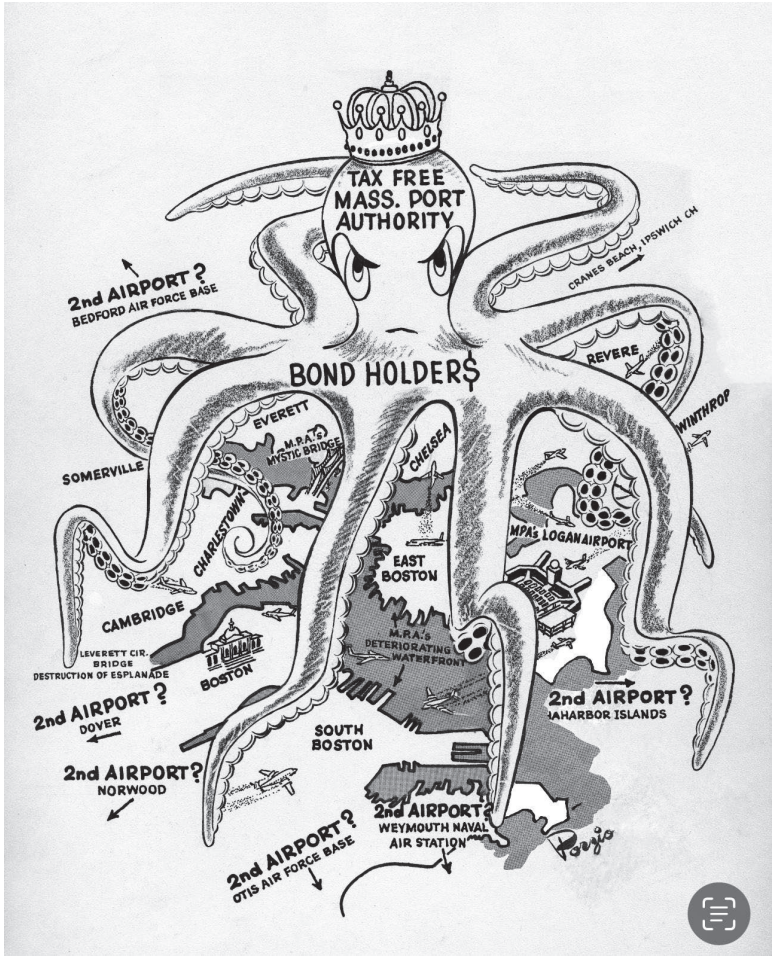
AIRPORT IMPACT RELIEF, INCORPORATED

June 2023

Background: Logan Airport Environmental Disclosure in Massachusetts

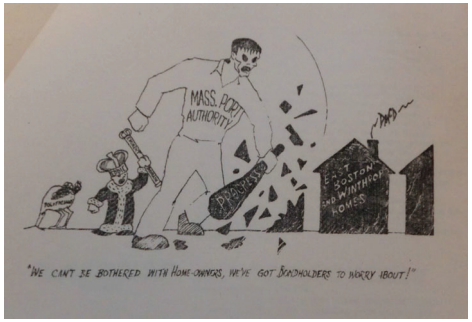
Specifically, because the 2022 ESPR lacks the environmental impact data reporting for each of Logan's facilities normally included in EIR-level reviews but deferred into this document series. This, in turn, denies the public the relevant information needed to assess the environmental burdens associated with project impacts, **we ask the Secretary to make the only reasonable determination; that the Logan Airport ESPR is not compliant with MGL Part I, Title III, Chapter 30, Section 61,** which states that "All agencies, departments, boards, commissions and authorities of the commonwealth shall review, evaluate, and determine the impact on the natural environment of *all works, projects or activities* conducted by them and shall use all practicable means and measures to minimize damage to the environment."

We ask the Secretary to determine that Massport is non-compliant with Massachusetts' environmental laws, **we ask that the Secretary find that the 2022 ESPR is also not compliant with MEPA regulations 301 CMR 11.00 regarding the provision of meaningful opportunities for public review of the potential environmental impacts of projects**.



Enabled by an act of the state legislature, in 1959, Massport was granted monopolistic powers including the power to issue bonds, the power of eminent domain, and control of all their facilities and revenues. Section 2 of Massport's enabling act stipulates "*There is hereby …a body politic and corporate …known as the Massachusetts Port Authority, which shall not be*

subject to the supervision or regulation of the department of public works or of any department, commission, board, bureau or agency of the commonwealth…"



Political cartoon ca 1970 portraying the Port Authority as a destructive monster

The agency wielded its authority brutally, consuming 1,500 acres of Boston Harbor, subsuming 3 harbor islands including the original Fort Warren, and bulldozing three urban neighborhoods, hundreds of homes and businesses, and two urban parks including an 83 acre Olmsted park.

AIR, Inc. notes that the environmental leadership and collaboration of the 70's and 80's was simply an interruption in a well-chronicled history of environmental destruction. We ask the Secretary to note that the Massport staff which strived to implement environmentally beneficial programming was fired and replaced by the hachet-wielding small government reformers of the 1990's, and that the regulatory failures described in these comments has invited the Authority to revert to the past insular and destructive culture which precludes collaboration and prohibits innovation.

Today, as outlined in AIR, Inc.'s comments objecting to the unnecessary destruction of additional Boston harbor acreage in the presence of zero impact options in the Runway 27 RSA Improvement Project the Authority continues to regard environmental costs as the lowest of its priorities.

In this ESPR Massport exhibits an indifference to the environmental impacts of Logan Airport. This is evident in Massport's passive position on noise mitigation, where the Authority tells us that they have applied to the FAA for further grant funding for additional soundproofing. The implication of this passive approach is that continuation of the Massport soundproofing program is contingent on approval of federal funding. Nothing could be further from the truth. If the Authority intends to fund soundproofing activities using FAA funds, then they must follow the FAA funding eligibility rules. However, there is nothing that prevents Massport from using its own money to continue the program.. As a prime example, Massport pays the considerable costs of operating a Noise Abatement Office out of its revenue from the landing fee with no Federal fundng or approvals required.

In American Airlines et al v Massachusetts Port Authority (1st Cir. 1977) the US Court of Appeals ruled unambiguously that Massport has the authority to determine what its legitimate expenses are, and to pay for them with appropriate airport revenue streams as long as their charges are not unjustly discriminatory or unreasonable. This is particularly relevant in view of the results of the massive FAA National Environmental Survey that revealed aviation noise as more annoying to citizens than the 40 year-old data that the FAA funding eligibility is based on. (DOT/FAA/TC-21/4, Federal Aviation Administration, William J. Hughes Technical Center, Aviation Research Dvision, "Analysis of the Neighborhood Environmental Survey)

AIR, Inc.'s 2022 ESPR comments will demonstrate that despite the many serious challenges, the most crucial of Massport's failures is the agency's lack of institutional ambition to improve environmental analysis and mitigation.

In another example of Massport's staff obstructing progress, the 2022 ESPR confuses discussion of mitigation, by dividing it into two parts located in opposite ends of the document: Section 61 mitigation mitigation, which the Authority labels as associated to state EIR level projects located in the document's chapter 10 on project mitigation, or additional community commitments and environmental measures, located in chapter 2 entitled Sustainability, Outreach, and Environmental Justice. The mis categorization of environmental justice as a neighborly program and project mitigation commitments as regulatory requirements is confounding. The Authority's motivations for addressing environmental damage by postulating that there are required and voluntary mitigation programs which are apportioned and aligned with either project required, or sustainability, outreach and environmental justice related voluntary measures are unknown. This misaligns environmental justice as among Massport's good neighborly commitments. AIR, Inc. reminds the Secretary that the first generation of East Boston airport environmental justice activists including Anna DeFronzo, Eleanor Welch, Joe Porzio, Lucy Farrulo and others organized the nation's first environmental justice protest in 1968, blockading Maverick Street while demanding relief from trucking impacts of Logan expansion. These residents were forced into taking this action after they were denied process by state and Port Authority officials, as they pursued public health and safety requests, demanding that heavy trucking be rerouted off of residential neighborhood streets, and onto a construction road which could easily have been, later actually was developed on airport property instead of residential streets. This action, the political interventions which followed, and the resultant on-airport truck road which was developed were not associated with an EIR; they were fought-over points of environmental justice 14 years before EJ was officially recognized after residents of Afton, North Carolina blockaded their dump trucks.

In both cases, as in all EJ struggles, residents are fighting against environmental damage which causes existential damage to their health. This is and has always been the case in Massachusetts' Logan Airport / community environmental struggles. In the case of airport impacts, community motives have always been (for over 60 years) protection against, reduction of, and relief from negative environmental impacts generated by Logan's airport activities,

mainly in the form of noise, air pollution, and traffic congestion. Community stakeholders are primarily concerned with accumulation of impact, not in the state's siloed and segmented administrative procedure.

The ESPR is supposed to offer the public an opportunity to review, analyze, and comment on Logan's environmental impacts. It is not an informational update, as Massport treats it. In fact, within the warped and unhelpful regulations the ESPR is the only opportunity for the public to comment on the current status, trajectory, and future of Logan's negative environmental and health impacts. Therefore, where the document serves to inform, it should do so with the intention of ensuring the public has a solid footing of understanding of aviation industry technical topics and trends in order to help advance helpful dialogues about available opportunities to innovate in environmental impact reduction which are available or may become available. The Port Authority again makes no effort to promote this sort of information and in the above example in fact makes no effort to avoid public stakeholders and regulators forming incorrect conclusions.

4D-12

This highlights the fact that as it relates to improving Logan's environmental performance, Massport's organizational culture is a key problem. Not only has a staff level resistance against change developed, but along with years of contentious community relations, has come a habit of routine dismissal of community input and a lack of ambition to improve.

Airport Planning

The Secretary has requested that Massport report on growth and impacts in a 5 year timeframe as well as for the year 2040. This request indicates that the Secretary wants to look specifically at both nearer term and longer term forecasting than is normally provided in Massport's ESPRs. With past forecasts inaccuracies in mind, this request is logical; it asks Massport to demonstrate that it can at least predict more reliable short term growth and impact outcomes, and to show that its short term planning is integrated into an appropriate longer term vision.

Instead, the 2022 ESPR continues to report and forecast over a 10 - 15 year range which they call a Future Planning Horizon. This practice introduces an astonishing 50% uncertainty factor. For example, if 100% of the forecasted 17.5 million passenger increase is realized in 10 years, an average of 1.75 M passengers per year increase will be experienced over that timeframe. If the same 17.5 M additional passengers comes in 15 years, then 1.17 M passengers would be expected annually. At the 15 year growth rate, by year 10 year period, 11.7 M additional passengers would accumulate, whereas at the 10 year rate, growth would reach 17.5 M. The 5.8 M potential additional passengers which could come in the 10 year period represents a 50% increase over the the 11.7 M passengers which would come in the 15 year growth scenario.

The ESPR states that 'planning initiatives such as roadway and garage facility enhancements, increased sound insulation, and Massport's Roadmap to Net Zero (Net Zero by 2031) in addition to existing mitigation strategies will reduce adverse effects…' Yet, in each environmental category within the ESPR, Massport predicts increasing impacts. If net impacts are rising, they are not falling. Small increments of improvement cannot be allowed to become the focus, while huge gains in damage are continuing to increase net impacts.

RE Regional Airport Cooperative Planning

The Authority treats the regional transportation chapter of the ESPR as a requirement to be checked off, rather than as a vital discussion of opportunities. Transportation planning is not merely a related field of interest to stakeholders reviewing Massport's cumulative impact filings, but in fact it is a passageway between today's dysfunction and the answers for tomorrow. Nowhere else in the ESPR is Massport's lack of ambition to drive change more clear.

Logan Airport cannot reasonably be expected to perform better under the stress of increased passenger volumes predicted in this ESPR. Forcing further passengers and larger aircraft through Logan will increase negative environmental burdens. The Possibilities section of these comments outlines the power that innovative regional planning holds to drive monumental change for transportation and environmental outcomes in metro Boston, as well as in its EJ communities.

Organizational approach

Massport has demonstrated that it is organizationally incapable of self correcting.

EXAMPLE: Zero Idling Policy failure

No standing, no parking signs line Logan's designated private vehicle pick up and drop off zones at terminal curbs. However, motorists routinely arrive early and are allowed to remain - sometimes for prolonged periods awaiting passengers. In 2022, AIR, Inc.'s idling monitoring project found 50% of passenger cars at Logan idling including 62% of vehicles at the terminal curbs and an every average idling time of 12.5 minutes. With over 143,000 vehicles trips per day, this idling pollution creates a serious but avoidable hazard in residential communities only hundreds of feet away.

AIR, Inc. and Mothers Out Front developed a draft proposed zero idling policy for Logan and asked the Port Authority to meet with us to discuss implementation options. Massport's behavior at this meeting is indicative of a cultural incapacity to work with community stakeholders. Massport's staff challenged AIR, Inc.'s data. They told us that a no idling policy would be impossible to enforce but said they would consider posting signs as long as the community did not come back to them with complaints about continued idling. In other words, the Authority was saying: 'We'll put the signs up. But we won't enforce.' Massport asked Mothers Out Front's volunteers what they were doing to stop idling elsewhere?

Clearly with Massport reporting Logan emissions of over 35,000 lbs of EPA criteria pollutants daily at peak activity levels, any unnecessary idling at Logan is undesirable, regardless of the methods used to calculate the pollution impacts. Given the fluidity of Logan's terminal curbs, a 'Pull up, and Shut down.' policy is the only enforceable policy. And neither AIR, Inc. nor Mothers Out Front have any obligation to fight idling in front of corner stores.

Ultimately Massport posted what could only be considered spite signs which are non-compliant with roadway signage standards for letter size and detectability. We share the details of this story, not to disparage Massport, but to illustrate that organizational culture has become a primary obstacle to progress on Logan Airport environmental performance and give the Secretary insights into the depth of the Authority's ongoing failure to collaborate.

We hope that this example will illustrate that it is not a foregone conclusion that a powerful organization such as Massport can simply flip a switch and change its culture. **We ask the Secretary to ignore the professions of neighborliness and good deeds, and put aside any sense of fraternity, and recognize the Port Authority's behavior and performance in the manner in which they are seen in surrounding EJ communities: as a polluter which is avoiding regulation.**

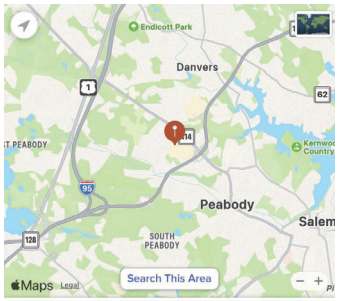
Compliance

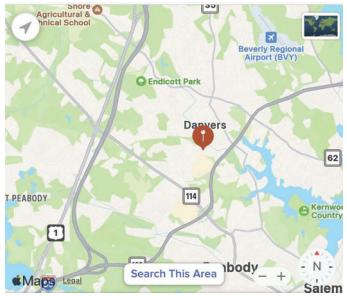
In her January 30, 2023 Certificate on the 2020 & 2021 Logan Airport Environmental Data Report (EDR), Secretary Tepper determined that the EDR for EEA project #3247 (Logan Airport) adequately and properly complied with MEPA regulations during the reporting period. The certificate also provided the scope for the 2022 ESPR outlining specific environmental and public engagement requirements which are responsive to environmental justice (EJ) stakeholders' comments.

The adequacy of Massport's compliance with the Secretary's requests is particularly important in neighborhoods such as East Boston, Chelsea, Winthrop, and Revere, where past environmental review has not effectively protected low income and minority populations (EJ communities) from disproportionate environmental impacts, which correlate directly with airport passenger volume and flight operational growth.

In the 2022 ESPR, as in past ESPRs and EDRs, Massport answers public and EEA comments in a contrived table located in the document's Appendix A, titled MEPA Certificates and Responses to Comments.

Massport's responses to the Secretary's and public comments are indicative of an institutional





indifference to environmental impacts, a pattern of avoidance of regulation and a flat refusal to collaborate with local EJ communities. Below, we cite a series of examples in which Massport fails to comply with the Secretary's directives.

Commitment and timetables

Labeled by Massport as comment # A-2, the Secretary asks Massport for a clear commitment and timetable for implementation of environmentally beneficial programs and facilities promised in prior filings including a new suburban Logan Express location and a second urban facility. This is a reasonable request, given the airport's pandemic recovery trajectory, and the existing lag in effective mitigation. Then again, later in a comment labeled in the 2022 ESPR as #A-35, the Secretary specifically pointed out that Massport's responses in past EDRs were not fully responsive to past Secretary's directives, providing 'details on the status of multiple projects without a clear framework for determining when deferred projects, particularly those intended to mitigate air emissions impacts of Airport operations, would be implemented.'

Despite the Secretary's certificatory requirements, Massport's response states that it prioritizes projects based on passenger needs and demand, and lists a series of commitments as either underway, under evaluation, or in conceptual design. However, except for the LEX Framingham garage project, Massport provides no timelines.

In fact, under the heading 'New Logan Express suburban location' Massport seems to attempt to confuse, stating that a 'Peabody Logan Express at a new North Shore location opened in 2022.', and later stating that a 'Danvers Logan Express is expected to open toward the end of 2024.'. This would lead a reader who is unfamiliar with the north shore geography and the history of Logan Express locations to believe that a new suburban LEX opened in 2022, and another would open in 2024. Neither of these assumptions would be accurate.

The original route 1 south Peabody Express had been closed during Covid, then was reopened at a new Peabody location in 2022. That same north shore facility was then planned to be relocated across the street to a location in the neighboring town of Danvers, in 2024. Thus, there are no new suburban Logan Express locations that have been added. Rather the Authority has closed, reopened in a new location, and then relocated an existing location. This chicanery is not helpful in enhancing the reader's understanding of Massport's progress toward fulfilling its prior environmental commitments, nor is it responsive to the Secretary's specific request.

EEA# 3247 2020/2021 EDR Certificate January 30, 2023

Comments also request that Massport establish a framework and planning process for community mitigation, in collaboration with surrounding EJ populations and other community stakeholders. A-3

Establishment of a collaborative framework

Labeled by Massport as comment # A-3, the Secretary directs Massport to establish a framework and planning process which establishes collaboration with community stakeholders in developing mitigation strategies. This requirement clearly directs the Port Authority to create *a new framework* and *an improved process*, and is directly responsive to AIR, Inc's past comments below:

2015 EDR:

"incorporate multiple opportunities for EJ communities to engage with MEPA and the Port Authority …from forecast development, problem formulation, and alternatives analyses, …through mitigation implementation."

2016 EDR
"…convene a subset of community stakeholders …in the development of …accurate and easy to read representation of the causes of airport impacts; …policy alternatives, …economic costs, and …available responses to slow the growth of emissions, traffic and noise."

2017 ESPR

"…provide an iterative Special Review Procedure or a 'rolling review' to facilitate public input in selection of project design alternatives and document scoping"

As shown above, public comment on EEA project #3247 has proposed a collaborative planning framework for nearly a decade. Yet, Massport responds to the Secretary's request by naming the department which manages community relations and EJ engagement, and inviting the

Secretary to review chapters #10 & #2 for information on current mitigation plans and EJ strategies. The Port Authority makes no effort to comply with the Secretary's directive to describe a framework by which it could incorporate enhanced collaboration with EJ communities in mitigation planning.

Engagement of EJ communities in document development

Labeled by Massport as comment # A-7, the Secretary directs Massport to:

> Establish a public engagement plan to govern the development of future ESPRs and EDRs, which will ensure that EJ populations and community stakeholders have **early and meaningful input in the development of the content of these filings**, in addition to having the opportunity to provide formal comment once documents are finalized and filed with the MEPA Office.
>
> The documents should be prepared in a simpler, user-friendly format that can be digested by a broad sector of the public, so that key details and commitments are not buried in voluminous, data-heavy filing.

As if mocking this directive, Massport responds with a 481 word reply, stating that they 'continue to enhance public engagement as part of preparing the ESPR and future EDRs', describing the topics they presented on in two public meetings, and misrepresenting their attendance at a meeting between EJ advocacy groups and EEA focused on review of 2020/2021 EDR comments (in which they were contentious and uncooperative) as a discussion 'of ways to better address these comments in the 2022 ESPR'. This information was followed by a long description of their distribution list, a list of languages into which notifications on the 2022 ESPR was translated, a statement that 'projects going through the environmental review process also include public meetings' and a description of topics covered in ESPR Chapter 4 and Chapter 10.

Despite this lengthy reply, Massport made no effort in its response to comply with the specific directive of the Secretary. They failed to provide any information regarding a revised public engagement plan established with the intention of governing development of the ESPR and future EDRs to ensure that impacted populations had early and meaningful input into the development of the filings.

Accepting public input before ESPR submission

Later, in comment A-17, the Secretary directs Massport to:

> Provide a conceptual draft of the 2022 ESPR and hold a public information session, held at accessible location and convenient time (such as the evening or weekend) so as to maximize input and participation from EJ neighborhoods and residents before the document is finalized.

Concerned that Massport would bypass this directive by simply offering slide shows, AIR, Inc. wrote to MEPA prior to the first planned session to ask whether the meeting was a formal '60 Minute Joint MEPA - EJ PreFiling Consultation', which require proponents of complex projects to 'seek out guidance regarding community engagement strategies and the scope of analyses of impacts on EJ communities'. MEPA responded that these meetings were not. And, as feared, despite the Secretary's direction to maximize input from EJ stakeholders, Massport structured these meetings as slide shows, followed by Q and A sessions.

In response, as explained above, despite the Secretary's repeated requests for enhanced public participation as is required by state law, Massport once again lists public information sessions "describing …and updating the forecasting procedures and ESPR development process". Clearly, 'describing' and 'updating' are both linear forms of communication in which the sender transmits a message to the receiver, with no opportunity for response. Public input and participation was not solicited.

In this response, Massport again refers to a session "with community advocacy group representatives and the EEA focused on review of 2020/2021 EDR comments and discussed ways to better address these comments in the 2022 ESPR.". This meeting was neither organized by Massport, nor did the Authority provide any assurance of acceptance of public input. This meeting had been requested by AIR, Inc. and our EJ community stakeholder partner groups, to share our concerns with EEA about MEPA's Logan Airport public comment system. MEPA was subsequently invited, and MEPA then suggested that Massport attend. AIR, Inc. regrets agreeing to this. The Authority brought a large delegation of staff and consultants and proceeded to restate past contested assertions, leaving topic after topic unresolvable.

Identifying metrics and thresholds that would trigger mitigation

In her directive labeled by Massport as #A-5, the Secretary requires Massport to:

> 'clearly communicate to community stakeholders its methodology for determining growth forecasts and projections, identify potential metrics or thresholds that may trigger the need to consider additional measures to reduce impacts'

This requirement is vital to the improvement of Massport's environmental performance and embodies a fine response to EJ supporting organizations such as AIR, Inc., and Conservation Law Foundation's previously submitted MEPA comments establishing the public's rightful concern with the past inaccuracy of the existing forecast-based mitigation method, and suggesting establishment of an impact triggered mitigation planning framework which would identify and develop appropriate mitigation strategies through a cross sector collaboration between airport, community and technical stakeholders and create an implementation schedule aligned with growth in airport impact metrics such as passenger levels, flight operations, and nighttime flights, to name a few.

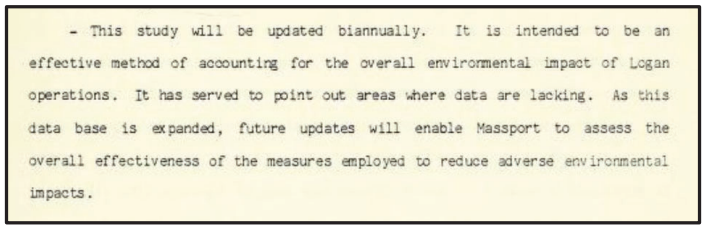
Massport responds to this key requirement with what can only be described as insulting wayfinding information explaining in a 277 word jumbled reply as to in which chapters of the ESPR can various pieces of information be found, assuring that Massport uses industry best practices, and that their comparisons and assumptions contribute to data-driven approach.

Nowhere in their response does Massport 'identify potential metrics or thresholds that may trigger the need to consider additional measures to reduce impacts'. This leaves the public with the impression that Massport has decided that it does not need to supply a response to this point.

Response to request for assessment of socialized costs

In a last example, in our 2020/2021 EDR comments, AIR, Inc. requested that the Secretary 'require Massport to calculate and report the socialized costs of Logan Airport operations'. Whereas so much of Massport's enabling mission and their public profile revolves around economic development, it is only fair that such calculations should be provided as part of this assessment.

Massport answered this request in response # 3-4, stating: 'The purpose of the ESPR is to report on the environmental conditions of the areas surrounding Logan Airport, and report on industry standard metrics and indicators of environmental variables. This ESPR provides additional information on public health existing conditions in communities within 1 mile of Logan Airport for all population groups and Environmental Justice populations. See Chapter 2, Sustainability, Outreach, and Environmental Justice, Section 2.4.'



- This study will be updated biannually. It is intended to be an effective method of accounting for the overall environmental impact of Logan operations. It has served to point out areas where data are lacking. As this data base is expanded, future updates will enable Massport to assess the overall effectiveness of the measures employed to reduce adverse environmental impacts.

This response ignores the request for economic modeling and confounds the reader with irrelevant and incorrect statements: first, that the purpose of the ESPR is to 'report on environmental conditions of the areas surrounding Logan Airport' and to 'report on industry standard metrics and indicators of environmental variables'. This does not respond to AIR, Inc.'s request for thorough cost benefit analyses. Furthermore, in this response, Massport misrepresents the purpose of this environmental review; the original Draft Generic Environmental Impact Report (GEIR), which was developed by Massport under the first Dukakis administration and is the precursor to the Weld / Cellucci EDR / ESPR MEPA series was not only to report on impacts and standard metrics, it was to disclose and discuss Logan's environmental impacts and to evaluate Massport's performance and strategies to reduce or minimize them.

As in the previous examples, Massport's off-target misstatements do not remotely respond to the important request for the calculation of socialized costs of aviation activity in Boston's urban core. Such treatment of good faith requests is insulting and leads participants in the public comment process to the conclusion that the Authority believes its cooperation is optional. The examples described above are not isolated. AIR, Inc. struggles to find a single appropriate and thorough answer to any of the community's -or the Secretary's comments.

As a community volunteer organization which has -over multiple generations of advocacy, participated in true collaborations with past Port Authority staff, our involvement predates the parsimonious culture which has grown over the 30 years since the MEPA procedures were politicized and put in place to effectively immunize Massport from environmental review. We point out to the Secretary that this Massport administration has spent the past 30 years pointing to the environmental achievements of the previous regime, while in practice facilitating increasing unmitigated environmental damage.

On the grounds that Massport has not responded to the Secretary's scoping directives, and has not offered meaningful responses to community input, and thus has failed to satisfy the requirements prescribed by EEA and the MEPA regulations, we ask the Secretary to determine that the ESPR does not comply with the state's environmental regulations, and accordingly issue a determination on non-compliance.

Possibilities

The behaviors and policies we have outlined in these comments explain why EJ communities are so unhappy with Massport's performance. However, travelers are also unhappy. Using Logan is a stressful and chaotic experience. JD Powers' air traveler user satisfaction ratings for North American mega airports (airports with over 30 million annual passengers) place Logan between 3rd worst and 8th worst in traveler satisfaction for ten years running. Massport should be accountable for improving. It should seek collaboration and innovation to drive improvement in both its environmental and user experience performance.

In this section, AIR, Inc. will put forward proposals for what the ESPR should be offering. Environmental goals need not be at odds with economic goals. An alternative paradigm exists in which Massport is motivated and serious about finding opportunities to reduce impacts… about challenging the industry status quo, and about taking any and all actions within their power to reduce and mitigate airport impacts, while improving air travelers' experience. The Possibilities section of this comment letter offers concrete examples of feasible programmatic, planning, and policy solutions each of which would reduce net pollution and improve Massport's environmental performance without damaging -and in most cases dramatically improving air travelers' airport experience. We do not assert that these suggestions will necessariy reduce the environmental impacts of Logan's operations: only that these are feasible opportunities that Massport should have considered in the ESPR.

Mitigation possibilities

Airport layout and operation is closely regulated by the FAA. Day to day flight operations are managed by Air Traffic Control (ATC). The airlines determine their routes and schedules and which aircraft they use. FAA regulates aircraft noise emissions at the federal level, creating

federal legal preemption which prevents local lawmakers and or airport sponsors from regulating aircraft noise. Therefore, airport owners such as Massport don't control most aspects of airport flight operations, they don't set schedules or airplane types, nor flight paths, they don't control who flies in or out of their facilities, and they can't regulate noise or pollution impacts. They are landlords who build facilities to suit airline and traveler needs.

However, the many constraints involved in airport planning do not block airport operators from mitigating airport impacts. In fact, the FAA and airlines leave the responsibility of mitigating airport impacts up to local airport operators. And the Port Authority has the ability, the right, and the authority to do great good.

Community stakeholders who absorb extreme levels of exposure to ultrafine particulate pollution are genuinely concerned for the health and wellbeing of their loved ones. This constituency is dealing with chronic and deadly public health issues. Massport's list waving approach to its air quality reporting is insulting. This is made even worse when the list they're waving the most is a nebulous and irrelevant Net Zero 2031 list, a program for which the Authority has committed no funds and released no implementation plans.

While distracting participants in this review with this climate sideshow, the Authority fails its readers in the ESPR's omission of any substantive discussion of the current challenges and opportunities in mitigating aircraft air quality damage around major airports.

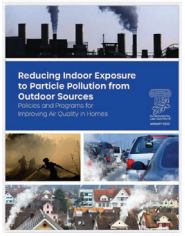
The acute negative impacts on human health associated with airport air pollution have increasingly become the primary concern of environmental justice stakeholders. In response to this concern, AIR, Inc. and its partners have funded, designed and implemented first of their kind air quality monitoring networks and public information platforms, leveraging over $1.5 million dollars in grant funding for air quality monitoring and mitigation locally. In Seattle, similar community concern has prompted litigation over airport pollution with residents in Seattle filing a class action lawsuit against SEATAC for expanding airport operations while knowing that airport pollution damages public health.

By failing to establish the true current context of concern and neglecting to provide an accurate assessment of the state of the airport air quality action environment, the ESPR fails to adequately and properly inform the public. The social, political and technical landscape around airport air quality mitigation is rapidly changing. For Massport to establish true environmental leadership, they would have had to stop erecting facades of accountability and obstructing paths of advancement for air pollution mitigation concepts, and start collaborating and getting involved in the work at hand.

EXAMPLE: Airproofing program

As the responsible part for mitigating negative environmental impacts, Massport can and should determine that pollution caused by aircraft operations is present in local indoor environments and that the public health impacts of high pollution exposure are airport impacts which need to be mitigated. With this determination, the Authority could assess the temporal and spatial location and intensity of airport pollutants in affected areas, and identify an Airport Sponsored Community Air Pollution Mitigation Program area. Within this area, Massport could engage air quality consultants and develop air purification specifications for indoor environments. The Authority could then implement a program to provide suitable reduction of indoor air pollution through installation of demonstrably effective air purification equipment.

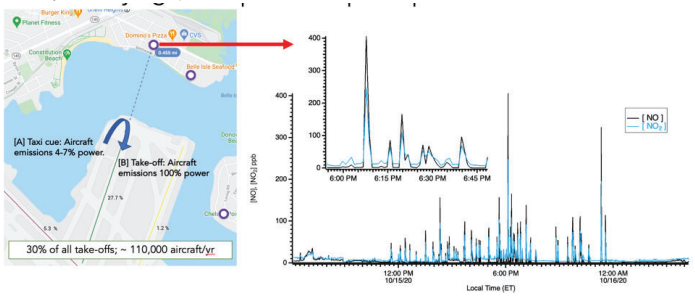
4D-14



These would not be controversial expenses. The Environmental Law Institute report on Reducing Indoor Exposure to Outdoor Pollutants concludes that stand-alone plug in, commercially available air purifiers are the most effective and expedient method of protecting indoor air quality. Such purifiers have been extensively researched by AIR, Inc., beginning in 2017, in a collaboration with Olin College of Engineering, Aerodyne Research and Mothers Out Front, as well as by numerous local partners including by multiple member groups of the Logan Community Clean Air Coalition. Since AIR, Inc.'s innovative efforts in 2017, over $1.5 million in grant funding for air quality testing and filtration research and programming has been leveraged in and around the East Boston area.

AIR, Inc. and its partners' testing in local classrooms and homes has confirmed the ELI study's findings, demonstrating that indoor concentrations of ultrafine particulate pollution can be reduced by 85% by properly specified commercially available, stand alone, plug in HEPA filtration machines. **If this pollution abatement were offered widely throughout high pollution areas through an Airport Sponsored Community Air Pollution Mitigation Program, net childhood exposure to air pollution could be reduced by 70% - 75%.**

The timing of such a program would be justified as airports are increasingly coming under scrutiny as sources of pollution.



Map and real-time NO, NO2 concentrations as measured by the air quality sensor system deployed in the Bayswater neighborhood. Over a 12-hr period, more than 50 individual aircraft plumes were encountered, typically resulting in NOx concentrations 5-10x higher than those measured 30 m downwind of near-by I-93 during morning rush hour.

Finally, such a program would respond directly and appropriately to Secretary Theoharides directive in the 2017 ESPR certificate that: contingent on continued over-forecasted levels of growth, Massport should collaborate with groups like AIR, Inc. in the development of an air purification program. Unfortunately, Massport has not accepted accountability for Logan's air pollution impacts. In response to Secretary Theoharides's directive, Massport sought an opinion on the effectiveness of in-home filtration strategies from their asthma programming partner, the East Boston Neighborhood Health Center. In this ESPR, Massport reports that the Health Center expressed a preference to spend its resources on other programming. It should be noted that Secretary Theoharides did not ask Massport to solicit the East Boston Neighborhood Health Center's preference for allocation of its recources for asthma treatment.

4D-15

They were directed to work with EJ community stakeholders to develop an air filtration program. This distinction is important because each option has different constituencies and opens different doors. On one hand, the EBNHC treatment program serves clients of the EBNHC. But all children living and or attending school in East Boston are not patients at the EBNHC. Additional resources expended in EBNHC programming would not identify and treat asthmatic and pre asthmatic children who are not their patients. Development of an air filtration program targeting classrooms and homes has a universal and vastly more impactful constituency. Furthermore, treatment treats disease after it is suffered; filtration would both treat and prevent disease. Finally, it shouldld be noted that EBNHC receives substantial funding from Massport.

EXAMPLE: Air Quality Sensor Network

AIR, Inc.'s 2017 partnership with Mothers Out Front, Olin College of Engineering and Quant AQ piloted a distributed air quality sensor network which located 5 high quality air quality sensors in a network spanning the entire community. These sensors are connected to the internet and upload air quality reading directly to the internet once every minute. This networking approach serves a diverse set of needs: it provides community members with real time data on current air quality conditions throughout the community. Such data informs residents impacted by transportation related air pollution (TRAP) about the temporal and spatial location of air pollution as well as its amplitude. This allows residents to learn when the air quality is dangerous and when it is safe, as well as whether or where conditions may be better.

New sensors: affordable, networked, readings spaced 1 minute apart

A key benefit over mobile labs and scattered research grade pollution monitoring approaches is that the increased granularity of networking less expensive equipment in a tighter grid linked together by software allows users and system managers to sort out pollution readings from in front of and behind flight tracks as well as in close and further away from runway ends. The effects of wind can also be accounted for in such a network of sensors. Therefore a distributed network approach also benefits mitigation planners as it uniquely holds the capacity to sniff out TRAP from aviation as well as a diversity of other indoor and outdoor sources.

AIR, Inc. asked Massport to partner on an FAA grant application to develop an innovative AQ sensor network, Massport participated and ultimately submitted an application. But they refused to incorporate the distributed network idea, and declined to invest $40K to match funding AIR, Inc. was willing to invest -which would have in turn leveraged a matching FAA grant of another $80 K. At the time, Their specious response was that such a donation would be an illegal diversion of airport revenues.

Security screening area at Allentown Bethlehem Airport, Pennsylvania

Baggage check-through

EXAMPLE: Remote airport terminals

In July of 2023, the Transportation Security Administration (TSA) approved American Airlines to institute landline connecting flights using buses from smaller regional airports including Allentown/Bethlehem, Pennsylvania (ABE), and Atlantic City, New Jersey (ACY), to Philadelphia International Airport (PHL). Both of these smaller airports are about 50 miles away from PHL. American uses landline 'flights' sold through its reservation system to transport its customers via luxury motor coach for these smaller airports, to PHL. These trips are booked and ticketed through American's regular reservation system, the same as any airline flight.

Passengers using these landline connecting flights conduct their ticketing, baggage handling and security activities just as they would on an aircraft connecting flight. The only difference is that once passengers clear TSA security, and enter the secure side of these smaller, less congested airports, they board luxury motor coaches, which deliver them to the secure side of PHL without any further TSA screening. This development has massive implications at Logan, a landlocked airport lodged in the core of the most traffic congested city in North America. AIR, Inc. cannot ignore the possibilities: and we ask the Secretary to join us in departing from the standard comments for a moment to imagine the immense benefit of development of secure to secure connections between Logan Airport and surrounding Logan Express facilities. TSA has already expressed its willingness to explore such opportunities and Massport should have identified this as a ground transportation enhancement to Logan Express services. Instead, Massport seems content to regard Logan Express as a low quality remote parking operation rather than a high quality airport access amenity. 4D-16

Logan accommodates 70% of New England's air travel needs and in 2024 will surpass its previous high passenger volume of 42.5 million passengers. But Logan's primary domestic terminal complex, terminals B and C, are obsolete and do not meet modern airport standards.

The 2022 ESPR forecasts that 17.5 million additional passengers will utilize Logan's facilities over the coming decade, while global and national forecasts call for even greater growth. Although Massport remarkably does not list additional domestic terminal capacity as an upcoming project, this is an inevitability as sustained growth of passenger volumes at these terminals which is unimaginable under the current conditions. The ESPR describes Massport's efforts to clear out Logan's North Cargo Area, and in November of 2023 sought bids to build a cargo throughput facility which would free up a space on the airport campus for expanded domestic terminals. AIR, Inc. considers this a preparatory step to planning additional domestic terminal space.

Additional terminal space will facilitate growth in passenger volumes and flights. Both passengers and flights are directly correlated with increased negative environmental impacts. Massport should mitigate the impacts of this next expansion and avert the additional congestion associated with it by reimagining its Logan Express facilities as full service remote terminals. The same ticketing and baggage handling technologies which make secure to secure landside connections possible in Philadelphia could drive innovation at Logan.

Secure to secure arrangements at Logan Express locations could relieve congestion at Logan, providing additional space and holding rooms, ticketing, baggage handling and passenger ground access- all critically needed at Logan.

Current Logan Express service requires passengers to handle luggage

Current Logan Express lots are normally surface lots

Providing baggage check-through service would relieve travelers of the burden of handling their luggage throughout the most stressful portion of their flight experience. Rather than lifting luggage onto and off of passenger vehicles, travelers could book their ride to Logan as part of their travel itinerary and check their bags at ticket counters at the remote Logan Express Terminal. Checked luggage would be barcoded with the Logan Express Terminal added as the origin identifier just as BOS is used to identify Logan. For example, Logan Express Framingham could be coded BOS-LEXFRAM. Once checked, luggage would be scanned and loaded onto the LEX coach. Logan Express buses would be significantly upgraded just as American Airlines' has branded their ground access service under the name Landline uses coaches which are designed to resemble aircraft cabins.

Logan Satellite terminals would offer TSA security screening services allowing passengers to avoid the longer lines and uncertainty involved with passing through security at Logan. Once

cleared through security, passengers on the LEX leg of the journey would board a their 'land flight'

improved design standards for Logan Express produce clean, comfortable facilities

Logan Express buses could be reimagined and outfitted with airline quality seats, upgraded WiFi, power outlets, first class sections and onboard restrooms. Boarding areas for buses could be housed in indoor facilities sheltered from the elements, with conditioned air and amenities like structured secure and affordable parking garages, restrooms, plentiful seating restrooms and restaurants.

The LEX journey to Logan could offer cost, convenience, and timing advantages through development of dedicated bus lanes which would remove LEX trips from Boston's traffic congestion. Airport employee, commuter shuttles and other true HOV modes could also use these lanes.

EXAMPLE: Logan transit hubs

The benefits of investing in state of the art secure to secure landline service would not be limited to supporting Logan trips. Remote or satellite terminals could be developed as Logan Transit Hubs, with arrangements to collocate regional transit authorities' and private operator bus service at Logan Express Terminals. This would offer travelers further convenience, extending Logan's HOV reach throughout the state and beyond, and expanding the utility of the services offered by multiple transit authorities while facilitating transit movements to and from multiple cities and destinations across the region. Logan Express Transit Hubs could offer restrooms, restaurants and concessions, just like any airport terminal.

Secure, structured remote parking garages could offer online parking reservations, reducing the stress of uncertainty regarding parking. Remote rental car facilities could be located within these parking facilities, diverting travelers from Boston's roadway network.

Finally, the New York and New Jersey Port Authority operates through an agreement known as an interstate compact. Through such a compact between neighboring states of New Hampshire and Rhode Island, Massport could provide valuable transportation services to TF Green and Manchester Boston, further building regional collaboration, reducing population exposure to environmental burdens and easing congestion at Logan.

4D-17

The ESPR reports that 50% of trips to Logan are initiated outside of Route 128. At peak levels, Logan's average daily weekday trips were at 143,000 trips per day, even after Massport's existing efforts and achievement of 35% claimed HOV levels. The current 35% HOV level and 143,000 ADWT indicate a total daily level of trips to Logan around 193,000 daily weekday trips. With a series of facilities located at strategic locations between Route 128 and Route 495, offering more affordable parking, modern air conditioned, well-lit, full service airport terminals which feature comfortable holding rooms, concessions and feature secure TSA screening, baggage check-through, and luxury WiFi enabled and faster transportation options to Logan, Massport could adjust its HOV goals upward, aiming for a 60% HOV mode share. Reaching this goal would achieve a reduction of an additional 25% of the existing peak trip volume, bringing AWDT to 115,000 trips per day, and removing over 27,000 trips per day.

4D-17

4D-18

EXAMPLE: Tourism and climate

In Europe, scholars are proposing ways that marketing actions can shift tourists' preferences towards tourism experiences offered in nearer locations as a means of reducing the carbon footprint of tourism. Massport reported that Logan emitted 810,000 metric tons of GHG at peak 2019 activity levels. What impact could such a policy to influence more local tourism have in Boston? We don't know, and Massport is not asking.

EXAMPLE: Impact Triggered Mitigation

AIR, inc. is on the record with comment on the 2017 ESP document identifying a mitigation lag of 9 million passengers which occurred after the 2011 ESPR grossly underestimated, long-term passenger volume growth. In response to this problem, AIR, Inc. has, over the past four years, promoted a change in mitigation development for Logan's MEPA process. We have suggested that rather than using inherently inaccurate forecasts to determine passenger levels and estimate negative impacts and strategies to avoid, and minimize environmental damage, mitigation plans should be prepared in advance of future increased impacts. The term we use for this is impact triggered mitigation.

By hammering out feasible mitigation strategies at potential future high impact levels, monitoring strategies can be developed to inform implementation triggering of agreed-upon appropriate mitigation strategies. This system would have the added benefit that it would not require the Port Authority to implement unnecessary mitigation. Mitigation would be able to be prepared as milestone impact levels are approached and thus be implemented in real time and on time.

However much we would like to see such a responsive and effective solution implemented, we ask the Secretary to avoid asking Massport to develop the community engagement planning to support impact triggered mitigation. Given their historic ineptitude at establishing meaningful community participation, MEPA should opt for a more effective method. AIR, Inc. and its EJ

partners in and around East Boston should be asked to draft the initial structure of this system. Our member groups have been leaders in environmental justice for decades. We have the networks and experience to design effective engagement.

At the outset of the process, a cross sector collaboration should be designed to conduct a current conditions assessment. This assessment is essential in reconciling the current effects of the aforementioned mitigation lag. For instance, Logan's traffic congestion has been allowed to grow while Massport has evaluated, considered, and assessed -but not acted. One example of how this has impacted communities around Logan is in the Authority's practice of blocking the Neptune Road Route 145 Bennington Street exit on the East. Boston Expressway northbound. When airport traffic exceeds roadway capacity and congestion begins to build on the airport exit lanes, Massport dispatches a state trooper to block this exit, forcing traffic further north to provide additional vehicle holding capacity, allowing the airport to clear exiting traffic.

