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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.

[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.

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.

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.

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

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.

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.

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.

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.

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

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.

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.

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

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.

The 2022 ESPR should report on:

- 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:

- 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.

Planning

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:

- Roadways and Airport Parking;
- Terminal Area;
- Airside Area;
- Service and Cargo Areas;

- Airport Buffers and Landscaping;
- Energy, Sustainability, and Resiliency.

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. 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.

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:

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.

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:

- 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.

The 2022 ESPR should address the following topics:

- 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]

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.

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:

- 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:

- 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.

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.

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.

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.

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.

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.

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.

Air Quality/Emissions Reduction

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.

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.

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

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.

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:

- 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.

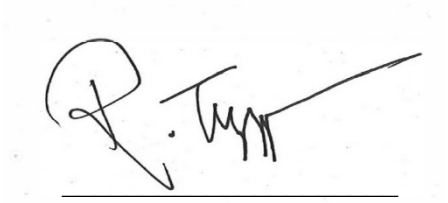
Response to Comments

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.

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.



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)

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2020 / 2021 EDR NOTES

January 23, 2023

The Honorable Bethany Card,
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 Data Report (EDR) EEA# 3247

Dear Secretary Card,
AIR, Inc. is a volunteer-led 5013C established in 1981, by East Boston airport activists of the 1960's and 1970's. Through three generations, we have organized meetings, analyzed reports, conducted community education and engagement and prepared community comments to present the perspectives of residents impacted by Logan airport's adverse environmental impacts. We serve environmental justice (EJ) communities in East Boston, Chelsea, Winthrop, and Revere, but collaborate and support communities across the metropolitan area.

Introduction

Locating Logan in Boston's urban core was a mistake. Had we known the trajectory of traffic, noise, and exhaust, we would not have planned an airport in the middle of Boston's urban core, or destroyed three harbor islands, 2,000 acres of harbor, 2 neighborhoods, and an Olmsted Park to grow it. But the 1950's was a time of rapid social and racial segregation; dominant planning theory held that urban neighborhoods were blighted, dangerous and expendable. So despite community opposition, the state pushed Logan plans forward.

Today, we have no excuses. Logan has choked our region in traffic, choked our families, and spread dangerous noise across the region. Yet despite these known impacts and the consequences they have on human health in environmental justice communities surrounding Logan, our airport authority and state regulatory agencies continue to push Logan forward.

Massport's Logan Airport Environmental Data Report for reporting years 2020 and 2021 follows previous EDR's and Environmental Status and Planning Reports (ESPR's) in documenting Logan Airport activity levels and environmental impacts for Massachusetts Environmental Policy Act (MEPA) compliance review. By reviewing these documents, MEPA considers airport activity forecasts, passenger and flight levels, cumulative impacts, and policy and mitigation responses

as proposed by the Massachusetts Port Authority (Massport, the MPA, or the Authority), and determines whether Logan Airport, in its entirety, is compliant with Massachusetts' environmental protection laws. MEPA's analyses support the Executive Office of Energy and Environmental Affairs' (EOEEA, or EEA) determinations of compliance of Massport's project proposals and disclosures with the state's environmental laws.

For community stakeholders, MEPA project reviews represent an opportunity for meaningful involvement in state-level project environmental policy and compliance determinations for Logan Airport. AIR, Inc. has participated in the MEPA process through submission of detailed, data-driven and essential community perspectives since MEPA's inception.

The 2020 / 2021 EDR, like the previous seven iterations of the Logan Airport project disclosure series (EEA #3247), challenges MEPA analysts to distill a massive tangle of confounding facts, statistics, and imposing economic pontifications, and answer the question of whether Massport, the state's most powerful lobbyist and government authority, which manages Logan Airport, an economic engine which fuels a nearly $1 billion dollar annual transportation hub and provides countless jobs, including many high paying political patronage positions, and which is also inconveniently, the #1 polluter in the Commonwealth, is complying with state environmental regulations. In theory, MEPA analysts could acknowledge and prioritize environmental justice for the low income and minority communities which are adversely impacted by well documented and severe noise, traffic and air pollution impacts. MEPA could analyze Massport's filings themselves or refer to AIR, Inc. and other stakeholders comments to find any number of incongruities and adverse environmental trends. Despite the vast power imbalances, it is nevertheless MEPA's job and challenge to exercise its power to recognize unnecessary environmental damage, adverse impacts, and disparate outcomes. This is a challenge which MEPA has by all indications completely and consistently failed to meet.