If traffic were to back up into the terminal curbs, the inbound airport roadways would quickly become congested delaying travelers' access to departing flights. Neighborhood-bound traffic which gets caught in this detour is forced along a 4 mile detour if they elect to turn around in Revere, or a 2.75 mile detour if they choose to use neighborhood streets. A third 1.5 mile option exists if motorist decide to ignore a time restricted local only turn sign on Addison Street. Massport provides no mitigation for the added congestion caused by this practice. In fact, Massport does not acknowledge this impact nor provide any reporting data in the ESPR on the environmental consequences.

In this example, the mitigation lag associated with Massport's failure to address it's present ground access activities is burdening local communities with airport environmental costs. On a larger scale, airport traffic congestion exceeds the Ted Williams and Sumner tunnels' capacity on a daily basis. Traffic to and from Logan spills into multiple near-airport communities, damaging mobility all over the region. This suggests that Logan's current impacts warrant more mitigation in the present and speaks to the need for a current conditions assessment in development of an impact triggered mitigation system.

The same can be said of air quality mitigation. Massport's refusal to proactively mitigate airport public health impacts through good faith collaborations has allowed air pollution and public health conditions in and around impacted EJ communities to worsen as Logan has doubled in passenger volumes since 2006 when the Logan Airport Health Study reported a 360% increase in probably Childhood Asthma and a 200% increase in COPD in high airport exposure zones.

A current environmental conditions assessment should be performed by topic experts, community stakeholders and regulators. This cross-sector collaboration would not only assess current environmental conditions and impacts, but it would also evaluate a complete array of feasible mitigations and policy alternatives which could reduce impacts. In the case of air quality impacts for instance, it would evaluate the possibility of air filtration strategies. Once a conditions assessment is completed and all possible mitigation measures have been evaluated, appropriate triggering plateaus or metrics and implementation strategies can be developed. 4D-19 4D-20

Under such a system, escalating mitigation and policy strategies would only be required if impact measures do not show net reductions. As a simplified example, using a ground access scenario, a mitigation set including expansions and modifications to the Logan Express system could be prepared. Then, if AWDT does not fall as a result of current initiatives, the next set of more aggressive measures would be implemented. If AWDT does decline, those measures would not be needed. The mitigation set would also include policies such that if impacts instead of declining or remaining unchanged were to increase, policy strategies could be implemented. Keeping with the ground access example, if AWDT increases, an airport roadway fee could be instituted.

Noise

The 2022 ESPR noise chapter is an excessive 68 pages and reports on environmental noise impacts of Logan Airport with a variety of metrics such as Day Night Average Noise Levels (DNL), Time Above, Dwell and Persistence, and effective perceived noise level. None of these noise exposure metrics can portray the true destructive effects of noise in the community. Airport noise gnaws at the human nervous system, oppressing and depressing hundreds of thousands of households stretching out miles away from Logan in every direction, causing chronic disease with deadly consequences. AIR, Inc. focuses on the 65 decibel DNL metric as FAA noise contour maps combined with the population exposure estimates provide a clear visual indication of increases or decreases in net airport noise impact which can assist community stakeholders in understanding the effectiveness of Massport's noise management and mitigation efforts.

Among the 2022 ESPR's many failures is the lack of dialogue about the Neighborhood Environmental Survey (NES). The NES was a noise annoyance survey of 10,000 households administered by the FAA between October 2015 and October 2016. Its findings sent shock waves throughout the airport noise advocacy community, showing that high levels of noise annoyance occur at as much as 40 or 50 times lower aircraft noise levels than the 65 DNL traditionally used by FAA to define "highly annoyed populations" for funding soundproofing grants. In the ESPR, Massport displays no interest in this development, stating only "The FAA, academia, and other entities are conducting ongoing noise studies to understand the impact of aircraft noise on communities and explore alternative noise metrics." Later, Massport states that the NES was released in 2021 and that the "FAA is considering public and other stakeholder input and has not made any determination yet in the findings". This is duplicitous, since the FAA published report on the survey (cited above) clearly states that the prior threshold of DNL 65 seriously underestimates community annoyance to aircraft noise. Massport should not be allowed to invent an interpretation of the FAA's findings that is not true. 4D-21

Predicted impacts

The ESPR predicts future noise impacts based upon growth forecasts which utilize a 10 - 15 year window. Therefore, when the ESPR predicts the population exposed to the 65 DNL noise level could increase at a rate which would result in an increase of 15.2% within the 10 year

inside range of the future planning horizon, the same rate would cause an increase of 22.8% over the 15 year outside range.

So instead of Boston's 65+ DNL going from 3862 in 2022, to 4409 in the Future Planning Horizon, adding 547 residents in EJ communities, the increase could be 50% more, or 820 additional residents. Likewise, the total predicted increase in population exposed to the 65+ DNL of 1,240 residents could turn out to be 1,860.

Technological improvements

The ESPR insists that technological improvements in the aircraft engines will have noise and emissions benefits as the fleet at Logan increasingly upgauges to larger aircraft with higher seating capacities and 'cleaner, quieter' engine technology. This is another example in which Massport intends to mislead. Engine technological improvements made a significant improvement in noise as stage 2 aircraft were phased out 15 to 20 years ago. Since then, increases in aircraft activity have tracked directly with increases in noise and air pollution. A second wave of improvement may occur in the years following the pandemic, as airlines retire older, less fuel efficient aircraft. However these benefits have been consistently obscured by the growth in flights and passenger volumes and use of larger aircraft:

Table 3: Departure Lmax levels by aircraft grouping

Height (ft)	Turbo-prop	50 seat regional jet	70-90 seat regional jet	125-180 seat single-aisle 2-eng jet	250 seat twin-aisle 2-eng jet	300-350 seat twin-aisle jet	400 seat 4-eng jet	500 seat 4-eng jet
1000-2000	78-71	78-70	85-75	85-75	92-83	90-81	92-84	91-84
2000-3000	71-67	70-65	75-68	75-70	83-77	81-75	84-79	84-80
3000-4000	67-64	65-60	68-64	70-66	77-73	75-71	79-75	80-76
4000-5000	64-62	60-57	64-61	66-63	73-69	71-67	75-72	76-73
5000-6000	62-60	57-55	61-58	63-60	69-66	67-64	72-69	73-71
6000-7000	60-58		58-56	60-59	66-64	64-62	69-67	71-68
7000-8000	58-56		56-56	59-58	64-61	62-60	67-64	68-66
8000-9000	56-56		56-55	58-57	61-59	60-58	64-62	66-65
9000-10000	56-55			57-56	59-58	58-57	62-60	65-63
10000-11000				56-56	58-57	57-56	60-60	63-62
11000-12000				56-56	57-56	56-55	60-59	62-60
12000-13000				56-55	56-56		59-58	60-59
13000-14000					56-55		58-58	59-58
14000-15000							58-57	58-55
15000-16000							57-57	
16000-17000							57-57	
17000-18000							57-56	
18000-19000							56-55	
19000-20000								

In the tables shown here, the effect of aircraft size on noise is clear: larger, more heavily laden aircraft which require greater thrust are progressively louder as size increases. In the data table above, the peak noise of a turbo-prop aircraft Is 13 dB less than that of a 4 engine 500 seat jet on departure (the difference between 78 dB and 91 dB). Due to the logarithmic nature of the decibel metric this increase represents more than a hundred-fold increase in sound energy and is perceived as many times louder.

Effective Perceived Noise in Decibels		LEVEL	FLYOVER	APPROACH
A 318		92	82	94
A 321		95	86	96
A 340		96	94	98
A 380		95	93	97

Decibel Value	Increase in Sound Intensity	Perceived Increase in Volume
0 dB		
10 dB	10 times the sound intensity	2 times as loud
20 dB	100 (10 x 10)	4 (2 x 2)
30 dB	1,000 (10 x 10 x 10) etc.	8 (2 x 2 x 2) etc.
40 dB	10,000	16
50 dB	100,000	32
60 dB	1,000,000	64
70 dB	10,000,000	128
80 dB	100,000,000	256
90 dB	1,000,000,000	512
100 dB	10,000,000,000	1024
110 dB	100,000,000,000	2048
120 dB	1,000,000,000,000	4096

Difference in decibel (dB), sound intensity, and perceived volume

Backsliding

In the midst of an era of steadily increasing noise which began with a low exposure of 3830 residents exposed to the 65 DNL contour in 2010, the 2022 ESPR reports that the population exposed to 65 dB annual airport noise will rise to 9435 within the planning horizon (2032 - 2037). Despite this 246% increase over the modern period, the ESPR states that noise is down, characterizing this increase as less than noise exposure 22 or 32 years ago, when excruciating noise levels were the norm for Stage 1 and Stage 2 aircraft.. This misdirection obscures an increase of 8%, or 667 more residents who are expected to be newly exposed to the 65 dB DNL under Massport's current forecasts. This environmental backsliding will occur largely in the environmental justice communities of East Boston, Chelsea, Winthrop, and Revere.

Nightime noise

Nightime aircraft noise is one of the most debilitating Logan Airport noise impacts. With 195 flights per evening between the hours of 10 PM and 5 AM at peak 2019 levels, perhaps nowhere in the ESPR, nowhere is Massport's indifference and lack of initiative more glaring. During late night and early morning hours, the city's residents enjoy a relative quiet period where ambient urban background noise drops from daytime average levels of 55+ dB to around

36 - 40 dB. This respite is shattered by overflights producing single event noise levels of 75 - 95 dB. In 2019, Massport reported 195 average daily nighttime operations during this sensitive rest period. In a 2015 community study of nighttime noise affecting East Boston, Chelsea, and Revere, conducted by AIR, Inc. in partnership with a local youth research team, as many as 48% of residents under the runway 33L departure path reported sleep interruption.

Table 7-16 states a goal to minimize night time noise. However dozens of takeoffs use 33L nightly. The fact is that when pilots request a certain runway, they are granted it, even if that runway routes 95 dB traffic directly over the most densely populated communities in Massachusetts, even if it is 3:15 AM. Air Traffic Control does not recognize community impacts. Massport is not objecting to this practice.

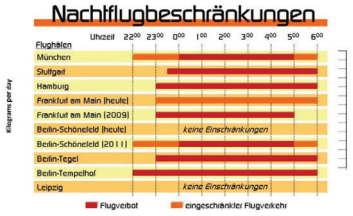
Noise Mitigation

MGL statutes require the Authority to issue findings that at least examine the feasibility of all possible measures. Determinations of feasibility should be informed by a thorough investigation of existing and emerging industry practices and technologies in use locally, nationally and internationally.

Where an environmental program -such as a nighttime flying restriction- with potential to avoid or reduce negative impacts exists elsewhere -such as the curfews used in Europe which in some cases completely eliminate nighttime aircraft noise, that program should be examined in the Authority's feasibility reporting. If the Authority finds that such a program is not feasible, such a finding should be accompanied by evidence that supports that conclusion. At a minimum, the Authority should provide a clear and reasonable explanation of the physical, legal, geographical, or other obstacles to feasibility. 4D-22

The ESPR makes no attempt to further discussion or promote understanding of night curfews. Massport's position on curfews has been that the FAA has not approved any requests for night restrictions, so there's no point in applying for one. In this case, Massport adopts a defeatist attitude and uses an FAA procedural injustice as an excuse to abrogate its own responsibilities. Regardless of whether the FAA would or would not reject an application for a night flying restriction, Massport should describe the topic in a comprehensive manner. Such discussion would include a review of how night restrictions work in Europe including reporting on the noise reduction and public health benefits and economic effects of these restrictions. 4D-23

Despite 68 pages of information on noise, Massport has failed to incorporate discussion of a) the feasibility of updates and adjustments to the PRAS runway use system which could result in avoidance or minimization of noise impacts; b) findings regarding the minimization of nighttime exposure to noise which could include attempts to apply for nighttime restrictions as allowed by FAA part 150 regulations, or the above mentioned PRAS update, or; by c) the reduction of 65 DNL noise exposure which could be achieved through programs aimed at shifting regional market share of air travel through other regional commercial service airports. The Authority has 4D-24 4D-25 4D-26



not offered any evidence that they have considered any of these options to reduce noise impacts, nor does the ESPR share any determinations of whether they are feasible.

School soundproofing

The ESPR states that "36 schools were sound insulated since this program began". However, the ESPR does not point out that the school sound insulation program happened in 1986, and no schools have been added since. This misdirection allows the reader to think that Massport has been implementing soundproofing programming in schools steadily, which is yet another untruth.

Climate

The ESPR greenwashes its discussion of airport emissions by emphasizing a vague bundle of climate related public relations statements it calls Net Zero 2031 as evidence of its environmental leadership. This program is ambitious only in its deceitfulness, as it has never progressed into a defined plan, it uses offsets, and it is aimed only at the climate impacts which Massport categorizes as 'under its control'.

Climate Backsliding

Even if Massport implements every item on its Net Zero 2031 wish list, a potential savings of half of the CO2 produced by a subset of airport activities which comprises perhaps 10% of airport sources would produce a 5% net reduction over the lifetime of the program. That 5% one-time total savings is no more than symbolism next to the 30% increase in aircraft related GHG which will occur within the future planning horizon due to the projected 50% increase in passengers.

Massport Announces Goal to be Net Zero by 2031 | Massport

Massport places a great deal of emphasis on this Net Zero 2031 programming, but carefully avoids calling it a plan. In the above web page the term 'agenda' is used to announce this concept. Elsewhere in the 2022 ESPR, Massport calls it a 'program' or a 'report'. Indeed Net Zero 2031 is nothing more than a conceptual sketch of a roadmap to achieve a partial carbon reduction strategy. Of note are the facts that the Authority has not produced detailed plans, budgets and timelines, that heavy use of dubious CO2 offsets is expected, and that these reductions will not reverse the backsliding of EPA criteria pollutant emissions which has been occurring in direct relationship with increases in passenger levels which the ESPR projects will rise by 47% over the next 10 -15 year period, and that the vast majority of carbon emitted from

Logan comes from aircraft sources which will be rising, not diminishing over the years and decades to come.

Sustainable aviation fuel

Also of note: within this agenda, listed as among the initiatives which Massport's is considering is the agency's potential to influence use of sustainable aviation fuels (SAF) by airlines. This is pure fantasy. Massport has absolutely no control or influence over the fuels that airlines use at Logan. Airport operators' ability to regulate airlines in this is specifically preempted by federal law. Presented on its face, this suggestion, like the agenda as a whole, promotes an intuitive conclusion that use of sustainable fuels is a potential solution to aviation's outsized climate impacts and that Massport will somehow be able to claim the airline's fueling decisions as mitigation for airport impacts.

In the case of SAF, two immutable flaws exist. First, the global commercial airline fuel burn for 2023 is estimated to have been 86 billion gallons while total SAF production topped out at 158 million gallons. This indicates that the total amount of SAF produced globally is equal to about a quarter of a percent of the total aviation fuel needed. It is a widely understood fact, accepted for decades already among decarbonization experts, that the biggest obstacle to use of SAFs are their production scalability challenges. Whether the raw resources needed to produce SAF are either not available in anywhere near sufficient quantities to effectively meet any significant portion of global aviation fuel demand, as is the case for biofuels derived from recycled restaurant oils, or whether use of agricultural crops would compete with food production - creating moral objections in a world increasingly desperate to feed starving people, or whether the total production of SAFs can be scaled up any time soon -which it cannot, are all in question. Outside of pie in the sky aviation industry projections, analysts agree that 'pegging the aviation sector's sustainable hopes and carbon cuts entirely on SAFs is impractical' as is stated in a Conservation News article.

Massport notes that the GHG savings related to use of SAF occur over the product's lifetime. However, the Authority does not provide any data on the relative emission of SAF compared to traditional jet fuel. This suggests that there is no fuel burn emissions benefit from use of alternative bio fuels. Despite all of the facts, the ESPR reports that its GHG calculations assume use of 30% SAF within the future planning horizon, based on FAA projections. That Massport and its consultants would imply such misdirection is disgraceful.

Even amidst a cloud of misdirection and confusion in Massport's reporting of GHG, the Authority emerges with an estimate that GHG will rise by more that 49,000 tons per year, from 584,790 tons in 2022, to 634,127 tons in the future planning horizon. This increase is also subject to the 50% forecasting uncertainty effect, therefore this increase could just as well be 74,000 tons.

We note that the ESPR's forecasted carbon estimate for 53.5 million passengers is totally unrealistic- as the 2019 reported GHG total at 42.5 million passengers was 810,000 metric tons per year. If GHG rises proportionately, at 53.5 million passengers Logan will emit 976,000 tons of climate destructive atmospheric gasses. Adding on the 50% uncertainty, that number could be 1,460,000 tons.

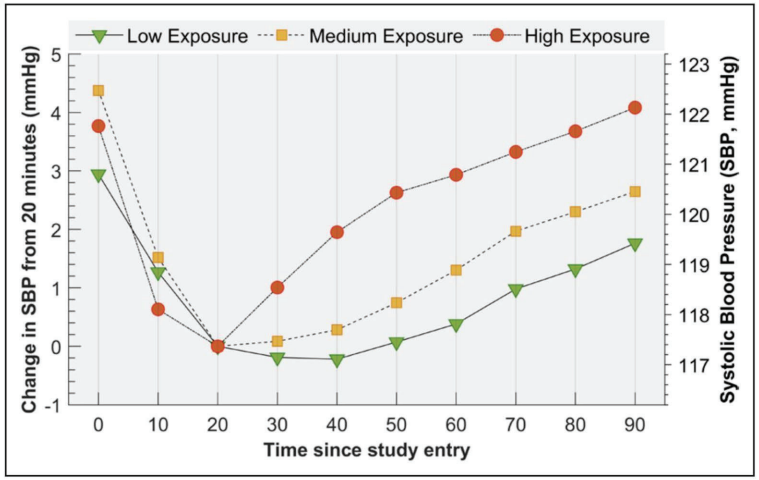
AIR, Inc. has on many occasions urged MEPA to demand that the Port Authority substantiate the claims, data and narratives it makes in these filings, or else cease to issue them. We should not be asked to educate MEPA, EEA and the public, expending community resources to fact check and correct misleading aviation industry public relations film flams recklessly reprinted in Massport in their attempts to distract attention for uncomfortable truths.

We ask that the Secretary consider Massport's motivation in promulgating this discussion. With the important and difficult challenges facing the Authority in balancing its transportation responsibilities with its moral and environmental challenges, the agency cannot afford to waste time convincing itself that it can prestidigitate its way out of a corner. The end game of this type of thinking is only to buy time. And with aviation's global climate impacts, regional traffic impacts, and local public health impacts, time is not on their side.

The Secretary should place the Port Authority into a probationary mode, and demand that they substantiate each of their postulations. When proposals such as the benefit of SAF are assessed to be of little significance, she should forbid those statements from being issued in future filings to avoid confusion and out of respect for the public's time. It is remarkable that we are forced to ask the Secretary to require Massport to only make truthful and relevant statements.

Underestimated carbon impacts

AIR, Inc. does not have the resources to tunnel deeply down every rabbit hole Massport has created in its 2022 ESPR, but we encourage MEPA analysts to review Massport's calculations of aircraft CO2 greenhouse gas emissions. Our impression is that while the Authority claims to abide by industry standards elsewhere in the ESPR, they make a convenient departure as it relates to GHG from aircraft at Logan. Whereas the global standard for carbon emissions in airports is to assign half of the total emissions between trip origin and destinations to each airport, we believe that Massport's calculations are based upon only those emissions occurring within the first 3,000 vertical feet. If this is true, then the GHG impacts of Logan are vastly under-reported . It seems that Massport is confusing the 3000 foot mixing height used in EPA criteria pollutant analysis under the Clean Air Act with the end to end total trip emissions used in the IPCC inventory of aviation's GHG emissions.



Emissions

At previous peak activity levels, Massport has reported that Logan emits over 35,000 lbs of EPA criteria air pollutants per day. These pollutants have disproportionate negative public health impacts on human populations living in in-close communities, as well as in communities under flight paths and downwind of high pollution zones, where exposure is elevated. Airport pollution is responsible for increases in chronic disease such as childhood asthma and COPD in high exposure zones. Exposure to ultrafine pollution has also been proven to cause low birth weight, learning disabilities, autism, cardiovascular disease, stroke, cancer, and obesity.

Modeling

The 2022 EDR uses AEDT version 3e emissions inventories (EI) to model emissions under 3,000 feet. This practice produces emissions estimates which provide a very vague description of air quality conditions, at best. A scientific literature review in 2014 showed that use of standard LTO cycles in estimating typical aircraft emissions close to the ground is not always representative of operations at airports. This paper concluded that most pollutants emitted in exhaust plumes are strongly increased at decreased power settings. Significant increases in fuel consumption and increased emissions were reported to be associated with practices such as use of reduced thrust during take-off, idling and taxiing. The study reported that these factors can lead to underestimation of emissions at airports.

Other practices such as use of higher thrust levels in stop-and-go situations due to congestion on taxiways or when aircraft need to cross active runways or make sharp turns affect actual emissions but aren't reflected in standard LTO modeling, which use a single taxiing phase for emissions inventories. Still further questions arise as to whether emissions modeling accounts for use of high power reverse engine thrust to assist in slowing down landing aircraft to connect to convenient taxiways.

The crucial defect in the ICAO/EPA/Clean Air Act approach to pollution is its focus on regional air quality, estimating each contributor's contribution to the metropolitan-wide air quality basin. The new focus on EJ impacts recognizes that pollution disproportionally affects people living closer to the pollution source and that the average pollution estimated over the regional basin is not relevant to those impacts. Massport should supplement the Clean Air Act based regional pollutant analysis with an analysis focused on local impacts upon EJ communities as is required by contemporary federal and state guidance.

4D-27

Adoption of a ground level air quality monitoring system using a high resolution network of sensors as discussed in the Possibilities section of these comments would provide actual pollution data which could be used to identify high airport pollution geographical zones, exposure levels, and exposure durations at multiple time scales. Having such data would support the ability to determine when and where EPA regional air quality standards, or potential supplemental standards are exceeded. Such determinations could inform air quality mitigation strategies and policies. The ESPR doesn't discuss any of this.

Reporting practices

In the ESPR, Massport reports that Logan's emissions are less than 1% of total statewide emissions, and elsewhere that VOC, NOX, PM expected to increase, and yet again that compared to 1990, emissions from airport sources are expected to decrease significantly. This amounts to an unfathomable statement that compared to a past level, increasing pollution will decrease.

The ESPR lists many activities which Massport characterizes as emissions reduction initiatives. Such narratives naturally prompt readers to anticipate that the report will provide information about reducing levels of emissions. It would be counterintuitive for Massport to establish its goals, then report its failure. However this has been and continues to be exactly the case in this ESPR, as in every EDR and ESPR before it. Massport has devolved from an agency once reformed and seeking net reductions in environmental impacts through serious mitigation and policy initiatives during the Sargent and Dukakis administrations, to an organization which gets behind and celebrates paper initiatives. No safe standards for exposure to pollution are set or discussed in the document. No net emissions reductions goals are provided. In fact for 3 out of 4 EPA criteria pollutants reported, as well as for noise, nighttime noise, and vehicular traffic, the report forecasts increases in impacts.

In each environmental impact category, the Port Authority states its commitment to leadership in, and initiatives designed to minimize negative environmental impacts, and every time, they

report increases. These disingenuous tactics are hurtful to AIR, Inc.'s members, to understanding of aviation impacts and to public confidence in Massport leadership. AIR, Inc. urges the Secretary to provide explicit instructions to the Port Authority that such contextual misdirection has no useful function for either EEA or the public, and that their attempts to invert logic are taken at face value, as unwelcome mistruths which erode public confidence and disqualify the document from being compliant with state law. It's important for the Port Authority to tell the truth.

Backsliding

In the ESPR, Massport lists efforts to reduce emissions such as electrifying ground service equipment (GSE), and building LEED certified facilities. However, as we have pointed out in our 2015 EDR, 2016 EDR, 2017 ESPR, 2018/2019 EDR, and 2020/2021 EDR comments, and as is the case with noise, these programs hold the potential to affect a small percent of total airport emissions sources, while growth in aviation source emissions (even accounting for engine technology improvements) continue to drive backsliding toward peak historic environmental damage levels -or it has already surpassed them -as is the case with daily traffic, NOX, VOC, PM2.5, and nighttime flights.

In its discussion of the Future Planning Horizon, Massport states that 'Analysis results showed future noise, air emissions, and vehicular traffic density at the Airport will increase in the future and likely exceed 2019 and 2022 conditions but will still remain well below historic highs and well below EPA NAAQS standards for criteria pollutants.' Traffic, NOX, VOC, night operations, and PM 2.5 are all at, and increasingly exceeding historic peak levels. EPA NAAQS standards for criteria pollutants have been roundly criticized and are accepted to be of little use in judging negative impacts of local aviation and airport activity. Thus, the Authority continues to report increasing impacts and environmental backsliding in this document while insisting that its focus is on reducing emissions.

Upgauging impacts

Massport introduces the public to the term 'upgauging' in the ESPR's discussion of trends in the aircraft fleet at Logan, stating that 'airlines are operating larger aircraft fleets, which contributes to upgauging'. This description is misleading. Upgauging is not a byproduct of use of larger aircraft which results in more passengers; it is the intentional use of larger aircraft to increase seat capacity.

The Airport Cooperative Research Program (ACRP) explains that "Upgauging" is an airline industry technique enabling air carriers to increase capacity by adding seats to existing jets and replacing smaller planes with larger ones." ACRP adds that the impacts of these programs are often experienced at the local level. Environmental Science Associates (ESA), states that upgauging has had 'a profound effect on the growth in passenger traffic at airports throughout the world.' And that Airlines use aircraft with higher seating capacity to carry more passengers on the same number of scheduled flights. As a result, over a short time, airports can experience a record number of passengers while aircraft operations have seen only modest growth. This has several effects on the airports themselves, and the communities they serve." They go on to say that 'In some cases, airports must plan for new gates or concourses that can accommodate the larger aircraft, while terminals may need to be reconfigured or expanded to accommodate the record number of passengers. Often, this growth drives the need for state and/or federal environmental documentation to assess the potential impacts of these changes".

The Authority confuses reviewers by stating that the added seat capacity per flight (upgauging) reduces the number of aircraft operations flown per day. Again, upgauging is replacing smaller planes with larger planes or adding more seats to existing planes. It results in more passengers per operation, not less operations. This statement misleads reviewers into the conclusion that aircraft operations and environmental impacts will decline. This is only true if airport passenger volumes remain fixed. In reality, as seen in the explanations above, upgauging is a profit driven tactic used by airlines to reduce costs and increase capacity. Upgauging also requires changes in airport gates and terminal accommodations. The ESPR provides no discussion of the effects upgauging will have.

Standards

In the 2022 ESPR, Massport reports that VOC in Dudley Square are below National Ambient Air Quality Standards (NAAQS). First of all AIR, Inc. objects to the continued use of the name Dudley Square in reference to the location of the EPA monitor in Roxbury. In September of 2019, the city of Boston's Public Improvement Commission announced issuance of a public referendum vote later that year to place before the public the issue of a name change as community residents in the predominantly African American neighborhood alleged that, as the state's second governor, Thomas Dudley allowed the passage of laws that permitted slavery, and that his family later enabled the slave trade. Residents of Roxbury voted heavily in favor of a change in name and Dudley Square was officially changed to Nubian Square. This new name pays tribute to the ancient Northeastern African region of Nubia. Massport should use the correct moniker in future references to the location of the EPA monitoring site. Secondly, the state's NAAQS regional attainment status has no bearing on East Boston.

4D-28

Fuel efficiency

An increase in operations combined with larger planes will drive impacts higher as it did during the 2011 - 2019 period of uninterrupted aviation growth. Even with an updated fleet which is marginally more fuel efficient and potentially fractionally quieter on a per seat noise basis, larger and heavier aircraft still require more thrust to lift off, causing greater fuel burn and producing more noise and increasing environmental impacts.

CATEGORY	AIRCRAFT	FUEL in gallons per hour
Helicopters	small piston engine	6-16 GPH
	large turbine engine	20-100 GPH
Gyroplanes	Commander Elite 447	3 GPH
Single Engine Turboprops	Piper M600; Cessna Denali	39-60 GPH
Twin Engine Turboprops	Beechcraft King Air 350; Saab 340; Beechcraft King Air 250	90-135 GPH
Light Jets	Cessna Citation CJ1+; Cessna Citation III	132-241 GPH
Mid-Size Jets	Learjet 60; Hawker 800XP	215-291 GPH
Super Midsize Jets	Dassault Falcon 50EX; Cessna Citation X	287-347 GPH
Heavy Jets	Dassault Falcon 900; Bombardier Challenger 603	303-329 GPH
Long Range Jets	Dassault Falcon 8X; Gulfstream G650	347-453 GPH
Cargo Planes	Boeing 747	3600 GPH
Taildraggers	Luscombe 8A	4 GPH
Light Sport Aircraft	Icon A5	5-10 GPH
Fighter Jets	McDonnell Douglas (Boeing) F-15 Eagle	385 GPH
Supersonic Airliners	Concorde	25,750 GPH

Fuel burn by aircraft size

Physics dictate that at any given engine efficiency, more work requires more energy. And whereas energy is derived from fossil fuels, greater energy requirements require greater fuel consumption. Also at any given engine efficiency, greater fuel consumption produces more emissions. Massport should quantify the savings claimed.

4D-29

Fuel efficiency of modern aircraft is a complicated matter. Airlines and aircraft manufacturers clearly aim to minimize fuel costs. To maximize profits, aircraft engines are designed to achieve top efficiency during cruising operational conditions, the flight mode in which aircraft travel the longest times and distances. AIR, Inc.'s evaluation of aircraft efficiency techniques concluded that most of the efficiency gains in modern aircraft engines are achieved through initiatives such as upgrading the aircraft's on-board computer Flight Management System to reduce the aircraft's engine braking on decent, known as Decent Profile Optimization. IDLE Factor Optimizer (IFO) is another computational efficiency program which reduces air braking and saves fuel. Another in-flight efficiency initiative is Air Management Function (AMF), which cuts down on air filtration demands when less filtered cabin air is needed in flights with lower passenger load factors. Sharklets are large wingtip devices that increase the lift of the wingtip while at the same time decreasing the drag along the wing caused by wingtip vortexes, thus allowing for fuel savings and longer flights.

All of these efficiency measures save fuel during cruising conditions, and have little bearing on emissions in the Boston area. This begs the question whether the cleaner, quieter, larger jet effects will make any difference on the profound and dangerous ground level pollution at Logan.

Pollutant data

VOC

Massport reports that research has shown correlations between exposure to VOC's and respiratory illness in humans.

The 2022 ESPR reports that VOC emissions were 1145 kg/day. This indicates a 60% increase from 2021 reported levels. 2022 reported VOC was 12% less than 2019 levels. Compared to operations at Logan, which in 2022 were 85% of 2019 peak levels, VOC reported in the 2022 ESPR show a 3% increase in emissions. Massport attributes the increase in VOC largely to the increase in aircraft operations.

The ESPR reports an increasing trend in VOC emissions from 2010 to 2019, agreeing with AIR, Inc.'s comments that the data support a backsliding of this pollutant which correlates with undisturbed growth in passengers and flight activities.

NOX

Massport reports that research has shown correlations between exposure to NOX and respiratory effects in humans.

The 2022 ESPR reports NOX emissions in 2022 were 5866 kg/day, 9.8% less than 2019's 6440 kg/day. Relative to the 15% reduction in operations reported for 2022 in the ESPR, Massport's data indicate a 5.2% increase in NOX.

In the future planning horizon, Massport estimates that NOX expected to be 53% higher than 2022 and 39% more than 2019 peak levels. The fact that the FPH includes a 48% increase in passengers over 2022 levels and a 26% increase over 2019 peak travel levels indicates that NOX emissions are worsening exponentially. Massport couches this news by stating that the increase is almost completely due to the use of quieter aircraft -but also attributes an undisclosed amount of the increase to an increase in operations. Massport should not incorporate multiple source factors to changes in predicted levels of pollution impacts and instead should quantify the contributions in the situations when there are more than one contributing factors.

Massport struggles to report an increasing negative environmental NOX impact without attributing it to a positive technological advancement in fuel saving and quieter engines. Impacted communities are not interested in Massport's happytalk or apologies. If a fuel burn or noise benefit exists which can mitigate NOX emissions, Massport should quantify it and explain the mechanism by which it will affect NOX.

4D-30

The ESPR presents average taxi time data in the NOX emissions data section. However the Authority does not explain whether there is a correlation between taxiing and NOX which is not present in other pollutants.

4D-31

In 1990, total all airport sources of NOX were 6141 kg/day. By 2019, total all airport sources of NOX had reached 6440 (4.8% over 1990 peak NOX). If 2022's reported NOX emissions of 5866 kg/day at Logan's 85% passenger volume is applied to 2019 peak passenger volume, NOX would reach 6746 kg/day. Likewise, 1990 total aircraft related NOX was reported to be 4937 kg/day, while 2019 total aircraft NOX was 6123 kg/day. If 2022 total aircraft NOX reported at 5650 kg/day at 85% of peak traveler levels were extended out to 2019 peak traveler levels, aircraft only NOX would reach 6497 kg/day, a 6.1% increase over 2019 levels aircraft only levels, and more than previous peak all airport sources levels.

These analyses underscore the fact that NOX at Logan -which causes respiratory disease, is out of control and only increasing as flight operations increase.

The ESPR in section 8.3.1.3 discussion of NOX contradicts the statement that NOX is the one pollutant that has generally increased due to engine technology, when it states that "As aircraft engine manufacturers are continuously advancing combustion technology that is designed to mitigate and reverse the trade-offs between lower emissions, less noise, and increased NOX. When representative aircraft are compared, as aircraft engines become quieter, improving from stage three to stage five, and more efficient NOX and PM10/ PM 2.5 emissions increase. For comparison, emissions of CO decrease, and VOC fluctuate between noise stage equivalents."

Even with more than 60 years of technical airport experience, AIR, Inc. cannot understand the statement that 'combustion technology design advancement mitigate and reverse trade-offs'. It is equally difficult to understand whether Massport is claiming that one of the four EPA criteria pollutants (NOX) is generally rising in newer engines or whether they are claiming that two criteria pollutants (NOX and PM 2.5) are rising. Finally, 'fluctuating between noise stage equivalents' is also confusing, and suggests that VOC may also be increasing over time, which would mean that three out of four pollutants (NOX, PM 2.5, and VOC) are rising. Massport and their aviation consultants seem to be struggling to produce a cogent report on emissions.

Next, in the ESPR, Masport launches into a lengthy explanation about the motivations of aircraft engine designers and airline fuel burn, and intimates that efficiency is improving. As pointed out earlier in these comments, wingtip design improvements, and many other engine technology and software fuel burn improvements do not improve local admissions. The improvements in fuel efficiency promoted in this document are largely realized at optimum flight conditions during the majority of aircraft trips. This paragraph seems to only imply that things are getting better, when in fact, the data in the ESPR demonstrate consistent worsening of the impacts of concern for stakeholders of this document.

In the second to last paragraph of the NOX pollutant report, Massport states that improving engine technologies will reduce admissions and moderate NOX emissions. Then, in the very next sentence at the top of the following paragraph the ESPR states that higher NOX emissions are likely to continue into the future. This fact is confirmed by Massport's future planning horizon forecast that total all airport sources of NOX will rise to 8,958 kg/day and aircraft sources will rise to 8,981 kg/day, a 52.7% increase over 2022 levels.

Particulate matter (PM)

Massport states that exposure to PM may affect the respiratory system in humans and that the EPA considers PM important because of respiratory system effects in humans at high exposure levels.

The ESPR again inappropriately points to NAAQS measurements on Harrison Ave, stating that PM 2.5 levels are within federal attainment levels.

Changes in emissions modeling year to year complicate analysis of emissions, growth, and reductions overtime. Whereas changes in modeling assumptions are out of community stakeholders control, the public interest lies in whether emissions conditions of dangerous pollutants are increasing or decreasing. In the past, when models have changed, Massport has published tables, providing previous model reports for comparison. Using this comparative data, AIR, Inc. has been able to extrapolate levels of pollutant emissions by creating model comparison factors. Application of this model comparison factor technique allows the public to evaluate the status of the growth or reduction of pollutants. If model A reported in year 'one' is 100 units of measure and that is 13% higher than model B reported also in year 'one', then the comparison factor becomes 13%. If model B reports a decrease of 5% at 95 units of measure of a pollutant, in the following year -year 'two', when the comparison factor is applied (95 x 1.13), the equivalent adjusted pollution emission level for that pollutant becomes 107.35. In this example, we see that a reduction of 5% in reported emissions is actually equivalent to an increase in actual emissions. Here, the pollutant is not 'under control' or decreasing, but in fact things are headed in the wrong direction, and emissions of the pollutant are increasing.

Since MOVES 2014b and AEDT3c modeling both refreshed over COVID in 2019 and 2020 respectively, and Massport does not provide a table of previous model data for comparison, AIR, Inc. has been unable to develop a model comparison factor to evaluate the relative change reported in PM. So, there is basically no way to make any sense of the PM data in the ESPR.

CO

Masport reports an impressive 63% decline in carbon monoxide emissions between 1990 and 2022. However, table 8.5 tells a much different story. Table 8.5 reports that in 1990, aircraft emissions of carbon monoxide were modeled at 8518 kg/day. Table 8.5 shows Logan's lowest reported carbon monoxide emissions year was in 1998, a year in which Massport models reported 4048 kg per day of carbon monoxide generated by aircraft sources. This data indicates that between 1990 and 1998, a period in which AIR, Inc.'s Logan Airport passenger tracking data indicates passenger volumes rose 18%, from 22.4 million annual passengers in 1990, to 26.5 million passengers in 1998, a 4470 kg/day -or 52% reduction in carbon monoxide emissions was achieved. This reduction can be attributed to aircraft engine design changes. After 1998, some fluctuation is seen in annual reported CO, possibly the result of changes in modeling, but the trend in the data provided is upward. By 2019, Masport had reported 7171 kg per day of carbon monoxide. This indicates that an additional 3123 kg/day of CO above the historic low emissions level for this pollutant was produced by aircraft sources over the span of those 21 years, a 77% backsliding from the gains made through engine technology improvements.

Table 8.5 also reports on vehicular sources of CO. The data show that in 1990, vehicular sources of CO totaled 2907 kg/day. By 2017, vehicular sources of modeled CO emissions, like aircraft sources, also declined to a reported 623, a 2284 kg/day or 79% reduction. Unlike aircraft sources, however, reported CO emissions from vehicular sources continued to decline, and by 2022 had reached an apparent historic low of 328 kg/day.

The most significant reduction in CO emissions seen on Table 8.5 is in GSE CO emissions which fell from 6001 kg/day reported in 1990, to 397 kg/day in 2019 a drop of 5604 kg/day. This reduction is attributable to the electrification of GSE equipment. With 2019 reported CO

emissions 9190 kg/day less than 1990, we see that changes in the vehicular fleet in use at Logan have produced a 53% decrease in emissions of this pollution. The combined CO emissions savings of vehicular and GSE equipment is 7888 kg/day.

Concluding our analysis of overall carbon monoxide reporting data, AIR, Inc. suggests that what are essentially one-time reductions in carbon monoxide admissions in GSE and vehicular sources are attributable to engine technology improvements over the 1990 to1998 and 1990 to 2017 time periods respectively. Combined, vehicular and GSE CO reductions equal 7888 kg/day, representing 86% of a quickly backsliding total CO reduction. Meanwhile aircraft sources, which were 49% of total CO emissions in 1990, now account for 86% of total airport CO, suggesting that CO emission will only be growing in coming years. This analysis draws into question the value of reporting a 63% reduction in CO.

Ultrafine particulate pollution

In Chapter 8, Massport confusingly uses the term 'particles' to refer to ultrafine particulate pollution (UFP). This is not helpful. Particulate pollution is subdivided by particle size, with PM 10, PM 2.5 and UFP occurring in decreasing order in diameter. UFPs are widely recognized as the primary pollutant of concern, and are the most intensely studied topic by environmental air quality and public health scientists today. Whereas Massport reports on PM 10 and PM 2.5 particulate size sub-categories, use of the subheading 'Particles' to describe a further sub-classification of the particulate pollution spectrum is unnecessarily confusing. UFP's are another subset of particles.

This isolation of UFP from larger classes creates potential comprehension gaps for readers who might conclude that research on ultrafine particulate pollution is discontinuous and theoretical, when in fact, scientific investigations into health effects of particulate pollution and advances in measurement and biological testing technology as a whole is an area of concern, with UFP leading the way due to its spatial distribution characteristics and its ability to be absorbed directly into the human bloodstream. AIR, Inc. suggests that it would be more appropriate and less confusing for Massport to report on Particulate Pollution under a single heading and further report on PM10, PM2.5, and UFP's in separate subheadings.

4D-32

The statement 'outdoor concentrations within US EPA standards are considered safe for the public' is completely confusing. We know of no EPA standards which consider UFP's safe for humans.

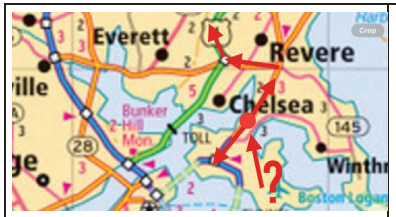
Massport mentions their support and participation in research and regression models from 2017 and 2018 being developed to identify airport sources amongst all sources. However, the ESPR provides no data on these developments.

Under the UFP section, Massport lists efforts to measure UPF from aviation sources, the phase in of alternative fuel vehicles (presumably ground service vehicles which account for a small % of airport pollution), and GHG reduction efforts as the primary three initiatives underway to reduce airport related air emissions. These three initiatives do not specifically address UFP, nor will they reduce net UFP emissions.

Emissions from snow melting and fire training are based on 5 year averages (which incorporate Covid era activities… and introduce the prospect of bias if diminished levels of activity were present)

Ground Access

Massport counts among its sustainability goals "provide superior ground access to Logan through alternative and high occupancy vehicle travel modes." Superior HOV would include secure to secure landline service with baggage check through as described in the Possibilities section of these comments.



Limited access for Logan-based cargo and logistics to the interstate highway system

Improved connectivity via an I90 link to potential cargo and logistics facilities relocated to route 128

In another inaccurate statement, Massport asserts that Logan has a well-connected roadway system which provides access to and from the airport. Logan is connected to the north indirectly, either by I90 west via the central artery, or by Route 1A. However, Route 1A does not provide any direct connection to any major highway, which is a serious flaw in Logan's connectivity. Passenger, cargo and package logistics create voluminous movements which cause serious and controversial environmental impacts.

Today, even as AIR, Inc. and its partners trudge through 1,152 pages of technical circumlocution, the Logan Community Clean Air Coalition -a group of East Boston area non-profit organizations is deeply engaged in an eight year battle to prevent airport cargo activities from being moved off Logan's campus, to an expanded cargo operation on community land along Chelsea Creek. The present cargo facilities, located on the Creek due to the availability of affordable disused industrial land, create severe trucking impacts in residential environmental justice communities. Since the Sumner tunnel's roof clearance is too short for modern tractor trailer trucks, truckers routinely reject the 8 mile detour which would be necessary to access Routes 95 and 93 without traveling through the Ted Williams tunnel and the Central Artery, in favor of taking neighborhood streets through Eagle Hill and other residential communities. This proposed cargo facility expansion would worsen the present negative airport related trucking impacts of the existing facility.

These problems eliminate the suitability of categorizing Logan as well-connected. Such overtures create a false sense of the appropriateness of Logan's location for present and future activities. If Massport were interested in promoting understanding of ground access impacts, it would delve into this topic in the ESPR and provide some form of assessment of the feasibility of locating cargo and logistics warehousing along the 128 corridor. It does not. Massport essentially looks the other way.

Massport lists multiple roadway projects designed to reduce in-airport congestion Completed in 2023, but doesn't explain whether those projects have succeeded. The only conclusion community stakeholders can arrive at is that they have not, as traffic steadily spills out into East Boston streets more each year.

In Section 4-6, the Authority states that 2,000 parking spaces were 'lost due to HOV and ride app initiatives at terminals C and B'. This implies that those 2,000 spaces were commercial parking spaces which would have been available under the Logan Airport parking freeze if they were not being taken up by ride app 'and HOV' purposes. This deserves closer examination.

Ride app uses involve a fee imposed by the Authority which is presumably derived from the costs of managing vehicular movements and providing access to the airport terminal areas, and includes temporary parking amenities. If the Authority is charging a fee for them, then the 2,000 parking spots consumed by the ride app fleet using Logan are in fact commercial parking spaces. The fact that the Authority chooses to use a different payment mechanism and rate system, or calls it a fee, doesn't mean that it is not related to commerce; it is a fee for a service.

From the Parking Freeze perspective, the goal of limiting parking facilities at Logan is clearly to reduce vehicular trips into the airport. Ride app trips are trips. Whether parking for 5 minutes or 5 days, if they are parking and paying, they should be counted under the Parking Freeze.

Massport notifies ESPR reviewers that they are 'analyzing the feasibility and effectiveness' of 'potential services and improvements to HOV' access'. No specific plans are shared. No implementation timetables are provided. No target traffic reduction goals are presented. This amounts to nothing.

Likewise, the Authority alerts the public to its investigations into 'Possible pricing strategies for different modes', but doesn't provide any information about conclusions and strategies to adjust pricing to improve the positioning of lower impact HOV transit modes.

Massport mentions its ride app rematch and says it's effectively managing ride app service as a means of reducing impacts. No data about the effectiveness of this ride app rematch is presented. Ride app rematch is a passive effort -seeking to reduce the likelihood that ride app drivers will leave without a fare. This passivity is characteristic of the Port Authority's overall approach to ground access. In an era of rising congestion, with roadway capacity critically overburdened and the entire region inundated with the country's worst congestion, continued airport traffic increases will present increasingly serious economic, air quality, and public health risks.

Regional Transportation

The ESPR's reporting on trends and statistics for airports throughout New England is like a box score in the back of the sports section of the Globe, providing snapshot facts of little value to the

questions and suggestions posed by public commenters. AIR, Inc. is most concerned with reducing population exposure to airport impacts. In this regard, Logan's domination of the regional air travel market is a problem. Massport does not provide any content within the ESPR which addresses this problem.

Consider that the ESPR reports that nearly 50% of Logan travel initiates from locations which are outside of route 128. Many factors play into this, and shifting market share would be a timely and complicated process. But from both pollution exposure to pollution and airport congestion management perspectives, sharing regional flight loads across the region would have positive effects. As seen in our discussion of possible Logan Transit Hubs and Remote Terminals, Massport has an opportunity to also improve its overall user satisfaction by supporting stress-free travel via improved ground access to Logan. The same system could have the same benefits for connections to Manchester / Boston, Worcester, TF Green and other airports. Massport hasn't evaluated these possibilities.

Regional economic impacts

The ESPR reports that the MassDOT Statewide Airport Economic Impact Study reported that visitor spending related to Logan Airport aviation activity contributed a 22% increase in economic activity from 2014 to 2019. This claim is not supported by any evidence. To summarize our previous comments to EEA through the MEPA EDR 2016, ESPR, and 2108/2019 EDR reviews: this study which was conducted for the MassDoT Aviation Division by global consulting firm CDM Smith appropriates every imaginable economic benefit of aviation activity which could be attributed to Logan Airport, but completely fails to evaluate the direct and indirect costs. The fact of the matter is that the economic activity of the metro Boston area is what drives demand for aviation services, it's not the other way around. The chicken came first, not the egg.

Not only must the costs of environmental damage and public health be factored, but also the outflow of spending from Massachusetts residents traveling abroad should be evaluated. Failing to provide this data, the MassDoT Statewide Airport Economic Impact Study is a one-sided aviation industry booster report created with the single purpose of being used to fortify the well worn industry narrative that airports are 'the engine of the economy'.

Rail

The ESPR discusses regional rail options, providing ridership numbers of passengers and describing service between Boston and major cities along the eastern Amtrak rail corridor. However, the ESPR doesn't provide context by providing the respective data on air service. This is particularly galling as the Governor's climate plans call for the long term reduction in air service to destinations less than 500 miles away, and because short haul air travel is the largest driver of poor environmental outcomes. The Port Authority makes absolutely no attempt to evaluate this complex issue.

If Massport found that pollution impacts from short haul flights create more environmental damage per operation, it could begin to evaluate opportunities to enhance ground access strategies which would support rail and other modes and discourage these flights.

Massport's failure to adequately mitigate and reduce ground access impacts creates serious environmental consequences in neighboring communities. When airport traffic exceeds airport and local roadway capacities, congestion spreads across the local area, endangering emergency mobility and causing costly delays. Despite repeated requests for calculation of the economic and socialized costs of Logan's traffic congestion, the ESPR does not recognize these impacts.

Ground access is also perhaps the most acute airport management crisis facing Massport today. While in the ESPR, Massport reports on numerous initiatives it is pursuing to reduce congestion, in fact the opposite is happening: traffic is backing up on airport roadways for hours each day. At extreme levels, this traffic can choke Logan's terminal curbs, potentially disrupting travelers access to their flights. Massport however seems to lack any sense of urgency in dealing with this.

The ESPR reports that weekday on-airport VMT in 2022 was 164,625 miles, which is 21.6% less than 2019's 209,900 miles. The Future Forecast calls for 212,022 by 2032 - 2037, an increase of over 47,000 miles per day. Factoring in the 50% uncertainty baked into the Authority's 10 - 15 year Future Planning Horizon, VMT could also rise by 71,000 miles per day to over 235,000 miles per day by the end of the future planning horizon.

Data gaps

In the Ground Access chapter, Massport describes seasonal adjustment factors which they say were necessary when significant gaps in their data occurred due to equipment failure or malfunction or to construction activity. The Authority explains that seasonal adjustment factors, are estimated from a combination of the monthly variation of counts from other ATMS stations, or from data collected from the same station in the previous year, at a similar time.

AWDT and VMT data in the ESPR show respective reductions in traffic and miles traveled relative to 2019. However Massport also reports that Covid hesitancy is driving up use of private

vehicles at Logan, which would indicate that more travelers would have arrived via passenger vehicles, which would cause trips to Logan and miles traveled to rise.

The Ground Access section does not indicate whether any seasonal adjustment factors were necessary in 2022, and if so, what the duration of the equipment failures or malfunctions which may have required them was, or what combination of the listed sources of replacement data was used, if necessary. It is very concerning to think that the lower than expected miles and traffic counts could be the result of unspecified data editing -especially concerning is the possibility that potentially large amounts of data from 2021, when airport travel volumes were at 63% of peak levels, and particularly during the early portions of 2021, when airport volumes were below 30% of previous peak levels.

Month	Passengers	Month	% Recovered
December 2020	804832	December 20	26.01%
January 2021	740247	January 2021	27.32%
February 2021	731029	February 202	26.91%
March 2021	1070171	March 2021	30.95%
April 2021	1427287	April 2021	39.13%
May 2021	1744185	May 2021	44.96%
June 2021	2121185	June 2021	53.75%
July 2021	2570680	July 2021	63.13%
August 2021	2587063	August 2021	62.78%
September 2021	2226035	September 20	62.75%
October 2021	2579783	October 2021	68.41%
November 2021	2471462	November 20	75.72%
December 2021	2409372	December 20	71.09%

We ask the Secretary to require Massport to quantify the amount, timing, and nature of the data editing or seasonal adjustment factors applied to 2022 data.

4D-33

Adding to the accumulation of doubt about the 2022 data, Massport reported that it 'migrated away' from the previous VISSIM3 microsimulation model, to a new spreadsheet-based volumetric model. In the ESPR, the Authority states that the spreadsheet based model was in place from 2018 - 2021 and took advantage of the data available through Massport's various transportation and transaction-based data collection systems. However, while stating that the spreadsheet based system was in place during a period of time, the ESPR does not indicate whether the spreadsheet based system was used to produce the traffic volume modeling reported in the 2018/2019 and 2020/2021 EDRs. The Authority further explains that 'the 2022 ESPR requires modeling and reporting in future forecast conditions, which the new spreadsheet-based volumetric model could not accomplish' and that subsequently, 'Massport has returned to the previous VISSIM model, appropriately updated to reflect the on-Airport ground transportation and infrastructure changes that have occurred since 2017, the last time the model was used for this purpose'.

YEAR	AWDT	Total Annual Weekday Trips TAWT	Annual Passengers	Ratio Passengers to Trips
2011	104,863	27,369,243	28,907,938	1.056
2017	130,601	34,086,861	38,412,419	1.127
2,018	137,105	35,784,405	40,941,925	1.144
2,019	143,189	37,372,329	42,522,411	1.138
2,020	57,210	14,931,810	12,618,128	0.845
2,021	90,185	23,538,285	22,678,499	0.963
2,022	114,690	29,934,090	36,090,716	1.206

Average weekday daily and total annual traffic to passengers

The Authority does not bother to explain the rationale behind its decision to change traffic modeling methodology to a system which is incompatible with the the traffic forecasting software technology. Given the uncertainty in the 10 - 15 year reporting structure, the possibility of biased editing using unrepresentative low proxy data, and the unexplained shifting of methodology, AIR, Inc. considers Massport's traffic reporting in the ESPR to be 100% unreliable. This conclusion widens an already serious rift in public confidence in the Port Authority's credibility.

Based upon the results of the 2022 Logan International Airport Air Passenger Ground-Access Survey, HOV mode share has reached 38.4%, exceeding the near term goal.

AWDT is AIR, Inc. and community stakeholders' preferred metric, as it relates directly to the lived experience of residents whose daily lives are inundated by daily airport traffic overflow in traffic impacts areas. AWDT is an easily recognizable net impact metric which clearly indicates the success or failure of Massport's traffic management and mitigation efforts. However, the AWDT data reported in ESPR 2022 is difficult to understand. With the ESPR reporting that passenger volumes are 15.1% below peak 2019 levels, and Covid hesitancy presumably still a factor, the 2022 ESPR reports AWDT at 114,690 (19.9% below the peak 143,189 set in 2019).

Annualizing AWDT is necessary to produce a more useful Total Annual Weekday Traffic (TAWT) metric for comparison to annual passenger volumes. *Between 2011 and 2019, AWDT was increasingly trending for the most part toward more passengers per vehicle trip to Logan*, with 1.056 passengers per trip in 2011, and a peak level of 1.144 passengers per trip in 2018. The Covid effect appears to have been a reduction in passengers per trip, as Massport reported 57,210 AWDT in 2020 with a total annual passenger volume of 12.6 million travelers. This is logical. During the pandemic, Logan's trips to passengers trend predictably flipped, falling below 1 passenger per trip. In 2020, the annual weekday passengers to trips ratio dropped to 0.845 with 14.9 M trips for 12.6 M passengers. 2021 showed a slight improvement with 0.963 passengers to trips. However, in 2022, Massport reported an AWDT of 114,690 which would indicate 29.9 M vehicle trips annually, at an annual passenger volume of 36.1 million travelers. The resulting annual passenger to trips ratio of 1.206 is an apparent record high level of passengers to trips.

The drop in passenger vehicle trips is counterintuitive and not explained in the ESPR. Whereas the purpose of the ESPR is to describe environmental impacts and assess the Port Authority's performance in its efforts to mitigate and reduce pollution the Authority should attempt to explain obviously counterintuitive phenomena when they present themselves. No such effort is made.

Massport reports that a 'transaction-based versus volumetric model was used to estimate on-Airport VMT, and states that the explanation of this is provided in Appendix H. AIR, Inc. asks the Secretary to instruct Massport to embed any information which is relevant to reviewing the ESPRs and EDRs into the body of the documents, and in cases when information is not relevant, to omit it.

4D-34

The ESPR does not provide any estimation of airport-related traffic congestion both off the airport. Logan's spillover traffic creates serious traffic congestion impacts across the local communities, overwhelming local roads and intersections routinely. By omitting calculations of

the VMT impact of practices such as rerouting traffic down McClellan Highway when Massport closes the Rte 145, Bennington Street exit on 1A southbound, the ESPR fails to adequately and properly account for obvious environmental damage of airport traffic impacts.

We ask the Secretary to specifically require the Port Authority to develop a methodology for accurately determining and evaluating the local and regional effects of airport traffic congestion. 4D-35

Logan Express

The 2022 ESPR reports that air travel volumes were down 15% from 2019 levels, but that Logan Express (LEX) ridership was down 23.2% from 2019. The Authority then states: "but now shows strong growth back toward pre-pandemic levels". This is a qualitative assessment of progress -which without quantitative support is essentially a statement of opinion. As is the case for the the ESPR's VMT and AWDT reporting, an unexplained disparity exists in the reporting: if LEX is down, private vehicle use would be expected to increase. However no attempt is made to explain this. Readers wishing to review supporting documentation regarding ground access data reporting and claims made within the ESPR are referred to Massport's web site. This practice removes the supporting data from the document

The ESPR states that airport cell phone lots minimize idling. AIR, Inc.'s idling surveying project observed idling behaviors at Logan terminal curbs, cell lots and professional lots in March of 2022. 62% of vehicles using the cell lot were observed to be idling in this spot check. Again, the Authority uses qualitative descriptions of environmental impacts. Clearly, minimizing is not an objective term, but 62% is not it.

Year	Estimated Seats			
	Scheduled Buses	Scheduled Vans & Limousines	Courtesy Vehicles	Limousines (unscheduled)
2011	2,251,480	996,208	1,885,575	1,991,672
2017	2,969,395	385,221	3,057,645	2,528,057
2018	2,856,260	325,032	3,235,875	2,133,060
2019	2,752,970	297,631	3,125,865	1,953,236
2020	949,960	47,976	1,091,895	467,564
2021	2,094,730	34,648	1,418,745	705,904
2022	2,350,480	81,344	2,006,220	1,111,864
Percent Change (2019 - 2022)	-14.60%	-72.70%	-35.80%	-43.10%

Air traveler survey

The ESPR uses Massport's Logan Airport Air Traveler Ground Access Survey to determine mode share. This survey is conducted every three years. It asks passengers at Logan about their trip origin and mode of travel to the airport. It also asks respondents to project which mode they would use if their preferred mode were not available. As AIR, Inc. has pointed out in previous comments on this document series, by basing mode share data and planning on a survey which asks travelers to predict what their modal transport decisions would be given a choice among only present options, the Authority biases the results. Without asking travelers how their behavior might change if there were a $10 airport roadway fee, or if Logan Express were free, or if they had the choice to use a remote airport terminal with secure to secure transportation, - all feasible alternatives, Massport limits the possibilities to only the options it currently offers.

We ask the Secretary to specifically instruct Massport to conduct such research as would be necessary to inform decisions and determine the potential effect of a wide ranging set of policy options including a) airport roadway access fees, b) reduced pricing on Logan Express, c) improved facilities and features at Logan Express locations including secure to secure TSA screening and baggage check through, d) upgraded buses, and e) reduced travel times. 4D-36

Massport states that data for the passenger survey used to inform ESPR 2022 was collected during the college graduation season. AIR, Inc. expressed our concern over the potential for bias via the introduction of unrepresentative data which is possible by selection of a time period during which such unusual, specific and intense travel activities are occurring.

In order to properly and thoroughly understand the results of this foundational survey, we ask the Secretary to require Massport to release supplemental documentation of data on respondent demographics as well as Non-response rates and demographics. 4D-37

To improve this surveying process Massport should be required to test its survey findings with quantitative data based on a program of actual observations.

Ride apps

The ESPR continues the accounting practice of categorizing an Uber passenger vehicle dropping off 2 passengers at the curb as an HOV trip. However, under this accounting system, a private passenger vehicle dropping off 2 passengers at the curb would be categorized as an SOV trip. The environmental impact of each scenario is identical. As the trend for rideshare service to cannibalize true transit based HOV service continues, this practice creates a condition where passenger vehicle counts can rise bringing increasing passenger vehicle impacts while driving up HOV numbers.

Stakeholders in traffic impacted communities are concerned with net traffic reduction. Categorization of passenger vehicles as high occupancy through evaluation of passenger car occupancy levels rests upon the assumption that some forms of passenger vehicle modes are have environmental benefits. This is ludicrous. Consider that theoretically, using 2019 annual passenger totals of 42.5 million passengers, under Massport's HOV accounting method, 100% HOV mode could be achieved by use of about 21 million (21,250,000) Uber trips to and 21 million Uber trips out of Logan, as long as each trip served two passengers. In this scenario, 116,438 average daily trips would be generated just for passengers, and passenger-related AWDT would be (163,014). Since average annual daily trip (AADT) levels track about 4% below AWDT levels, AIR, Inc. estimated that AWDT levels of passenger cars only would reach 169,535 trips per day, 26,346 more passenger car trips to Logan each weekday. This potential increase would represent an 18.4% rise in passenger vehicle congestion at Logan Airport while at the same time achieving a 100% HOV mode of travel.

If Massport is going to persist in calling passenger vehicles HOV, they should be consistent, and they should develop a hierarchical classification system which would Massport should also

4D-38

The language on page 6–32 pertaining to who Masport considers a resident in their survey states that “residency “is a matter of when a respondent considers Logan to be “home “airport. This means that reported resident statistics scanning include anyone who believes that Logan is their home Airport. Massport goes onto explain that the notion of a home airport is complicated because of pricing service availability, convenience, etc. Thus, if the person uses Logan because it is more affordable and has better direct flights, but they come from Maine, then they’re considered to be a resident in the survey.

Table 6–11 contains a typographical mistake. Although it does not state that the table continues onto the following page, the presence of a subtotal indicates as much. In particular, the subtotal for automobiles printed is 63%. The number should be 83%.

Table 6–11 provides an interesting look at mode share over time, but shows that ride app Services are rapidly cannibalizing HOV. with the 2022 survey reporting only an 11% true HOV mode share.

In the Ground Access section of the ESPR, Massport states ‘the following analysis assumes these measures will be implemented by Massport over the next decade’ and that ”Specifics of the measures themselves are currently under development and will be further documented in subsequent environmental filings and EDRs/ESPRs.” Therefore, the VMT and traffic analysis provided in the ESPR are predicated upon completion of a series of initiatives which Masport states are under consideration. This is not specific enough. Traffic impacts create severe negative environmental impacts in EJ communities. Estimating future traffic conditions in the 2022 ESPR based on a series of projects which have not been developed yet, or described in this disclosure are is unacceptable. The Port Authority should be held to a much higher standard.

4D-39

The 2022 ESPR reports that VMT in the future planning horizon at 53.5 million passengers annually will reach one percent higher than VMT at the 42.5 million passenger level attained in 2019. This information, as poorly substantiated as it is, is subject to the 50% forecasting uncertainty. The predicted average weekday VMT (AWVMT) of 212,000 miles in the planning horizon indicates an increase in AWVMT of 47,375 additional daily miles traveled. If those miles are realized by 2037, 3,158 additional daily miles would be expected in each of the 15 years. Accordingly, in the 10th year, 31,580 additional miles would be expected. If the total gain in VMT is realized in the 10 year scenario, 4,737.5 additional miles would be added per year. Projecting this rate out to the 15th year, the total VMT within the outer limit of the horizon would be an increase of 71,062.5 miles. In these calculations, we see a potential low growth scenario providing a base level or floor with 31,580 more VMT and a high growth scenario creating a ceiling with as much as 71,062.5 VMT. The difference between the floor and ceiling projected levels (39,482.5) is more than 100% of the floor. The Port Authority’s report does not include information on this potential range of impacts, nor does it provide details of how the VMT estimate has been developed or what the rationale was for selecting the 212,000 number.

Public Health

Public Health is the most important emerging airport issue of our day. As mentioned earlier in these comments, airport health impacts have prompted a class action lawsuit against SEATAC in Seattle. AIR, Inc. held the world's first Airport Impacts Health Forum in 2016, bringing ten of the world’s leading airport air quality and noise experts to Boston for a day long conference on public health. Even then it was clear that airports are going to need to aggressively address public health impacts. In these comments, AIR, Inc. promotes multiple means of protecting public health. In her scoping, the Secretary has required Massport to begin collaborating. Unfortunately, Massport persists in erecting blockades.

For example, the ESPR states that Massport cannot differentiate airport impact from those derived from other sources. This is misleading. As demonstrated in these comments regarding AIR, Inc.’s Distributed Air Quality Sensor proposals, the technology currently exists for the Authority to differentiate airport from other pollution. It’s only a matter of Massport policy that the Authority chooses not to engage in an effort to evaluate the spatial and temporal whereabouts of Logan-related air pollution. Therefore, the ESPR intentionally misleads the public in regard to Massport’s present capacity to assess airport driven air quality.

The 2022 ESPR also extends Massport’s streak of nonresponsiveness to AIR, Inc. and community stakeholders’ request for economic impact of socialized costs of airport related public health impacts.

Conclusion

AIR, Inc. has thoroughly reviewed the 2022 ESPR, and has found it to be thoroughly unhelpful and not useful. At 1,152 pages including appendices, the document is far too long. Throughout our review we have found that the document is supremely disorganized, providing data on the same topics in numerous chapters. This practice is disorienting for commenters and causes them to need to stitch multiple comments together, producing disjointed results. We conclude that this filing does not properly and adequately comply with MEPA regulations, it fails to provide comprehensive discussion of environmental impacts, it is loaded with unsupported claims, and it clearly fails to comply with the Secretary’s many directives. We urge the Secretary to determine that the ESPR is not compliant with state regulations, and require Massport to resubmit this filing.

We urge the Secretary to ignore Massport’s professions of good neighborliness and recognize that the well earned reputation as an environmental leader among airports has now long since faded and been replaced by environmental obstructionism and utter refusal to collaborate. Therefore we also urge the Secretary to be prescriptive in her direction to the Authority, instructing them to work with specific stakeholders in specific efforts within specific timeframes.

4D-40

Given the segmentation of airport facilities projects and the fact that Massport’s failure to provide facility specific environmental impact data has denied the public the opportunity to comment on the lifetime impacts of airport developments, AIR, Inc. asks that the Secretary

require Massport to include calculations of these impacts in the supplemental ESPR. We also ask the Secretary to require Massport to file ENF's for every project they embark on going forward. 4D-41 4D-42

With noise, traffic, and air pollution impacts predicted in this ESPR to grow, and already clearly unacceptable to residents of metropolitan Boston, and causing acute public health impacts in environmental justice communities surrounding Logan, and with the forecast-based planning model introducing massive uncertainty which in turn exposes impacted environmental justice communities to unacceptable and growing disproportionate environmental burdens, we ask the Secretary to specifically require a thorough evaluation of revised mitigation and policy framework which is based upon actual realized impacts rather than forecasted impacts, aka impact triggered mitigation, as described in these comments. This evaluation should be conducted by a cross sector collaboration which is designed by community stakeholders with experience in communicating technical topics with EJ community residents. 4D-43 Regarding air pollution impacts, we specifically ask that the Secretary require Massport to work through the above described cross sector collaboration to explore the design of an Airport Sponsored Community Air Pollution Mitigation Program, and a granular web-enabled real time pollution monitoring system capable of separating airport air pollution impacts from background impacts with the intention to develop an airport air pollution impact map which will define air filtration program areas. 4D-44

We ask that the Secretary cap the supplemental ESPR at 200 pages, and that Massport be required to accept public input prior to its filing such that community stakeholders have input into the document's content. 4D-45

We ask that Massport be required to produce data to substantiate any claims made in the ESPR. 4D-46

We once again thank MEPA and EEA for the opportunity to provide comment on EEA #3247, and we look forward to participating in the much needed reforms we hope the Secretary will set in motion.

Airport Impact Relief, Incorporated (AIR Inc.)

Airport Impact Relief, Inc. (AIR, Inc.) Responses to Comments

4A-1: Environmental Justice

The location for tonight's meeting, the Cathy Leonard McLean room, does not satisfy the requirements of public meeting space for environmental justice community public information meetings as provided by the Public Involvement Protocol for Environmental Justice Populations found within the Interim Protocol on Climate Change Adaptation and Resiliency as required by the Climate Roadmap law…"The meeting(s) must be held at accessible locations near public transit to the greatest extent possible and facilitate remote attendance, with oral interpretation required with 48 hours' notice."

Throughout the development of the *2023/2024 EDR*, Massport enhanced public involvement and outreach by continuing practices initiated within the *2022 ESPR* and through participation in MEPA's Logan Airport Work Group, as discussed in Comments A-8, A-11, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments***. Additionally, Massport's Community Relations & Government Affairs Department provides oral updates on on-going projects and programs at Logan Airport, including ESPRs and EDRs, through its participation in neighborhood meetings. The Community Relations & Government Affairs Department also conducts outreach activities regarding Logan Airport activities, which often extend to areas beyond the environmental justice (EJ) populations and the surrounding communities nearest to the Airport. Further information on Massport outreach policies and other forms of engagement is described in **Chapter 2, Outreach and Environmental Justice, Section 2.2**, and in the User's Guide, **Section U2.4**.

4A-2: Logan Airport Environmental Review and Planning

AIR, Inc. reiterates its comments made in previous EDR and ESPR's as well as through our involvement in the recent MEPA regulatory review, that neither MEPA's standard 45 day nor its extended 60 comment period provide anywhere near an appropriate opportunity for public comment.

Massport appreciates the feedback regarding the comment period for Massachusetts Environmental Policy Act (MEPA) filings. The EDRs and ESPRs are designed to provide comprehensive insights into Logan Airport's environmental conditions and planning initiatives. However, Massport has taken action to address this concern, and recent updates to the EDR and ESPR formats have been implemented to enhance accessibility and ease of review. Massport believes these updates will enable the public to review these documents and develop comments within the standard comment period prescribed by MEPA.

These include the use of consistent iconography and navigation aids, such as color-coded chapters and hyperlinked tables of contents, which facilitate quicker access to relevant sections. Additionally, callout boxes have been introduced to highlight key information, making it easier for readers to identify

important findings. The new User's Guide also helps to streamline these documents by reducing their overall length and enhancing readability. It achieves this by consolidating background information, definitions, and methodologies into a separate, easily accessible guide. This allows report chapters to focus more directly on key findings. Additionally, hyperlinks within the chapters direct readers to relevant sections of the User's Guide, facilitating quicker access to detailed explanations and supporting data. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary,*** also has an overview of document changes in the *2023/2024 EDR* and further information on the User's Guide.

4A-3: Logan Airport Environmental Review and Planning

Suggest that these environmental reporting documents be released in final draft form prior to their release formal submission for MEPA review.

As discussed in Comment 4A-2 above, Massport has made significant changes to the EDR and ESPR document formats to facilitate easier and quicker reviews, developed the new User's Guide as a supporting resource to aid in comprehension, and developed an EDR and ESPR webpage to enable navigation through the document on several types of electronic devices, for example, mobile devices and smartphones. Given that this *2023/2024 EDR* is the first year in which these new approaches are being implemented, Massport believes this request is not appropriate at this time, but will follow direction and guidance provided by MEPA and the Secretary regarding future EDRs and ESPRs should these efforts prove insufficient to resolve these prior issues with review timing.

4A-4: Logan Airport Environmental Review and Planning

Require the Port Authority to provide data and respond to comment on the environmental impacts of all projects individually over time.

Massport is committed to providing comprehensive data and responding to comments on the environmental impacts of its projects over time. Each project at Logan Airport undergoes a project-specific environmental review process when state environmental review thresholds are met. This includes the submission of ENFs and Environmental Impact Reports (EIRs) as required by MEPA.

Massport's EDRs and ESPRs serve as annual and periodic reporting mechanisms that document the cumulative environmental effects of Logan Airport's operations and activities. These reports provide historical context and compare current results with previous years, ensuring transparency and accountability. Furthermore, Massport tracks and reports on mitigation commitments made through the MEPA process in ***Chapter 10, Project Mitigation,*** the EDRs and ESPRs. These commitments remain active until they are fully implemented, and progress toward meeting these commitments is reported annually. Massport's approach to environmental stewardship includes a wide range of strategies to avoid, minimize, or offset potential impacts, and Massport will continue to adhere to regulatory frameworks and engage in community outreach to keep stakeholders informed and involved in the environmental decision-making process.

4A-5: Logan Airport Environmental Review and Planning

Review, evaluate, and determine environmental impacts in real time by yoking policy and mitigation planning to actual present and future impacts.

As discussed above in Comment 4A-4 and in Comments A-26 and A-33 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport acknowledges the importance of real-time evaluation of environmental impacts and the integration of policy and mitigation planning to address both current and future effects. Massport is committed to enhancing transparency and responsiveness through the development of innovative solutions, including the provision of relevant data sources to the public via a dedicated web portal.

Massport actively evaluates new methodologies and technologies to improve the monitoring of air emissions, noise, and traffic impacts. This includes collaboration with the Massport CAC to develop access to available data. The EDRs and ESPRs also provide annual updates on environmental conditions and beneficial measures implemented to offset impacts, focusing on relevant metrics and trends.

Massport's approach includes on-going tracking and verification of compliance with environmental mitigation commitments, ensuring that each project's mitigation plan is implemented effectively. Massport also remains dedicated to advancing EJ and public health improvements through collaboration with MEPA and other stakeholders. Massport will continue to explore ways to improve the reporting and quantification of planned, on-going, and implemented mitigation measures in future filings.

4A-6: Mitigation

Require the Authority to provide findings that all environmental mitigation efforts have been and are being taken to minimize said environmental damage by developing and implementing real time mitigation strategies by or before the time impact increases are realized.

As discussed in Comment A-6 in **Appendix A, *MEPA Certificate and Responses to Comments*** since conception, the purpose of the EDR and ESPR has been to disclose the impact of recent growth at Logan Airport as well as impact of long-term growth through ESPRs. Through these reports, Logan Airport is subject to comprehensive and regular MEPA review, including opportunities for public comment on the cumulative impacts. This regular updating and reporting on planning and cumulative impacts is unique among state agencies. Consistent with past ESPRs and EDRs, the *2023/2024 EDR* describes the cumulative effects associated with overall Logan Airport operations and compares these effects to previous conditions in the last reporting year as well as to a benchmark reporting year's conditions for each topic covered. Based on findings from EDRs and ESPRs, Massport continuously assesses on-going and proposed programs and policies for efficacy to reduce Logan Airport's impact. The current status of these programs and policies is discussed within **Section 2.2 of Chapter 2, *Outreach and Environmental Justice*; Section 6.4 of Chapter 6, *Ground Access*; Section 7.4 of Chapter 7, *Noise*;** and **Section 8.5 of Chapter 8, *Air Quality and GHG Emissions***. Where data is

available, Massport has quantified these beneficial measures and intends to find better methods to quantify the effects of these programs in future EDRs and ESPRs.

EDRs and ESPRs are also used to inform the projects subject to MEPA and the NEPA and serve as a baseline condition against which to assess project-specific impacts. Projects subject to MEPA review are reported on within **Chapter 4, *Airport Planning*,** with the status of associated Section 61 mitigation measures reported in **Chapter 10, *Project Mitigation*.**

Introduced in the *2022 ESPR*, Massport began reporting on public health existing conditions within the communities neighboring the Airport. This assessment was conducted using tools published by the state and the U.S. Environmental Protection Agency (U.S.EPA) to identify existing environmental burdens and public health consequences; however, the tools used are unable to differentiate Logan Airport-related activities from other surrounding activities and site uses. Building upon the assessment conducted in the *2022 ESPR*, the *2023/2024 EDR* utilized the newly released Massachusetts Department of Environmental Protection (MassDEP) Cumulative Impact Analysis (CIA) framework to assess existing community conditions. The MassDEP CIA tool provides data similar to what was presented within the *2022 ESPR*, but with higher granularity. The results from this assessment were similar to what was presented in the *2022 ESPR* as described in **Section 2.4.2 of Chapter 2, *Outreach and Environmental Justice*.**

4A-7: Mitigation

Require the Authority to report all mitigation efforts along a continuum of formal measures required to minimize or avoid environmental damage.

As discussed above and in Comment A-6 in **Appendix A**, ***MEPA Certificate and Responses to Comments*,** since conception, the purpose of the EDR and ESPR has been to disclose the impact of recent growth at Logan Airport, as well as the impact of long-term growth through ESPRs. Through these reports, Logan Airport is subject to comprehensive and regular MEPA review, including opportunities for public comment on the cumulative impacts. Consistent with past ESPRs and EDRs, the *2023/2024 EDR* describes the cumulative effects associated with overall Logan Airport operations and compares these effects to previous conditions in the last reporting year as well as to a benchmark reporting year's conditions for each topic covered.

4A-8: Logan Airport Environmental Review and Planning

Require the Authority to release its next report closer to the end of the reporting period, and then its next report closer again.

As discussed in Comments 4A-2 and 4A-3 above, and in Comments A-3 and A-4 in Appendix A, MEPA Certificate and Responses to Comments, Massport has employed multiple strategies to improve document timing and the publishing of annual data. These strategies include an in-depth review of existing reporting, the development of the new User's Guide, limiting data reported in the *2023/2024*

EDR to applicable years, and the development of the EDR and ESPR website. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary*** provides an overview of these improvements in the *2023/2024 EDR*.

4A-9: Logan Airport Environmental Review and Planning

Require the Authority to release a final draft report with a complete comment cycle.

As discussed in Comments 4A-2 and 4A-3 above, and in Comments A-3 and A-4 in Appendix A, MEPA Certificate and Responses to Comments, Massport has employed multiple strategies to improve document timing and the publishing of annual data. These strategies include an in-depth review of existing reporting, the development of the new User's Guide, limiting data reported in the *2023/2024 EDR* to applicable years, and the development of the EDR and ESPR website. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary*** provides an overview of these improvements in the *2023/2024 EDR*.

Massport has taken action to address this concern. Recent updates to the EDR and ESPR formats have been implemented to enhance accessibility and ease of review, which Massport believes will enable the production process for these filings to return to a consistent, annual schedule while also facilitating the public's ability to review these documents and develop comments within the standard comment period prescribed by MEPA.

4B-1: Ground Access to and From Logan Airport

Massport should commit to providing a level comfort and relative luxury commensurate with the requirements of modern air travel as well as to providing appropriate basic transportation options to its employees.

Massport is committed to providing a level of comfort and relative luxury commensurate with the requirements of modern air travel, as well as appropriate basic transportation options for its employees. Massport has implemented several employee ground transportation initiatives, including free shuttle bus services between various locations and the Airport, subsidized transit passes, and reduced-rate options for Logan Express and other transit services. Massport also provides amenities such as showers and changing facilities at the Logan Office Center. These efforts are part of Massport's broader strategy to offer convenient and reliable transportation options that reduce environmental and community impacts. Employee ground transportation Initiatives are detailed in **Section 6.4.4 of *Chapter 6, Ground Access***.

4C-1: Noise

Require Massport to live up to its obligations to update and implement an effective Runway Use Program, which FAA gives them the authority and procedural power to create.

As discussed in Comment A-63, A-65, and A-66 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport, the Federal Aviation Administration (FAA), the Massport CAC, and Massachusetts Institute of Technology (MIT) have continued to collaborate on how to design and implement Area Navigation (RNAV) procedures successfully. Massport continues to coordinate with FAA and the Massport CAC on matters related to runway use and the on-going RNAV Pilot project. Additional information on the Logan Airport noise mitigation and preferential runway use procedures is provided in the *2023/2024 EDR*, **Section 7.4 of Chapter 7, *Noise*,** and the **User's Guide, Section U7.5.1**.

4C-2: Noise

[Massport] should be required to update PRAS and seek its proper implementation.

As discussed in comment 2-8, Massport developed the Preferential Runway Advisory System (PRAS) in 1982, but the PRAS system was suspended in February 2004, due to an upgrade of the FAA radar system during the consolidation of the Boston Terminal Control Center at the new facility in Merrimack, New Hampshire. During Phase 2 of the Boston Logan Airport Noise Study (BLANS), the Massport CAC voted to abandon PRAS because it had not achieved the intended noise abatement. Phase 3 of the BLANS focused on updating the Runway Use Program; however, the project concluded in 2016 without the Massport CAC reaching an agreement on a new Runway Use Program.

Although PRAS is not in effect at Logan Airport, Massport continues to report on key PRAS statistics for public information purposes. The **User's Guide, Section U7.5.1** provides the original PRAS goals and **Table I-16** in **Appendix I, Section I.1.2** compares the effective runway use for the current reporting years to the prior reporting year and the benchmark year.

4D-1: Environmental Justice

EJ engagement measures does not satisfy the requirements of public meeting space for environmental justice community public information meetings as provided by the Public Involvement Protocol for Environmental Justice Populations found within the Interim Protocol on Climate Change Adaptation and Resiliency as required by the Climate Roadmap law.

As discussed in Comment 4A-1, Massport enhanced public involvement and outreach through continuing practices initiated within the *2022 ESPR* and through participation in MEPA's Logan Airport Work Group. Massport emphasizes the importance of community outreach in the planning and environmental review process. Public review and comment periods are initiated following the filing of an ESPR or EDR under MEPA, where Massport engages with communities through various methods to gather input that informs planning initiatives and project-specific mitigation measures. This is discussed further in Comments A-8, A-11, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments***. Further information on Massport outreach policies and other forms of engagement is described in **Chapter 2, Outreach and Environmental Justice, Section 2.2, and in the User's Guide, Section U2.4**.

4D-2: Logan Airport Environmental Review and Planning

Introduction of unfamiliar technical terminology must be limited to only necessary concepts, and when done must be carefully explained, as audiences may include readers with known low numeracy and literacy levels.

As discussed above as well as Comments, A-1, A-3, A-4, A-5, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport remains committed to enhancing data transparency, accessibility, and the clarity of ESPRs and EDRs. Massport improved the usability and reduced the length of the *2023/2024 EDR* by focusing the main chapters solely on annual data updates and introducing a User's Guide that outlines key concepts, regulatory frameworks, and methodologies, enhancing document transparency and efficiency. Additionally, key terms are denoted in each chapter and defined in a centralized, upfront glossary of Key Terminology. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary,*** also has an overview of document changes in the *2023/2024 EDR* and further information on the EDR and ESPR website.

4D-3: Logan Airport Environmental Review and Planning

Overall, each chapter of the document should have a one - two page summary providing the essential concepts and numbers. Each new term should be linked to more detailed explanations.

As discussed above and in Comments, A-1, A-3, A-4, A-5, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport improved the usability and reduced the length of the *2023/2024 EDR*. The chapters begin with a bulleted summary of Key Findings, and throughout the chapters, hyperlinks are provided to the relevant sections of the User's Guide that outline the key concepts, regulatory frameworks, technical background information, and methodologies discussed in each chapter section. These hyperlinks are easily recognizable through bolded color font with a distinct icon shown in the page margin. Additionally, key terms are denoted in each chapter and defined in a centralized, upfront Key Terminology glossary. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary,*** also has an overview of document changes in the *2023/2024 EDR* and further information on the EDR and ESPR website.

4D-4: Logan Airport Environmental Review and Planning

Today we renew this request and ask the Secretary place a 200 page limit on future filings, inclusive of all relevant data and information.

As discussed above and in Comments, A-1, A-3, A-4, A-5, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport improved the usability and reduced the length of the *2023/2024 EDR* by focusing main chapters solely on annual data updates and introducing a User's Guide that outlines key concepts, regulatory frameworks, and methodologies, enhancing document transparency and efficiency. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary,*** has an overview of document changes in the *2023/2024 EDR*.

Massport is committed to providing comprehensive data and responding to comments on the environmental effects of Logan Airport's operations and projects over time. This level of transparency requires sufficient narrative text to provide adequate information. However, Massport has endeavored to keep the *2023/2024 EDR* page count for the main document under 250 pages and will seek opportunities in future filings to further streamline these documents.

4D-5: Logan Airport Environmental Review and Planning

To further improve Massport's MEPA filings, we ask the Secretary to prescribe that the Authority provide filings in multiple formats, including Google docs.

As discussed above and in Comments, A-1, A-3, A-4, A-5, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport has employed multiple strategies to improve the accessibility and usability of the *2023/2024 EDR*. Massport standardized headings and subheadings in the *2023/2024 EDR*, limiting data to reporting year, previous year, and chapter-specific benchmark years. Before filing the *2023/2024 EDR*, Massport developed a new webpage specifically for EDR and ESPR filings (https://www.massport.com/environment/boston-logan-edr-espr-data-portal). The website provides links for each chapter of the most recent filings to facilitate navigation through the document on several types of electronic devices, for example, mobile devices and smartphones, as well as notices for upcoming meetings, materials from prior meetings, prior filings, and links to regularly updated data sources used for EDRs and ESPRs analyses. Massport also continues to make historical data accessible on its environmental filings website. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary,*** provides an overview of document changes in the *2023/2024 EDR*, as well as additional information on the EDR and ESPR website.

4D-6: Ground Access to and From Logan Airport

Secretary should require Massport to explain the consequences of reduced RJ activity at Logan on ground access and congestion.

Massport acknowledges the potential effects of changes in operations on ground access and congestion. Massport actively monitors these dynamics through the *Logan Air Passenger Ground Access Survey*, which informs adjustments to ground access strategies and service options. Massport promotes HOV ridership, including transit and shared-ride modes, to mitigate congestion and maintain efficient transportation access. For more information on ground access initiatives, see **Section 6.4 of Chapter 6, *Ground Access***.

4D-7: Activity Levels

The Secretary should require Massport to reconcile the passenger volumes implied by this discussion of load factors and average available seats with its passenger volume forecasts elsewhere in the document.

Massport will review the referenced section in *the 2022 ESPR* and revise as appropriate, as well as confirm this information is presented correctly in the *2023/2024 EDR* and the User's Guide, where applicable. **Section 3.1.2 of Chapter 3, *Activity Levels*** presents load factor and average seats per operation for 2023 and 2024.

4D-8: Activity Levels

The Secretary should require Massport to specifically compare the TAF forecast to the Massport forecasts for the same forecasting periods.

The FAA issues a Terminal Area Forecast (TAF) each year, which the FAA uses for regional planning, budgeting, and managing staffing levels. The TAF forecasts are prepared at the individual airport level and based on local and national trends, but are not reconciled directly to the FAA's national Aerospace Forecast. As a result, the TAF does not contain the local nuances and market-specific conditions that the ESPR site-specific forecasts provide. While the TAF is used as point of reference during the ESPR forecasting, the forecast methodology is consistent with the industry best practices published in the FAA's Forecasting Aviation Activity by Airport. This forecast guidance document identifies reliable data sources and accepted statistical analysis techniques, such as econometric analyses of the relationship between airport passengers and socioeconomic demand drivers. The assumptions, data sources, and enhanced methodologies Massport currently uses for these forecasts are documented in the **User's Guide, Section U3.4**.

4D-9: Activity Levels

The Secretary should find that the inaccurate Massport forecasting method is inappropriate for use in developing a mitigation strategy for public health impacts on human populations.

As discussed above, the EEA Secretary's Certificate guides Massport's preparation of each EDR and ESPR. Consistent with past ESPRs and EDRs, the *2023/2024 EDR* describes the cumulative effects associated with overall Logan Airport activity levels and compares these effects to previous conditions in the last reporting year, as well as to a benchmark reporting year's conditions for each topic covered. The EDRs and ESPRs inform the projects subject to MEPA and NEPA and serve as a baseline condition against which to assess project-specific impacts. The *2023/2024 EDR* compares 2023 technical chapter data to 2022 and 2024 reporting year data, and 2023 and 2024 data are also compared to topic-specific benchmark year(s) to provide a standard frame of reference for comparisons. The rationale behind each benchmark year's selection for a given topic is provided in each topic's respective chapter.

Separate from the EDR and ESPR, each airport project subject to MEPA review follows these frameworks in assessing potential impacts and developing mitigation strategies, as required. The status of mitigation measures associated with project-specific Section 61 Findings are documented in **Chapter 10, *Project Mitigation***.

4D-10: Logan Airport Environmental Review and Planning

We ask the Secretary to build on her strong requirements within her 2020/2021 EDR certificate by prescribing that MEPA meet with specific groups such as AIR, Inc. and GreenRoots, specifically for the purpose of developing a new framework for environmental review and impact-related mitigation.

As discussed above and in Comments A-1, A-5, 4A-4, and 4A-5, as well as in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to active participation in the MEPA's Logan Airport Work Group established in collaboration with the MEPA Office and the Office of Environmental Justice & Equity (OEJE). The Work Group's primary objective is to assess and discuss feasible supplemental mitigation measures that could address environmental concerns.

Massport acknowledges the importance of real-time evaluation of environmental impacts and the integration of policy and mitigation planning to address both current and future impacts. Massport actively evaluates new methodologies and technologies to improve the monitoring of air emissions, noise, and vehicle congestion. The EDRs and ESPRs also provide annual updates on environmental conditions and beneficial measures implemented to offset impacts, focusing on relevant metrics and trends.

Massport's approach includes on-going tracking and verification of compliance with environmental mitigation commitments, ensuring that each project's mitigation plan is implemented effectively. Massport also remains dedicated to advancing EJ and public health improvements through collaboration with MEPA and other stakeholders. Massport will continue to explore ways to improve the reporting and quantification of planned, on-going, and implemented mitigation measures in future filings.

4D-11: Mitigation

In order for the public to have meaningful input on specific airport facilities projects completed in the past, we ask the Secretary to require Massport to include modeled environmental impacts from Logan facilities project filings approved in the past in EDRs and ESPRs and to include evaluation of predicted environmental performance over the expected lifetime of all future ENF and EIR project filings, including at all future capacity levels of service.