It is however possible that MEPA analysts have written scathing critiques of Massport's project filings, and that EEA, led by politically appointed Secretaries have ignored them. The result however is the same: MEPA and EEA have never certified a Logan EIR, EDR or ESPR as non-compliant.

1. MEPA must release its project analyses to provide transparency

As seen in the example above, community stakeholders are not offered transparency in this review process. Stakeholders providing comment on Massport submissions receive only the final determination of a political appointee at EEA, but cannot see the state-funded professional environmental analyses underpinning them. This leaves open very serious concerns regarding the bases, factual grounding, and influencers at play in this critical environmental, public health, and social justice-bearing decision making. In fact, the spectacular continued failure of the state to impose any limitations on Massport's freewheeling growth ambitions for Logan provides community stakeholders with strong evidence that political influence unduly affects Logan airport environmental determinations.

In fact, in the only instance on record in which the state's regulatory tandem has imposed any requirement however modest on the MPA, we see a clear example of this political corruption. When Secretary of EEA Kathleen Theoharides required Massport to produce further mitigation subsequent to continued over-forecasted growth which was confirmed in the 2018 / 2019 EDR, Massport simply refused to comply, claiming financial hardship due to Covid. AIR, Inc. and community stakeholders were disheartened, but not necessarily surprised to see the Port Authority so brazenly slap the face of EEA and shrug off its supposed regulators. This instance exposes the true nature of our state's commitment to environmental justice. It was incumbent upon EEA to find the 2019 / 2019 EDR non-compliant. But it didn't. EEA walked away from their conditions and certified the 2018 / 2019 EDR as fully compliant with state law, which in Massport's failure to satisfy the conditions of the ESPR, it was not. Secretary Theoharides resigned shortly thereafter, only stating that she was leaving for a new professional career opportunity.

In October 2022, a second and more spectacular example occurred. AIR, Inc.had submitted comments on the Runway 27 Runway Safety Area Improvement Project Draft Environmental Impact Report (the DEIR, EEA #16433), providing in-depth analyses of the viability of zero environmental impact alternatives which had been dismissed by the Authority without quantitative analyses or proper documentation. We outlined the opportunity to avoid unnecessary destruction of the harbor, disruption of navigation channels, and stress on Belle Isle Marsh through feasible, environmentally beneficial project alternatives. We requested that EEA acknowledge these omissions, and require the Authority to resubmit the document with a proper alternatives analysis.

About a week after the DEIR was certified as compliant, MEPA wrote to AIR, Inc. stating that there was 'an issue', and the groups' comments -although submitted on time, had not been considered in the review. AIR, Inc. requested that EEA revoke, and reissue the certificate after proper review of public comment. MEPA declined, stating that they looked at our comments and determined that they would have had no impact on MEPA's scoping for the Final EIR. State law requires MEPA to accept and consider comment; EEA to consider environmental justice, involve EJ communities, and require EIR's to properly evaluate alternatives. In EEA #16433, the state has simply refused to perform these duties.

2. MEPA must reform its Logan Airport environmental disclosure documentation and review procedures. Specifically:
    a. Extended review periods of even 60 days are insufficient, especially if timed over the holidays. In fact, given the iterative nature of the reporting system uniquely catered to Logan Airport, comment review and response procedures should also be iterative and responsive to community stakeholders' needs. MEPA cannot expect community stakeholders to wait years for Massport to update forecasts, or satisfy conditions of EEA certifications. AIR, Inc. has repeatedly requested that a rolling review process be developed
    b. AIR, Inc. has repeatedly commented that early public input in selection of project design alternatives and document scoping compliance is necessary to avoid

> submission of insufficient filings which handcuff reviewers and MEPA with inaccurate and omitted data. We have repeatedly requested that a Special Review Procedure be crafted to address Massport's Logan submissions. We renew this request today

Longstanding frustration with lack of accountability, transparency and failure to address adverse environmental and health impacts has now become acceptance that the state's promise of environmental equity in Massachusetts is hollow, and one which none of the responsible agencies has any intention of keeping. AIR, Inc. now believes that the MEPA system in place for Logan project reviews is in need of reform.

AIR, Inc. has respectfully played our part in Massachusetts' environmental review process, investing hundreds of volunteer hours shaping public comment in efforts to realize our community's environmental justice goals. We participated in MEPA's recent regulatory review process -a process which included twice as many Massport staff and consultants as community stakeholders, with representatives of Stantec, Harris Miller Miller & Hanson (HMMH), the American Council of Engineering Companies of MA, Vanasse Hangen Brustlin (VHB, the consultant which has written the past half dozen of Massport's disclosure documents), 2 representatives of NAIOP (of which Massport is a board member), and Wimbledon Bond Dickinson weighing in on the effectiveness of the MEPA process. The time commitment, slow pace, and lack of applicability to the specialized Logan reporting system forced AIR, Inc. to step away from this process. We objected on many occasions to the lack of relevance of the discussions to our topics and were assured by MEPA that airport issues would be addressed later. We have had no further contact from MEPA.