As a part of the MEPA review process, as described in **User's Guide, Section U10**, Section 61 mitigation commitments are established for project-specific impacts. Through the EDR and ESPR process, the status of implementing these mitigation commitments are discussed and quantified when possible. See **Chapter 10, *Project Mitigation*** for projects with on-going mitigation commitments. Massport will consider ways to further quantify project mitigation and community benefits as well as discuss opportunities to present further estimates for GHG emissions and energy consumption for planned projects.

4D-12: Logan Airport Environmental Review and Planning

Where the document serves to inform, it should do so with the intention of ensuring the public has a solid footing of understanding of aviation industry technical topics and trends in order to help advance helpful dialogues about available opportunities to innovate in environmental impact reduction which are available or may become available.

As discussed above in A4-3 and in Comments, A-1 to A-5, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments***, while chapters begin with a bulleted summary of Key Findings, throughout the chapters are hyperlinks to the relevant sections of the User's Guide that outline the key concepts, regulatory frameworks, technical background information, and methodologies discussed in a given chapter section. These hyperlinks are easily recognizable through bolded color font with a distinct icon shown in the page margin. Additionally, key terms are denoted in each chapter and defined in a centralized, upfront Key Terminology glossary. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary,*** also has an overview of document changes in the *2023/2024 EDR* and further information on the EDR and ESPR website.

4D-13, AIR: Logan Airport Environmental Review and Planning

Massport should be accountable for improving. It should seek collaboration and innovation to drive improvement in both its environmental and user experience performance.

As discussed above and in Comments in **Appendix A, *MEPA Certificate and Responses to Comments*** Massport is committed to active participation in the MEPA's Logan Airport Work Group (the Work Group) established in collaboration with the MEPA and OEJE. This Work Group includes representatives from state agencies, local officials, and community stakeholders and is co-moderated by MEPA, OEJE, and an independent third-party moderator to promote an inclusive and transparent process. Massport will contribute technical expertise, data, and resources to support this collaborative effort. An update on the status of the MEPA's Logan Airport Work Group up to the time of this document filing is provided in **Section 2.2.4.2 of Chapter 2, *Outreach and Environmental Justice***. The *2025 EDR* will provide updates on the MEPA's Logan Airport Work Group's progress and process outcomes.

Massport also collaborates with various stakeholders, including industry leaders and academic institutions, to advance the development and implementation of Sustainable Aviation Fuel (SAF). Massport is dedicated to enhancing transparency and public engagement through initiatives such as the creation of a new web page for the EDRs and ESPRs, which provides access to supporting data and historical information. These efforts are complemented by on-going improvements in reporting and quantification of environmental impacts and mitigation measures. Massport will also continue to strengthen relations with surrounding communities, particularly those representing EJ populations, through expanded outreach and engagement efforts and including a public health assessment in the *2023/2024 EDR*.

4D-14: Air Quality/Emissions Reduction (GHG)

The Authority could assess the temporal and spatial location and intensity of airport pollutants in affected areas, and identify an Airport Sponsored Community Air Pollution Mitigation Program area. Within this area, Massport could engage air quality consultants and develop air purification specifications for indoor environments. The Authority could then implement a program to provide suitable reduction of indoor air pollution through installation of demonstrably effective air purification equipment.

Massport collaborates with air quality consultants to evaluate and mitigate air pollution impacts. This includes the use of advanced modeling tools and evaluating the effectiveness of emissions reduction strategies. As discussed above and in Comments A-1, A-2, A-3, and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to active participation in MEPA's Logan Airport Work Group established in collaboration with the MEPA Office and the OEJE. The Work Group's primary objective is to assess and discuss potential supplemental mitigation measures associated with Logan Airport operations among EJ communities. Massport will contribute technical expertise, data, and resources to support this collaborative effort. An update on the status of the MEPA's Logan Airport Work Group up to the time of this document filing is provided in **Section 2.2.4.2 of Chapter 2, *Outreach and Environmental Justice***. The *2025 Environmental Data Report (EDR)* will provide updates on the MEPA's Logan Airport Work Group's progress and process outcomes.

The *2023/2024 EDR* also utilized Massachusetts Department of Environmental Protection (MassDEP)'s Cumulative Impact Analysis (CIA) framework to assess existing public health conditions within 1 mile of Logan Airport. These findings are presented in **Chapter 2, Section 2.4,** and the detailed data is included in **Appendix E, *Environmental Justice Supporting Documentation***. The **User's Guide, Section U2.3.1,** provides the study's methodology and assumptions.

Regarding air filtration, Massport has renewed an agreement to provide funding to the East Boston Neighborhood Health Center (EBNHC) to help expand the efforts of their Asthma and Chronic Obstructive Pulmonary Disease (COPD) Prevention and Treatment Program in East Boston and Winthrop that provides services including screenings for children, distribution of asthma kits, and home visits.

4D-15: Air Quality/Emissions Reduction (GHG)

Massport should collaborate with groups like AIR, Inc. in the development of an air purification program.

As discussed above and in Comments A-1 and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to collaborating with communities, state agencies, and local officials to address environmental concerns associated with Logan Airport operations. To that end, Massport is an active participant in the MEPA's Logan Airport Work Group (Work Group) established in collaboration with the MEPA Office and the OEJE in February 2025. The Work Group's primary objective

is to assess and discuss potential supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations among EJ communities. Scientific expertise from regulatory state agencies and researchers who have studied the impacts of air quality around Logan Airport will assist in informing these discussions.

Massport will contribute technical expertise, data, and resources to support this collaborative effort. An update on the status of the MEPA's Logan Airport Work Group up to the time of this document filing is provided in **Section 2.2.4.2 of Chapter 2, *Outreach and Environmental Justice***. The *2025 Environmental Data Report (EDR)* will provide updates on the MEPA's Logan Airport Work Group's progress and process outcomes.

4D-16: Ground Access to and From Logan Airport

Development of secure connections between Logan Airport and surrounding Logan Express facilities. TSA has already expressed its willingness to explore such opportunities and Massport should have identified this as a ground transportation enhancement to Logan Express services.

As discussed in Comment 2-31 and Comment A-57 in **Appendix A, *MEPA Certificate and Responses to Comments***, the Back Bay Logan Express piloted priority airport passenger security line status for riders when operations at Back Bay restarted in October 2022. The priority program remains available to Back Bay Logan Express riders. In summer 2026, Massport will initiate a reservation-based pilot program of a remote access terminal at the Logan Express facility in Framingham. Should the pilot program be successful, and with the cooperation of TSA, Massport's next step would be evaluating the feasibility of rolling out the remote terminal model to other Logan Express facilities.

4D-17: Regional Transportation

Through such a compact between neighboring states of New Hampshire and Rhode Island, Massport could provide valuable transportation services to TF Green and Manchester Boston, further building regional collaboration, reducing population exposure to environmental burdens and easing congestion at Logan.

The EDR and ESPR **Chapter 5, *Regional Transportation*** continues to track alternatives to air transport. For many years, rail passengers between Boston and New York City have surpassed air travel. The State of Massachusetts continues to evaluate opportunities to enhance its role in the regional and U.S. rail network. Development of "feasible timelines and pathways to achieve the improvement in intercity rail services" remains the state's responsibility. Massport's support of the MBTA's Silver Line is a prime example of its role in supporting rail connections.

4D-18: Ground Access to and From Logan Airport

Massport could adjust its HOV goals upward, aiming for a 60% HOV mode share.

Massport has a goal of reaching 35.5 percent HOV by 2022, and 40 percent HOV by 2027. Massport appreciates the suggestion to adjust its HOV goals, since Massport's goal is to achieve a 40 percent HOV mode share by 2027, and as of the 2024 Logan International Airport Air Passenger Ground-Access Survey, the HOV mode share has already reached 43.0 percent. Based on the results of the *2022 Logan International Airport Air Passenger Ground-Access Survey*, HOV mode share in 2022 reached 38.4 percent. Massport remains committed to promoting sustainable transportation options and will consider adjusting current goals after evaluating feasible opportunities to further enhance HOV mode share through various initiatives, including expanding Logan Express services and improving shared-ride options.

4D-19: Logan Airport Environmental Review and Planning

A current environmental conditions assessment should be performed by topic experts, community stakeholders and regulators. This cross-sector collaboration would not only assess current environmental conditions and impacts, but it would also evaluate a complete array of feasible mitigations and policy alternatives which could reduce impacts.

As discussed above in 4D-13 and in Comments in **Appendix A, *MEPA Certificate and Responses to Comments*** Massport is committed to active participation in the MEPA's Logan Airport Work Group (the Work Group) established in collaboration with the MEPA and OEJE. This Work Group includes representatives from state agencies, local officials, and community stakeholders and is co-moderated by MEPA, OEJE, and an independent third-party moderator to promote an inclusive and transparent process.

The Work Group's primary objective is to assess and discuss potential supplemental mitigation measures that could address environmental concerns associated with Logan Airport. Over the course of the next year, the group will potential supplemental community mitigation measures for EJ neighborhoods within proximity of the Airport with the goal of forming recommendations for specific actions. Scientific expertise from regulatory state agencies and researchers who have studied air quality impacts around Logan Airport will assist in informing these discussions. The current status of the MEPA's Logan Airport Work Group is provided in **Section 2.2.4.2 of Chapter 2, *Outreach and Environmental Justice***.

4D-20: Air Quality/Emissions Reduction (GHG)

In the case of air quality impacts for instance, it would evaluate the possibility of air filtration strategies.

Regarding air filtration, Massport has renewed an agreement to provide funding to the East Boston Neighborhood Health Center (EBNHC) to help expand the efforts of their Asthma and Chronic Obstructive Pulmonary Disease (COPD) Prevention and Treatment Program in East Boston and Winthrop that provides services including screenings for children, distribution of asthma kits, and home visits.

As discussed above and in Comments A-1 and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to collaborating with communities, state agencies, and local officials as an active participant in the MEPA's Logan Airport Work Group (Work Group) established in collaboration with the MEPA Office and the OEJE. Massport will contribute technical expertise, data, and resources to support this collaborative effort. In addition, the *2023/2024 EDR* has expanded content in **Section 8.6 of Chapter 8, *Air Quality and GHG Emissions*** and **Section U8.6 of the User's Guide to include more information,** to include more information on air quality-related studies that have taken place in the vicinity of Logan Airport and other air quality related topics. These topics include research presented on in MEPA's Logan Airport Working Group, as discussed in **Chapter 2, *Outreach and Environmental Justice,* Section 2.2.4.2**.

4D-21: Noise

Since the FAA published report on the survey (cited above) clearly states that the prior threshold of DNL 65 seriously underestimates community annoyance to aircraft noise. Massport should not be allowed to invent an interpretation of the FAA's findings that is not true.

As discussed in Comment 3-13, evaluation of aviation noise is guided by FAA policies and regulations. As of this filing, the FAA has yet to revise its federal noise policy. Massport will adjust its noise impact analyses when updated by the FAA. Massport continues to present a range of supplemental noise metrics in an effort to broaden the assessment of noise impacts beyond the DNL 65 dB metric. For more on Massport's *Noise Abatement Management Plan*, please refer to the *2023/2024 EDR*, **Table 7-4** in **Section 7.4 of Chapter 7, *Noise*,** and the **User's Guide, Section U7.5**. Expanded discussion on annoyance factors was developed for the new User's Guide as well in **User's Guide, Section U7.1.2**.

4D-22: Noise

If the Authority finds that [a nighttime noise] program is not feasible, such a finding should be accompanied by evidence that supports that conclusion. At a minimum, the Authority should provide a clear and reasonable explanation of the physical, legal, geographical, or other obstacles to feasibility.

Massport acknowledges the importance of providing a clear and reasonable explanation when a program is deemed infeasible, like a nighttime noise program. The decision on whether or not Massport will develop such a program would be made after Massport had verified that the decision was supported by evidence detailing the physical, legal, geographical, or other feasibility concerns, as well as the program's anticipated efficacy at achieving desired outcomes. This approach aligns with Massport's commitment to transparency and accountability in addressing community concerns.

As discussed above in Comment 3-5, 3-4, and 3-14, and in Comment A-66 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport continues to coordinate with FAA and the Massport CAC on the Logan Airport noise mitigation program and to evaluate and implement noise mitigation strategies, including the potential for additional restrictions or procedural adjustments. For

more on Massport's current noise program and initiatives, please refer to the *2023/2024 EDR*, **Table 7-4** in **Section 7.4 of Chapter 7, *Noise*,** and the **User's Guide, Section U7.5.**

4D-23: Noise

Regardless of whether the FAA would or would not reject an application for a night flying restriction, Massport should describe the topic in a comprehensive manner. Such discussion would include a review of how night restrictions work in Europe including reporting on the noise reduction and public health benefits and economic effects of these restrictions.

As discussed above in Comment 3-5, 3-4, and 3-14, and in Comment A-66 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport continues to coordinate with FAA and the Massport CAC on the Logan Airport noise mitigation program and to evaluate and implement noise mitigation strategies, including the potential for additional restrictions or procedural adjustments. Currently, Massport implements several noise abatement measures, including nighttime runway use restrictions and prioritization of late-night over-water operations to minimize noise impacts on surrounding communities. Information on noise abatement strategies and runway use is provided in the *2023/2024 EDR*, **Section 7.4 of Chapter 7, *Noise,*** and the **User's Guide, Section U7.5.1**.

4D-24: Noise

Massport has failed to incorporate discussion of a) the feasibility of updates and adjustments to the PRAS runway use system which could result in avoidance or minimization of noise impacts.

As discussed in comments 2-8 and 4C-2, PRAS was suspended in 2004; Massport continues to report on key PRAS statistics for public information purposes. The **User's Guide, Section U7.5.1** provides the original PRAS goals and **Table I-16** in **Appendix I, Section I.1.2** compares the effective runway use for the current reporting years to the prior reporting year and the benchmark year.

4D-25: Noise

Massport has failed to incorporate discussion of b) findings regarding the minimization of nighttime exposure to noise which could include attempts to apply for nighttime restrictions as allowed by FAA part 150 regulations, or the above mentioned PRAS update.

As discussed above in Comment 3-5, 3-4, and 3-14, and in Comment A-66 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport continues to coordinate with FAA and the Massport CAC on the Logan Airport noise mitigation program and to evaluate and implement noise mitigation strategies, including the potential for additional restrictions or procedural adjustments. Currently, several Massport noise abatement measures, including nighttime runway use restrictions and prioritization of late-night over-water operations to minimize noise impacts on surrounding communities. Information on noise abatement strategies and runway use is provided in the *2023/2024 EDR*, **Section 7.4 of Chapter 7, *Noise,*** and the **User's Guide, Section U7.5.1.**

4D-26: Noise

Massport has failed to incorporate discussion of c) the reduction of 65 DNL noise exposure which could be achieved through programs aimed at shifting regional market share of air travel through other regional commercial service airports.

The previous response to Comment 2-3 discusses the NERASP study, which identified Logan as New England's primary hub, drawing passengers from surrounding markets, resulting in high rates of passenger leakage from nearby airports, and recommended improving airline service at regional airports as a solution. However, legacy airlines began consolidating flights to primary hubs, such as Logan Airport, while reducing service offerings at secondary airports, as they have restructured their networks to improve profitability and operational efficiency. As a result, many airline carriers prioritize high-demand markets and streamlined routes, focusing on hub-and-spoke models that concentrate traffic at major airports, such as Logan Airport.

Although this trend among airlines impedes shifts in market share, multiple airports in New England have recently begun major infrastructure projects and have expanded terminals to enhance passenger services and experience, demonstrating the Region's substantial investment in capacity and service enhancements. **Table 5-1 of Chapter 5, *Regional Transportation***, shows a 4.3 percent increase in passenger activity from 2019 to 2024, which may be due, in part to these improvements. In addition, Massport's support of the MBTA's Silver Line is a prime example of its role in supporting rail connections to accommodate increasing passenger activity further, and the *2023/2024 EDR* has a new section addressing rail service in **Section 5.4.4 of Chapter 5**.

4D-27: Environmental Justice

Massport should supplement the Clean Air Act based regional pollutant analysis with an analysis focused on local impacts upon EJ communities as is required by contemporary federal and state guidance.

As discussed above and in Comments A-1, A-2, A-3, and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to active participation in MEPA's Logan Airport Work Group established in collaboration with the MEPA Office and the OEJE. The Work Group's primary objective is to assess and discuss potential supplemental mitigation measures associated with Logan Airport operations among EJ communities.

Massport acknowledges the importance of supplementing regional pollutant analysis with local impact assessments on EJ communities. The Environmental Justice Policy of the Executive Office of Energy and Environmental Affairs (2021 EJ Policy) incorporates definitions from the Climate Roadmap Act and emphasizes the importance of inclusive community involvement in environmental decision-making. The *2023/2024 EDR*, at the direction of MEPA, utilized MassDEP's CIA framework to assess existing public health conditions within 1 mile of Logan Airport. These findings are presented in **Chapter 2, Section 2.4,** and the detailed data is included in **Appendix E, *Environmental Justice Supporting***

Documentation. The **User's Guide, Section U2.3.1,** provides the study's methodology and assumptions.

4D-28, AIR: Environmental Justice

Residents of Roxbury voted heavily in favor of a change in name and Dudley Square was officially changed to Nubian Square. This new name pays tribute to the ancient Northeastern African region of Nubia. Massport should use the correct moniker in future references to the location of the EPA monitoring site.

Massport appreciates this feedback and understands the importance of respecting the unique identity of this community and its preferences for a more appropriate name to be associated with this neighborhood landmark. However, for the purposes of reporting continuity and clarity with respect to the data sourced from the U.S.EPA, Massport will continue to use the naming conventions prescribed by the U.S.EPA for the monitoring site at this time.

4D-29: Air Quality/Emissions Reduction (GHG)

Massport should quantify the savings claimed [from engine efficiencies].

Massport's emissions reduction initiatives include transitioning fleet vehicles to electric and alternative fuels, which contribute to improved engine efficiencies and reduced emissions. The EDRs and ESPRs provide detailed analyses of emissions reduction strategies and their impacts, including the use of advanced modeling tools like the FAA's Aviation Environmental Design Tool (AEDT) and the U.S.EPA's MOtor Vehicle Emission Simulator (MOVES) to quantify emissions. These findings are presented in **Section 8.3 of Chapter 8, *Air Quality and GHG Emissions***. The **User's Guide, Section U8.3** provides more information on analysis methodologies and assumptions.

4D-30: Air Quality/Emissions Reduction (GHG)

If a fuel burn or noise benefit exists which can mitigate NO_X emissions, Massport should quantify it and explain the mechanism by which it will affect NO_X.

NO_X is generally emitted as NO, which is oxidized to NO_2. The principal man-made source of NO_X is fuel combustion in motor vehicles and power plants, but aircraft engines are also a source. The use of Sustainable Aviation Fuel (SAF) is a key strategy in reducing lifecycle emissions, including NO_X, by improving fuel efficiency and reducing the overall environmental impact. Massport continues to keep up-to-date on SAF usage and availability in the northeastern U.S. Massport also has a comprehensive air and GHG emissions reduction program in place. While Massport does not have control over aircraft and aircraft-related emissions, Massport is working closely with its airline partners to reduce emissions.

In 2025, Massport won the 2025 Jay Hollingsworth Speas Airport Award for Logan Airport for "excellent collaborative work by MIT and Massport to reduce aircraft noise for residents under Boston Logan International Airport approach paths while simultaneously reducing fuel burn and distance traveled."

The award recognizes the collaborative effort between the FAA, Massport, and MIT to identify potential modifications to RNAV procedures, conduct outreach with community groups and operational stakeholders, and implement the procedures following FAA review.

Massport will continue to seek opportunities to further quantify and explain the mechanisms by which fuel burn could affect NO_X emissions in future EDRs and ESPRs. For more information on sources of airport emissions and pollutant types, see **User's Guide, Section U8.1.2.**

4D-31: Air Quality/Emissions Reduction (GHG)

The ESPR presents average taxi time data in the NO_X emissions data section. However the Authority does not explain whether there is a correlation between taxiing and NO_X which is not present in other pollutants.

NO_X is generally emitted as NO, which is oxidized to NO_2. The principal man-made source of NO_X is fuel combustion in motor vehicles and power plants, but aircraft engines are also a source. Reduced-engine taxiing procedures at Logan Airport are encouraged as a voluntary measure to reduce noise impacts, particularly by minimizing engine use on the side of the aircraft closest to the community. However, its implementation is subject to airline procedures, taxiway routings, and safety considerations. The success of reduced-engine taxiing is measured through on-going coordination with airlines and feedback from pilots.

The *2023/2024 EDR* has expanded content in **Section 8.6 of Chapter 8, *Air Quality and GHG Emissions*,** and **Section U8.6 of the User's Guide** to include more information on air quality-related studies that have taken place in the vicinity of Logan Airport and other air quality related topics. Massport continues to explore strategies to reduce aircraft emissions, support reduced-engine taxiing, where possible, and stays informed about practices at other airports. Refer to **Sections U8.6.2 and U8.5.3 of the User's Guide** for a discussion of related studies on NOx and single-engine taxiing, respectively.

4D-32: Air Quality/Emissions Reduction (GHG)

AIR, Inc. suggests that it would be more appropriate and less confusing for Massport to report on Particulate Pollution under a single heading and further report on PM_{10}, $PM_{2.5}$, and UFP's in separate subheadings.

Chapter 8, *Air Quality and Greenhouse Gas Emissions*, Section 8.1 includes subheadings for 2023/2024 Logan Airport emissions inventories for the criteria air pollutants and precursor pollutants (VOC, NO_X, CO, and PM_{10}/$PM_{2.5}$). Separate subheadings are used in the *2023/2024 EDR* as follows: **Section 8.3.4 of Chapter 8** discusses PM, while recent studies on UFPs are discussed in **Section 8.6.1 of Chapter 8** and the **User's Guide, Section U8.6.2.2**.

4D-33: Ground Access to and From Logan Airport

We ask the Secretary to require Massport to quantify the amount, timing, and nature of the data editing or seasonal adjustment factors applied to 2022 [ground access] data.

Massport employs a comprehensive approach to data collection and analysis, which includes adjustments for seasonal variations and other factors to ensure accuracy and reliability in reporting. The methodologies and adjustments applied to the data are documented in the Ground Access chapters and appendices of the EDRs and ESPRs. For detailed information on the data collection and adjustment methodologies, please refer to the **User's Guide, Section U6.1**.

4D-34: Logan Airport Environmental Review and Planning

AIR, Inc. asks the Secretary to instruct Massport to embed any information which is relevant to reviewing the ESPRs and EDRs into the body of the documents, and in cases when information is not relevant, to omit it.

As discussed above in A4-3 and in Comments, A-1 to A-5, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments***, while chapters begin with a bulleted summary of Key Findings, throughout the chapters are hyperlinks to the relevant sections of the User's Guide that outline the key concepts, regulatory frameworks, technical background information, and methodologies discussed in a given chapter section. These hyperlinks are easily recognizable through bolded color font with a distinct icon shown in the page margin. Additionally, key terms are denoted in each chapter and defined in a centralized, upfront Key Terminology glossary. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary,*** also has an overview of document changes in the *2023/2024 EDR* and further information on the EDR and ESPR website.

4D-35: Ground Access to and From Logan Airport

We ask the Secretary to specifically require the Port Authority to develop a methodology for accurately determining and evaluating the local and regional effects of airport traffic congestion.

Massport employs a comprehensive approach to ground access and transportation management, which includes monitoring vehicle miles traveled (VMT) and gateway vehicle volumes at Logan Airport. These metrics are crucial for understanding the impact of airport operations on local and regional vehicle congestion. Massport's Automated Traffic Monitoring System (ATMS) provides data on annual average daily traffic (AADT), annual average weekday daily traffic (AWDT), and annual average weekend daily traffic (AWEDT) at key access points to the Airport. This data, along with VMT estimates derived from the VISSIM microsimulation model, helps Massport assess the effects of airport traffic on surrounding roadways.

Massport remains committed to refining its methodologies and collaborating with regional transportation agencies to enhance the evaluation of vehicle congestion impacts. These efforts are part of Massport's broader strategy to promote sustainable transportation options and reduce congestion

at Logan Airport. For detailed information on the data collection and analysis methodologies, please refer to the **User's Guide, Section U6.1**.

4D-36: Ground Access to and From Logan Airport

We ask the Secretary to specifically instruct Massport to conduct such research as would be necessary to inform decisions and determine the potential effect of a wide ranging set of policy options including a) airport roadway access fees, b) reduced pricing on Logan Express, c) improved facilities and features at Logan Express locations including secure to secure TSA screening and baggage check through, d) upgraded buses, and e) reduced travel times.

As discussed above and in Comments A-56 and A-57, recent Massport initiatives have successfully encouraged Logan Express' use and improved its overall capacity. Information on these projects is found in **Sections 4.1.3 through 4.1.5 of Chapter 4**, ***Airport Planning***. Additional Logan Express service details are found in **Section 6.1.2.1 of Chapter 6, *Ground Access***.

In addition to surveys from prior years, the *2024 Logan Air Passenger Ground Access Survey* informs Massport's evaluation of Logan Express sites. It supports a data-driven planning process for changing or expanding service options. These studies surveyed passengers on how they would respond to various policy options and initiatives and evaluated how these policies would change passenger decisions regarding Airport access modes. These results are published on Massport's website at: https://www.massport.com/logan-airport/about-logan/air-passenger-survey and summarized in **Section 6.5 of Chapter 6, *Ground Access***.

4D-37: Ground Access to and From Logan Airport

In order to properly and thoroughly understand the results of this foundational [ground access] survey, we ask the Secretary to require Massport to release supplemental documentation of data on respondent demographics as well as Non-response rates and demographics.

As discussed in Comment 2-48, the complete *2022 Logan Air Passenger Ground Access Survey* and *2024 Logan Air Passenger Ground Access Survey* are published on Massport's website at: https://www.massport.com/logan-airport/about-logan/air-passenger-survey.

Section 2.0 in both reports presents the methodology of each study, as well as how the results were weighted and responses validated. In the 2022 study, 4,224 surveys were collected from passengers across 437 flights. After reviewing and validating the data, a total of 4,093 surveys were used in the 2022 report. The 2024 study collected a total of 6,214 surveys from passengers on over 600 flights, of which 6,000 were usable after data validation. Although passengers were surveyed across 345 flights while at Logan, several passengers later completed the survey using a survey weblink, postcard, or QR code, bringing the total number of flights surveyed to over 600. Flight seating capacity and load factor information for surveyed flights are provided, which can be used to determine non-response rates;

however, demographic data on non-respondents was not collected as part of the scope of these studies.

Survey respondent demographics are presented in Section 4.0, Detailed Results, within each year's report. Although response counts by demographic characteristic are not included within each report, the percent distribution within the total sample set for several demographics is provided. These include gender, age, income, employment status, and disability status, among others.

4D-38: Ground Access to and From Logan Airport

If Massport is going to persist in calling passenger vehicles HOV, they should be consistent, and they should develop a hierarchical classification system.

HOV includes Logan Express, MBTA Rapid Transit, water transportation, scheduled vans, black car limousines, courtesy vehicles, privately-operated scheduled buses, charter buses, and other passenger bus or van shuttles. In the *2023/2024 EDR*, ground access modes are defined in **Section 6.1 of Chapter 6, *Ground Access***, with a hierarchy of HOV and non-HOV modes illustrated in **Figure 6-1** in **Chapter 6.** The **User's Guide, Section U6.2**, provides additional context on ground transportation options, including HOV modes.

4D-39: Ground Access to and From Logan Airport

Estimating future traffic conditions in the 2022 ESPR based on a series of projects which have not been developed yet, or described in this disclosure, is unacceptable. Massport should be held to a much higher standard.

Massport acknowledges the concern regarding future traffic conditions forecasting methodologies in the *2022 ESPR*. Massport employs a comprehensive approach to planning and forecasting, which includes the use of established methodologies and models to project future conditions based on current data and trends. This approach is detailed in the **User's Guide, Section U6.1** and the ESPRs, which provide transparency about the assumptions and methodologies used.

Massport remains committed to refining its forecasting methodologies and verifying projections are based on accurate and up-to-date information available. This includes on-going collaboration with regional transportation agencies and stakeholders to enhance the evaluation of vehicle congestion impacts and confirming future projects are developed with a clear understanding of the potential effects.

4D-40: Logan Airport Environmental Review and Planning

Therefore we also urge the Secretary to be prescriptive in her direction to the Authority, instructing them to work with specific stakeholders in specific efforts within specific timeframes.

As discussed above in Comment 4D-13 and in Comments A-1 and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to active participation in the MEPA's

Logan Airport Work Group established in collaboration with the MEPA Office and the OEJE. The Work Group's primary objective is to assess and discuss potential supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations among EJ communities in East Boston, Winthrop, and Chelsea.

Massport also collaborates with various stakeholders, including industry leaders and academic institutions, to advance the development and implementation of Sustainable Aviation Fuel (SAF). Massport is dedicated to enhancing transparency and public engagement through initiatives such as creating the EDR and ESPR webpage, which provides access to supporting data and historical information. On-going improvements also include reporting methods and quantification of environmental impacts and mitigation measures. Massport will also continue to strengthen relations with surrounding communities, particularly those representing EJ populations, through expanded outreach and engagement efforts and including a public health assessment in the *2023/2024 EDR*.

4D-41: Logan Airport Environmental Review and Planning

Require Massport to include calculations of [specific environmental] impacts in the supplemental ESPR.

Consistent with past ESPRs and EDRs, the *2023/2024 EDR* describes the cumulative effects associated with overall Logan Airport operations and compares these effects to previous conditions in the last reporting year, as well as to a benchmark reporting year's conditions for each topic covered. Based on findings from EDRs and ESPRs, Massport continuously assesses on-going and proposed programs and policies for efficacy to reduce Logan Airport's impact. The current status of these programs and policy initiatives is discussed within their respective, topic-specific chapters, including **Section 2.2 of Chapter 2, *Outreach and Environmental Justice*; Section 6.4 of Chapter 6, *Ground Access*; Section 7.4 of Chapter 7, *Noise*;** and **Section 8.5 of Chapter 8, *Air Quality and GHG Emissions;*** and the new **Chapter 11, *Sustainability and Climate Resilience***. Where data is available, Massport has quantified these beneficial measures and intends to find better methods to quantify the effects of these programs in future EDRs and ESPRs.

4D-42: Logan Airport Environmental Review and Planning

We also ask the Secretary to require Massport to file ENF's for every project they embark on going forward.

As discussed in Comment 4A-4 above, Massport is committed to providing comprehensive data and addressing the environmental impacts of its projects over time. Each project at Logan Airport undergoes a project-specific environmental review process when state environmental review thresholds are met. This includes the submission of ENFs and EIRs as required by MEPA.

Massport's EDRs and ESPRs serve as annual and periodic reporting mechanisms for the cumulative environmental effects of Logan Airport's operations and activities. Furthermore, Massport tracks and

annually reports on mitigation commitments made through the MEPA process in ***Chapter 10, Project Mitigation*** in the EDRs and ESPRs. Massport's approach to environmental stewardship includes a wide range of strategies to avoid, minimize, or offset potential impacts, and Massport will continue to adhere to regulatory frameworks and engage in community outreach to keep stakeholders informed and involved in the environmental decision-making process.

4D-43: Logan Airport Environmental Review and Planning

We ask the Secretary to specifically require a thorough evaluation of revised mitigation and policy framework which is based upon actual realized impacts rather than forecasted impacts, aka impact triggered mitigation, as described in these comments. This evaluation should be conducted by a cross sector collaboration which is designed by community stakeholders with experience in communicating technical topics with EJ community residents.

Consistent with the MEPA process, mitigation presented in the EDRs and ESPRs is largely project-based. However, as outlined in **Chapter 2, *Outreach and Environmental Justice*** and **Chapter 11, *Sustainability and Climate Change***, Massport implements a range of measures directly aimed at reducing community operational and environmental impacts. In February 2025, Massport began participating in MEPA's Logan Airport Work Group, a Work Group co-led by MEPA and the EEA EJ Office. The purpose of the Work Group is to identify potential supplemental beneficial measures for public health concerns in communities neighboring the Airport.

4D-44: Air Quality/Emissions Reduction (GHG)

We specifically ask that the Secretary require Massport to work through the above described cross sector collaboration to explore the design of an Airport Sponsored Community Air Pollution Mitigation Program, and a granular web-enabled real time pollution monitoring system capable of separating airport air pollution impacts from background impacts with the intention to develop an airport air pollution impact map which will define air filtration program areas.

As discussed above and in Comments A-1 and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to collaborating with communities, state agencies, and local officials to address environmental concerns associated with Logan Airport operations. To that end, Massport is an active participant in the MEPA's Logan Airport Work Group (Work Group) established in collaboration with the MEPA Office and the OEJE in February 2025. The Work Group's primary objective is to assess and discuss potential supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations. This comment may be discussed among the group as a possible option.

4D-45: Logan Airport Environmental Review and Planning

We ask that the Secretary cap the supplemental ESPR at 200 pages, and that Massport be required to accept public input prior to its filing such that community stakeholders have input into the document's content.

As discussed above in Comment 4D-4 and in Comments A-1, A-3, A-4, A-5, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport improved the usability and reduced the length of the *2023/2024 EDR*. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary,*** has an overview of document changes in the *2023/2024 EDR*.

Massport is committed to providing comprehensive data and responding to comments on the environmental effects of Logan Airport's operations and projects over time, and this level of transparency does require sufficient narrative text to provide adequate information. However, Massport has endeavored to make the *2023/2024 EDR* page count for the main document less than 250 pages and will look for opportunities in future filings to further streamline these documents.

4D-46: Logan Airport Environmental Review and Planning

We ask that Massport be required to produce data to substantiate any claims made in the ESPR.

As discussed in Comment A-3, A-28, and A-31 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport remains committed to enhancing data transparency. The *2023/2024 EDR* includes extensive linking to the User's Guide, providing information on applicable regulatory frameworks, methodologies, models, model inputs, programs, and analyses. Massport is also launching a webpage that includes historical EDRs and ESPRs with extensive data to be posted in a searchable format in the near future. In addition to the historical data, the webpage will also include links to data sources referenced within EDRs and ESPRs to provide interim data before the availability of the EDR and ESPR. Massport is working with the Massport CAC on ways to host additional supporting data. These data sources are often hosted by other state agencies, federal databases, and other reputable sources. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary*** also has an overview of document changes in the *2023/2024 EDR* and further information on the EDR and ESPR website.

5. BlueSkies Advocates

From: Alessio Burgio
To: Hughes, Jennifer (EEA)
Subject: BlueSkies Advocates - Comment on Logan's ESPR EAA #3247
Date: Friday, October 11, 2024 10:42:13 AM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

BlueSkies Advocates works both locally and nationally with aviation impacted communities. Thank you for allowing us to comment on the 2022 ESPR for Logan Airport, EEA# 3247.

Please see the following:

1. The ESPR should cover the impacts of RNAVs on all overflight communities. 5-1
2. Massport needs to improve its community outreach for its ESPRs. Public meetings and comment deadlines need to be better publicized. 5-2
3. SAF is not currently capable of reducing GHG, therefore it should not be a suggested solution in the ESPR. Only viable technologies and procedures for lowering GHG emissions should be suggested. 5-3
4. Lead pollution impacts are not adequately addressed in the ESPR. Massport did not discuss requiring FBOs to sell unleaded aviation fuel. 5-4
5. We support ESPR comments made by aviation impacted groups including Boston Fair Skies, Mothers Out Front and AIR, Inc.

https://www.weareblueskies.com/
https://x.com/weAreBlueskies

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BlueSkies Advocates Responses to Comments

5-1: Noise

The ESPR should cover the impacts of RNAVs on all overflight communities.

As discussed above and in Comment A-66 of **Appendix A, *MEPA Certificate and Responses to Comm, which is dedicated to Massport's climate resiliency reporting and initiatives,*** ESPR. Each EDR and ESPR includes a detailed analysis of noise and emissions impacts of aircraft arrivals and departures. The Federal Aviation Administration (FAA) is responsible for developing and implementing Area Navigation (RNAV) procedures and prepared a federal EA under NEPA to consider the environmental and operational effects of RNAV procedures and continues to support evaluation of those procedures. As directed by the Secretary, the EDR presents "any data used to measure the effectiveness of these improvements, including the number of noise complaints from the previously impacted areas." While EDRs and ESPRs report areawide noise and emissions environmental data, focused on areas within the arrival and departure paths. **Chapter 2, *Outreach and Environmental Justice,* Section 2.4** of the *2023/2024 EDR* also presents a new section: "Public Health Existing Conditions Review".

5-2, Environmental Justice

Massport needs to improve its community outreach for its ESPRs. Public meetings and comment deadlines need to be better publicized.

Massport ensures public awareness of EDR and ESPR filings, public meetings, and comment deadlines by publishing notices in both English and non-English languages through multiple channels. These include the Massport website with a dedicated EDR and ESPR webpage, email communications to previous and newly identified stakeholders, social media platforms, notifications at neighborhood association and other community meetings, and a variety of local and regional print media outlets. Massport also publishes notices in non-English and community-specific publications such as the East Boston Times, Winthrop Transcript, and El Mundo. Further information on Massport outreach policies and other forms of engagement is described in **Chapter 2, *Outreach and Environmental Justice,* Section 2.2**, and in the User's Guide, **Section U2.4**.

5-3: Air Quality/Emissions Reduction (GHG)

SAF is not currently capable of reducing GHG, therefore it should not be a suggested solution in the ESPR. Only viable technologies and procedures for lowering GHG emissions should be suggested.

SAF is a carbon neutral fuel source alternative. As discussed in Comment A-8, A-9, A-67, and A-69 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to expanding relationships and support on-going research in the area of Sustainable Aviation Fuel (SAF) as well as advancing initiatives to achieve Net Zero GHG emissions for its Scope 1 and Scope 2 sources by 2031.

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. For more information on Massport's progress in the area of SAF as well as its on-going initiatives and investments to achieve Net Zero GHG emissions refer to **Section 11.2.3 of Chapter 11, *Sustainability and Climate Resilience***.

5-4: Air Quality/Emissions Reduction (GHG)

Lead pollution impacts are not adequately addressed in the ESPR. Massport did not discuss requiring FBOs to sell unleaded aviation fuel.

At Logan Airport, the emissions of Pb and SO_2 related to aviation-leaded fuel are not computed, as Airport emission sources are very small generators of these two U.S.EPA criteria air pollutants. This is because very few aircraft use leaded fuel, and SO_2 is primarily generated by fuel combustion at power plants and other industrial facilities not affiliated with Logan Airport.

The FAA published *Questions and Answers on Grant Assurance 40, Access to Leaded Aviation Gasoline* in May 2025 to clarify airport sponsor obligations for selling 100-octane low lead aviation gasoline (100LL). The FAA states that airports that sold 100LL at any point in 2022 must continue offering it unless an alternative fuel is fully approved and authorized for all affected aircraft types. The FAA explains that restricting the sale of an FAA-approved fuel at a federally obligated airport may violate Grant Assurances, even if the restriction was in place before 2022. As of April 2025, the FAA also confirms it has not yet authorized an unleaded alternative fuel capable of replacing 100LL for all aircraft. For more details, see the FAA's Q&A here: https://www.faa.gov/airports/airport_compliance/compliance_guidance/Grant-Assurance-40-Leaded-Aviation-Gas-QA.pdf

6. Conservation Law Foundation (CLF)

clf Conservation Law Foundation

For a thriving New England

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October 11, 2024

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
EEA #3247
Attention: Jennifer Hughes
100 Cambridge Street, STE 900
Boston, Massachusetts 02114

Subject: Boston Logan International Airport 2022
Environmental Status and Planning Report, EEA #3247

Dear Secretary Tepper:

On behalf of Conservation Law Foundation (CLF) and its members,[1] we are providing our comments regarding the Massachusetts Port Authority's (Massport) Boston Logan International Airport 2022 Environmental Status and Planning Report (ESPR).

CLF urges the EEA Secretary to reject the ESPR as inadequate in its current form and require Massport to file a supplemental EIR in accordance with 301 CMR 11.07. Massport's new leadership should use the supplemental EIR as an opportunity to address the following deficiencies as well as those raised by other stakeholders:

- The utility of the ESPR has been undermined by the current look-back approach and laggard publication; 6-1
- Emissions analysis should examine emissions growth and opportunities for mitigation based on coordinated management of the entire regional airport system Massport operates (Logan, Hanscom, and Worcester); 6-2
- Greenhouse gas impacts of Logan's growth and operations are understated in the ESPR; 6-3
- The ESPR's definition and accounting of emissions under Massport's direct control are underinclusive, misleading, and are missing significant opportunities for mitigation; and 6-4
- Community engagement on the ESPR has been inadequate.

[1] CLF is a nonprofit, member-supported, regional environmental organization working to conserve natural resources, protect public health, and promote thriving communities for all in the New England region. CLF protects New England's environment for the benefit of all people. We use the law, science and the market to create solutions that preserve our natural resources, build healthy communities, and sustain a vibrant economy. We are working to cut pollution from our cars and trucks, create alternatives to driving, and push for more affordable and equitable public transit options across New England.

A. General Statements Regarding ESPR Comments

1. *Function of the ESPR*

The ESPR is essentially a report that operates as a "look-back", produced *two years after* the start of ongoing impacts that have cumulative effects. It is a woefully inadequate decisional tool for Massport to be able to minimize and mitigate its impacts on overburdened populations in surrounding communities, offering little solace to residents whose health is being sacrificed due to the laggard pace of Massport's analysis. While the following comments are aligned with the current ESPR framework, CLF strongly encourages MEPA to evolve its use of the ESPR to be a forward-looking emissions reduction planning tool, especially in light of statutory Global Warming Solutions Act[2] obligations and Massport's net zero commitments. 6-5

2. *Segmentation*

The ESPR is also deficient in failing to address the synergies between and among regional airports, especially those airports that Massport controls (Hanscom and Worcester). This is reflected in the EEA Secretary's recent decision on hangar expansion at Hanscom Airport, a decision in which the emissions impact of the proposed expansion was premised on numerous assumptions about the management of flights between Hanscom and Logan.[3]

In failing to assess how the three airports operate as a regional system, especially with respect to general aviation, Massport is missing opportunities to manage the 6-6

[2] M.G.L. ch. 21N.
[3] Executive Office of Energy and Environmental Affairs, *Certificate of the Secretary of Energy and Environmental Affairs on the Draft Environmental Impact Report, L.G. Hanscom Field North Airfield Development, EEA No. 16654* (June 21, 2024).

system as a hole to optimize for emissions reductions and is "segmenting" the analysis of impacts on a manner antithetical to the MEPA process. 6-6

3. Amplification of Emissions Impact by a Warming Atmosphere

One major omission in the ESPR is the failure to consider or even acknowledge the amplification of adverse health effects associated with Logan emissions due to the impact on levels of particulate matter and ground-level ozone (*i.e.*, soot and smog) that come with a warming atmosphere. Simply put, soot and smog increase due to atmospheric warming even if emission levels do not. And that effect is likely to be further amplified by the potential for "heat island effect"[4] in several areas surrounding the airport campus – like East Boston, Chelsea, Winthrop, as well as the airport itself – where macadam and other impervious land cover predominate the landscape.

Why is this bit of atmospheric science important? It means that the health and wellness of the communities impacted by Logan's operations will suffer even greater mortality and morbidity even if Logan's emissions were static – which they are not and never have been absent a pandemic. Massport's level of effort and commitment of resources to avoid, minimize, and mitigate its emissions must increase commensurately simply to prevent health in these communities from declining. Massport can no longer evade this obligation. 6-7

B. The ESPR Understates Logan's Likely Passenger and Aircraft Operations Growth and Should Include an Analysis of More Realistic Passenger Growth Estimates 6-8

While the ESPR plays a critical role in forecasting airport growth and its associated environmental impacts, it significantly understates the airport's likely passenger and aircraft operations growth. In the ESPR, Massport employs a detailed methodology for forecasting future activity levels, considering factors such as economic conditions, cargo increases, aircraft fleet mix, future assumptions, and airline route plans.[5] This forecasting accounts for local, regional, and national

[4] U.S Environmental Protection Agency, *Heat Island Effect* (last accessed September 21, 2024), available at https://www.epa.gov/heatislands.

[5] Massport, Boston Logan International Airport, 2022 Environmental Status and Planning Report (May 2024), available at 2022-Boston-Logan-Airport-ESPR.pdf https://www.massport.com/sites/default/files/2024-05/2022-Boston-Logan-Airport-ESPR.pdf(hereinafter "2022 Boston Logan ESPR").

recovery trends, especially in light of the COVID-19 global pandemic. While the Future Planning Horizon spans 10 to 15 years, with projections estimating 53.5 million air passengers[6] and 495,000 total annual aircraft operations,[7] Massport's past forecasts have (except for pandemic years) consistently underestimated growth.[8]

Historically, annual passenger growth levels have continued to grow significantly faster than aircraft operations growth.[9] For example, between 2011 and 2019, passenger volumes and aircraft operations at Logan increased significantly more than anticipated, with 9 million more passengers than planned.[10] Despite COVID-19 impacts[11] on airport operations growth, this historical discrepancy highlights a pattern of underestimation in ESPR modeling, suggesting that current 2022 forecasts might also be too conservative.[12] Given the robust demand for air travel in Boston and New England, and the expected 3.8% annual increase in global commercial aviation over the next 20 years,[13] it is likely that Logan will experience higher growth than forecasted. Factors contributing to this growth include economic growth, airline expansion, and population growth within the Boston metropolitan area, leading to higher air travel demand.

This underestimation of growth in the ESPR has significant implications for purposes of environmental planning.[14] The current forecast-based system may fail to implement timely and adequate mitigation measures, leading to increased negative environmental and public health impacts. In fact, the increase in airport CO_2 emissions due to higher-than-expected flight activity illustrates the

[6] 2022 Boston Logan ESPR, at 3-1 *et seq*.

[7] 2022 Boston Logan ESPR, at 7-2 and 7-3.

[8] *See generally*, Airport Impact Relief, Inc., *The Case for an Impact-Triggered Mitigation Planning Policy at Logan* (May 2022), (hereinafter "*Impact-Triggered*").

[9] Massport, Boston Logan International Airport, 2017 Environmental Status and Planning Report (May 2019), available at https://www.massport.com/sites/default/files/2023-10/2017-espr-part-1.pdf (hereinafter "2017 Boston Logan ESPR") at 1-7, Figure 1-5.

[10] *Impact-Triggered* at 2, Figure 2.

[11] *See, generally, Impact-Triggered* at 4 (while airport passenger volume has consistently correlated with national and global events such as 9/11 and the 2008 Great Recession, such events that disrupt passenger volume only temporarily affect the steady demand for air travel.)

[12] *Id*.

[13] International Air Transport Association, *Global Outlook for Air Transport: Deep Change* (June 2024) at 10.

[14] *See Impact-Triggered* at 2 (airport impacts increased 300% more than forecasted by MEPA in the 2011 ESPR, demonstrating historically under-reported growth between 2011 and 2034); "the most serious consequences of decades of 'growth first' MEPA system is the public health impact of aviation sources of noise and pollution in environmental justice communities").

insufficiency of Massport's environmental policies in responding to actual growth levels.[15] Adverse environmental impacts upon surrounding communities, including East Boston Revere, Winthrop, and Chelsea, will be underreported and/or will receive delayed mitigation actions.

Further, as overall airport operations have recovered as a result of the pandemic, communities near the Logan airport have been disproportionately affected by COVID-19[16] and are uniquely vulnerable to its health risks. Similarly, public health studies document strong links between air pollution and COVID-19 health risks.[17] Lastly and as previously noted, as the climate warms, historically marginalized communities are likely to suffer disproportionally due to worsening air quality.[18] Given the significant risks to environmental justice communities surrounding the airport, and further, the additional environmental risks posed by potential airport expansion at Logan or Hanscom, it is critical that Massport address the inaccuracies in growth forecasts.

6-9

AIR Inc.'s impact-triggered environmental planning approach is highly recommended.[19] This system links specific mitigation measures to actual passenger and flight activity levels rather than relying on historically inaccurate forecasts,[20] and should be designed to recognize and address the amplification of soot and smog levels caused by a warming climate even when passenger and flight activity levels are static. Benefits of this approach include timely mitigation (which ensures that mitigation strategies are implemented as soon as certain activity thresholds are reached, preventing environmental impacts from escalating); flexibility (which allows for adjustments based on real-time data, accommodating unforeseen changes in activity levels); and enhanced preparedness (pre-negotiated

[15] *See Impact-Triggered* at 4 (But for the pandemic, all airport sources of CO_2 would have seen an increase over five years from the 2017 ESPR, based on an 8% increase in CO2 calculated from 2018/2019 EDR data).
[16] East Boston experienced some of the highest COVID-19 positively rates relative to other Boston neighborhoods. *See*, City of Boston, Boston Public Health Commission, available at boston.gov.
[17] X. Wu, R.C. Nethery, *et al.*, *Air Pollution and COVID-19 Mortality in the United States: Strengths and Limitations of an Ecological Regression Analysis*, 6 Science Advances 45 (2020).
[18] Chapter 14, Air Quality, *Fifth National Climate Assessment*, https://nca2023.globalchange.gov/chapter/14/.
[19] *See Impact-Triggered at* 5-6 (analysis of growth dependency of airport impacts, demonstrating statistical significance of the relationship between airport impacts and both annual passenger volumes and flight operations).
[20] *Id*.

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and scalable mitigation measures ensure that the airport is better prepared to handle increases in passenger and flight activity).[21]

C. Logan Aircraft Operations' Impact on Greenhouse Gas Emissions are Underestimated

The 2022 ESPR contains several statistical representations that can be deemed misleading with respect to the mitigation of greenhouse gas (GHG) emissions. These inaccuracies obscure the true environmental impact and progress made in reducing emissions in airport operations at Logan. Post-pandemic recovery data must not be taken out of the context of historical growth trends that have and will continue to occur at the airport. For example, while the ESPR's representation of recovery rates in 2022 show that operations and passenger levels were apparently down 15 percent and 11 percent compared to 2019, flight operations were at 88 percent and passenger levels at 85 percent of 2019 levels.[22] By November 2022, passenger level metrics had reached between 92 and 94 percent of pre-pandemic levels.[23] This demonstrates a more accelerated recovery from the global pandemic than is represented.

The way in which the aforementioned statistics are posed suggests an understatement of actual recovery progress, which will in turn affect the perceived urgency of emissions mitigation across all airport operations. To address these shortcomings, it is crucial for future ESPRs to provide more granular, monthly data to reflect accurate post-pandemic recovery trends. This approach would ensure that GHG emission mitigation strategies are based on current and realistic operational data rather than historically unreliable business-as-usual ESPR projections that can obscure emissions reductions needs.

6-10

[21] *See, generally, Impact-Triggered*.
[22] 2022 Boston Logan ESPR, at Tables 3-2, 3-3.
[23] Certificate of the Secretary of Energy and Environmental Affairs on the 2020 & 2021 Logan Airport Environmental Data Report (January 30, 2023) at 4.

D. The ESPR's Definition and Accounting of Greenhouse Gas (GHG) Emissions Under Massport's Direct Control are Underinclusive and Misleading

In both the ESPR and in its earlier net zero plans, Massport has failed to recognize the full range of emissions within its operational control. In so doing, Massport both misses' opportunities to reduce emissions and their concomitant local impact and understates the mitigation and offset obligations required for Logan to achieve Massport's publicly declared "net zero" commitment. The following four examples of emissions reduction opportunities that Massport erroneously assumes are beyond its control should be sufficient to demonstrate that the ESPR is inadequate. These examples also reveal the flawed assumptions about the scope of Massport's control that permeate Massport's 'net zero' plan and require its wholesale revision.

1. *Ground Service Equipment (GSE) Electrification*

Logan is behind other airports in GSE electrification[24] with continued reliance predominantly on dirty diesel GSE, resulting in increased GHG emissions as well as unhealthy soot and smog exposure for Logan's workers, passengers, and surrounding communities.

Contrary to Massport's position that these GSE emissions constitute "Scope 3" emissions beyond its direct control,[25] these emissions are demonstrably within Massport's control and should be addressed forthwith. Through the 2017 agreement between Massport and CLF concerning emissions, airport vehicle access, and parking infrastructure (hereinafter "the 2017 agreement"),[26] Massport has an enforceable agreement to electrify GSE at Logan if and when Massport undertakes construction of the new parking structures then at issue. Massport

6-11

[24] Significant deployment of new electric ground service equipment ("eGSE")technologies (including pushbacks, belt loaders, container loaders, luggage tugs, lavatory trucks, and water trucks) has occurred at SeaTac, Philadelphia, and Dallas Fort Worth Airports, where up to 430 eGSE is being used at each airport. National Renewable Energy Laboratory, *Electric Ground Support Equipment at Airports* (December 2017), available at https://afdc.energy.gov/files/u/publication/egse_airports.pdf.

[25] Massport, *Sustainability & Resiliency Report 2020-2021* (2022) at 12, available at https://www.massport.com/sites/default/files/2024-01/2020-2021-Massport-Sustainability-Resiliency-Report.pdf.

[26] Massport and Conservation Law Foundation, *Letter Agreement by and Between the Massachusetts Port Authority and the Conservation Law Foundation on Trip Reduction Strategy* (May 18, 2017).

could not have assumed this obligation if GSE electrification was not in its direct control.

According to Massport, the events triggering its GSE obligations under the 2017 Agreement (*i.e*, start of parking structure construction) have not yet occurred. That may be, but Massport's assumption of that obligation – no matter how conditional -- remains proof positive that GSE electrification is within its control and thus GSE emissions are Scope 1 emissions that Massport must consider and address in the ESPR and in any credible "net zero" plan.[27]

6-12

2. *Electric Taxiing*

Taxiing to and from runways and between and among gates generates a significant portion of aircraft emissions at Logan and may be the most consequential emissions in terms of local health and environmental impact. Those emissions can be eliminated with GSE electrification and taxiing by electric tug, already a practice at many airports, and without any federal preemption constraints.[28] By assuming an obligation (albeit conditional) to adopt electric taxiing in the 2017 Agreement, Massport has recognized that these emissions also are another area of emissions reduction within Logan's control upon GSE electrification, again within its control.

3. *Phase-Out of Short-Hop ("Ferry") Flights*

As EEA must be aware, the Commonwealth's Climate Chief, in her inaugural report,[29] highlighted the GHG emission reduction benefits associated with a phase-out of short-hop "ferry" flights (*i.e.*, 250 miles or less) at the region's airports on routes where rail service is a reasonable alternative.[30] Short-hop flights are "much more energy inefficient than both longer flights and alternative forms of

[27] Scope 1 emissions are direct GHG emisisons occurring from sources controlled or owned by an organization. U.S. Environmental Protection Agency, *EPA Center for Corporate Climate Leadership,* Scope 1 and Scope 2 Inventory Guidance (last accessed October 4, 2024), available at https://www.epa.gov/climateleadership/scope-1-and-scope-2-inventory-guidance#:~:text=Scope%201%20emissions%20are%20direct,boilers%2C%20furnaces%2C%20vehicles).

[28] Mojdeh Soltani, *et al.*, *An Eco-Friendly Aircraft Taxiing Approach with Collision and Conflict Avoidance*, 121 Transportation Research Part C: Emerging Technologies 102872 (December 2020).

[29] Melissa Hoffer, Climate Chief, *Recommendations of the Climate Chief* (October 25, 2023) available at https://www.mass.gov/files/documents/2023/10/24/CLIMATE%20REPORT.pdf.

[30] "The Massachusetts Port Authority (Massport) and MassDOT should continue to develop a plan to reduce aviation emissions including consideration of alternative fuels **and reduced availability of certain short hop flights where rail exists as an alternative**" (emphasis added). *Id.*, at 47.

transportation."[31] As the challenges with reducing carbon emissions are complicated by the technological limitations of commercial electrified aircraft, Massport must use its control and discretion concerning gate allocation, gate priority, and pricing to decrease short-haul air travel in coordinated partnership with the MBTA and Amtrak. Climate planning to reduce unnecessary ferry flight carbon emissions[32] must be a crucial component of the ESPR long-range planning process.[33] Alternatively, Massport should limit short-haul flights to the extent possible under current law. 6-13

4. *Electrification of Transportation Network Company-Owned or -Leased Vehicles*

In the 2017 agreement with CLF and in subsequent action[34] two years later by Massport's board strictly limiting permissible Transportation Network Company ("TNC") pick-up, drop-off, and circulation at Logan, Massport has recognized and forcefully exercised its plenary authority to condition and control TNC access to Logan Airport. That authority should be used to develop a plan and implement the same by a date certain for electrification of TNC-owned or -leased vehicles serving Logan.

5. *Making Logan More Electric Vehicle ("EV") Friendly*

Although the 2017 Agreement has requirements that Massport maintain EV charging availability at 150 percent of utilization, Massport's compliance with this requirement is highly doubtful. Frequent flyers claim that chargers are regularly unavailable or occupied by vehicles whose owners are traveling. To our knowledge, Massport does not provide updates on the state-of-repair to any phone applications available for EV drivers to know in advance which chargers are out of service. CLF will be raising these issues in the context of monitoring and enforcing the 2017 Agreement, but Massport must address and be transparent about the state of repair 6-14

[31] Chuck Collins, *et. al.*, *Hanscom High Flyers: Private Jet Excess Doesn't Justify Airport Expansion* (October 2023) at 8, available at https://ips-dc.org/wp-content/uploads/2024/01/HanscomHighFlyers-Jan2024.pdf.
[32] This is, of course, in addition to reduction or cessation of all other carbon emissions caused by the airport.
[33] *See, generally*, Katherine Lee Goyette, *Decarbonizing Air Travel: Airspace Rights and Aviation Climate Goals*, 39 Nat. Resources and Env't, 1 (Summer 2024).
[34] Massport, *Massport Board Moves Forward with Ground Transportation Plan*, Press Release (April 25, 2019), available at https://www.massport.com/massport-board-moves-forward-ground-transportation-plan.

and availability rates of EV charging and make it a priority to identify and implement solutions to the current and any future challenges. 6-14

Further, Massport must take larger steps toward the promotion of sustainable transportation options to and from the airport campus. The development of infrastructure and policies supporting the use of public transportation, electric vehicles, and other low-emissions transport options is crucial to reducing transportation emissions from the airport. Logan Express should be entirely electrified by a certain date,[35] and comprehensive traffic management plans must be developed to effectively minimize congestion (and thus emissions) from idling internal combustion engine ("ICE") vehicles. As Massport electrifies the Logan Express, it should also work with municipalities to expand the Logan Express service area. On site, Massport should strongly consider congestion pricing or imposition of low-emissions zones to discourage private ICE vehicle use during peak times, while balancing equity impacts. [36] 6-15 6-16 6-17 6-18

6. *Other Airport Campus Emissions Reduction Opportunities*

To achieve net zero GHG emissions, other airport campus emissions reduction opportunities that Massport can implement include several strategies aimed at monitoring, reporting, and mitigating environmental impacts. One important measure includes mandating annual greenhouse gas inventories to allow regular tracking of the airport's emissions by surrounding communities; this would enable the comparison of year-to-year data and provide a clear view of air pollution trends and the effectiveness of ongoing decarbonization strategies. Another necessary measure is the installation of air quality monitors in key locations around the airport campus. These air quality monitors can provide real-time data on pollution levels, which should be part of a larger air quality improvement plan that outlines specific targets for air quality improvement, which incorporates surrounding communities' feedback after significant community engagement opportunities. Such plan would 6-19 6-20

[35] The Port Authority of NY/NJ touts the largest all-electric airport bus fleet on the east coast as of 2020 – 36 buses and 19 chargers that provide service to Newark Liberty, John F. Kennedy International, and LaGuardia airports. *See*, Port Authority NY/NJ, *Port Authority Doubles Electric Shuttle Bus Fleet at Airports, Becoming the Largest All-Electric Fleet on the East Coast*, Press Release No. 95-2020, (October 15, 2020), available at https://www.panynj.gov/port-authority/en/press-room/press-release-archives/2020-press-releases/port-authority-doubles-electric-shuttle-bus-fleet-at-airports--b.html.
[36] See, *i.e.*, Nicolas V. Serna, *Managing Traffic in Massachusetts: Assessing the Potential Income Equity Impacts of Congestion Pricing in Greater Boston* (May 2019), available at https://www.hks.harvard.edu/sites/default/files/centers/mrcbg/files/AWP_129_final.pdf.

focus both on reducing the harmful pollutants caused by the airport and as well emphasize transparency and collaboration with local organizations and surrounding environmental justice communities directly impacted by the airport's emissions. Finally, an important step that Massport has yet to take in reducing the environmental footprint of the airport involves banning single-use plastic product sales. Such a prohibition on plastic and polystyrene containers, bottles, straws, cutlery, and disposable plastic bags within the airport would dramatically reduce unnecessary plastic waste. 6-21

D. Massport Must Improve Internal and External Engagement

1. *External Engagement, Generally*

Massport's engagement with the public on issues affecting surrounding communities, such as air quality, noise, and mitigation measures, is currently insufficient. Community-based organizations in communities that surround the airport (*i.e.*, East Boston, Chelsea, Revere, and Winthrop) must improve. These communities should not have difficulty accessing and communicating with Massport leadership and staff. State law and policies require enhanced engagement with residents of environmental justice communities, and Logan Airport is located near several state-designated environmental justice communities.

Massport should take its guidance from the recent Massachusetts Office of Attorney General, 2021 Stakeholder Working Group publication, *Overly Impacted & Rarely Heard: Incorporating Community Voices into Massachusetts Energy Regulatory Processes*, published May 2023.[37] While specifically applicable to the energy regulatory processes overseen by the Massachusetts Department of Public Utilities and Energy Facilities Siting Board, the recommendations of the Stakeholder Working Group can be applied in many contexts, as they center around advancing equity, improving transparency and accountability, and improving information and accessibility to knowledge by the public. For example, as a matter of course, when Massport seeks input from impacted communities, documents should be written in plain language and accessible on mobile devices. 6-22 6-23

[37] Stakeholder Working Group, Massachusetts Office of the Attorney General, *Overly Impacted & Rarely Heard: Incorporating Community Voices into Massachusetts Energy Regulatory Processes* (May 2023), available at https://www.mass.gov/doc/overly-impacted-and-rarely-heard-incorporating-community-voices-into-massachusetts-energy-regulatory-processes-swg-report/download.

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2. *Change Management Program*

The change management program will face immediate challenges if Massport does not structure the program as a long-term program (instead of a pilot program). Quantitative impacts of the program will be difficult to measure if the program is not implemented on a long-term basis. Further, internal and external stakeholders for sustainability and logistical improvements with airport operations should be engaged to appropriately collect metrics on the overall success within the program. All relevant stakeholders should be engaged, including airport employees, airlines, passengers and surrounding communities through a variety of communication pathways, such as meetings, surveys, and feedback sessions to gather feedback and address concerns.

3. *Language Interpretation Services*

As part of Massport's ESPR public engagement strategy, language interpretation services are provided for languages spoken by at least 10 percent of the census tract's population who have "Limited English Proficiency" ("LEP").[38] This threshold of 10 percent differs from the threshold adopted by the Massachusetts Environmental Policy Act (MEPA) Public Involvement Protocol for Environmental Justice Populations, which uses a 5 percent threshold of residents who identify as not speaking English "very well" (*i.e.*, with LEP). CLF urges Massport to amend its ESPR public engagement strategy to provide language interpretation services for languages spoken by at least 5 percent of a census tract's population who have LEP. 6-24

[38] 2022 Boston Logan ESPR, MEPA Certificates and Responses to Comments at A-40, #A-16 (Response).

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E. Conclusion

As embodied in the 2017 Agreement, CLF has had a collaborative and productive relationship with Massport for the past nine years in the effort to avoid, minimize, and mitigate Logan's emissions and their adverse impacts; increase the percentage of high-occupancy vehicle making trips to the airport; and improve both access to and quality of mass transit.

It has become apparent, however, that Massport's efforts to claim a mantle of climate and environmental leadership are woefully inadequate to the urgency of the challenge.

CLF respectfully asks the Secretary to reject the ESPR and require Massport to file a supplemental EIR in accordance with 301 CMR 11.07. We look forward to working with Massport to make Logan and other Commonwealth airports leaders rather than laggards in protecting the climate and safeguarding health in surrounding communities. Rejection of the ESPR is a necessary step to begin that collaboration.

Sincerely,

Katherine Lee Goyette
Staff Attorney
Conservation Law Foundation

Seth Gadbois
Clean Transportation Staff Attorney
Conservation Law Foundation

Conservation Law Foundation (CLF) Responses to Comments

6-1: Logan Airport Environmental Review and Planning

The utility of the ESPR has been undermined by the current look-back approach and laggard publication.

As discussed above in Comment 4D-46 and in Comments A-3 and A-4 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport aims to improve the usability of the EDR and ESPR and return to annual schedule by adapting the EDR and ESPR content format and development process to enable more frequent updates. These strategies included revising main body chapters to focus solely on annual data updates; producing a User's Guide to provide detailed overviews of the regulatory framework, methodologies, models, model inputs, programs, and analyses; and releasing a new web page specifically for EDR and ESPR filing. For more information, refer to **Section 1.2.2.2 of Chapter 1, *Introduction and Executive Summary***.

Massport has taken action to address this concern, and recent updates to the EDR and ESPR formats have been implemented to enhance accessibility and ease of review, which Massport believes will enable the production process for these filings to return to a consistent, annual schedule while also facilitating the public's ability to review these documents and develop comments within the standard 45 day comment period prescribed by MEPA.

6-2: Air Quality/Emissions Reduction (GHG)

Emissions analysis should examine emissions growth and opportunities for mitigation based on coordinated management of the entire regional airport system Massport operates (Logan, Hanscom, and Worcester).

Massport recognizes the importance of assessing the operations of Logan Airport, Hanscom Field, and Worcester Regional Airport as a regional system to optimize emissions reductions and ensure comprehensive environmental impact analysis. Massport is committed to advancing its environmental stewardship through collaboration and innovation, aligning with the principles and requirements of MEPA. Massport remains committed to refining its approach to environmental justice and public health analysis, working closely with MEPA and other stakeholders to improve the assessment of impacts across the regional airport system. Massport will continue to explore innovative solutions and partnerships to enhance its environmental performance and optimize emissions reductions across its operations.

6-3: Air Quality/Emissions Reduction (GHG)

Greenhouse gas impacts of Logan's growth and operations are understated in the ESPR.

As discussed in other comments, the **User's Guide, Section U3.4,** describes the methodology for future forecasting. The section describes the use of 1) historical trends, 2) recent developments, and 3)

outlook for future demand drivers such as local and national economic growth. **Chapter 3, *Activity Levels***, presents multiple tables that provide data and a narrative explanation of the forecasted growth in passenger levels and aircraft operations at the Airport. A comprehensive list of data sources that were referenced in the forecasting process is listed in the ***2022 ESPR,* Appendix F, *Activity Levels Supporting Documentation*,** and the **User's Guide, Section U3.4**. Massport follows industry best practices in preparing activity level estimates and future forecasts, considering several key factors, including economic conditions, airplane manufacturers' plans, future aircraft in the fleet mix, social factors, anticipated airline route plans, and many others. The assumptions and sources of data are documented in the **User's Guide, Section U3.4**.

The EDRs and ESPRs provide detailed analyses of emissions reduction strategies and their impacts, including the use of advanced modeling tools like the Federal Aviation Administration (FAA)'s Aviation Environmental Design Tool (AEDT) and the U.S. Environmental Protection Agency (U.S.EPA)'s MOtor Vehicle Emission Simulator (MOVES) to quantify emissions. These findings are presented in **Section 8.4 of Chapter 8, *Air Quality and GHG Emissions***. The **User's Guide, Section U8.4** provides more information on analysis methodologies and assumptions.

6-4: Air Quality/Emissions Reduction (GHG)

The ESPR's definition and accounting of emissions under Massport's direct control are underinclusive, misleading, and are missing significant opportunities for mitigation.

As discussed in other comments, the **User's Guide, Section U3.4** describes the methodology for future forecasting. The section describes the use of 1) historical trends, 2) recent developments, and 3) outlook for future demand drivers such as local and national economic growth. A comprehensive list of data sources referenced in the forecasting process is provided in the ***2022 ESPR,* Appendix F, *Activity Levels Supporting Documentation,*** and the **User's Guide, Section U3.4**. Massport follows industry best practices in preparing activity level estimates and future forecasts, considering several factors: economic conditions, airplane manufacturers' plans, future aircraft in the fleet mix, social factors, anticipated airline route plans, and many others. The assumptions and sources of data are documented in the **User's Guide, Section U3.4**.

The EDRs and ESPRs provide detailed analyses of emissions reduction strategies and their impacts, including the use of advanced modeling tools like the FAA's Aviation Environmental Design Tool (AEDT) and the U.S.EPA's MOtor Vehicle Emission Simulator (MOVES) to quantify emissions. These findings are presented in **Section 8.4 of Chapter 8, *Air Quality and GHG Emissions***. The **User's Guide, Section U8.4** provides more information on analysis methodologies and assumptions.

6-5: Air Quality/Emissions Reduction (GHG)

CLF strongly encourages MEPA to evolve its use of the ESPR to be a forward-looking emissions reduction planning tool, especially in light of statutory Global Warming Solutions Act2 obligations and Massport's net zero commitments.

As discussed in Comment A-69 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport aims to reach absolute Net Zero GHG emissions without relying on renewable energy credits (RECs) or carbon offsets, by 2040. For more information on these efforts, see **Chapter 11, *Sustainability and Climate Resilience.*** As discussed in **Section 11.2.1 of Chapter 11**, in 2023, the Board of Directors voted to approve $500 million in investments to Net Zero projects, laying the groundwork for future reductions over the next five years. This funding supplements routine funding requests that incorporate the R*oadmap to Net Zero by 2031* Program. For instance, at its January 14, 2025 meeting, the Board approved the purchase of up to 50 electric shuttle buses for Logan Airport, in collaboration with the Massachusetts Bay Transportation Authority (MBTA). Massport has committed to achieving Net Zero GHG emissions for its Scope 1 and Scope 2 sources by 2031. Additionally, Massport aims to reach absolute Net Zero GHG emissions without relying on renewable energy credits (RECs) or carbon offsets, by 2040, as discussed in **Section 11.2 of Chapter 11.**

6-6: Logan Airport Environmental Review and Planning

In failing to assess how the three airports operate as a regional system, especially with respect to general aviation, Massport is missing opportunities to manage the system as a whole to optimize for emissions reductions and is "segmenting" the analysis of impacts in a manner antithetical to the MEPA process.

Massport recognizes the importance of assessing the operations of Logan Airport, Hanscom Field, and Worcester Regional Airport as a regional system to optimize emissions reductions and ensure comprehensive environmental impact analysis. Massport is committed to advancing its environmental stewardship through collaboration and innovation, aligning with MEPA's principles and requirements. Massport remains committed to refining its approach to environmental justice and public health analysis, working closely with MEPA and other stakeholders to improve the assessment of impacts across the regional airport system. Massport will continue to explore innovative solutions and partnerships to enhance its environmental performance and optimize emissions reductions across its operations.

6-7: Logan Airport Environmental Review and Planning

Massport's level of effort and commitment of resources to avoid, minimize, and mitigate its emissions must increase commensurately simply to prevent health in these communities from declining.

As discussed above in Comment 4D-13 and in Comments A-1 and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to active participation in the MEPA's Logan Airport Work Group established in collaboration with the MEPA Office and the Office of Environmental Justice & Equity (OEJE). The Work Group's primary objective is to assess and discuss potential supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations.

Massport also collaborates with various stakeholders, including industry leaders and academic institutions, to advance the development and implementation of Sustainable Aviation Fuel (SAF). Massport is dedicated to enhancing transparency and public engagement through initiatives such as creating the EDR and ESPR webpage, which provides access to supporting data and historical information. On-going improvements also include reporting methods and quantification of environmental impacts and mitigation measures. Massport will also continue to strengthen relations with surrounding communities, particularly those representing environmental justice (EJ) populations, through expanded outreach and engagement efforts and including a public health assessment in the *2023/2024 EDR*.

6-8: Activity Levels

The ESPR Understates Logan's Likely Passenger and Aircraft Operations Growth and Should Include an Analysis of More Realistic Passenger Growth Estimates

As discussed in other comments, the **User's Guide, Section U3.4,** describes the methodology for future forecasting. The section describes the use of 1) historical trends, 2) recent developments, and 3) outlook for future demand drivers such as local and national economic growth. **Chapter 3, *Activity Levels***, also presents multiple tables providing data and a narrative explanation of the forecast growth in levels of passengers and aircraft operations at the Airport. A comprehensive list of data sources that were referenced in the forecasting process is listed in the ***2022 ESPR,*** **Appendix F, *Activity Levels Supporting Documentation*,** and the **User's Guide, Section U3.4**.

6-9: Environmental Justice

Given the significant risks to environmental justice communities surrounding the airport, and further, the additional environmental risks posed by potential airport expansion at Logan or Hanscom, it is critical that Massport address the inaccuracies in growth forecasts.

Massport follows industry best practices in preparing activity level estimates and future forecasts for passenger activity levels and operations, considering several key factors, including economic conditions, airplane manufacturers' plans, future aircraft in the fleet mix, social factors, and anticipated airline route plans. Massport is committed to refining its forecasting methodologies to reflect realistic growth estimates and actual impacts more accurately. The assumptions, data sources, and enhanced methodologies Massport currently uses for these forecasts are documented in the **User's Guide, Section U3.4**. This section also describes the use of 1) historical trends, 2) recent developments, and 3) future demand drivers such as local and national economic growth.

Chapter 3, *Activity Levels* in the *2023/2024 EDR* also presents multiple tables providing data, and a narrative explanation of the growth in passenger activity and aircraft operations at the Airport over the current reporting years and prior reporting year, as well as a comparison to a historic benchmark year. A comprehensive list of the data sources referenced in the analysis is listed in **Appendix F, *Activity Levels Supporting Documentation***.

6-10: Activity Levels

To address these shortcomings, it is crucial for future ESPRs to provide more granular, monthly data to reflect accurate post-pandemic recovery trends.

Massport follows industry best practices in preparing activity level estimates and future forecasts, considering several factors: economic conditions, airplane manufacturers' plans, future aircraft in the fleet mix, social factors, anticipated airline route plans, and many others. The assumptions and sources of data are documented in the **User's Guide, Section U3.4**.

6-11: Air Quality/Emissions Reduction (GHG)

Contrary to Massport's position that these GSE emissions constitute "Scope 3" emissions beyond its direct control these emissions are demonstrably within Massport's control and should be addressed forthwith.

As discussed in Comment A-69 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport aims to reach absolute Net Zero GHG emissions across all scopes, without relying on renewable energy credits (RECs) or carbon offsets, by 2040. For more information on these efforts, see **Section 11.2 of Chapter 11, *Sustainability and Climate Resilience*.** Massport also has a comprehensive program in place for reducing air and GHG emissions. While Massport does not have control over aircraft and aircraft-related emissions, Massport is working closely with its airline partners to reduce emissions.

6-12: Air Quality/Emissions Reduction (GHG)

Massport's assumption of that obligation – no matter how conditional – remains proof positive that GSE electrification is within its control, and thus GSE emissions are Scope 1 emissions that Massport must consider and address in the ESPR and in any credible "net zero" plan.

Massport continues to promote the transition to electric ground service equipment (eGSE) among 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.[1]

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

[1] COBUS Industries GmbH. https://www.cobus-industries.com/produkte/e-cobus-3000/

Cargo Park to support Delta Air Lines' onboard dining services at Logan Airport.[2] For more information on these efforts, see **Section 11.2.3.3 of Chapter 11, *Sustainability and Climate Resilience***.

6-13: Planning

Climate planning to reduce unnecessary ferry flight carbon emissions must be a crucial component of the ESPR long-range planning process. Alternatively, Massport should limit short-haul flights to the extent possible under current law.

The EDR and ESPR **Chapter 5, *Regional Transportation,*** continues to track alternatives to air transportation. For many years, rail passengers between Boston and New York City have surpassed air travel. The State of Massachusetts continues to evaluate opportunities to enhance its role in the regional and U.S. rail network. Development of "feasible timelines and pathways to achieve the improvement in intercity rail services" remains the state's responsibility. Massport's support of the MBTA's Silver Line is a prime example of its role in supporting rail connections.

6-14: Air Quality/Emissions Reduction (GHG)

Massport must address and be transparent about the state of repair and availability rates of EV charging and make it a priority to identify and implement solutions to the current and any future challenges.

In January 2025, Massport updated the *Sustainability Design Guidelines (SDGs)* to align with the *Roadmap to Net Zero by 2031*. The electric vehicle (EV) charging services and capacity to be provided will correspond to the needs of airport users, with considerations incorporated into the planning process for vehicle duration of stay on Airport property, parking space availability, and site limitations, such as available electrical capacity. Massport will continue to update plans for accommodating EVs and the SDGs to meet increasing local and regional adoption of EV use.

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 (MT) of carbon dioxide equivalent (CO_2e) emissions, with the majority of these savings attributed to rideshare operators. For more information on Massport's electric charging infrastructure, see **Section 11.2.3.3 of Chapter 11, *Sustainability and Climate Resilience***.

[2] EastBoston.com. https://eastboston.com/massachusetts-leaders-launch-first-ev-catering-truck-in-north-america-to-serve-logan-international-airport/

6-15: Ground Access to and From Logan Airport

Massport must take larger steps toward the promotion of sustainable transportation options to and from the airport campus. The development of infrastructure and policies supporting the use of public transportation, electric vehicles, and other low-emissions transport options is crucial to reducing transportation emissions from the airport.

Massport promotes ridership on HOV, including transit and shared-ride modes, and maintains efficient transportation access and parking options in and around Logan Airport to reduce the reliance on single-passenger occupancy automobile modes. Implemented measures include a blend of strategies related to pricing, including incentives and disincentives, service availability, service quality, marketing, and traveler information. However, no single measure alone will accomplish the goal as Logan Airport passengers include various demographic groups in diverse locations. For more information on ground access initiatives, see **Section 6.4 of Chapter 6, *Ground Access***. This is also discussed further in Comments A-19, A-20, and A-21 in **Appendix A, *MEPA Certificate and Responses to Comments***.

6-16: Ground Access to and From Logan Airport

Logan Express should be entirely electrified by a certain date, and comprehensive traffic management plans must be developed to effectively minimize congestion (and thus emissions) from idling internal combustion engine ("ICE") vehicles.

Massport will continue to explore the viability of electrifying equipment, including Logan Express buses. Massport also promotes ridership on HOV, including transit and shared-ride modes, and maintains efficient transportation access and parking options in and around Logan Airport to reduce the reliance on single-passenger occupancy automobile modes. Implemented measures include a blend of strategies related to pricing, including incentives and disincentives, service availability, service quality, marketing, and traveler information. However, no single measure alone will accomplish the goal as Logan Airport passengers include various demographic groups in diverse locations. For more information on ground access initiatives, see **User's Guide, Section U6.5 and Section 6.4 of Chapter 6, *Ground Access*.**

6-17: Ground Access to and From Logan Airport

As Massport electrifies the Logan Express, it should also work with municipalities to expand the Logan Express service area.

The *2024 Logan Air Passenger Ground Access Survey* informs Massport's evaluation of Logan Express sites and expanded service options. As discussed above and in other comments, recent Massport initiatives have successfully encouraged Logan Express use and improved its overall capacity. Information on these projects is found in **Sections 4.1.3 through 4.1.5 of Chapter 4**, ***Airport Planning***. Further details on Logan Express service are found in **Section 6.1.2.1 of Chapter 6, *Ground Access***. For more information on ground access initiatives, see **User's Guide, Section U6.5.**

6-18: Ground Access to and From Logan Airport

On site, Massport should strongly consider congestion pricing or imposition of low-emissions zones to discourage private ICE vehicle use during peak times, while balancing equity impacts.

As discussed in Comment 6-17, recent Massport initiatives have successfully encouraged Logan Express use while also discouraging ICE vehicle use and idling. Massport promotes ridership on HOV, including transit and shared-ride modes, and maintains efficient transportation access and parking options in and around Logan Airport to reduce the reliance on single-passenger occupancy automobile modes. Implemented measures include a blend of strategies related to pricing, including incentives and disincentives, service availability, service quality, marketing, and traveler information. For more information on ground access initiatives, refer to the **User's Guide, Section U6.5** and **Section 6.4 of Chapter 6, *Ground Access***.

6-19: Air Quality/Emissions Reduction (GHG)

One important measure includes mandating annual greenhouse gas inventories to allow regular tracking of the airport's emissions by surrounding communities.

As discussed above and in Comment A-69 in **Appendix A, *MEPA Certificate and Responses to Comments*,** Massport has established a new benchmark for sustainable development as part of its *Roadmap Net Zero by 203*1 program in response to Department of Energy Resources (DOER)'s comment letter. This standard is based on the latest and most stringent building energy codes in the Commonwealth of Massachusetts, along with reputable third-party sustainability rating systems. As a part of the EDR and ESPR process, an annual GHG inventory is completed. For the *2023/2024 EDR*, this inventory was developed to be consistent with the inventory prepared for the ACA accreditation. The results from the 2023 and 2024 inventory are discussed in **Section 8.4 of Chapter 8, *Air Quality and GHG Emissions***. Massport recently launched a website dedicated to Roadmap Net Zero by 2031 reporting. As a part of this website, GHG inventories are updated for each facility of Massport's as they are completed. The inventories for Logan Airport represent findings completed for the EDR and may be posted before EDR or ESPR filings. See **Section 8.5 of Chapter 8,** for more on GHG inventories and other initiatives. For more information on Massport's on-going initiatives and investments to achieve Net Zero GHG emissions for its Scope 1 and Scope 2 sources by 2031 refer to **Chapter 11, *Sustainability and Climate Resilience***.

6-20: Air Quality/Emissions Reduction (GHG)

Another necessary measure is the installation of air quality monitors in key locations around the airport campus.

As discussed in Appendix A, Responses to Comments, A-1 Massport is committed to active participation in the MEPA's Logan Airport Work Group (the Work Group), established in collaboration with the MEPA and OEJE. This Work Group, launched in February 2025, includes representatives from

state agencies, local officials, and community stakeholders and is co-moderated by MEPA, OEJE, and an independent third-party moderator to promote an inclusive and transparent process.

The Work Group's primary objective is to assess and discuss potential supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations among environmental justice (EJ) communities in East Boston, Winthrop, and Chelsea. Over the course of the following year, the group will consider supplemental community mitigation measures for EJ neighborhoods in proximity to the Airport, with the goal of forming recommendations for specific actions. Scientific expertise from state agencies and researchers who have studied air quality impacts will assist in informing these discussions. **See Section 2.2.4.2 of Chapter 2** for more on the Work Group. As a part of these presentations from scientific experts studying Ultrafine Particulates (UFPs)s, a low number of monitors and advancements in the UFP monitoring technology have been discussed. The 2025 EDR will report on outcomes of the Work Group.

6-21: Climate Change

Massport has yet to take in reducing the environmental footprint of the airport involves banning single-use plastic product sales. Such a prohibition on plastic and polystyrene containers, bottles, straws, cutlery, and disposable plastic bags within the airport would dramatically reduce unnecessary plastic waste.

Massport is committed to reducing waste consumption and finding creative ways to reuse and recycle waste that would otherwise be sent to a landfill or incineration facility, as outlined in **Section 11.1.2.3 of Chapter 11, *Sustainability and Climate Resilience***. In early 2025, three Oscar-AI 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, and showcasing a commitment to sustainability through innovative, data-driven solutions.

6-22: Environmental Justice

Massport should take its guidance from the recent Massachusetts Office of Attorney General, 2021 Stakeholder Working Group publication, Overly Impacted & Rarely Heard: Incorporating Community Voices into Massachusetts Energy Regulatory Processes, published May 2023.

As discussed in Comment 5-2, Massport ensures public awareness of EDR and ESPR filings, public meetings, and comment deadlines by publishing notices in both English and non-English languages through multiple channels. These include the Massport website with a dedicated EDR and ESPR webpage, email communications to previous and newly identified stakeholders, social media platforms, notifications at neighborhood association and other community meetings, and a variety of local and regional print media outlets. Massport also publishes notices in non-English and community-specific publications such as the East Boston Times, Winthrop Transcript, and El Mundo. Further information on Massport outreach policies and other forms of engagement is described in **Section 2.2 of Chapter 2, *Outreach and Environmental Justice*, and in the User's Guide, Section U2.4.**

6-23: Environmental Justice

When Massport seeks input from impacted communities, documents should be written in plain language and accessible on mobile devices.

Massport enhanced the usability of the *2023/2024 EDR* and reduced its length through several innovative strategies. Before drafting, Massport reviewed the main body chapters to keep content focused solely on annual data updates, discussing relevant metrics and trends. The approach reduced chapter size but also enabled more timely document development in future years. Additionally, Massport standardized headings and subheadings in the *2023/2024 EDR*, limiting the data to the essential years of 2022, 2023, and 2024, along with a chapter-specific benchmark year. This approach aligns with the EDR and ESPR process's goal of providing annual updates, concentrating findings, figures, and tables on relevant reporting years.

Complimenting the EDRs and ESPRs, Massport developed a new User's Guide, which provides more detailed background and technical information. As discussed above in A4-3 and in Comments, A-1 to A-5, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments***, while chapters begin with a bulleted summary of Key Findings, throughout the chapters are hyperlinks to the relevant sections of the User's Guide that outline the key concepts, regulatory frameworks, technical background information, and methodologies discussed in a given chapter section. These hyperlinks are easily recognizable through bolded color font with a distinct icon shown in the page margin. Additionally, key terms are denoted in each chapter and defined in a centralized, upfront Key Terminology glossary.

Before filing the *2023/2024 EDR*, Massport developed a new webpage specifically for EDR and ESPR filings (https://www.massport.com/environment/boston-logan-edr-espr-data-portal), which includes links for each chapter of the most recent filings, notices for upcoming meetings, materials from prior meetings, prior filings, and weblinks to regularly updated data sources. This webpage is designed to facilitate navigation through the documents on several types of electronic devices, including mobile devices and smartphones. For more details on the User's Guide, the EDR and ESPR webpage, and the revised document format, see **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary***.

6-24: Environmental Justice

CLF urges Massport to amend its ESPR public engagement strategy to provide language interpretation services for languages spoken by at least 5 percent of a census tract's population who have LEP.

For *2023/2024 EDR* and future EDRs and ESPRs, Massport has expanded its EJ outreach to provide translation services in languages spoken by at least 5 percent of the given population located within a 5-mile radius of Logan Airport or within Massport CAC communities. For this EDR, this includes 8 languages, as detailed in **Chapter 2, Outreach and *Environmental Justice***, **Section 2.2.4.1**.

7. Massport Community Advisory Committee

October 11, 2024

The Honorable Rebecca Tepper, Secretary
Executive Office of Energy and Environmental Affairs
Attn: Jennifer Hughes, MEPA Analyst, EEA #3247
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Boston Logan International Airport 2022 Environmental Status and Planning Report (ESPR) – EEA #3247

Dear Secretary Tepper and Ms. Hughes,

Please accept this comment letter from the Massachusetts Port Authority Community Advisory Committee (MCAC) on the Boston Logan International Airport 2022 Environmental Status and Planning Report – EEA #3247 (ESPR) submitted on May 31, 2024. The MCAC is a legislatively created (See 2013 Mass. Acts Ch. 46, §§ 55, 82, as amended) committee comprised of representatives from thirty-five communities impacted by Massport's operations. Our statutory purpose is to serve as the voice of these communities and to provide oversight to Massport in order to minimize and mitigate the impacts that Massport has on them. A representative from the MCAC attended the public information sessions sponsored by Massport on this ESPR, and we submit these comments based on the information presented at those sessions as well as the document referenced above.

Creation of the ESPR

Massport was directed to prepare the 2022 Logan ESPR pursuant to a scope established by the Secretary's Certificate on the 2020/2021 Environmental Data Report dated January 30, 2023. Although the ESPR presents a wealth of information on the airport's operations, we find it largely unresponsive to the scope outlined by Secretary Tepper. For example, in her detailed scoping document, the Secretary directed Massport to "establish a public engagement plan to govern the development of future ESPRs and EDRs. The plan should ensure that surrounding EJ populations and other community stakeholders have early and meaningful input in the development of the content of these filings, in addition to having the opportunity to provide formal comment once documents are finalized and filed with the MEPA Office. (p.3) In response to this directive, Massport held a series of public information sessions on Logan's campus, the first of which occurred in January 2024. There was no opportunity for "early and meaningful input" in the development of the ESPR at those sessions, nor is there any evidence of a public engagement plan having been developed to gather such input.

Additionally, the scope indicated that Massport should "establish a public engagement plan to engage with the MCAC and other stakeholders as it develops a methodology for future growth projections. The 2022 ESPR should report on the results of this consultation and provide a clear, easily digestible description of methodology that will be understood by a broad sector of the public. This methodology should be carried forth in annual EDRs during the next five-year ESPR reporting period. (p.8). The MCAC has not been involved in developing a methodology for future growth projections, nor has it been consulted to do so. We stand ready to consult with Massport on the development of such projections if asked. In addition to supporting the inclusion of the MCAC and other stakeholders in developing future growth projections, we further support the idea of convening a small group of interested parties to give direction to Massport on the type and format of information that would be most useful to include in these MEPA documents.

Content and Format of the ESPR

Massport's unique MEPA reporting requirements are designed to give the public information about its historical activity levels and to project future trends/usage to enable Massport to meet the demand for air travel and to plan for, and mitigate, impacts on the public. As the Secretary said in her scoping document, "[t]he ESPR provides a 'big picture' analysis of the environmental impacts associated with current and projected activity levels and presents a comprehensive strategy to avoid and minimize impacts." The 2022 ESPR is, inclusive of the appendices, 1,152 pages long. This is a huge amount of information for community members to digest and analyze under any circumstances. The situation is made far more difficult by not providing the data in an accessible manner.

Much valuable information is provided in the several hundred-page document and the additional several hundred pages of technical appendices. Unfortunately, the utility of the information presented to stakeholders interested in understanding the impacts of the airport on their community is limited by the format of the document, which has remained largely unchanged for decades. Although some minor changes have been made recently to include specific information on environmental justice and sustainability, and to provide a glossary of terms used in the document, this is not sufficient to render the document useful. What is needed is an overhaul of the document's format to bring it into the 21st century. Here, too, the MCAC stands ready to assist Massport in making this document as useful as possible to interested stakeholders.

As a first step, the MCAC respectfully requests that the information be presented in a way that is fully accessible to the public and allows constituents to ask questions of the data. For example, the data presented in several of the technical appendices to the 2022 ESPR regarding operations and impacts should be made available to the public in a format that is easily downloaded, and which allows impacted community members to ask questions of the data. The charts and graphs in these appendices provide a wealth of useful operational information. If these data were presented in an electronic format which is searchable and allows interested users to query the data regarding area-specific impacts and compare them over time, this would allow for meaningful, data-driven conversations about impacts and mitigation. This would be a benefit to both community members and Massport. In its current analog format, it is nearly impossible to answer basic operational questions that are important in ensuring a shared understanding of impacts and/or to give Massport credit for its efforts in this area.

7-1

In many cases, where information is provided, the document falls short of full explanations or is too vague to allow the reader to understand what Massport has done to address an issue. For example, Figures 7-5 through 7-11 show flight track data for arrivals and departures of jets, regional jets, and non-jet traffic. This is information that would be of tremendous value to the member communities of the MCAC if it were able to be translated into on-the-ground impacts. Unfortunately, one cannot look at these figures and determine with any accuracy which neighborhoods or census blocks are impacted by which runways and at what frequency or time of day/night. This information should be able to be connected to the runway usage data to allow community members to pinpoint the number of flights from each runway that impacts their lives at each time of day. At that point, we could have a fact-based discussion of impacts and potential mitigation.

In the case of air pollution research, the MCAC appreciates the support that Massport has provided to university researchers studying the impacts of air pollution on near-in communities as explained in Chapter 8 of the ESPR and in Appendix J. In her scope, the Secretary said, "[t[he 2020/2021EDR indicates that Massport is cooperating with Boston University and Tufts University in identifying aircraft specific related UFPs (ultra-fine particulates) in an urban environment with non-airport related sources. This research is ongoing in the East Boston area and Massport continues to contribute by providing Logan Airport operational and other pertinent data. *The 2022 ESPR should provide a more detailed update on the study and how findings may relate to Massport operations and a potential framework for community mitigation.* (p.22). The 2022 ESPR seems to repeat its assertion that Massport is supporting research into UFPs without offering a potential framework for community mitigation. We respectfully request that similar data sharing be made available to the MCAC in furtherance of our data visualization tool which will broadcast the information to our constituent communities and allow people to more fully understand the air pollution impacts of airport operations on their lives and to develop such a mitigation framework. 7-2

It is also difficult to understand how projections in passenger growth over the "future planning horizon" are made. There is a huge margin of error in the projections which render the information almost meaningless. On page 3-49, the ESPR forecasts an increase in domestic air passengers from 29.5 million in 2022 to 41.8 million in the next 10-15 years (29% increase). International air passenger activity levels are forecast to increase from 6.45 million in 2022 to 11.6 million in 10-15 years (44% increase). Understanding that it is an inexact science to predict future growth, there is a significant difference between a 29% and 44% increase in passengers in 10 versus 15 years. It would be useful to discuss these projections and what they are based on with the communities so that they can understand and help plan for and mitigate increased impacts. Additionally, there does not seem to be a projection for average weekly/weekend daily trips to the airport associated with this future planning horizon. With almost one million (961,317) trips to the airport in 2019, it would make sense to disclose and plan for how many trips are anticipated in the future planning horizon under different growth assumptions.

Noise abatement is another area where progress could be made with more information sharing and dialogue to support partnership. The MCAC and Massport are aware that new survey data suggests that people are highly annoyed at noise levels below the current regulatory standard. Massport collects a great deal of information from its noise monitoring system which, if shared with the community, could be useful in creating a shared understanding of people's experience under the various flight paths of Logan Airport. Sharing information with our members about specific flight paths and monitoring data would assist us in determining the optimal placement of these monitors as well as evaluating the data that they produce. We look forward to working with Massport to ensure that the public has access to this information.

Access to information, or at least the ability to work with the information provided, would be beneficial when discussing how people, including Massport employees, get to the airport. After reading the document, it remains unclear whether Massport has an active Transportation Management Association, and what efforts are being made to reduce the number of trips to the airport by employees. Results from the Ground Access Survey would help us understand what percentage of employees drive to work? What percentage of employees take advantage of shuttle services that are offered by Massport? Without this information, it is difficult to offer suggestions as to how to improve these programs. 7-3 7-4

Finally, we understand that Massport used to be required to file an Environmental Notification Form with each new route that was added at Logan. We respectfully request that this practice be re-initiated to better inform our communities as to the number and timing of flights originating or ending in Boston. In this way, Logan's growth can be known to the communities who are most directly impacted and, again, mitigation plans can be put in place. 7-5

Thank you for considering these comments. If you have any questions or concerns, please feel free to contact Aaron Toffler at atoffler@massportcac.org, or at (617) 906-8853.

Thank you.

Aaron Toffler
Executive Director, Massport Community Advisory Committee

cc: Brad Washburn
Thomas Butler

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Massport Community Advisory Committee

7-1: Logan Airport Environmental Review and Planning

The MCAC respectfully requests that the information be presented in a way that is fully accessible to the public and allows constituents to ask questions of the data.

As discussed above as well as in Comments A-12 and A-33 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport has launched a webpage for hosting historical EDRs and ESPRs with extensive data to be posted in a searchable formats in the near future. In addition to the historical data, the webpage will also include links to data sources referenced within EDRs and ESPRs to provide data in the interim before EDRs and ESPRs are filed, and Massport has been working with, and will continue to support, the Massport CAC on ways to host additional supporting data. Data sources on Massport's webpage will be from Massport as well as from other state agencies, federal databases, and other reputable sources. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary*** has an overview of document changes in the *2023/2024 EDR* and further information on the EDR and ESPR website.

7-2: Logan Airport Environmental Review and Planning

We respectfully request that similar data sharing be made available to the MCAC in furtherance of our data visualization tool which will broadcast the information to our constituent communities and allow people to more fully understand the air pollution impacts of airport operations on their lives and to develop such a mitigation framework.

As discussed above and in Comments A-12 and A-33 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport remains committed to enhancing data transparency and accessibility. Massport has been working with, and will continue to support, the Massport CAC on ways to host additional supporting data, including Massport CAC's data visualization tool.

7-3: Ground Access to and From Logan Airport

It remains unclear whether Massport has an active Transportation Management Association [TMA], and what efforts are being made to reduce the number of trips to the airport by employees. Results from the Ground Access Survey would help us understand what percentage of employees drive to work.

Massport confirms the existence of an active Transportation Management Association (TMA) and is committed to reducing the number of trips to the Airport by employees. As discussed in Comments A-22 and A-23 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport has implemented several initiatives to enhance commuter options and reduce vehicle congestion and parking demands at Logan Airport. These initiatives include providing off-airport employee parking

with shuttle services, supporting the Sunrise Shuttle for early morning bus service, and offering reduced employee rates for Logan Express facilities.

According to a 2023 survey conducted among Massport employees, the percentage of commuters driving alone declined by 5 percentage points from the previous survey in 2021, with 69 percent of employees still driving alone. The most common alternative transit mode was public transit, used by 13.6 percent of employees. These efforts are part of Massport's broader strategy to promote sustainable transportation options and reduce the environmental impact of airport operations.

7-4: Ground Access to and From Logan Airport

What percentage of employees take advantage of shuttle services that are offered by Massport?

Massport provides several shuttle services to facilitate employee transportation to Logan Airport. These services include free shuttle buses from off-airport parking locations in Chelsea and Wonderland, as well as a new park-and-ride lot in Quincy. The percentage of employees utilizing these shuttle services is detailed in the *2023/2024 EDR*, specifically in **Table 6-1 of Chapter 6, *Ground Access***, which outlines the employee ground transportation mode share. As discussed above as well as in Comment A-61 in **Appendix A, *MEPA Certificate and Responses to Comments***. Additionally, **Section 6.4.4 of Chapter 6** presents current employee ground transportation initiatives and parking programs.

7-5: Logan Airport Environmental Review and Planning

Finally, we understand that Massport used to be required to file an Environmental Notification Form with each new route that was added at Logan. We respectfully request that this practice be re-initiated to better inform our communities as to the number and timing of flights originating or ending in Boston.

Approval of new routes is the federal purview of the Federal Aviation Administration (FAA), and Massport will comply with FAA reporting requirements associated with new or renewed routes to the extent these requirements are applicable to Massport.

8. Mothers Out Front

October 9, 2024

The Honorable Rebecca Tepper,
Secretary Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
100 Cambridge Street, Suite 900,
Boston, Massachusetts 02114
Re: Logan Airport 2020 / 2021 Environmental Status and

MOTHERS OUT FRONT
EAST BOSTON, MA

Dear Secretary Tepper,

Mothers Out Front East Boston urges you to reject Massport's 2022 ESPR. We represent not only concerned parents who are extremely worried about the role Logan Airport is playing in our children's environment they're inheriting - and also parents who want to hold Massport, as the biggest polluter in the Commonwealth, accountable for their impacts just like other city and state entities - but also local East Boston residents who see the daily and long-term replications of living amidst the pollution that is choking us.

There are many reasons to reject this ESPR:
- It is not compliant with the EEA's previous directives or with state laws and engagement requirements.
- Its forecasts are inaccurate and don't measure real impacts, nor does it offer any plans to mitigate against them.
- It makes misleading claims about pollution, such as larger planes creating less pollution
- It doesn't include pollution impacts from terminals.
- It's missing information needed to assess pollution and noise.

We request that the state requires Massport:
- to accurately measure pollution and noise and create a way for the community to access this information in real time 8-1
- to include measures they plan to mitigate against their impacts, and mitigation that benefits the health of our Commonwealth such as an air filtration program 8-2
- Disclose any data corrections they may have made 8-3
- Stop inaccurately forecasting growth, and measure real impacts as they happen 8-4
- Make the ESPR transparent to the community in a way that is accessible 8-5

Thank you for your consideration of this hugely important matter. Massport needs to do better.

The Mothers Out Front East Boston Team:

Sonja Tengblad	Lilliana Arteaga	Valinda Chan	Sandra Nijjar.	Anna Catani
Emma Uppal	Alyssa Vangeli	Taylor Lalemand	Tania Castro-Daunais	

Mothers Out Front Responses to Comments

8-1: Logan Airport Environmental Review and Planning

We request that the state requires Massport: to accurately measure pollution and noise and create a way for the community to access this information in real time.

As discussed above and in Comments A-1, A-5, A-12 and A-33 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport has been working with, and will continue to support, the Massport CAC on ways to host additional supporting data. Massport is also committed to active participation in the MEPA's Logan Airport Work Group, which will assess and discuss current research and emerging technological approaches to addressing noise and pollution related to aviation operations.

Massport has also launched a webpage for hosting historical EDRs and ESPRs with extensive data to be posted in a searchable formats in the near future. The webpage will also include links to data sources referenced within EDRs and ESPRs to provide data in the interim before EDRs and ESPRs are filed, and data sources on Massport's webpage will be from Massport as well as from state agencies, federal databases, and other reputable sources. **Section 1.2.2.2 of Chapter 1, *Introduction and Executive Summary*** has more information on the EDR and ESPR website.

8-2: Logan Airport Environmental Review and Planning

We request that the state requires Massport: include measures they plan to mitigate against their impacts, and mitigation that benefits the health of our Commonwealth such as an air filtration program.

Consistent with the Massachusetts Environmental Policy Act (MEPA) process, mitigation presented in the EDRs and ESPRs are largely project based. However, as referenced above in Comment 4D-43 and discussed in **Chapter 2, *Outreach and Environmental Justice*** and **Chapter 11, *Sustainability and Climate Change***, Massport implements a range of measures directly aimed at reducing community operational and environmental impacts. In February 2025, Massport began participating in MEPA's Logan Airport Work Group, a Work Group co-lead by MEPA and the EEA's Office of Environmental Justice & Equity (OEJE). The purpose of the Work Group is to identify potential supplemental beneficial measures for public health concerns in communities neighboring the Airport.

8-3: Logan Airport Environmental Review and Planning

We request that the state requires Massport: Disclose any data corrections they may have made.

Massport acknowledges the importance of transparency and accuracy in its environmental reporting. Massport has consistently incorporated updated data and corrections into subsequent EDRs and ESPRs when appropriate. Massport remains committed to this practice in the future to ensure stakeholders have access to accurate and reliable information.

8-4: Logan Airport Environmental Review and Planning

We request that the state requires Massport: Stop inaccurately forecasting growth, and measure real impacts as they happen.

Massport follows industry best practices in preparing activity level estimates and future forecasts for passenger activity levels and operations, considering several factors such as economic conditions, airplane manufacturers' plans, future aircraft in the fleet mix, social factors, and anticipated airline route plans. Massport is committed to refining its forecasting methodologies to more accurately reflect realistic growth estimates and actual impacts, and the assumptions, data sources, and enhanced methodologies Massport currently uses for these forecasts are documented in the **User's Guide, Section U3.4**.

8-5: Logan Airport Environmental Review and Planning

We request that the state requires Massport: Make the ESPR transparent to the community in a way that is accessible.

Massport has taken steps to improve the accessibility of the ESPRs and EDRs to reach a wider audience, including providing document translations for communities who do not speak English as a first language and in compatible electronic formats for viewing information on various types of mobile devices for people who may have different ways of accessing information online. Massport also improved the transparency and usability and reduced the length of the *2023/2024 EDR* by focusing main chapters solely on annual data updates and introducing a User's Guide that outlines key concepts, terminologies, regulatory frameworks, and methodologies.

Additionally, Massport has developed a new webpage specifically for EDR and ESPR filings, which includes links for each chapter of the most recent filings, notices for upcoming meetings, materials from prior meetings, prior filings, and weblinks to regularly updated data sources. This webpage is designed to facilitate navigation through the documents on several types of electronic devices, including mobile devices and smartphones. Massport continues to make historical data accessible on its environmental filings website and will introduce a searchable format for subsequent filings. These efforts are similar to those discussed in comments A-1, A-5, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments*** and **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary*** has an overview of these changes as well as information on the EDR and ESPR website.

9. Christopher Eliot, PhD

CHRISTOPHER ELIOT PHD

Rebecca Tepper, Secretary
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office

October 2, 2024

Alexander Strysky, MEPA Analyst for the Project
100 Cambridge Street, Suite 900
Boston MA 02114

Re: 2022 Boston Logan International Airport ESPR (EEA #3247)

Dear Secretary Tepper and Mr. Strysky:

Thank you for the opportunity to submit public comments on the 2022 Logan Airport Environmental Status and Planning Report (ESPR).

The 2022 Logan ESPR is an excellent source of factual information but due to its length and technical nature it may not be very accessible to some members of the public. I do not suggest reducing the important technical content to make it more accessible, but perhaps a self-contained supplemental summary version could be developed with more content than the executive summary, less than the full report and simplified language to reach all members of the public. The full document could be trimmed somewhat by reducing some of the repetitive statements. 9-1 9-2

While Massport rightly deserves credit for efforts to make its facilities climate friendly on a faster timescale than many other organizations, there is a noticeable lack of clarity around the actual effects of its efforts. The terms Scope 1, Scope 2 and Scope 3 are used consistently throughout the document but there could be more clarity about the fact that actual flight activities are Scope 3 and constitute at least 85% of the GHG problem relating to Logan Airport. The amount of text devoted to Massport efforts to reduce scope 1 and 2 efforts can easily be seen by some readers as if this would affect a large portion of the problem, when less than one sixth of the problem is within Massport's direct or indirect control. 9-3

There is a green sidebar on page 2-5 that makes this point, but the significance of this sidebar is diluted by the 12 following pages regarding Scope 1 and 2 sources. Even this sidebar somewhat masks the true nature of the problem because it refers to Scope 3 Emissions; the definition of Scope 3 is found elsewhere; and the definition of Scope 3 only vaguely connects the reader with the fact that it is aviation itself that is the primary source of greenhouse emissions. The paragraph on page 2-5 defining Scope 3 uses the word aircraft only once, buried in a long list of examples and ends with discussion of HOV lanes. Even the disclosure that 87% of Logan Emissions are Scope 3 is low because aircraft emissions are only counted while aircraft are below 3,000 feet. This fact is not properly highlighted but is buried in footnote 5 of table 8-8 on page 8-27. If emissions from the entire flight are

124 Bedford Road • Lincoln, Massachusetts 01773 (413) 687-5774 cre@chriseliot.com

counted, then Scope 3 might account for almost all of the airport emissions indicating that all of the efforts of Massport to reduce emissions, while real and positive, are an inconsequential portion of the problem.

I urge Massport (and the FAA) to count the entire flight of all arrivals as part of the greenhouse gas emissions for each airport. Counting arrivals would allow calculations using the actual flight path used, and would avoid double counting at the arrival and departure airport. For most people, airports are the logical entity to assign responsibility for aircraft emissions. While I am highly informed about this issue, I do not know where the mid-flight emissions are assigned. 9-4

Finally, on page 8-2 Massport supports the aviation industry plan to transition to SAF fuel. While the use of SAF is the official policy of the FAA, it is a controversial solution. I, for one, do not believe it is possible to scale up production of SAF to the levels required because all known production paths require too much, land, water or energy, or depend on finite sources (such as used cooking oil (UCO)) that do not exist in the required quantity. I ask that Massport take note of these dissenting experts and recognize that there is serious uncertainly about the viability of the plan to decarbonize aviation by transitioning to SAF. 9-5

I respectfully request your support in updating the ESPR to address these concerns.

Sincerely yours,

Christopher Eliot

Christopher Eliot, PhD.

Lincoln, Massachusetts

Christopher Eliot, PhD Responses to Comments

9-1: Logan Airport Environmental Review and Planning

I do not suggest reducing the important technical content to make it more accessible, but perhaps a self-contained supplemental summary version could be developed with more content than the executive summary, less than the full report and simplified language to reach all members of the public.

As discussed above as well as Comments, A-1, A-3, A-4, A-5, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport has accommodated this request by developing the new User's Guide that provides detailed overviews of regulatory frameworks, methodologies, models, model inputs, programs, and analyses. The User's Guide contains supporting information and contextual background which was previously included in EDR and ESPR chapters and technical appendices, which contributed to the length and issues with overly technical language. The User's Guide has enabled the main documents to be streamlined by consolidating background information, definitions, and methodologies into a separate, easily accessible guide, allowing report chapters to focus more directly on key findings. Additionally, hyperlinks within the chapters direct readers to relevant sections of the User's Guide, facilitating quicker access to detailed explanations and supporting data. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary*** also has an overview of document changes in the *2023/2024 EDR* and further information on the User's Guide.

9-2: Logan Airport Environmental Review and Planning

The full document could be trimmed somewhat by reducing some of the repetitive statements.

As discussed above as well as Comments, A-1, A-3, A-4, A-5, and A-16 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport improved the usability and reduced the length of the *2023/2024 EDR* by focusing main chapters solely on annual data updates and introducing a User's Guide that outlines key concepts, terminologies, regulatory frameworks, and methodologies. **Section 1.2.2 of Chapter 1, *Introduction and Executive Summary*** of the *2023/2024 EDR* provides an overview of changes intended to improve the overall accessibility of these filings.

9-3: Air Quality/Emissions Reduction (GHG)

The terms Scope 1, Scope 2 and Scope 3 are used consistently throughout the document but there could be more clarity about the fact that actual flight activities are Scope 3 and constitute at least 85% of the GHG problem relating to Logan Airport.

As discussed in the **User's Guide, Section U8.2.6**, Scope 1 and Scope 2 GHG emissions constitute emissions that are directly within Massport's control, while Scope 3 represents emissions from tenant-owned facilities and activities. Massport encourages the reduction of Scope 3 emissions through

engagement and initiatives with tenants operating from Logan Airport. Some of these initiatives include the Zero Impact Aviation Alliance,

9-4: Air Quality/Emissions Reduction (GHG)

I urge Massport (and the FAA) to count the entire flight of all arrivals as part of the greenhouse gas emissions for each airport. Counting arrivals would allow calculations using the actual flight path used, and would avoid double counting at the arrival and departure airport.

As discussed in Comment 3-7 above, the EEA Secretary's Certificate guides Massport's preparation of each EDR and ESPR. Each EDR and ESPR includes a detailed analysis of noise and emissions impacts of aircraft arrivals and departures. As discussed in **User's Guide, Section U8.4,** the GHG inventory is prepared in alignment with industry standards including departing and arriving aircraft up to 3,000 feet. The GHG inventory is discussed in **Section 8.2 of Chapter 8**, with the results presented in **Section 8.4 of Chapter 8.**

9-5: Air Quality/Emissions Reduction (GHG)

I ask that Massport take note of these dissenting experts and recognize that there is serious uncertainly about the viability of the plan to decarbonize aviation by transitioning to SAF.

As discussed in Comment A-9 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to expanding relationships in the area of Sustainable Aviation Fuel (SAF). Massport has been a strong advocate for SAF as one measure to reduce aviation environmental impacts. In early June 2025, the Massachusetts SAF Working Group, which includes a number of state agencies and Massport, held a Regional SAF Workshop aimed at evaluating the feasibility and technologies behind SAF. The Working Group presented a set of short-term and long-term recommendations, including: (1) initiating a Regional SAF Planning Study; (2) establishing a Massachusetts/New England SAF Hub; (3) leverage Existing Programs and Federal Support; (4) pursuing SAF Tax Credit Legislation; and (4) forming a Regional SAF Alliance. SAF is discussed in **Section 11.2.3.2 of Chapter 11**.

10. Aubrey Harnett

From: Aubrey Hartnett
To: Hughes, Jennifer (EEA)
Subject: Mothers Out Front East Boston
Date: Thursday, October 10, 2024 3:26:13 PM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hi Jennifer,

I am writing in support of mothers out front comments regarding the Massport report outlining air quality in East Boston. I agree that there need to be additional protections for residents of East Boston, particularly the most vulnerable young children and elderly residents.
Thank you for your attention to this matter, Aubrey Hartnett

10-1

Aubrey Harnett Responses to Comments

10-1: Air Quality/Emissions Reduction (GHG)

There need to be additional [air quality] protections for residents of East Boston, particularly the most vulnerable young children and elderly residents.

Massport continues to coordinate with Massachusetts Environmental Policy Act (MEPA) independently and through the Work Group process on refining the environmental justice (EJ) and public health analysis throughout the development of the *2023/2024 EDR*. MEPA's Logan Airport Work Group includes representatives from state agencies, local officials, and community stakeholders and is co-moderated by MEPA and Office of Environmental Justice & Equity (OEJE) to promote an inclusive and transparent process. Massport will contribute technical expertise, data, and resources to support this collaborative effort.

As discussed in Comments A-7 and A-39 in **Appendix A, *MEPA Certificate and Responses to Comments***, the *2023/2024 EDR*, at the direction of MEPA, utilized Massachusetts Department of Environmental Protection (MassDEP)'s Cumulative Impact Analysis (CIA) framework to assess existing public health conditions within 1-mile of Logan Airport these findings are presented in **Chapter 2, *Outreach and Environmental* Justice, Section 2.4** and the detailed data is included in **Appendix E, *Environmental Justice Supporting Documentation***. The **User's Guide, Section U2.3.1** provides the study's methodology and assumptions. For future ESPRs and EDRs, Massport will consider appropriate and scientifically supported methods to expand the scope of the existing conditions assessment, thereby more accurately capturing potential environmental impacts. Massport also provides annual funding to the East Boston Neighborhood Health Center to expand efforts in its Pediatric Asthma and Chronic Obstructive Pulmonary Disease (COPD) Prevention and Treatment Program. This program offers services that include screenings for children, distribution of asthma kits, and home visits.

11. Regina Marchi

From: Regina Marchi
To: Hughes, Jennifer (EEA)
Subject: Community comments on ESPR
Date: Tuesday, October 15, 2024 11:58:15 PM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Dear Ms. Hughes,

Thank you for giving community members the opportunity to provide comments on the ESPR. If there were political will, Massport could be a national leader in working with residents to create effective mitigation strategies to decrease air and noise pollution now and in the future. To date, the agency has repeatedly stalled and provided inaccurate information in the ESPR and other public documents regarding airport environmental impacts, making meaningful progress impossible.

Air travel will not go away and abutting community residents will not go away, so honest efforts must be made to find workable solutions that mitigate and prevent the unacceptably high rates of asthma, COPD, sleep disruption and associated illnesses (like heart disease), while serving the travel needs of a bustling region. 11-1

Frustratingly, the ESPR uses outdated data and inaccurate air travel growth forecasts in attempts to minimize very REAL health impacts occurring in the communities surrounding Logan, and Massport has repeatedly downplayed, ignored and dismissed community concerns.

Please urge Massport to work with AIR Inc. - a group of neighborhood resident volunteers who are not highly paid consultants and bureaucrats. We are everyday residents representing parents, children, youth, the elderly and thousands of other local residents who are negatively affected by pollution and traffic caused by Logan Airport. As Massport's closest neighbors, we deserve to be treated respectfully. 11-2

Regina Marchi
173 Lexington Street, East Boston, Mass

Regina Marchi Responses to Comments

11-1: Environmental Justice

Honest efforts must be made to find workable solutions that mitigate and prevent the unacceptably high rates of asthma, COPD, sleep disruption and associated illnesses (like heart disease), while serving the travel needs of a bustling region.

Massport continues to coordinate with Massachusetts Environmental Policy Act (MEPA) independently and through the Work Group process on refining the environmental justice (EJ) and public health analysis throughout the development of the *2023/2024 EDR*. MEPA's Logan Airport Work Group includes representatives from state agencies, local officials, and community stakeholders and is co-moderated by MEPA and Office of Environmental Justice & Equity (OEJE) to promote an inclusive and transparent process. Massport will contribute technical expertise, data, and resources to support this collaborative effort.

As discussed in Comments A-7 and A-39 in **Appendix A, *MEPA Certificate and Responses to Comments***, the *2023/2024 EDR*, at the direction of MEPA, utilized Massachusetts Department of Environmental Protection (MassDEP)'s Cumulative Impact Analysis (CIA) framework to assess existing public health conditions within 1-mile of Logan Airport these findings are presented in **Section 2.4 of Chapter 2, *Outreach and Environmental* Justice,** and the detailed data is included in **Appendix E, *Environmental Justice Supporting Documentation***. The **User's Guide, Section U2.3.1** provides the study's methodology and assumptions. For future ESPRs and EDRs, Massport will consider appropriate and scientifically supported methods to expand the scope of the existing conditions assessment, thereby more accurately capturing potential environmental impacts. Massport also provides annual funding to the East Boston Neighborhood Health Center to expand efforts in its Pediatric Asthma and Chronic Obstructive Pulmonary Disease (COPD) Prevention and Treatment Program. This program provides services including screenings for children, distribution of asthma kits, and home visits.

11-2: Logan Airport Environmental Review and Planning

Please urge Massport to work with AIR Inc.

As discussed above and in Comments A-1 and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to collaborating with communities, state agencies, and local officials to address environmental concerns associated with Logan Airport operations. To that end, Massport is an active participant in the MEPA's Logan Airport Work Group established in collaboration with the MEPA Office and the OEJE, and AIR, Inc. is an active participant of this Work Group.

12. Amy McCoy

From: mccoy4@verizon.net
To: Hughes, Jennifer (EEA)
Subject: Comment for Logan Airport EEA# 3247
Date: Thursday, October 10, 2024 8:54:22 PM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Dear Ms. Hughes,

- I am an Ayer resident and founding member of the Groton Ayer Buzz, an aviation-impacted community group working both locally and nationally. In my area, noise from jets arriving into Logan disrupts residents' sleep before 5 am and after 11pm. The ESPR should include impacts of the RNAVs on overflight communities. 12-1

"Logan Airport activity levels are projected to increase to approximately 53.3 million annual air passengers (MAP) and 495,000 aircraft operations over the Future Planning Horizon of the next 10 to 15 years."

- Increased operations at Logan are not compatible with residential living in the local vicinity due to current pollution issues. The future planning information should match the 5 year timeline of the ESPR, not extend further into the future. 12-2

"In addition to Airport-specific initiatives, Massport is joining others across the aviation industry in implementing long-term strategies to reduce GHG emissions, such as transitioning to sustainable aviation fuels (SAF) made from non-petroleum feedstocks that reduce lifecycle GHG emissions."

- The viability of SAF has yet to be demonstrated, therefore Massport should not include SAF as a strategy to reduce GHG emissions. Given that an estimated 70% of Logan's traffic is for leisure travel, addressing airport demand is a more viable strategy for reducing GHG emissions than touting a technology that is currently nothing more than industry greenwashing. 12-3

- Massport's community outreach for their ESPRs is inadequate. I know meetings are required, but I was unaware of any of the public meetings held regarding this ESPR. No representatives from Massport made an announcement about the ESPR or the public comment deadline during the MCAC (Massport Community Adivsory Committee) meeting in September. Notifications for ESPRs should be announced in major news publications such as the Boston Globe and Boston Herald, local TV news and local radio, such as WBZ 1030. Notifications should be released to local newspapers. 12-4

- Ultrafine particle pollution and lead pollution impacts are not adequately addressed in the ESPR. 12-5

- Overflight communities have limited to no access to aircraft data from Massport. Information about airport jet counts per RNAV should be published in the ESPR and easily accessible to the public on Massport's website. 12-6

- Impacts of short hop jet travel, especially between Hanscom and Logan, should be reported in the ESPR. 12-7

- Directing readers to Massport's *Floodproofing Design Guide* is not adequate. Flood impacts should be fully discussed in this ESPR. 12-8

- I support AIR, Inc.'s comment.

- Thank you for reviewing my comments.

Amy McCoy

Amy McCoy Responses to Comments

12-1: Noise

The ESPR should include impacts of the RNAVs on overflight communities.

As discussed above and in Comment A-66 of **Appendix A, *MEPA Certificate and Responses to Comments***, the EEA Secretary's Certificate guides Massport's preparation of each EDR and ESPR. Each EDR and ESPR includes a detailed analysis of noise and emissions impacts of aircraft arrivals and departures. The Federal Aviation Administration (FAA) is responsible for developing and implementing Area Navigation (RNAV) procedures and prepared a federal EA under NEPA to consider the environmental and operational effects of RNAV procedures and continues to support evaluation of those procedures. As directed by the Secretary, the EDR presents "any data used to measure the effectiveness of these improvements, including the number of noise complaints from the previously impacted areas." While EDRs and ESPRs report areawide noise and emissions environmental data, focused on areas within the arrival and departure paths, **Chapter 2, *Outreach and Environmental Justice, Section 2.4*** of the *2023/2024 EDR* also presents a new section: "Public Health Existing Conditions Review".

12-2: Activity Levels

The future planning information should match the 5 year timeline of the ESPR, not extend further into the future.

As discussed in other comments, the **User's Guide, Section U3.4,** describes the methodology for future forecasting. The section describes the use of 1) historical trends, 2) recent developments, and 3) outlook for future demand drivers such as local and national economic growth. **Chapter 3, *Activity Levels***, presents multiple tables that provide data and a narrative explanation of the forecasted growth in passenger levels and aircraft operations at the Airport. A comprehensive list of data sources referenced in the forecasting process is listed in **Appendix F, *Activity Levels Supporting Documentation***.

Massport follows industry best practices in preparing the Future Planning Horizon, considering several key factors, including economic conditions, airplane manufacturers' plans, future aircraft in the fleet mix, social factors, anticipated airline route plans, and many others. The assumptions and sources of data are documented in the **User's Guide, Section U3.4**.

12-3: Air Quality/Emissions Reduction (GHG)

The viability of SAF has yet to be demonstrated, therefore Massport should not include SAF as a strategy to reduce GHG emissions.

While SAF use would not reduce GHG emissions, SAF is a carbon-neutral fuel source alternative. As discussed in Comment 9-5 and 10-1 above, Massport has been a strong advocate for SAF as one

measure to reduce aviation environmental impacts. In early June 2025, the Massachusetts SAF Working Group, which includes a number of state agencies and Massport, held a Regional SAF Workshop aimed at evaluating the feasibility and technologies behind SAF. The Working Group presented a set of short-term and long-term recommendations, including: (1) initiating a Regional SAF Planning Study; (2) establishing a Massachusetts/New England SAF Hub; (3) leverage Existing Programs and Federal Support; (4) pursuing SAF Tax Credit Legislation; and (4) forming a Regional SAF Alliance.

12-4: Environmental Justice

Notifications for ESPRs should be announced in major news publications such as the Boston Globe and Boston Herald, local TV news and local radio, such as WBZ 1030. Notifications should be released to local newspapers.

As discussed in Comments 5-2 and 6-2, Massport ensures public awareness of EDR and ESPR filings, public meetings, and comment deadlines by publishing notices in both English and non-English languages through multiple channels. These include the Massport website, emails to previous and newly identified stakeholders, social media platforms, notifications at neighborhood association and other community meetings, and a variety of local and regional print media outlets. Massport also publishes notices in non-English and community-specific publications such as the East Boston Times, Winthrop Transcript, and El Mundo. Details on Project-Specific Massport Public Involvement Practices are found in the **User's Guide in Section U2.4.3**.Further information on Massport outreach policies and other forms of engagement is described in **Chapter 2, Outreach and Environmental Justice, Section 2.2.**

12-5: Air Quality/Emissions Reduction (GHG)

Ultrafine particle pollution and lead pollution impacts are not adequately addressed in the ESPR.

Chapter 8, *Air Quality and Greenhouse Gas Emissions*, Section 8.1 includes subheadings for 2023/2024 Logan Airport emissions inventories for the criteria air pollutants and precursor pollutants (VOC, NO_X, CO, and $PM_{10}/PM_{2.5}$). Separate subheadings are used in the *2023/2024 EDR* as follows: Separate subheadings are used in the *2023/2024 EDR* as follows: **Section 8.3.4 of Chapter 8** discusses PM, while recent studies on UFPs are discussed in **Section 8.6.1 of Chapter 8** and the **User's Guide, Section U8.6.2.2**. In addition, the *2023/2024 EDR* has expanded content in **Chapter 8, *Air Quality and GHG Emissions*, Section 8.6** and **Section U8.6 of the User's Guide** to include more information on air quality-related studies that have taken place in the vicinity of Logan Airport and other air quality-related topics. These topics include research presented on in MEPA's Logan Airport Working Group, as discussed in **Chapter 2, *Outreach and Environmental Justice,* Section 2.2.4.2**.

12-6: Noise

Overflight communities have limited to no access to aircraft data from Massport. Information about airport jet counts per RNAV should be published in the ESPR and easily accessible to the public on Massport's website.

As discussed above, the EEA Secretary's Certificate guides Massport's preparation of each EDR and ESPR. Each EDR and ESPR includes a detailed analysis of noise and emissions impacts of aircraft arrivals and departures. As discussed in Comments A-63, A-65, and A-66 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport, the FAA, the Massport CAC, and Massachusetts Institute of Technology (MIT) have continued to collaborate on how to successfully design and implement RNAV procedures. Massport continues to coordinate with the FAA and the Massport CAC on matters related to runway use and the on-going RNAV Pilot project. Additional information on the Logan Airport noise mitigation and RNAV procedures is provided in the *2023/2024 EDR*, **Section 7.4 of Chapter 7, *Noise*,** and the **User's Guide, Section U7.5.1.**

In addition, Massport has launched a newly developed EDR and ESPR webpage, which will host extensive datasets used to develop EDRs and ESPRs in a searchable format in the near future. In addition to these datasets, the webpage will also include links to data sources referenced within EDRs and ESPRs that will provide data in the interim. Other state agencies, federal databases, and other reputable sources often host these data sources. **Section 1.2.2.2 of Chapter 1, *Introduction and Executive Summary,*** has more information on the EDR and ESPR website.

12-7: Logan Airport Environmental Review and Planning

Impacts of short hop jet travel, especially between Hanscom and Logan, should be reported in the ESPR.

Massport reports on aircraft operations, flight origins, and destinations, as well as the impacts associated with air operations, through detailed analyses in EDRs and ESPRs. The EDRs and ESPRs include analyses of noise and emissions impacts of aircraft arrivals and departures, focusing on areas within the arrival and departure paths. Within ESPRs, the ***Activity Levels*** chapter provides comprehensive data and narrative explanations of forecast growth in passenger and aircraft operations at Logan Airport. Supporting data used in these analyses is provided in the *2022 ESPR* and *2023/2024 EDR* in **Appendix F, *Activity Levels Supporting Documentation***, and the **User's Guide, Section U3.4** discusses the data and analysis methodologies used. As discussed in Comment 6-13, EDR and ESPR **Chapter 5, *Regional Transportation*** continues to track new developments and the relationships between Logan Airport and other regional airports, including Laurence G. Hanscom Field (Hanscom), in addition to transportation alternatives to air transport.

12-8: Climate Change

Directing readers to Massport's Floodproofing Design Guide is not adequate. Flood impacts should be fully discussed in this ESPR.

As discussed above in Comments 2-12 and 2-13 and in Comments A-8 and A-67 in **Appendix A, *MEPA Certificate and Responses to Comments*,** the *2023/2024 EDR* includes a new section in **Chapter 11, *Sustainability and Climate Resilience,*** dedicated to Massport's climate resiliency measures, with information on the initiatives Massport has taken, and continues to take. 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. In addition to the *Floodproofing Design Guide*, initiatives discussed in **Chapter 11** include the Logan International Airport Stormwater and Flood Risk Modeling Study and Logan International Airport Coastal Flood Operations.

13. Gail Miller

From: Gail Miller
To: Hughes, Jennifer (EEA)
Subject: ESPR/2022/LOGAN AIRPORT
Date: Wednesday, October 16, 2024 12:45:27 PM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Jennifer, please accept my endorsement of AIR, INC's comments submitted by Chris Marchi.

My strongest comment that I would like to make in addition to them
Is that Logan Airport is THE largest polluter in the Commonwealth currently, next to the power plant in Saugus. Knowing that outright, it is incumbent on Massport to facilitate as a precautionary enhancement to provide the application of air filters in abutting in close communities. This is only a nominal outlay of funds in an attempt to offset the harm which we already acknowledge. Mitigation is just that, lessening impacts and not just submitting monies to in close foundations. 13-1

We are past due in providing same and it seems imperative as medical costs continue to rise in these neighborhoods which are not factored in, only the economic engine theory. Human costs are severely dismissed in the landscape of airport impacts.

Regards,

Gail Miller
232 Orient Avenue
East Boston
Sent from my iPhone

Gail Miller Responses to Comments

13-1: Air Quality/Emissions Reduction (GHG)

It is incumbent on Massport to facilitate as a precautionary enhancement to provide the application of air filters in abutting in close communities.

Regarding air filtration, Massport has renewed an agreement to provide funding to the East Boston Neighborhood Health Center (EBNHC) to help expand the efforts of their Asthma and Chronic Obstructive Pulmonary Disease (COPD) Prevention and Treatment Program in East Boston and Winthrop that provides services including screenings for children, distribution of asthma kits, and home visits.

As discussed above and in Comments A-1 and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to collaborating with communities, state agencies, and local officials as an active participant in the MEPA's Logan Airport Work Group (Work Group) established in collaboration with the Massachusetts Environmental Policy Act (MEPA) Office and the Office of Environmental Justice & Equity (OEJE). Massport will contribute technical expertise, data, and resources to support this collaborative effort. In addition, the *2023/2024 EDR* has expanded content in **Section 8.6 of Chapter 8, *Air Quality and GHG Emissions*,** and **Section U8.6 of the User's Guide** to include more information on air quality-related studies that have taken place in the vicinity of Logan Airport and other air quality related topics. These topics include research presented on in MEPA's Logan Airport Working Group, as discussed in **Chapter 2, *Outreach and Environmental Justice,* Section 2.2.4.2**.

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14. Donna Reilly

From: Donna Reilly
To: Hughes, Jennifer (EEA)
Subject: Fwd: Massport ESPR report and efforts to treat pollution
Date: Tuesday, October 15, 2024 1:50:23 PM

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This is a test. Had some trouble with first email.
Donna Segreti Reilly

---------- Original Message ----------
From: Donna Reilly <donsegreilly@comcast.net>
To: "jennifer.hughes@massgov" <jennifer.hughes@massgov>
Cc: Donna Reilly <donsegreilly@comcast.net>
Date: 10/14/2024 4:43 PM EDT
Subject: Massport ESPR report and efforts to treat pollution

Dear Ms. Hughes:

Donna Segreti Reilly here from 30 Cottage Park Road, Winthrop, MA 02152. I was just alerted by community activist Chris Marchi that the ESPR report on Logan has been published. However, Mr. Marchi indicates that the report is somewhat lengthy and too detailed vs previous reports. He has, however, given his followers links to both summary and comments, as Chris is a very responsible gentleman.

I have my own comments having attended a session under a Mr. Leo (?) a few years back. I DO remember that the highlights of the report were given out in a brief summary form. Specifically, I recall that childhood asthma reports were high for our area (Winthrop-E. Boston) and some cancer statistics. The last, however, were deemed not directly related to Logan activity, as other variables influenced cancer susceptibility.

Specifically, I continue to be concerned about air, noise, water, and traffic pollution sent our way due to Massport activity. Frankly, I know the new term is something like "environmentally impacted community"; however, I still prefer "sacrifice zone," as that term more keenly describes what we are here on our small, but extremely dense peninsula of Winthrop, MA.

I continue my concern about the above listed pollutions. I personally use an air filter for "white noise" for the jets taking off now a bit BEFORE 6:00 a.m. However, the air pollution and rise in diseases like Parkinsons here in Winthrop are concerning to me. General cancer incidence is also high. I have 3 neighbors within a block of me with 3 different kinds of cancer. Any research I've done points to the direct influence of air and ground traffic pollution of air, noise, water, and road traffic.

I'm sending Dr. Astrid Weins' 12-06-2018 letter to the "Winthrop Sun Transcript" as the best impact summary. I'm having difficulty attaching it, but I will send it to you separately.

I would support Mr. Marchi's recommendation for asthma immunization if that is possible along with an airport luxury=type bus service to and from Logan. This may cut back on the childhood asthma and the general rise in cancer. AS LONG AS LOGAN EXPANDS IN VOLUME, I HAVE CONTINUED REASONS FOR PAST, CURRENT, AND FUTURE CONCERNS.

14-1

14-2

Respectfully,
Donna Segreti Reilly
30 Cottage Park Road
Winthrop, MA 02152
donsegreilly@comcast.net

Donny Reilly Responses to Comments

14-1: Environmental Justice

Recommendation for asthma immunization.

Massport continues to coordinate with Massachusetts Environmental Policy Act (MEPA) independently and through the Work Group process on refining the environmental justice (EJ) and public health analysis throughout the development of the *2023/2024 EDR*. Massport is an active participant in MEPA's Logan Airport Work Group, which includes representatives from state agencies, local officials, and community stakeholders, and is co-moderated by MEPA and Office of Environmental Justice & Equity (OEJE) to promote an inclusive and transparent process. Massport will contribute technical expertise, data, and resources to support this collaborative effort.

As discussed in Comment A-7 and A-39 in **Appendix A, *MEPA Certificate and Responses to Comments***, the *2023/2024 EDR*, at the direction of MEPA, utilized Massachusetts Department of Environmental Protection (MassDEP)'s Cumulative Impact Analysis (CIA) framework to assess existing public health conditions within 1-mile of Logan Airport. These findings are presented in **Chapter 2, Section 2.4,** and the detailed data is included in **Appendix E, *Environmental Justice Supporting Documentation***. The **User's Guide, Section U2.3.1** provides the study's methodology and assumptions. For future ESPRs and EDRs, Massport will consider appropriate and scientifically supported methods to expand the scope of the existing conditions assessment, thereby more accurately capturing potential environmental impacts. Massport also provides annual funding to the East Boston Neighborhood Health Center to expand efforts in its Pediatric Asthma and Chronic Obstructive Pulmonary Disease (COPD) Prevention and Treatment Program. This program provides services including screenings for children, distribution of asthma kits, and home visits.

14-2: Ground Access to and From Logan Airport

[Recommend] An airport luxury-type bus service to and from Logan.

Massport acknowledges the suggestion to introduce a luxury-type bus service to and from Logan Airport. Currently, Massport operates the Logan Express bus service, a successful HOV mode that serves both air passengers and employees. Logan Express provides frequent and nearly 24-hour service from several suburban park-and-ride locations, offering a convenient and cost-effective option for travelers to avoid driving to the Airport. However, Massport will continue to explore opportunities to enhance transportation services, including potential additional Logan Express locations and improvements to existing facilities. While the current focus is on expanding and improving Logan Express service, Massport remains open to evaluating new transportation options that align with its goals of reducing vehicle congestion and promoting sustainable travel to Logan Airport. Logan Express projects are discussed in **Sections 4.1.3 through 4.1.5 of Chapter 4, *Airport Planning*.**

15. Fred Salvucci

From: Frederick P Salvucci
To: Hughes, Jennifer (EEA)
Subject: Comment on EEA# 3247: Boston Logan ESPR 2022: EEA No. 3247
Date: Monday, October 14, 2024 12:05:51 AM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Jennifer Hughes:

With apologies for being late, I am hoping that you will accept this comment as it will be recieved before the start of business on Tuesday, March 15.

The ESPR document contains a lot of useful information and has drawn many thoughtful comments, particularly from AIR INC, and CLF, but I believe there are significant gaps that should be filled before this is accepted as adequate .

1) The origin of the ESPR
In the late 1980s, once the Central Artery/ Tunnel I-90-I-93 Project federal funding had been reinforced by congressional action in 1987, and approval of an increase in the Mass. gasoline tax to ensure availability of local matching funds, it was clear that relief from severe roadway congestion would address a primary threat to access to Logan Airport. At that point, Massport proposed to deal with significant inadequacy in terminal facilities, by replacing and expanding terminal capacity, so that passengers would be able to be reasonably accommodated, both getting to , and getting through Logan.

There was considerable concern in nearby communities that relief of these two primary constraints at Logan would lead to significant growth in aircraft flights and passenger volumes, imposing significant increased adverse environmental impact upon the communities surrounding Logan, which already suffered from excessive levels of noise, air pollution, and congestion caused by the location of Logan airport. The location of Logan so close to the center of the city is a great advantage for many air passengers, and businesses which benefit from aviation accessibility, but a major disadvantage to the nearby communities who suffer from the combined impact of traffic destined for the downtown, in addition to traffic destined to Logan, and the nearby communities which are densely populated, and include significant low and moderate and minority populations. This was an Environmental Justice problem before the term became defined in federal regulations in the following decade.

Many active citizen groups proposed that there should be a cap on airport activity, to prevent the likelyhood that once the major road and air terminal capacity constraints would be relieved, significant growth in aircraft and roadway activity would result in reaching and exceeding the new capacity constraints, and worsening adverse environmental impact would occur.

Massport and the transportation agencies proposed that a better approach would be to welcome rather than cap the economic benefits of increased air access, but cap and reduce the adverse environmental impacts, by careful measurement and predictions, accompanied by pre emptive action to reduce adverse impact .

Because the traffic relief from the Central Artery/ Tunnel (I90/I93)Project, and the Massport terminal expansion project would not become real until a decade of construction was complete, Massport took a number of progressive measures, instituting Logan Express, and aggressive noise and air pollution mitigation measures, and supported increased use by Massachusetts air travellers of other regional airports such as Greene in RI, and Manchester airport , to manage for the next several years, and initiated a precursor to the ESPR, to identify problems, and propose mitigation measures, which it quickly implemented.

“if you don’t measure, you can’t manage” is a common mantra, and the ESPR before you today includes an important effort to measure, but fails to identify the preemptive actions needed to offset and reduce reasonably predictable increased adverse impacts. In light of the significant lead times involved in initiatives to control and reduce adverse impacts associated with growth in transportation activities, it is very important to predict and anticipate adverse impact, and take preemptive action early, rather than wait until the impacts are upon us, and then react, with lagged actions which can at best offset worsening after the worsened effects have occured. The purpose of the ESPR , as originally conceptualized, should be to predict the risk of increased adverse outcomes in the future AND identify initiatives to preempt those bad outcomes in timely fashion including recognition of the lead times required for initiatives to be effective. 15-1

2) As recognized in Environmental Justice theory, it is important to recognize that causality of impact is impossible to define in a complex urban environment, and that adverse impacts upon nearby population occurs from the totality of causes. It is the adverse existing and reasonably predicted impact as percieved by the population that matters, not the precise causality which is often impossible to define. To be specific,- it is fruitless to discuss whether increased aviation activity is caused by facility expansion or merely associated with the expansion, or whether air pollution is directly caused by aircraft emissions, or by emissions from trucks and cars accessing the airport, or the nearby downtown, or by the combination of all these factors. Avoiding the worsening of adverse impact, and improvement in outcomes for humans is the appropriate goal. But the proposed ESPR often argues lack of causality, which is impossible to define,to justify lack of action. More to the point , adverse impact, and mitigation for such impacts, and not causality should be the proper focus. 15-2

3) A further consistent flaw in the ESPR before you is the use of averages, to argue that there has been improvement in mode share of HOV access for example. But in dealing with congestion impacts, it is necessary to deal with total impact, not shares or averages. It is essential to restrain total usage below the thresholds which cause congestion, and escalation of adverse impact, so total volume of auto traffic is the relevant factor. Mode share may be a useful measure for some purposes, but can often give an illusion of progress, when total impacts are worsening. 15-3

4) WITHIN THE AIRPORT- It is clear from the congested conditions within the airport roadway system today that reasonable levels of usage have already been exceeded. Having failed to anticipate these conditions, and adopt preemptive measures, it is now essential to develop measures to reverse the existing unacceptible levels of congestion within the airport roadway system, with actions adequately robust to remedy existing problems, AND preempt problems from future growth. 15-4

5) IN THE REGIONAL TRANSPORTATION SYSTEM SERVING LOGAN AND DOWNTOWN- It is also clear that growth in auto traffic has exceeded the capacity of the regional roadway system, even in the face of the doubling of roadway capacity crossing Boston Harbor delivered by the Artery/ Tunnel (I90/I93) project. Identifying initiatives to reduce auto trips to Logan and downtown below current volumes which now clearly exceed reasonable capacity thresholds are needed. In some cases, these may be actions which are the responsibility of other agencies. 15-5
For example, the extension of the Blue Line to reach Charles street/ MGH Station to facilitate both trips by transit rather than auto to Logan Airport, and to the growing MGH and to facilitate convenient transfers to the Red Line, was a requirement of the DEP approval of Massdot permits for the Artery/Tunnel I90/I93 project, and was supposed to be in service by 2010. This is clearly a responsibility of Massdot and MBTA. But Massport can identify its importance, and advocate for its implementation.
In other cases, improvements are well within the capacity and responsibility of Massport. For example, the bus link from the Blue Line Airport Station to the airline terminals was degraded by Massport action when the car rental facility was opened, by routing the bus link through the car rental facility, adding travel time and uncertainty to the previously efficient bus link. 15-6
Massport could and should immediately remedy this situation.
Studies of congestion in the seaport innovation district have suggested the need for an additional rail tunnel linking rail services from the west beyond South Station to Logan. This possibility was supposed to recieve serious consideration under the CLF agreement agreed to by Massdot as part of the ÇA/T I 90/I93 environmental permitting approval, but it was not implemented.
Again, it is not likely to be a Massport responsibility to build or operate such a new rail access link, but it is certainly in MASSPORT’s interest to do enough conceptualize work to identify the usefulness of such an initiative, and encourage its implementation. 15-7

6)BUILDING ON SUCCESS- THE LOGAN EXPRESS SYSTEM- This is a successful initiative of Massport, but it needs to be expanded by an order of magnitude to bring the number of autos attempting to reach Logan down to levels compatible with existing roadway capacity which is currently exceeded, and to do so in the near future. But 15-8

the level of expansion in Logan express required to not only improve non auto mode SHARE, but actually reduce auto VOLUMES below available roadway capacity , in order to ensure reasonable quality flow , need to be identjfied and developed. Early actions should include increasing the frequency and reducing the cost of the Logan Express bus link, to facilitate drop off at the suburban end of Logan Express, to supplement limited parking,and increasing parking supply. Opening new Logan Express locations , such as at the new expanded South Station Bus garage, which will be available soon, and at the Massdot owned former toll plaza at the intersection of routes 128 and the turnpike, which will require new construction are attractive options to pursue. This is an opportunity to build on success, but will require new energy and funding to be devoted to Logan Express by Massport. 15-9 15-10

7) BUILDING ON SUCCESS: THE LOCAL BUFFER PARKS. Massport has long been a leader in supporting enhanced parkland opportunities in nearby dense urban communities which bear significant adverse environmental impact from Logan activities.
-The donation by Massport of the Belle Isle Marsh to DCR in the late 1970s has been a significant success. But DCR could use technical support to identify emerging threats from nearby development, and increased tidal flooding, and methods to mitigate such problems.
- The Piers Park has converted a deteriorating and no longer functional seaport facility to a stunning waterfront park, which Massport maintains at a very high quality.
-The Bremen Street Buffer Park, provided and maintained by Massport on an abandoned rail yard that was being used for off airport parking, generating nuisance traffic in the neighborhood , has been transformed into a well designed and well maintained buffer park protecting the adjacent neighborhood from the harsh elevated roadway and airport activities to the east.
- a recent missed opportunity has been the location of an electric utility on land near Chelsea Creek that had been planned for neighborhood park use. This electric utility could have been located within the Airport , so that the Chelsea Creek adjacency could be developed as an ecological and park resource for the nearby community which bears so much noise impact from Logan aircraft operations.

The ESPR could identify the opportunity for a comprehensive and proactive effort to plan and implement green space mitigation for Massport activities, rather than reacting too late to issues like the electric utility near Chelsea Creek. 15-11

8)POSSIBLE PRICING OF ROADWAY ACCESS TO LOGAN BY AN AIRPORT EXIT FEE-
This has been suggested by prior Massdot Secretaries, but never seriously analyzed nor implemented. Like the stalled congestion pricing initiative in New York, this would include both a disincentive to use the private auto, and to provide revenue to fund initiatives like expanded Logan Express facilities. It could be instituted by Massport, and integrated into the parking garage charging, and even include camera enforced tolling on the excessively used internal Logan roadway system. It could even help provide some initial financial support to jump start the long delayed Blue to Red link. The ESPR should include at least conceptualize analysis of such an initiative. 15-12

9)NEWLY EMERGING CHALLENGES : PM-10 AIR QUALITY PROBLEMS RELATED TO BOTH AIRCRAFT AND AUTO AND TRUCK EMISSIONS.-
Dealing with this previously un researched problem would benefit from transparent measurement of air quality both in airport locations where passengers are exposed to air pollution, like the curbsides at terminals, and also in key locations in neighborhoods close to Logan. If careful monitoring shows no significant problem at some locations, this can provide emotional relief to passengers and neighbors who smell problematic odors. If monitoring shows significant problems, such monitoring can provide important information to design and consider adequate mitigation measures, such as use of electric tugs to replace airline engine taxi power to reposition aircraft from terminals to runways. 15-3

10) NEWLY EMERGING PROBLEMS: TIDAL FLOODING RISKS-
While the airfield is at a sufficiently high elevation to avoid such risks for the near term, critical transportation facilities which support regional access to Logan , such as the Sumner and Callahan tunnel portals, the Blue Line maintenance facilities at Orient Heights , and important community assets like the MaryEllen Welch Walkway, and the Belle isle Marsh are exposed to significant tidal risks. These tidal risks need a regional analysis approach across municipal and agency boundaries. While Massport is not the appropriate agency to implement solutions to such problems, it has a major stake in successful identification of such problems, and reasonable solutions for them. Competent conceptual planning by Massport can jumpstart the recognition of such problems, and help to motivate other agency actions for implementation 15-14

11) Compatibility with the Governor's climate action plan, which recognizes the high level of greenhouse gas emissions by aircraft, proposes a policy that trips of less than 200-250 miles should be on rail, and not by airplane. This is similar to the outcome actually achieved in Europe and Japan, but US rail services are not nearly at the level of speed or quality to provide adequate intercity access as existing there. The ESPR should be identifying feasible timelines and pathways to achieve the improvement in intercity rail services to achieve this desirable policy. This might logically imply no further action to increase airside aircraft capacity, recognizing that the airfield is at its practical capacity to process aircraft movements, use of congestion pricing of Landing fees to encourage use of the airfield to accommodate more passengers in fewer aircraft, along with support for consideration for long implementation time initiatives such as additional rail tunnel access to Logan, both from South .station, and from North Station via Everett and Chelsea, as well as improved intercity rail conditions on inland route rail to New York via Worcester and Springfield. 15-15

SUMMARY
In short, I believe that significant further work by Massport is required to bring the ESPR to a level of quality more useful in advancing actual environmental compatibility with surrounding communities by including substantially more emphasis on identifying mitigation measures to reduce adverse environmental impact to levels below the excessive exposure experienced by airport neighbors. This statement identifies 11 areas of significant concern. Review of comments from other commenters will likely identify still more. I urge the MEPA office to require Massport to supplement the current ESPR with much more focus on adequate and timely mitigation measures. 15-16

Fred

Sent from my iPad

Fred Salvucci Responses to Comments

15-1: Logan Airport Environmental Review and Planning

The purpose of the ESPR, as originally conceptualized, should be to predict the risk of increased adverse outcomes in the future AND identify initiatives to preempt those bad outcomes in timely fashion including recognition of the lead times required for initiatives to be effective.

Massport acknowledges the ESPRs' importance in predicting potential adverse outcomes and identifying proactive initiatives to avoid or reduce the impact of those outcomes. As discussed in Comment A-6 in **Appendix A, *MEPA Certificate and Responses to Comments*** since conception, the purpose of the EDR and ESPR has been to disclose the impact of recent growth at Logan Airport, as well as the impact of long-term growth through ESPRs. Through these reports, Logan Airport is subject to comprehensive and regular Massachusetts Environmental Policy Act (MEPA) review, including opportunities for public comment on the cumulative impacts.

Findings from EDRs and ESPRs are used to evaluate the efficacy of on-going and proposed programs and policies intended to reduce Airport impacts, and the current status of these are discussed within the *2023/2024 EDR* in **Section 2.2 of Chapter 2, *Outreach and Environmental Justice*; Sections 6.1 and 6.4 of Chapter 6, *Ground Access*; Section 7.4 of Chapter 7, *Noise*; Section 8.5 of Chapter 8, *Air Quality and GHG Emissions***; and the new **Chapter 11, *Sustainability and Climate Resilience***. Where data is available, Massport has quantified these beneficial measures and intends to find better methods to quantify the effects of these programs in future EDRs and ESPRs. The *2023/2024 EDR* utilized the newly released Massachusetts Department of Environmental Protection (MassDEP) Cumulative Impact Analysis (CIA) framework for community conditions assessments, and results are described in **Chapter 2.**

15-2: Logan Airport Environmental Review and Planning

Adverse impact, and mitigation for such impacts, and not causality, should be the proper focus.

Consistent with the MEPA process, mitigation presented in the EDRs and ESPRs are largely project based. However, as discussed in Comment 15-1 and outlined in **Chapter 2, *Outreach and Environmental Justice*** and **Chapter 11, *Sustainability and Climate Resilience***, Massport implements a range of measures directly aimed at reducing operational and environmental impacts on communities. Massport is participating in MEPA's Logan Airport Work Group, which is co-led by MEPA and the Office of Environmental Justice & Equity (OEJE). The purpose of the Work Group is to identify potential supplemental beneficial measures for public health concerns in communities neighboring the Airport.

15-3: Ground Access to and From Logan Airport

In dealing with congestion impacts, it is necessary to deal with total impact, not shares or averages. It is essential to restrain total usage below the thresholds which cause congestion, and escalation of adverse impact, so total volume of auto traffic is the relevant factor.

Massport appreciates the importance of addressing total vehicle volume to manage congestion impacts effectively. Massport employs a comprehensive approach to ground access and transportation management, focusing on reducing VMT and gateway vehicle volumes at Logan Airport, including promoting HOV modes, to decrease the number of vehicles accessing the Airport. Massport's Automated Traffic Monitoring System (ATMS) provides data on AADT, annual average weekday daily traffic (AWDT), and annual average weekend daily traffic (AWEDT) at key Airport access points. These metrics are effective for managing the total volume of auto traffic and its impact on congestion. However, Massport remains committed to refining its methodologies and collaborating with regional transportation agencies to enhance the evaluation of vehicle congestion impacts. For more information on ground access modeling methodologies, see **User's Guide, Section U6.1** and **Section 6.2 of Chapter 6, *Ground Access***.

15-4: Ground Access to and From Logan Airport

It is now essential to develop measures to reverse the existing unacceptable levels of congestion within the airport roadway system, with actions adequately robust to remedy existing problems, AND preempt problems from future growth.

Massport promotes ridership on HOV, including transit and shared-ride modes, and maintains efficient transportation access and parking options in and around Logan Airport to reduce the reliance on single-passenger occupancy automobile modes. Implemented measures include a blend of strategies related to pricing, including incentives and disincentives, service availability, service quality, marketing, and traveler information. For more information on ground access initiatives, see **Section 6.4 of Chapter 6, *Ground Access***.

15-5: Ground Access to and From Logan Airport

Identifying initiatives to reduce auto trips to Logan and downtown below current volumes, which now clearly exceed reasonable capacity thresholds are needed.

Massport promotes ridership on HOV, including transit and shared-ride modes, and maintains efficient transportation access and parking options in and around Logan Airport to reduce the reliance on single passenger occupancy automobile modes. Implemented measures include a blend of strategies related to pricing, including incentives and disincentives, service availability, service quality, marketing, and traveler information. As discussed above as well as in Comments 14-2 and 15-3, Massport remains committed to refining its methodologies and collaborating with regional transportation agencies to enhance the evaluation of vehicle congestion impacts. For more information on ground access initiatives, see **User's Guide, Section U6.5** and **Sections 6.1 and 6.4 of Chapter 6, *Ground Access***.

15-6: Ground Access to and From Logan Airport

The bus link from the Blue Line Airport Station to the airline terminals was degraded by Massport action when the car rental facility was opened, by routing the bus link through the car rental facility, adding travel time and uncertainty to the previously efficient bus link. Massport could and should immediately remedy this situation.

Massport acknowledges the concerns regarding the routing of the bus link from the Blue Line Airport Station through the car rental facility, which may have impacted the service. The current routing was implemented to integrate the car rental facility into the Airport's transportation network, ensuring that passengers have access to rental services directly from the Airport. Massport continuously evaluates its transportation services and is open to exploring improvements, including assessing current bus routing and considering potential adjustments to optimize the service for passengers traveling between the Blue Line Airport Station and the Airport. For more information, see **User's Guide, Section U6.2.2** and **Section 6.1.2.2 of Chapter 6, *Ground Access***.

15-7: Ground Access to and From Logan Airport

It is not likely to be a Massport responsibility to build or operate such a new rail access link, but it is certainly in Massport's interest to do enough conceptualize work to identify the usefulness of such an initiative, and encourage its implementation.

The EDR and ESPR **Chapter 5, *Regional Transportation*** continues to track alternatives to air transport. For many years, rail passengers between Boston and New York City have surpassed air travel. The Commonwealth continues to evaluate opportunities to enhance its role in the regional and U.S. rail network. Development of "feasible timelines and pathways to achieve the improvement in intercity rail services" remains a Commonwealth responsibility. Massport's support of the MBTA's Silver Line is a prime example of its role in supporting rail connections. The *2023/2024 EDR* also has a new section addressing rail service in **Section 5.4.4 of Chapter 5, *Regional Transportation*.**

15-8: Ground Access to and From Logan Airport

The Logan Express System – This is a successful initiative of Massport, but it needs to be expanded by an order of magnitude to bring the number of autos attempting to reach Logan down to levels compatible with existing roadway capacity, which is currently exceeded, and to do so in the near future.

The *2024 Logan Air Passenger Ground Access Survey* informs Massport's evaluation of Logan Express sites and supports a data-driven planning process for changing or expanding service options. As discussed above and in other comments, recent Massport initiatives have successfully encouraged Logan Express' use and improved its overall capacity. Information on these projects are found in **Sections 4.1.3 through 4.1.5 of Chapter 4**, ***Airport Planning***. Additional Logan Express service details are found in **User's Guide, Section U6.2.1** and **Section 6.1.2.1 of Chapter 6, *Ground Access***.

15-9: Ground Access to and From Logan Airport

Early actions should include increasing the frequency and reducing the cost of the Logan Express bus link, to facilitate drop off at the suburban end of Logan Express, to supplement limited parking, and increasing parking supply.

As discussed above and in Comments A-56, A-57, 4D-36, 6-17, and 15-8, recent Massport initiatives have successfully encouraged Logan Express' use and improved overall capacity. Massport promotes ridership on HOV, including transit and shared-ride modes, and maintains efficient transportation access and parking options in and around Logan Airport. Implemented measures include a blend of strategies related to pricing, including incentives and disincentives, service availability, service quality, marketing, and traveler information. As discussed above as well as in Comments 14-2 and 15-3, Massport remains committed to refining its methodologies and collaborating with regional transportation agencies to enhance the evaluation of vehicle congestion impacts. For more information on ground access initiatives, see **User's Guide, Section U6.5** and **Sections 6.1 and 6.4 of Chapter 6, *Ground Access***. Information on these projects are found in **Sections 4.1.3 through 4.1.5 of Chapter 4**, ***Airport Planning***. Additional Logan Express service details are found in **User's Guide, Section U6.2.1** and **Chapter 6, *Ground Access*, Section 6.1.2.1**.

15-10: Ground Access to and From Logan Airport

Opening new Logan Express locations, such as at the new, expanded South Station Bus garage, which will be available soon, and at the MassDOT owned former toll plaza at the intersection of routes 128 and the turnpike.

The *2024 Logan Air Passenger Ground Access Survey* informs Massport's evaluation of Logan Express sites and supports a data-driven planning process for changing or expanding service options. As discussed above and in other comments, recent Massport initiatives have successfully encouraged Logan Express' use and improved its overall capacity. As discussed above as well as in Comments 14-2 and 15-3, Massport remains committed to refining its methodologies and collaborating with regional transportation agencies to enhance the evaluation of vehicle congestion impacts. For more information on ground access initiatives, see **User's Guide, Section U6.5** and **Sections 6.1 and 6.4 of Chapter 6, *Ground Access***. Information on these projects are found in **Section 4.1 of Chapter 4**, ***Airport Planning***. Additional Logan Express service details are found in **User's Guide, Section U6.2.1** and **Chapter 6, Section 6.1.2.1**.

15-11: Mitigation

The ESPR could identify the opportunity for a comprehensive and proactive effort to plan and implement green space mitigation for Massport activities, rather than reacting too late to issues like the electric utility near Chelsea Creek.

In response to project specific impacts, mitigation activities are determined alongside coordination with the MEPA office, state agencies, and municipalities. An examples of recently completed green space

mitigation is Piers Park II, discussed in **Section 11.1.2.2 of Chapter 11, *Sustainability and Climate Resilience*.** Massport is additionally planning for the remediation a site at Saratoga Springs as green space mitigation for anticipated impacts associated with the Runway 27 End RSA Project, also discussed in **Section 11.1.2.2 of Chapter 11.**

15-12: Ground Access to and From Logan Airport

The ESPR should include at least a conceptualized analysis of such an initiative [Possible pricing of roadway access to Logan by an airport exit fee].

Massport acknowledges the suggestion to include a conceptualized analysis of implementing an airport exit fee as a potential strategy for managing roadway access to Logan Airport. While the concept of an airport exit fee is not currently part of Massport's implemented strategies, Massport remains open to exploring innovative solutions that align with its goals of reducing congestion and promoting sustainable transportation options. Any consideration of such an initiative would involve thorough analysis and stakeholder engagement to assess its feasibility and potential impacts.

15-13: Air Quality/Emissions Reduction (GHG)

PM-10 Air Quality Problems Related to both Aircraft and Auto and Truck Emissions – Dealing with this previously unresearched problem would benefit from transparent measurement of air quality both in airport locations where passengers are exposed to air pollution, like the curbsides at terminals, and also in key locations in neighborhoods close to Logan.

As discussed above and in Comments A-1 and A-5 in **Appendix A, *MEPA Certificate and Responses to Comments***, Massport is committed to collaborating with communities, state agencies, and local officials to address environmental concerns associated with Logan Airport operations. To that end, Massport is an active participant in the MEPA's Logan Airport Work Group (Work Group) established in collaboration with the MEPA Office and the OEJE in February 2025. The Work Group's primary objective is to assess and discuss potential supplemental mitigation measures that could address environmental concerns associated with Logan Airport operations. This comment may be discussed among the group as a possible option.

15-14: Climate Change

While the airfield is at a sufficiently high elevation to avoid such risks for the near term, critical transportation facilities which support regional access to Logan, such as the Sumner and Callahan tunnel portals, the Blue Line maintenance facilities at Orient Heights, and important community assets like the MaryEllen Welch Walkway, and the Belle Isle Marsh, are exposed to significant tidal risks. These tidal risks need a regional analysis approach across municipal and agency boundaries. While Massport is not the appropriate agency to implement solutions to such problems, it has a major stake in successful identification of such problems, and reasonable solutions for them.

Competent conceptual planning by Massport can jumpstart the recognition of such problems, and help to motivate other agency actions for implementation.

Since 2013, Massport has maintained and continuously enhanced a comprehensive set of climate resiliency measures to protect critical infrastructure and surrounding communities from climate change impacts, including extreme heat, intense precipitation, and coastal flooding and sea level rise. Climate resiliency is an integral part of Massport's planning, design, construction, and daily operations. 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. 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. As discussed above in Comments 2-12 and 2-13 and in Comments A-8 and A-67 in **Appendix A, *MEPA Certificate and Responses to Comments*,** the *2023/2024 EDR* includes a new section in **Chapter 11, *Sustainability and Climate Resilience*** dedicated to Massport's climate resiliency measures, with information on the initiatives Massport has taken, and continues to take.

15-15: Regional Transportation

Compatibility with the Governor's climate action plan, which recognizes the high level of greenhouse gas emissions by aircraft, proposes a policy that trips of less than 200-250 miles should be on rail, and not by airplane. This is similar to the outcome actually achieved in Europe and Japan, but US rail services are not nearly at the level of speed or quality to provide adequate intercity access as existing there. The ESPR should be identifying feasible timelines and pathways to achieve the improvement in intercity rail services to achieve this desirable policy.

As discussed above, the EDR and ESPR **Chapter 5, *Regional Transportation*** continues to track alternatives to air transport. For many years, rail passengers between Boston and New York City have surpassed air travel. The State of Massachusetts continues to evaluate opportunities to enhance its role in the regional and U.S. rail network. Development of "feasible timelines and pathways to achieve the improvement in intercity rail services" remains the state's responsibility. Massport's support of the MBTA's Silver Line is a prime example of its role in supporting rail connections.

15-16: Logan Airport Environmental Review and Planning

Significant further work by Massport is required to bring the ESPR to a level of quality more useful in advancing actual environmental compatibility with surrounding communities by including substantially more emphasis on identifying mitigation measures to reduce adverse environmental impact to levels below the excessive exposure experienced by airport neighbors.

Consistent with the MEPA process, mitigation presented in the EDRs and ESPRs are largely project based. However, as outlined in **Chapter 2, *Outreach and Environmental Justice*** and **Chapter 11, *Sustainability and Climate Resilience***, Massport implements a range of measures directly aimed at

reducing community operational and environmental impacts. Massport is also actively participating in MEPA's Logan Airport Work Group, which is co-led by MEPA and the OEJE and is discussing appropriate supplemental beneficial measures to address public health concerns in communities neighboring the Airport.

16. Nancy Timmerman

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August 5, 2024

The Honorable Rebecca Tepper, Secretary
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
Jennifer Hughes, EEA No. 3247
100 Cambridge Street, Suite 900
Boston, MA 02114

Subject: EOEA No. 3247 – Boston-Logan Airport 2022 Environmental Status Report

Dear Secretary Tepper and Director Kim:

These comments are being transmitted by email. I have reviewed the 2022 Environmental Data Status Report (ESPR), EOEA #3247 and offer the following comments and questions.

It appears that Site 1 in the South End is now at the Union Park Street Playground. I have reviewed that location and it appears to be adequate. Is the monitor shielded from Albany Street? 16-1

Are the new noise monitors (all having been replaced) adequate? 16-2

Thank you for the opportunity to comment on this report.

Sincerely,

Nancy S. Timmerman, P.E.

env.internet@mass.gov
Cc: B. Washburn, MPA

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Nancy Timmerman Responses to Comments

16-1: Noise

It appears that Site 1 in the South End is now at the Union Park Street Playground. I have reviewed that location and it appears to be adequate. Is the monitor shielded from Albany Street?

The *Federal Aviation Administration (FAA) Reauthorization Act of 2024*, Section 786, Part 150 Noise Standards Update directs the FAA to update the Airport Noise Compatibility Program regulations (14 CFR Part 150 or FAA Part 150), which prescribe the systems for measuring noise at airports and surrounding areas. The FAA regulates permanent noise monitoring equipment and its installation under 14 CFR Part 150. Massport's noise monitoring equipment meets these Part 150 standards, ensuring compliance with FAA regulations. The *2023/2024 EDR*, **Section 7.3.3 of Chapter 7, *Noise*,** and the **User's Guide, Section U7.3.1**, provide more information. Massport's Noise Abatement Office staff can provide more information on specific noise monitoring stations by submitting an inquiry through an online form found here: https://www.massport.com/environment/noise-abatement/logan-airport/complaints. Staff are also available by phone at 617-561-3333 from 6:00 AM to 6:00 PM on business days.

16-2: Noise

Are the new noise monitors (all having been replaced) adequate?

The *2023/2024 EDR* reports that all 30 permanent noise monitors have been replaced. FAA Part 150 outlines the process and guidance for voluntary FAA-sponsored noise assessment and abatement programs at airports, and prescribes the systems for measuring noise at airports and surrounding areas. The FAA regulates permanent noise monitoring equipment and their installation under 14 CFR Part 150. Massport's noise monitoring equipment meets these Part 150 standards, ensuring compliance with FAA regulations. The *2023/2024 EDR*, **Section 7.3.3 of Chapter 7, *Noise*,** and the **User's Guide, Section U7.3.1** provide more information.

Massport's Noise Abatement Office staff can provide more information on specific noise monitoring stations by submitting an inquiry through an online form found here: https://www.massport.com/environment/noise-abatement/logan-airport/complaints. Staff are also available by phone at 617-561-3333 from 6:00 AM to 6:00 PM on business days.

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C. Proposed Scope for the 2025 EDR

PROJECT NAME: Logan Airport 2025 Environmental Data Report (EDR)

PROJECT LOCATION: Boston Logan International Airport, East Boston, Massachusetts

EEA NUMBER: 3247

PROPONENT: Massachusetts Port Authority (Massport)

Massport respectfully submits this proposed scope for the Logan Airport *2025 Environmental Data Report* (*2025 EDR*) for public review and comment. The *2025 EDR* would follow the *2023/2024 EDR*, which was filed in October 2025. As directed by the Secretary of the Executive Office of Energy and Environmental Affairs (EEA), Massport will continue to use this process to evaluate the cumulative impacts associated with Boston Logan International Airport (Logan Airport) activities by preparing an Environmental Status and Planning Report (ESPR) approximately every five years with interim annual updates through the EDRs.

To enhance the EDR's readability, future EDRs will provide annual updates on the pertinent findings for the current reporting year with narrative text limited to only the contextual information necessary for interpreting findings. Massport took significant steps towards enhancing the readability, shortening the length, and filing closer to the prior year end for the *2023/2024 EDR*, and will continue to build on this progress for the *2025 EDR*. Supporting technical information and data used for analyses will be provided in appendices, as appropriate, while the chapter narrative will discuss analysis results and findings. Future ESPRs will provide narratives about trends and findings for the reporting year, comparisons to the previous year and benchmark year, and projected future conditions with an updated activity forecast.

Along with the *2023/2024 EDR*, Massport developed the *EDR/ESPR User's Guide* (User's Guide), which contains the technical context, analysis methodologies, and other supporting information critical to the development process for EDRs and ESPRs. This information was previously incorporated within the chapter narrative text of the annual filings, which significantly contributed to the overall size of these documents and difficulties with subject comprehension. The User's Guide should improve the readability and accelerate production timeframes of future EDRs and ESPRs as annual filings will now focus solely on reporting annual updates.

Massport will continue to publish the full EDR and ESPR documents electronically on the Massport website through a new, dedicated webpage for the EDRs and ESPRs: https://www.massport.com/environment/boston-logan-edr-espr-data-portal.

C.1 Purpose of the Logan Airport ESPRs and EDRs

For nearly four decades, the EDRs and ESPRs, and the former Generic Environmental Impact Report (GEIR) with Annual Updates, have provided information to agencies and the public on planning activities, aircraft operations and passenger activity levels, and Massport initiatives at Logan Airport.

The ESPR and EDR documents are part of a well-established, state-level environmental review process, unique to Massport, which assesses Logan Airport's cumulative environmental impacts. As in previous years, the EDRs and ESPRs will continue as the forum to address cumulative impacts by providing an Airport-wide context for air quality, noise, ground transportation, and water quality.

- The EDR/ESPR process was developed by Massport and EEA to allow individual projects at Logan Airport to be considered and analyzed in the broader, Airport-wide context.
- The EDRs and ESPRs provide a planning context which complements the individual project-specific filings. The process provides the contextual setting for individual projects at Logan Airport, which meet state and federal environmental review thresholds and are evaluated separately on a project-specific basis.
- The EDRs and ESPRs will continue to serve as the baseline analyses for project-specific environmental reviews and provide a forum for public updates on Massport's planning efforts and mitigation programs.
- EDRs are filed annually in the years between ESPRs, and are retrospective documents that discuss environmental impacts for the reporting year or years.

Through these EDR and ESPRs, Logan Airport is subject to regular, comprehensive MEPA review, including opportunities for public commentary on the cumulative impacts associated with airport operations. This routine and long-standing process of reporting on planning and cumulative impacts is unique among state agencies subject to MEPA jurisdiction. It reflects the challenge and complexity of managing and modernizing Logan Airport within a dense, urban area encompassing many Environmental Justice (EJ) communities.

EDRs and ESPRs establish the planning context for subsequent Massachusetts Environmental Policy Act (MEPA) reviews of Environmental Notification Forms (ENFs) and, if necessary, Environmental Impacts Reports (EIRs). In this manner, Massport confirms no segmentation of project reviews occur for projects at Logan Airport. The EDRs and ESPRs also provide context for the National Environmental Policy Act (NEPA) reviews by the Federal Aviation Administration (FAA) serving as the lead federal agency.

Massport will continue to look for opportunities to enhance document accessibility for the general public and strive to improve content relevance. Alongside the *2023/2024 EDR*, the User's Guide compliments the *2023/2024 EDR* and future EDRs and ESPRs by providing technical context and supporting information previously incorporated within the annual filings. Massport anticipates the *2025 EDR* will be filed closer to the 2025 reporting year's end than prior reports with the addition of the User's Guide; however, Massport

will continue to evaluate other opportunities to expedite the EDR and ESPR process and publication schedule.

C.2 Contents of the 2025 EDR

The *2025 EDR* will report on the cumulative effects of Logan Airport operations and activities, compared to previous years, as appropriate, for calendar year 2025, and will serve as the contextual background against which individual projects at Logan Airport can be evaluated. As noted in previous Secretary's Certificates and subsequent communication with the MEPA Office, the *2025 EDR* will provide information on the Environmental Justice (EJ) populations in proximity to the Airport, and summarize readily available information on community public health status.

C.2.1 Format of the 2025 EDR

The *2025 EDR* will be prepared in a new, short format, which will focus on key findings, use infographics and tables where possible, and minimize extraneous narratives. The appendices will include supporting technical information and data, primarily in table format. The *2025 EDR* will build upon work started within the *2023/2024 EDR* by further referencing other Massport reporting sources, studies, and publications and the complimenting EDR and ESPR User's Guide.

The technical studies in the *2025 EDR* chapters will analyze and report on key indicators and metrics for sustainability; EJ and community outreach; airport activity levels; project planning; the regional transportation system; ground transportation access; noise; air quality and emissions; water quality and environmental management; and project mitigation tracking as described below.

C.2.2 Introduction and Executive Summary

The *2025 EDR* chapters will include:

- Highlights of 2025 planning and key findings on environmental conditions;
- Overview of Logan Airport context;
- Overview of document changes from the *2023/2024 EDR*;
- Overview of community outreach, EJ, and existing public health conditions;
- Highlights of passenger activity levels and aircraft operations;
- Overview of the Logan Airport planning initiatives and projects;
- Overview of the regional intermodal transportation system;
- The 2025 status of Ground transportation, noise, air quality and greenhouse gases, and water quality;
- Status of project-related mitigation;
- Overview of Massport sustainability initiatives and the *Roadmap to Net Zero by 2031* program's progress; and

- Translated language versions of the Executive Summary for the *2025 EDR* with weblinks provided as identified using the EEA's EJ tool.

C.2.3 Outreach and Environmental Justice

Chapter will report on the 2025 year end status of:

- Massport community giving and engagement activities;
- Community outreach activities, including those specific to the *2025 EDR*;
- Updates on the status of MEPA's Logan Airport Working Group;
- Characterization of surrounding EJ populations; and
- Updates to the public health existing community conditions review as new data and tools become available.

C.2.4 Activity Levels

Chapter will provide a snapshot of airport activity levels for 2025 comparing to a historic benchmark year and the previous year for:

- Domestic and international passenger activity levels;
- Aircraft operations including fleet mix and scheduled airline services at Logan Airport; and
- Cargo and mail volumes.

C.2.5 Airport Planning

Chapter will describe the status of planning efforts as of the end of 2025, including quantifying the environmental benefits for initiatives involving:

- Ground Transportation and Parking;
- Logan Airport Terminal Area;
- Logan Airport Airside Areas; and
- Logan Airport Service Areas.

C.2.6 Regional Transportation

Chapter will report on Logan Airport's role in the region's intermodal transportation system during the 2025 reporting year, including:

- Regional airport operations and passenger activity levels; and
- Activity levels for other transit modes that compliment the Boston area's regional transit system.

C.2.7 Ground Access

Chapter will review 2025 ground access modes and surface vehicle transportation metrics and conditions through analyses of:

- Multimodal transportation ridership, including high-occupancy vehicle (HOV), MBTA, and other modes as well as HOV mode share, from the most recent Logan Airport passenger survey;
- Trends of RideApp companies, such as Uber™ and Lyft™;
- Parking demand and management, and compliance with the Logan Airport Parking Freeze;
- Logan Airport gateway volumes, on-Airport traffic volumes, and vehicle miles traveled (VMT);
- Efforts to reduce single occupancy vehicle, or deadhead trips, to the Airport;
- Long-range ground access management strategy planning efforts; and
- Dwell time studies completed as of 2025 year end.

C.2.8 Noise

Chapter will describe 2025 noise conditions associated with Logan Airport operations, including:

- Noise context and model inputs for noise analyses, such as fleet mix, various aircraft Stage classifications, daily and nighttime operations, runway use, flight tracks, and meteorological data;
- Modeled noise levels results with updated annual noise contours and estimated noise-impacted populations;
- Measured versus modeled noise value comparisons;
- Supplemental metrics, including the Cumulative Noise Index (CNI), Time-Above for 65, 75, and 85 A-weighted decibel (dBA) threshold values, and dwell and persistence analyses;
- Massport's noise abatement and mitigation efforts in 2025; and
- Massport's role in supporting noise-related research efforts by other institutions.

C.2.9 Air Quality and Greenhouse Gas Emissions

Air quality and GHG conditions for 2025 will be discussed in this chapter, encompassing the following information:

- Emissions sources, including aircraft, ground service equipment (GSE), motor vehicles, and stationary sources;
- Modeled emissions inventories for carbon monoxide (CO), nitrogen oxides (NOx), volatile organic compounds (VOCs), and particulate matter (PM);
- Modeled GHG emissions inventory as a voluntary study;
- Massport's air emissions and GHG emissions reduction strategy;
- Status of ultrafine particle studies as of 2025 year end; and
- Summary of national and international efforts to decrease air emissions as relevant to Logan Airport.

C.2.10 Water Quality

Chapter will report on 2025 Logan Airport environmental regulatory compliance and water quality program management, detailing:

- National Pollutant Discharge Elimination System (NPDES) Permit compliance status and monitoring results for Logan Airport's outfalls and the Fire Training Facility;
- Jet fuel usage, spill reporting data, and fuel spill prevention initiatives;
- Massachusetts Contingency Plan (MCP) activities;
- The Tank Management Program's implementation; and
- Environmental Management Plan status updates.

C.2.11 Project Mitigation

Chapter will document the status of project-specific mitigation commitments for Massport and tenant projects at Logan Airport that have undergone MEPA review and have on-going Section 61 commitments. These currently include:

- Terminal A Replacement Project (EEA 12096);
- Logan Airport Parking Project (EEA 15655);
- Terminal E Modernization Project (EEA 15434); and
- Runway 27 Runway Safety Improvements (EEA 16433).

C.2.12 Sustainability and Climate Resilience

In addition to providing weblinks to other relevant Massport studies and publications, this chapter will summarize the status of Massport's on-going sustainability and climate resiliency initiatives and programs at Logan Airport, including:

- Sustainability initiatives with references to Massport's Annual Sustainability reporting publications;
- Net Zero Greenhouse Gas Emissions programming; and
- Climate resilience programs and guidelines.

C.2.13 Appendices

Supporting technical information and data used for analyses will be provided in technical appendices, as appropriate, while the chapter narrative will discuss analysis results and findings. Applicable MEPA documentation associated with the *2023/2024 EDR* filing will also be included.

C.2.13.1 MEPA Documentation

Appendices will include a copy of the Secretary's Certificate and comment letters received on the *2023/2024 EDR*. Individual responses will be prepared for items the Secretary's Certificate on the *2023/2024 EDR* and comments in reviewers' letters will be provided.

Distribution list including the environmental justice community for the *2025 EDR* indicating those receiving printed documents or Notices of Availability with links to the online version of the EDR will be provided. Massport will also provide printed copies to community libraries and other upon request.

C.2.13.2 Supporting Technical Documentation

Supporting technical appendices will be provided as necessary for the technical chapters.

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D. Distribution

This *2023/2024 Environmental Data Report (EDR)* has been distributed to federal, state, and city agencies and to parties listed in this appendix. The list includes those entities that the Massachusetts Environmental Policy Act (MEPA) requires as part of the review of the document, representatives of governmental agencies, commenters on the *2022 Environmental Status and Planning Report (2022 ESPR)*, and community groups interested in Airport activities. **The 'E' indicates that Massport sent an electronic copy via email, the 'N' indicates that Massport sent a Notice of Availability, and the 'P' indicates that Massport sent a printed copy.**

The *2023/2024 EDR* is also available on Massport's website at www.massport.com. Limited printed copies of the *2023/2024 EDR* may be requested from Brad Washburn at (617) 568-3546, or community@massport.com. Printed copies of this report are available for review at the following public libraries:

	Library	Address		Library	Address
P	Boston Public Library Main Branch Attn. Anna Fahey-Flynn	700 Boylston Street Boston, MA 02116	N	Boston Public Library Brighton Branch	40 Academy Hill Road Brighton, MA 02135
N	Boston Public Library Charlestown Branch	179 Main Street Charlestown, MA 02129	N	Boston Public Library Chinatown Branch	2 Boylston Street Boston, MA 02116
P	Boston Public Library Connolly Branch	433 Centre Street Jamaica Plain, MA 02130	P	Boston Public Library Dorchester Branch	690 Adams Street Dorchester, MA 02122
P	Boston Public Library East Boston Branch	365 Bremen Street East Boston, MA 02128	N	Boston Public Library Egleston Square Branch	2044 Columbus Avenue Roxbury, MA 02119
P	Boston Public Library Fields Corner Branch	1520 Dorchester Avenue Dorchester, MA 02122	N	Boston Public Library Grove Hall Branch	41 Geneva Avenue Dorchester, MA 02121
N	Boston Public Library Honan-Allston Branch	300 North Harvard Street, Allston, MA 02134	N	Boston Public Library Hyde Park Branch	35 Harvard Avenue Hyde Park, MA 02136
N	Boston Public Library Jamaica Plain Branch	30 South Street Jamaica Plain, MA 02130	N	Boston Public Library Codman Square Branch	690 Washington Street Dorchester, MA 02124
N	Boston Public Library Lower Mills Branch	27 Richmond Street Dorchester, MA 02124	P	Boston Public Library Mattapan Branch	1350 Blue Hill Avenue Mattapan, MA 02126
N	Boston Public Library North End Branch	25 Parmenter Street Boston, MA 02113	N	Boston Public Library Parker Hill Branch	1497 Tremont Street Roxbury, MA 02120
N	Boston Public Library Roslindale Branch	4246 Washington Street Roslindale, MA 02131	P	Boston Public Library Roxbury Branch	149 Dudley Street Roxbury, MA 02119

	Library (continued)	Address		Library (continued)	Address
P	Boston Public Library South Boston Branch	646 East Broadway South Boston, MA 02127	N	Boston Public Library West End Branch	151 Cambridge Street Boston, MA 02114
P	Boston Public Library Uphams Corner Branch	500 Columbia Road Dorchester, MA 02125	P	Winthrop Public Library and Museum	2 Metcalf Square Winthrop, MA 02152
P	Bedford Free Public Library	7 Mudge Way Bedford, MA 01730	P	Cambridge Public Library Main Library	449 Broadway Cambridge, MA 02138
P	Cary Memorial Library (Lexington Public Library)	1874 Massachusetts Avenue Lexington, MA 02420	P	Chelsea Public Library	569 Broadway Chelsea, MA 02150
P	Concord Free Public Library	129 Main Street Concord, MA 01742	P	Parlin Memorial Library (Everett Public Library)	410 Broadway Everett, MA 02149
P	Lincoln Public Library	3 Bedford Road Lincoln, MA 01773	N	Malden Public Library	36 Salem Street Malden, MA 02148
P	Charlotte and William Bloomberg Medford Public Library	111 High Street Medford, MA 02155	P	Milton Public Library Main Branch	476 Canton Avenue Milton, MA 02186
P	Thomas Crane Public Library (Quincy Public Library)	40 Washington Street Quincy, MA 02169	P	Revere Public Library	179 Beach Street Revere, MA 02151
N	Robbins Library (Arlington Public Library)	700 Massachusetts Avenue Arlington, MA 02476	P	Somerville Public Library Central Branch	79 Highland Avenue Somerville, MA 02143

Federal Government

United States Senators and Representatives

N	The Honorable Edward J. Markey U.S. Senate Attn: Katherine Morfill 975 JFK Federal Building 15 New Sudbury Street Boston, MA 02203	N	The Honorable Elizabeth Warren U.S. Senate Attn: Olivia Paulo 2400 JFK Federal Building 15 New Sudbury Street Boston, MA 02203	N	The Honorable William R. Keating U.S. House of Representatives Attn: Mike Jackman 50 Resnik Road, Suite 103 Plymouth, MA 02360
N	The Honorable Jake Auchincloss U.S. House of Representatives 29 Crafts Street, Suite 375 Newton, MA 02458	N	The Honorable Katherine Clark U.S. House of Representatives Attn: Kelsey Perkins 157 Pleasant Street, Suite 4 Malden, MA 02148	N	The Honorable Seth Moulton U.S. House of Representatives Attn: Rick Jakious 21 Front Street Salem, MA 01970
N	The Honorable Stephen F. Lynch U.S. House of Representatives Attn: Nicholas Zaferakis 1 Harbor Street, Suite 101 Boston, MA 02210	N	The Honorable James P. McGovern U.S. House of Representatives Attn: Kelly Brissette 12 East Worcester Street, Suite 1 Worcester, MA 01604	N	The Honorable Lori Trahan U.S. House of Representatives Attn: Alexander Eliasen 126 John Street, Suite 12 Lowell, MA 01852

Federal Government (continued)					
United States Senators and Representatives (continued)					
N	The Honorable Richard E. Neal U.S. House of Representatives 300 State Street, Suite 200 Springfield MA, 01105	N	The Honorable Ayanna Pressley Attn: Eric White U.S. House of Representatives 50 Redfield Street, Suite 302 Boston, MA 02122		
Environmental Protection Agency (U.S.EPA)					
N	Mark Sanborn, Regional Administrator U.S. Environmental Protection Agency, Region 1 5 Post Office Square, Suite 100 Boston, MA 02109-3912	N	Karen McGuire Deputy Regional Administrator U.S. Environmental Protection Agency, Region 1 5 Post Office Square, Suite 100 Boston, MA 02109-3912	N	Timothy Timmermann, Director Office of Environmental Review U.S. Environmental Protection Agency, Region 1 5 Post Office Square, Suite 100 Boston, MA 02109-3912
Federal Aviation Administration (FAA)					
N	Marie Kennington-Gardiner Acting New England Regional Administrator, U.S. Department of Transportation FAA, New England Region 1200 District Avenue Burlington, MA 01803	N	Luke Garrison, Director U.S. Department of Transportation, FAA, New England Region, Airports Division 1200 District Avenue Burlington, MA 01803	N	Lisa Lesperance Lead Community Planner, U.S. Department of Transportation, FAA, New England Region, Airports Division 1200 District Avenue Burlington, MA 01803
N	Cheryl Quaine Environmental Program Manager, U.S. Department of Transportation FAA, New England Region, Airports Division 1200 District Avenue Burlington, MA 01803	P	Chris Quigley, Tower Manager U.S. Department of Transportation, FAA, Logan International Airport 600 Control Tower, 19th Floor East Boston, MA 02128		
United States Army Corps of Engineers (U.S.ACE)					
N	Colonel Justin R. Pabis, Commander and District Engineer, U.S. Army Corps of Engineers, New England District 696 Virginia Road Concord, MA 01742-2751	N	Paul Sneeringer Project Manager US Army Corps of Engineers New England District 696 Virginia Road Concord, MA 01742-2751		

Federal Government (continued)					
United States Fish and Wildlife Service (U.S.FWS)					
N	Wendi Weber, Regional Director, Northeast Region U.S. Department of the Interior Fish and Wildlife Service 300 Westgate Center Drive Hadley, MA 01035	N	New England Ecological Services Field Office U.S. Department of the Interior Fish and Wildlife Service 70 Commercial Street, Suite 300 Concord, NH 03301		
State Government					
Massachusetts State Senators and Representatives					
N	Senator Nick Collins Massachusetts State House 24 Beacon Street, Room 511-A Boston, MA 02133	N	Senator Brendan P. Crighton Chairperson, Joint Committee on Transportation Massachusetts State House 24 Beacon Street, Room 109-C Boston, MA 02133	N	Senator Sal DiDomenico Assistant Majority Leader Massachusetts State House 24 Beacon Street, Room 405 Boston, MA 02133
N	Senator Lydia Edwards Massachusetts State House 24 Beacon Street, Room 413-A Boston, MA 02133	N	Senator Paul Mark Vice Chair, Joint Committee on Transportation Massachusetts State House 24 Beacon Street, Room 504 Boston, MA 02133	N	Senator Karen E. Spilka Senate President Massachusetts State House 24 Beacon Street, Room 332 Boston, MA 02133
N	Representative David Biele Massachusetts State House 24 Beacon Street, Room 254 Boston, MA 02133	N	Representative Jessica Ann Giannino Massachusetts State House 24 Beacon Street, Room 527A Boston, MA 02133	N	Representative Adrian C. Madaro Massachusetts State House 24 Beacon Street, Room 33 Boston, MA 02133
N	Representative Ronald Mariano Speaker of the House Massachusetts State House 24 Beacon Street, Room 356 Boston, MA 02133	N	Representative Edward R. Philips Vice Chair, Joint Committee on Transportation Massachusetts State House 24 Beacon Street, Room 134 Boston, MA 02133	N	Representative Daniel J. Ryan Massachusetts State House 24 Beacon Street, Room 156 Boston, MA 02133
N	Representative James Arciero Chairperson, Joint Committee on Transportation Massachusetts State House 24 Beacon Street, Room 134 Boston, MA 02133				

State Government (continued)					
Executive Office of Energy and Environmental Affairs (EEA)					
E	Rebecca L. Tepper, Secretary Executive Office of Energy and Environmental Affairs 100 Cambridge Street, 10th Floor Boston, MA 02114 env.internet@mass.gov	E	Tori Kim, Director Massachusetts Environmental Policy Act Office 100 Cambridge Street, Suite 900 Boston, MA 02114 tori.kim@mass.gov	E	Director of Environmental Justice Massachusetts Environmental Policy Act Office 100 Cambridge Street, Suite 900 Boston, MA 02144 MEPA-EJ@mass.gov
E	Massachusetts Environmental Policy Act Office 100 Cambridge Street, Suite 900 Boston, MA 02114 MEPA@mass.gov				
Department of Environmental Protection (MassDEP)					
E	Bonnie Heiple, Commissioner Department of Environmental Protection 100 Cambridge Street, Suite 900 Boston, MA 02114	E	John D. Viola, MEPA Coordinator Department of Environmental Protection, Northeast Regional Office 150 Presidential Way Woburn, MA 01801 john.d.viola@mass.gov	N	Daniel J. Padien, Waterways Program Chief, Department of Environmental Protection 100 Cambridge Street, Suite 900 Boston, MA 02114 DEP.Waterways@mass.gov
N	Glenn Keith, Director, Air and Climate Programs Department of Environmental Protection 100 Cambridge Street, Suite 900 Boston, MA 02114	N	Sharon Weber, Deputy Division Director, Air and Climate Programs, Department of Environmental Protection 100 Cambridge Street, Suite 900 Boston, MA 02114	N	Lisa Rhodes, Director Wetlands Program Chief Department of Environmental Protection 100 Cambridge Street, Suite 900 Boston, MA 02114
N	Kristin Divris, Deputy Regional Director, Bureau of Water Resources Massachusetts Department of Environmental Protection 150 Presidential Way Woburn, MA 01801	E	David Hilgeman, Senior Environmental Engineer Massachusetts Department of Environmental Protection David.Hilgeman@mass.gov	E	Philip DiPietro Environmental Engineer Massachusetts Department of Environmental Protection philip.dipietro@mass.gov
E	Thomas Maguire Massachusetts Department of Environmental Protection, Wetlands Program thomas.maguire@mass.gov				

State Government (continued)					
Department of Public Health (MassDPH)				**Massachusetts Secretary of the Commonwealth**	
E	Director, Bureau of Climate and Environmental Health, Department of Public Health, 250 Washington Street, 7th Floor Boston, MA 02115 dphtoxicology@massmail.state.ma.us	E	Alicia Fraser, Director of Environmental Epidemiology Program Department of Public Health 250 Washington Street, 7th Floor Boston, MA 02115 alicia.fraser@mass.gov	N	William Francis Galvin Secretary of the Commonwealth 220 Morrissey Boulevard Boston, Massachusetts 02125
Department of Conservation and Recreation (DCR)					
E	Department of Conservation and Recreation Attn: MEPA Coordinator 251 Causeway Street, Suite 600 Boston, MA 02114 andy.backman@mass.gov				
Metropolitan Area Planning Council (MAPC)					
N	Eric Bourassa, Transportation Director Metropolitan Area Planning Council 60 Temple Place Boston, MA 02111 ebourassa@mapc.org	E	Alison Felix, Principal Planner and Emerging Technologies Specialist Metropolitan Area Planning Council 60 Temple Place Boston, MA 02111 afelix@mapc.org	E	Martin Pillsbury, Environmental Planning Director Metropolitan Area Planning Council 60 Temple Place Boston, MA 02111 mpillsbury@mapc.org
Massachusetts Water Resources Authority (MWRA)				**Massachusetts Board of Underwater Archaeological Resources (BUAR)**	
N	Frederick A. Laskey, Executive Director Massachusetts Water Resources Authority Deer Island 33 Tafts Avenue Boston, MA 02128	E	Hillary Monahan, MEPA Coordinator Massachusetts Water Resources Authority Deer Island 33 Tafts Avenue Boston, MA 02128 Hillary.Monahan@mwra.com	N	David S. Robinson, Director Board of Underwater Archaeological Resources 100 Cambridge Street, Suite 900 Boston, MA 02114-2136 David.s.robinson@mass.gov

State Government (continued)					
Massachusetts Office of Coastal Zone Management (CZM)					
N	Patrice Bordonaro, Administrative Assistant Office of Coastal Zone Management 100 Cambridge Street, Suite 900 Boston, MA 02114 patrice.bordonaro@mass.gov	N	Sean Duffey, Project Review and Dredging Coordinator Office of Coastal Management 100 Cambridge Street, Suite 900 Boston, MA 02114 patrice.bordonaro@mass.gov	N	Alison Brizius, Director Office of Coastal Zone Management 100 Cambridge Street, Suite 900 Boston, MA 02114 alison.brizius@mass.gov
N	Joanna Yelen, Boston Harbor Regional Coordinator Office of Coastal Zone Management, 100 Cambridge Street, Suite 900, Boston, MA 02114 joanna.m.yelen@mass.gov				
Boston Region Metropolitan Planning Organization (BRMPO)					
N	Gina Perille, Deputy Executive Director Boston Region Metropolitan Planning Organization, Central Transportation Planning Staff 10 Park Plaza, Room 2150 Boston, MA 02116	N	Tegin Teich, Executive Director Boston Region Metropolitan Planning Organization, Central Transportation Planning Staff 10 Park Plaza, Room 2150 Boston, MA 02116		
Massachusetts Department of Transportation (MassDOT)					
N	Monica Tibbit-Nutt, Secretary and CEO Department of Transportation 10 Park Plaza Boston, MA 02116	N	Denise Garcia, Acting Aeronautics Administrator Department of Transportation, Aeronautics Division Logan Office Center 1 Harborside Drive, Suite 205N East Boston, MA 02128	N	Samantha Dolabany, Deputy Director of Environmental Services Department of Transportation, Highway Division 10 Park Plaza, Suite 7130 Boston, MA 02116

State Government (continued)		
Massachusetts Department of Transportation (MassDOT)		
N Jonathan Gulliver, Highway Administrator Department of Transportation, Highway Division 10 Park Plaza Boston, MA 02116	N David J. Mohler, Executive Director Department of Transportation, Office of Transportation Planning 10 Park Plaza Boston, MA 02116	E Department of Transportation, Public/Private Development Unit 10 Park Plaza, Suite 4150 Boston, MA 02116 MassDOTPPDU@dot.state.ma.us
E Michael Garrity MEPA Coordinator Department of Transportation, District 6 185 Kneeland Street Boston, MA 02111 michael.garrity@dot.state.ma.us		
Massachusetts Bay Transportation Authority (MBTA)		
N Phillip Eng General Manager and CEO Massachusetts Bay Transportation Authority 10 Park Plaza, 6th Floor Boston, MA 02116	N Tess Paganelli, Director of Environmental Review and Permitting Massachusetts Bay Transportation Authority 10 Park Plaza Boston, MA 02116	E Massachusetts Bay Transportation Authority Attn: MEPA Coordinator 10 Park Plaza, 6th Floor Boston, MA 02116-3966 MEPAcoordinator@mbta.com
Massachusetts Historical Commission (MHC)	**Massachusetts Executive Office of Health and Human Services**	**Executive Office of Public Safety and Security**
P Massachusetts Archives 220 Morrissey Boulevard Boston, MA 02125	N Dr. Kiame Mahaniah, Secretary, Executive Office of Health and Human Services 1 Ashburton Place Boston, MA 02108	N Terrence Reidy, Secretary Executive Office of Public Safety and Security 1 Ashburton Place, Suite 2133 Boston, MA 02108
Department of Energy Resources* (DOER)	**Executive Office of Housing and Livable Communities**	**Office of the Attorney General**
E Paul F. Ormond Energy Efficiency Engineer Department of Energy Resources, Energy Efficiency Division 100 Cambridge Street, Suite 1020 Boston, MA 02114 paul.ormond@mass.gov	N Ed Augustus, Secretary Executive Office of Housing and Livable Communities 100 Cambridge Street, Suite 300 Boston, MA 02114	N Meghan Davoren Environmental Protection Div. Office of the Attorney General One Ashburton Place, 18th Floor Boston, MA 02108

State Government (continued)					
Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program (NHESP)					
E	Melany Cheeseman, Endangered Species Review Assistant Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program 1 Rabbit Hill Road Westborough, MA 01581 melany.cheeseman@mass.gov	E	Emily Holt, Senior Endangered Species Review Assistant Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program 1 Rabbit Hill Road Westborough, MA 01581 emily.holt@mass.gov	E	Jesse Leddick Assistant Director, Division of Fisheries and Wildlife 1 Rabbit Hill Road Westborough, MA 01581 jesse.leddick@mass.gov
E	Amy Hoenig Sr. Endangered Species Review Biologist Division of Fisheries and Wildlife 1 Rabbit Hill Road Westborough, MA 01581 amy.hoenig@mass.gov				
Massachusetts Port Authority (Massport) Board of Directors					
N	Lewis Evangelidis, Board Member Massport Board of Directors Massachusetts Port Authority 1 Harborside Drive East Boston, MA 02128	N	Warren Fields, Board Member Massport Board of Directors Massachusetts Port Authority 1 Harborside Drive East Boston, MA 02128	P	Patricia Jacobs, Chair Massport Board of Directors Massachusetts Port Authority 1 Harborside Drive East Boston, MA 02128
N	John Nucci, Board Member Massport Board of Directors Massachusetts Port Authority 1 Harborside Drive East Boston, MA 02128	N	Monica Tibbits-Nutt, Board Member, Massport Board of Directors Massachusetts Port Authority 1 Harborside Drive East Boston, MA 02128	N	Sean M. O'Brien, Vice Chair Massport Board of Directors Massachusetts Port Authority 1 Harborside Drive East Boston, MA 02128
N	Pamela Everhart, Board Member, Massport Board of Directors Massachusetts Port Authority 1 Harborside Drive East Boston, MA 02128				
Municipalities					
City of Boston					
Office of the Mayor		**Boston Transportation Department (BTD)**			
N	Michelle Wu, Mayor City of Boston 1 City Hall Square, Suite 500 Boston, MA 02201-2026	N	Jascha Franklin-Hodge, Chief of Streets City of Boston Transportation Department 1 City Hall Square, Room 721 Boston, MA 02201-2026	N	Nick Gove, Commissioner City of Boston Transportation Department 1 City Hall Square, Room 721 Boston, MA 02201-2026

City of Boston (continued)					
Boston Planning Department				**Boston Conservation Commission**	
N	Kairos Shen Chief of Planning, City of Boston Planning Department 1 City Hall Square, 9th Floor Boston, MA 02201	N	Lacey Rose Chief Communications Officer Boston Planning & Development Agency 1 City Hall Square, 9th Floor Boston, MA 02201	N	Boston Conservation Commission 1 City Hall Square, Room 709 Boston, MA 02201
Boston Neighborhood Services Department				**Boston Public Health Commission**	
N	Carlos Garcia East Boston Neighborhood Liaison City of Boston Department of Neighborhood Services 1 City Hall Square, Room 805 Boston, MA 02201	N	Conor Newman, Special Assistant of the Mayor's Office of Neighborhood Services (ONS), City of Boston Department of Neighborhood Services 1 City Hall Square, Room 805 Boston, MA 02201	E	Boston Public Health Commission 1010 Massachusetts Avenue, 6th Floor Boston, MA 02118 info@bphc.org
Boston Parks and Recreation Department		**City of Boston Clerk's Office**		**Boston Air Pollution Control Commission**	
N	Carrie Marsh Dixon, Acting Commissioner City of Boston Parks and Recreation Department 1010 Massachusetts Avenue, 3rd Floor Boston, MA 02118	N	Alex Geourntas, City Clerk 1 City Hall Square, Room 601 Boston, MA 02201-2014	E	Tori Hass-Mitchell, Air Quality Project Manager 1 City Hall Square, Room 709 Boston, MA, 02201-2014 tori.hassmitchell@boston.gov
Boston Office of Climate Resilience (OCR)					
N	Chris Osgood, Director and Senior Advisor to the Mayor, City of Boston Office of Climate Resilience, 1 City Hall Square, Suite 709 Boston, MA 02201	N	Brian Swett Chief Climate Officer, City of Boston Office of Climate Resilience, 1 City Hall Square, Suite 709 Boston, MA 02201	N	Jessica Morris, Chief of Staff Environment, Energy and Open Space (EEOS) Cabinet, 1 City Hall Square, Room 709 Boston, MA 02201
N	Oliver Sellers-Garcia, Environmental Commissioner, Environment, Energy and Open Space (EEOS) Cabinet, 1 City Hall Square, Room 709 Boston, MA 02201				

City of Boston (continued)					
Boston Water and Sewer Commission					
N	John Sullivan, Chief Engineer Boston Water and Sewer Commission 980 Harrison Avenue Roxbury, MA 02119	N	Adam Horst, Project Director Boston Water and Sewer Commission 980 Harrison Avenue Roxbury, MA 02119	N	Charlie Jewell, Director of Planning Boston Water and Sewer Commission 980 Harrison Avenue Roxbury, MA 02119
Boston City Council					
N	Ruthzee Louijeune, City Council President; Councilor-At-Large 1 City Hall Square, Suite 550 Boston, MA 02201	N	Julia Mejia, City Councilor, At-Large 1 City Hall Square, Suite 550 Boston, MA 02201	N	Erin J, Murphy, City Councilor, At-Large 1 City Hall Square, Suite 550 Boston, MA 02201
N	Henry Santana, City Councilor, At-Large 1 City Hall Square, Suite 550 Boston, MA 02201	N	Gabriela Coletta Zapata, City Councilor, District 1 1 City Hall Square, Suite 550 Boston, MA 02201	N	Edward M. Flynn, City Councilor, District 2 1 City Hall Square, Suite 550 Boston, MA 02201
N	John Fitzgerald, City Councilor, District 3 1 City Hall Square, Suite 550 Boston, MA 02201	N	Brian J. Worrell, City Councilor, District 4 1 City Hall Square, Suite 550 Boston, MA 02201	N	Enrique J. Pepén, City Councilor, District 5 1 City Hall Square, Suite 550 Boston, MA 02201
N	Benjamin J. Weber, City Councilor, District 6 1 City Hall Square, Suite 550 Boston, MA 02201	N	Councilor, District 7 1 City Hall Square, Suite 550 Boston, MA 02201	N	Sharon Durkan, City Councilor, District 8 1 City Hall Square, Suite 550 Boston, MA 02201
N	Liz Beardon, City Councilor, District 9 1 City Hall Square, Suite 550 Boston, MA 02201				
Town of Milton					
N	Milton Select Board*, 525 Canton Avenue Milton, MA 02186	N	Nicholas Milano*, Town Administrator 525 Canton Avenue Milton, MA 02186		
City of Chelsea					
N	Fidel Maltez, City Manager Chelsea City Hall, Office #302 500 Broadway Chelsea, MA 02150	N	Clifford Cunningham, City Council Clerk Chelsea City Hall, Room #306 500 Broadway Chelsea, MA 02150	N	Giovanni A. Recupero, District 6 Councilor Chelsea City Hall 500 Broadway Chelsea, MA 02150

City of Chelsea (continued)					
N	Stephen Sarikas, Chair, Chelsea Conservation Commission Chelsea City Hall 500 Broadway Chelsea, MA 02150	N	Dr. Israel Molina, Chair Chelsea Board of Health Chelsea City hall 500 Broadway Chelsea, MA 02150	N	John DePriest, Director of Planning & Development City of Chelsea 500 Broadway, Room 106 Chelsea, MA 02150
E	Bernabe Rodrieguez, Director of Constituent Services 500 Broadway Chelsea, MA 02150 brodriguez@chelseama.gov				
City of Quincy					
N	Thomas P. Koch, Mayor Quincy City Hall 1305 Hancock Street Quincy, MA 02169	N	Nicole L. Crispo, City Clerk Quincy City Hall, 2nd Floor 1305 Hancock Street Quincy, MA 02169	N	Ian C. Cain, Council President; Councilor, Ward 3 Quincy City Council 4 Avalon Drive, Unit 4214 Quincy, MA 02170
N	James K. Devine, Councilor, Ward 4 Quincy City Council 117 Cross Street Quincy, MA 02169	N	Danile J. Minton, Councilor, Ward 5 Quincy City Council 16 Sims Road Quincy, MA 02169		
City of Revere					
N	Patrick M. Keefe, Jr., Mayor Revere City Hall 281 Broadway Revere, MA 02151	N	Ashley Melnik, City Clerk Revere City Hall 281 Broadway Revere, MA 02151		
Town of Winthrop					
N	Tony Marino, Town Manager Winthrop Town Hall 1 Metcalf Square Winthrop, MA 02152	N	Christopher Boyce, Chair Winthrop Planning Board Winthrop Town Hall 1 Metcalf Square Winthrop, MA 02152	N	Kim Dimes, Chair Winthrop Conservation Commission Winthrop Town Hall 100 Kennedy Drive, DPW/Inspectional Services Winthrop, MA 02152
N	Board of Health 45 Pauline Street, Floor 1 Winthrop, MA 02152	N	Meredith Hurley, Public Health Nurse/Director, Board of Health 45 Pauline Street, Floor 1 Winthrop, MA 02152	N	Jim Letterie, Council President Winthrop Town Hall 1 Metcalf Square Winthrop, MA 02152

Town of Winthrop (continued)					
N	Rob DeMarco, Councilor-At-Large Winthrop Town Hall 1 Metcalf Square Winthrop, MA 02152	N	Max Tassinari, Councilor-At-Large Winthrop Town Hall 1 Metcalf Square Winthrop, MA 02152	N	Patrick Costigan, Councilor, Precinct 1 Winthrop Town Hall 1 Metcalf Square Winthrop, MA 02152
N	John Munson, Councilor, Precinct 2 Winthrop Town Hall 1 Metcalf Square Winthrop, MA 02152	N	Hannah Belcher, Councilor, Precinct 3 Winthrop Town Hall 1 Metcalf Square Winthrop, MA 02152	N	Suzanne Swope, Councilor, Precinct 4 Winthrop Town Hall 1 Metcalf Square Winthrop, MA 02152
N	Joseph Aiello, Councilor, Precinct 5 Winthrop Town Hall 1 Metcalf Square Winthrop, MA 02152	N	John DaRos, Councilor, Precinct 6 Winthrop Town Hall 1 Metcalf Square Winthrop, MA 02152		
Town of Bedford					
N	Matthew J. Hanson, Town Manager Town of Bedford 10 Mudge Way Bedford, MA 01730	N	Shawn Hanegan, Chair Board of Selectmen Town of Bedford 10 Mudge Way Bedford, MA 01730	N	Select Board Member; Representative Hanscom Field Advisory Commission Town of Bedford 10 Mudge Way Bedford, MA 01730
Town of Lexington					
N	Steve Bartha Town Manager Lexington Town Office Building 1625 Massachusetts Avenue Lexington, MA 02173	N	Jill I. Hai, Chair, Board of Selectmen Lexington Town Office Building 1625 Massachusetts Avenue Lexington, MA 02420	N	Barbara Katzenberg, Member Hanscom Field Advisory Commission Lexington Town Office Building 1625 Massachusetts Avenue Lexington, MA 02173
Town of Concord					
N	Kerry Lafleur, Town Manager Town of Concord PO Box 535 Concord, MA 01742	N	Henry Dane, Chair Board of Selectman Town of Concord PO Box 535 Concord, MA 01742	N	Mark Giddings Hanscom Field Advisory Commission Representative PO Box 535 Concord, MA 01742
Town of Lincoln					
N	Timothy S. Higgins Town Administrator Lincoln Town Office 16 Lincoln Road, First Floor Lincoln, MA 01773	N	Jennifer Glass Chair, Board of Selectmen Lincoln Town Office 16 Lincoln Road Lincoln, MA 01773	N	Christopher Eliot, PhD* Hanscom Field Advisory Commission Representative Lincoln Town Office 16 Lincoln Road Lincoln, MA 01773

City of Everett					
N	Carlo DeMaria, Mayor Everett City Hall 484 Broadway Everett, MA 02149	N	Frederick E. Cafasso, Chairman Planning Board Everett City Hall 484 Broadway, Room 25 Everett, MA 02149	N	Matt Lattanzi, Esq., Director Planning & Development Everett City Hall 484 Broadway, Room 25 Everett, MA 02149
City of Medford					
N	Breanna Lungo-Koehn, Mayor Medford City Hall 85 George Hassett Drive, Room 202 Medford, MA 02155	N	Alicia Hunt, Director Office of Planning, Development, and Sustainability Medford City Hall 85 George Hassett Drive, Room 308 Medford, MA 02155	N	Community Development Board Medford City Hall 85 George Hassett Drive Medford, MA 02155
Community Groups and Interested Parties					
Massport Community Advisory Committee (CAC)*					
N	Alan Wright, Chair Massport Community Advisory Committee c/o Law Office of Robert Allen, Jr. LLP 300 Washington Street Brookline, MA 02445 alnwright@gmail.com	E	Aaron Toffler, Executive Director* Massport Community Advisory Committee c/o Law Office of Robert Allen Jr., LLP 300 Washington Street Brookline, MA 02445 atfoffler@massportcac.org		
Charlestown Neighborhood Council (CNC)					
N	Tom Cunha, Chairman Charlestown Neighborhood Council PO Box 397 Charlestown, MA 02129	N	Mary Boucher, Precinct 8 Representative Charlestown Neighborhood Council PO Box 397 Charlestown, MA 02129		
Chelsea Community					
N	Aaron Jennings, President Rotary Club of Chelsea 201 Everett Avenue PO Box 505647 Chelsea, MA 02150	N	Beth McDougal, President Chelsea Chamber of Commerce 308 Broadway Chelsea, MA 02150	N	Leo Robinson, Councilor At-Large Chelsea City Council 500 Broadway, Room #306 Chelsea, MA 02150
N	Gladys Vega, President and CEO La Colaborativa 318 Broadway Chelsea, MA 02150	N	Rosalba Medina, Board President La Colaborativa 318 Broadway Chelsea, MA 02150		

Community Groups and Interested Parties (continued)					
Jamaica Plain Community					
N	Nancy Brooks and Maura Meagher 92 Bourne St Jamaica Plain, MA 02130	N	Marvin Kabakott 98 Bourne St Jamaica Plain, MA 02130	N	Martha Merson 19 Roseway St Jamaica Plain, MA 02130
N	Susan Morong 33 Bournedale Rd Jamaica Plain, MA 02130				
East Boston Community					
E	Neel Batra, Board of Directors Gove Street Neighborhood Association neelesh.batra@gmail.com	N	Joseph Gaeta, Executive Director East Boston YMCA 215 Bremen Street East Boston, MA 02128	E	Orient Heights Neighborhood Council orientheightsnc@gmail.com
N	Enilda Lovo, Executive Director Neighbors United for a Better East Boston 19 Meridian Street, Suite #4 East Boston, MA 02128	N	Charles Marcella, Board Member Harbor View Neighborhood Association 178 Wordsworth Street East Boston, MA 02128	N	Christopher Marchi,* Vice President Airport Impact Relief Inc. 232 Orient Avenue East Boston, MA 02128
N	Gail Miller,* President Airport Impact Relief Inc. 232 Orient Avenue East Boston, MA 02128	N	Keeley Fanuele Executive Director, Friends of the Mary Ellen Welch Greenway keeley@maryellenwelchgreenway.org	N	Karen Maddalena Board Member, Friends of the Mary Ellen Welch Greenway 4 Lamson Street East Boston, MA 02128
N	Matthew Barison Board Member, Friends of the Mary Ellen Welch Greenway matt@barisonlaw.com	N	Louise Montanino, President East Boston Project Advisory Committee 135 Cottage Street East Boston, MA 02128	E	Eagle Hill Civic Association 106 White Street East Boston, MA 02128 contact@eaglehillcivic.org
N	Debra Cave Eagle Hill Civic Association 106 White Street East Boston, MA 02128 contact@eaglehillcivic.org	N	Michael Triant, Executive Director Salesian Boys & Girls Club 150 Byron Street East Boston, MA 02128	N	Ethan Vogt, Executive Director East Boston Main Streets 154 Maverick Street, Suite 200 East Boston, MA 02128
N	Justin Pasquariello, CEO, East Boston Social Centers 68 Central Square East Boston, MA 02128	N	East Boston Chamber of Commerce 464 Bremen Street East Boston, MA 02128	N	Shirley Fabbo, President, East Boston Chamber of Commerce 464 Bremen Street East Boston, MA 02128
N	Veronica Robles, Chair, East Boston Chamber of Commerce 464 Bremen Street East Boston, MA 02128	E	Jeffries Point Neighborhood Association board@jeffriespoint.org	N	Margaret Farmer, Co-Chair, Jeffries Point Neighborhood Association 241 Webster Street, East Boston, MA 02128

Community Groups and Interested Parties (continued)					
East Boston Community (continued)					
N	Tyler Lane, Co-Chair, Jeffries Point Neighborhood Association board@jeffriespoint.org	N	Commodore Jeffries Yacht Club 565 Sumner Street East Boston, MA 02128	N	Commodore Orient Heights Yacht Club 61 Bayswater Street East Boston, MA 02128
N	Lorene Schettino East Boston Foundation, 245 Sumner Street Suite 110 East Boston, MA 02128 Lorene@ebfoundation.com	N	James A. Hazard, Interim President and CEO NeighborHealth 10 Gove Street East Boston, MA 02128	N	Dr. Julio Mazul, Vice President & Chief Medical Officer NeighborHealth Health Center 10 Gove Street East Boston, MA 02128
N	Matthew Small 156 Porter Street Condo Association 156 Porter Street East Boston, MA 02128	E	Aubrey Hartnett aubreymarie.cc@gmail.com	E	Regina Marchi 173 Lexington Street, East Boston, MA 02128 rmarchi.phd@gmail.com
P	Patricia D'Amore 95 Webster Street East Boston, MA 02128	N	Mary Berninger 156 Saint Andrew Road East Boston, MA 02128	N	David Arinella 20 Thurston Street East Boston, MA 02128
N	Anna DiMaria, Esq. 23 Meridian Street East Boston, MA 02128	N	Joanne Pomodoro 683 Bennington Street East Boston, MA 02128	N	Fran Carbone 174 Bayswater Street East Boston, MA 02128
N	Fran Riley 193 Trenton Street East Boston, MA 02128				
South Boston Community					
N	Luanne O'Connor, President City Point Neighborhood Association P.O. Box E-37 South Boston, MA 02127	N	William Spain, President Castle Island Association PO Box 342 South Boston, MA 02127	N	Lydia Polaski, South Boston Liaison Mayor's Office of Neighborhood Services 1 City Hall Square, Room 805 Boston, MA 02201
N	Fort Point Neighborhood Association Box 52122 Boston, MA 02205	E	Seaport Alliance for a Neighborhood Design mail5001@seaportalliance.org	N	Lucky Devlin 718 East Second Street South Boston, MA 02127
N	Saint Vincent Lower End Neighborhood Association 126 West Third Street South Boston, MA 02127				

Community Groups and Interested Parties (continued)					
Winthrop Community					
N	Marc Chapdelaine, President Winthrop Chamber of Commerce 207 Hagman Road Winthrop, MA 02152	N	Thomas Schlichting, Vice President Winthrop Chamber of Commerce 207 Hagman Road Winthrop, MA 02152	N	Diana Aliberti, Executive Director Winthrop Chamber of Commerce 207 Hagman Road Winthrop, MA 02152
N	Kannan Thiruvengadam, President Friends of Belle Isle Marsh P.O. Box 575 East Boston, MA 02128	N	Cottage Park Yacht Club 76 Orlando Ave Winthrop, MA 02152	N	Winthrop Yacht Club 649 Shirley Street Winthrop, MA 02152
N	Margaret Roberts 10 Billows Street Winthrop, MA 02152 rmargaret120@outlook.com	N	Miriam Regan-Fiore 15 Frances Street Winthrop, MA 02152	N	Jerome Falbo 1 Seal Harbor Road, Unit 505 Winthrop, MA 02152
N	Brendan Cooney 35 Pico Ave Winthrop, MA 02152 cooney.brendan00@gmail.com	N	Robert Pulsifer 30 Sagamore Avenue Winthrop, MA 02152	N	John Vitagliano 19 Seymour Street Winthrop, MA 02152
N	Dave Hickey 33 Edgehill Road Winthrop, MA 02152	N	Kimberly Dimes 116 Brookfield Road Winthrop, MA 02152 kimdimes@aol.com	N	Donna Reilly 30 Cottage Park Road Winthrop, MA 02152
Massport Business Group					
N	Chris Anderson, President Massachusetts High Technology Council 2400 District Ave #110 Burlington, MA 01803	N	James Brett, President & CEO New England Council 98 North Washington Street, Suite 303 Boston, MA 02114	N	JD Chesloff, President and CEO Massachusetts Business Roundtable 40 Court Street, Suite 11 Boston, MA 02108
N	Kendalle Burlin O'Connell, Esg., CEO and President Massachusetts Biotechnology Council 700 Technology Square, 5th Floor Cambridge, MA 02139	N	Abbie Goodman, Director of External Affairs American Council of Engineering Companies of Massachusetts The Engineering Center Education Trust 1 Walnut Street Boston, MA 02108	N	Rob McCarron, President Association of Independent Colleges and Universities, Massachusetts Chapter 5 Brighton Street Belmont, MA 02478
N	Beth O'Neill Maloney, Executive Director Kendall Square Association 510 Kendall Street Cambridge, MA 02142	N	Tim Cahill, President & CEO South Shore Chamber of Commerce 1050 Hingham Street Rockland, MA 02370	N	Richard A. Dimino, President Emeritus, A Better City 14 Beacon Street, Suite 402 Boston, MA 02108

Massport Business Group (continued)					
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N	Doug Howgate, President Massachusetts Taxpayers Foundation 333 Washington Street, Suite 853 Boston, MA 02108	N	Meet Boston 99 High Street, Suite 1000 Boston, MA 02110	N	Reggie Ramos Transportation for Massachusetts 50 Milk Street, 16th Floor Boston, MA 02109
N	James Rooney Boston Chamber of Commerce 265 Franklin Street, Suite 1701 Boston, MA 02110	N	Brooke Thomson, President & CEO Associated Industries of Massachusetts 6 Liberty Square, Suite 6050 Boston, MA 02109	N	Diana Aliberti, Executive Director Winthrop Chamber of Commerce 207 Hagman Road Winthrop, MA 02152
N	Brian Johnson, President MassMedic PO Box 177 Brookline, MA 02446	N	Lisa A. Stiglich, Executive Director 128 Business Council 395 Totten Pond Road, Suite 302 Waltham, MA 02451	N	Michael Hunter Chair of the Board MassINC 11 Beacon Street, Suite 500 Boston, MA 02108
Community Groups and Interested Parties					
Community-based organizations and tribal organizations are receiving notification of this filing in accordance with the MEPA Public Involvement Protocol for Environmental Justice Populations, which took effect on January 1, 2022. More information is available on the MEPA website.					
Statewide Environmental Justice Community Based Organizations					
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E	Miles Gresham Campaign Director Neighbor to Neighbor Mass. Miles@N2NMa.org	E	Rob Moir, Executive Director Ocean River Institute rob@oceanriver.org	E	Robb Johnson, Executive Director Mass Land Trust Coalition robb@massland.org
E	Claire B.W. Muller Movement Building Director; Unitarian Universalist Mass Action Network claire@uumassaction.org	E	Cindy Luppi New England Director; Clean Water Action cluppi@cleanwater.org	E	Vickash Mohanka Director, MA Chapter Sierra Club MA vick.mohanka@sierraclub.org

Statewide Environmental Justice Community Based Organizations (continued)					
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E	Kerry Bowie, Board President Browning the GreenSpace kerry@msaadapartners.com	E	Amy Boyd Rabin Vice President for Policy Environmental League of MA aboydrabin@environmentalleague.org	E	Zahra Saifee Policy & Advocacy Director Environmental League of MA zsaifee@environmentalleague.org
E	Ben Hellerstein MA State Director Environment Massachusetts ben@environmentmassachusetts.org	E	Breanne Frank Associate Attorney Conservation Law Foundation bfrank@clf.org	E	Alex St. Pierre Director of Communities & Toxics Conservation Law Foundation aestpierre@clf.org
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Indigenous Organizations and Federal Tribes					
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E	Kenneth White, Council Chair Chaubunagungamaug Nipmuck Indian Council acw1213@verizon.net	E	Melissa Ferretti, Chair Herring Pond Wampanoag Tribe melissa@herringpondtribe.org	E	Patricia D. Rocker, Council Chair Chappaquiddick Tribe of the Wampanoag Nation, Whale Clan rockerpatriciad@verizon.net
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E	Bettina Washington, Tribal Historic Preservation Officer, Wampanoag Tribe of Gay Head (Aquinnah) thpo@wampanoagtribe-nsn.gov	E	Brian Weeden, Chair Mashpee Wampanoag Tribe Brian.Weeden@mwtribe-nsn.gov	E	Nakia Hendricks Jr. Office Manager, Mashpee Wampanoag Tribe 106Review@mwtribe-nsn.gov
E	David Weeden THPO/Director Mashpee Wampanoag Tribe David.Weeden@mwtribe-nsn.gov				

Local Community Based Organizations					
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E	Patrick Herron, Executive Director Mystic River Watershed Association 23 Maple Street Arlington, MA 02476 Patrick.Herron@mysticriver.org	E	Joy Gary, Executive Director Boston Farms Community Land Trust joy@bostonfarms.org	E	Kelly Sherman, Manager of Waterfront Design Boston Harbor Now KSherman@BostonHarborNow.org
E	Karen Chen, Executive Director Chinese Progressive Association karen@cpaboston.org	E	Lee Matsueda, Executive Director Mass Community Labor United lee@massclu.org	E	Bruce Berman, Save the Harbor/Save the Bay Bruce@bostonharbor.com
E	Chris Mancini, Executive Director Save the Harbor/Save the Bay Mancini@SaveTheHarbor.org	E	Jason Rundle, Policy Coordinator Save the Harbor/Save the Bay Rundle@SaveTheHarbor.org	E	Aliya Zwyer, Public Policy Coordinator Save the Harbor/Save the Bay zwyer@savetheharbor.org
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E	Valeska Daley, Upham's Corner Main Street director@uphamscorner.org	E	Gail Latimore, Executive Director Codman Square Neighborhood Development Corporation gail@csndc.com	E	Saba Ijadi, Climate Justice Coordinator Fairmount/Indigo Line Community Development Corporation (CDC) Collaborative fairmountclimate@dbedc.org
E	George Huynh, Vietnamese American Initiative for Development (VietAID) george@vietaid.org	E	Andres Ripley, Natural Resource Specialist Neponset River Watershed Association ripley@neponset.org	E	Roseann Bongiovanni, Executive Director GreenRoots, Inc. RoseannB@GreenRootsChelsea.org
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E	Orlando Perilla, Chairman Harbor Point Community Task Force	E	Magdalena Ayed Executive Director Harborkeepers Magdalena@Harborkeepers.org		
Organizations Other Interested Parties					
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N	Alan Gordon, Chair Executive Committee Sierra Club, Massachusetts Chapter 50 Federal Street, 3rd Floor Boston, MA 02110	N	Dr. Bruce A. Egan, President Egan Environmental, Inc. 75 Lothrop Street Beverly, MA 01915	N	Darrin McAuliffe, Manager Secretary MBTA Rider Oversight Committee 45 High Street Boston, MA 02110
N	Michael Leon, Esq., Chair Save the Harbor/Save the Bay Boston Fish Pier 212 Northern Avenue, Suite 304 Boston, MA 02210	E	Mireille Bejjani, Co-Executive Director, Slingshot mireille@slingshot.org	E	Kenzie Ballard, Director of Community Engagement and Climate Resilience Groundwork Somerville kenzie@groundworksomerville.org
E	Antonio Amaya, Executive Director La Comunidad lacomunidadinc@yahoo.com	N	Dorothy McGlincy, Executive Director Massachusetts Association of Conservation Commissions 10 Juniper Road Belmont, MA 02478	N	David J. O'Neill, President Massachusetts Audubon 208 South Great Road Lincoln, MA 01773
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