Further Comments

With the EDR's release the week before Thanksgiving, and the extended comment period ending on 1/23/2023, just three weeks after the holidays, AIR, Inc. has not had sufficient time to prepare complete comments. There are however certain underlying factors or themes we wish to convey at the top:

- The Massachusetts Port Authority was created with too much power and not enough direction

- Massachusetts' environmental laws have been created with too many promises and not enough power

- The state's commitment to environmental justice and environmental policy is corrupted by politics

The problems community stakeholders face in attaining meaningful involvement in decision making on Logan Airport project filings stem largely from combinations of these factors.

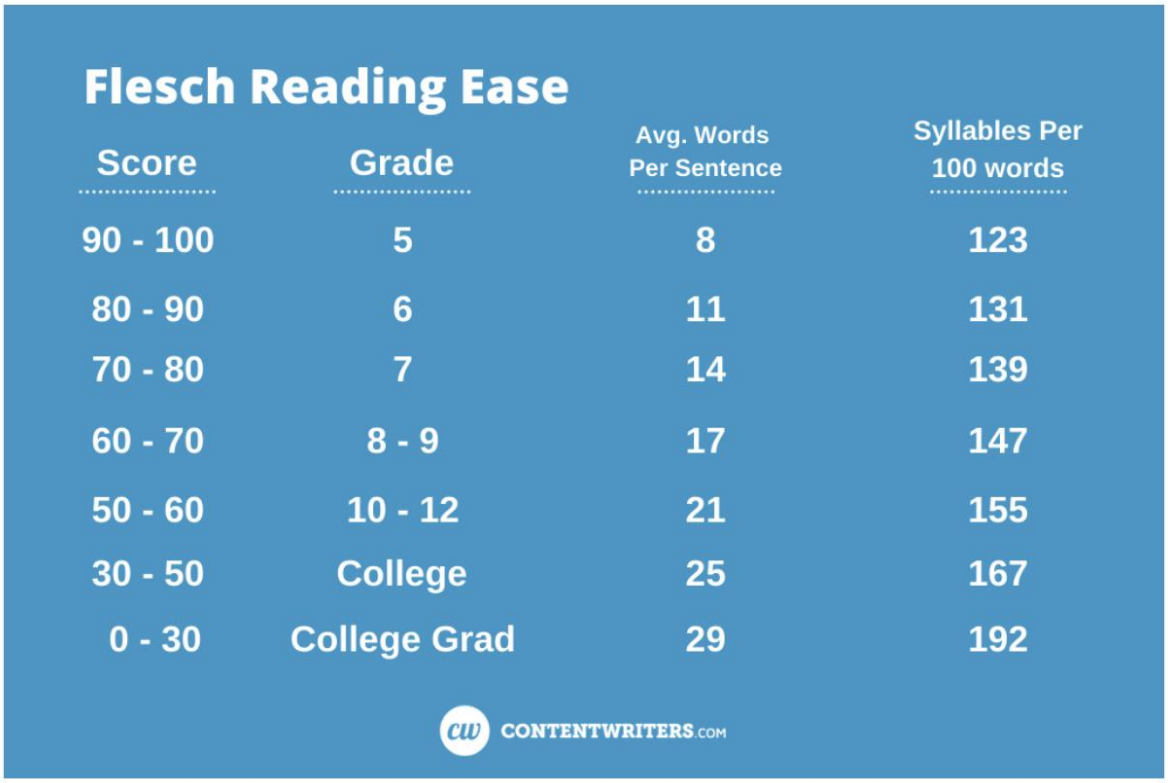
Below are the comments we have prepared in the few weeks remaining after the holidays:

3. MEPA, EEA and Massport inaction is inexcusable. AIR, Inc. and many other community stakeholders have participated in MEPA reviews, amassing many dozens of suggestions and requests. These comments are answered without engagement; smugly acknowledged, assigned a topical reference numbers, then dumped into what is essentially a mass grave -a matrix table which provides statements and quotes of text either from the filings or regulations, that serve as blank retorts to thoughtful comments.

   We ask that EEA finally address each of our past comments from the 2015, 2016, and 2018 / 2019 EDRs, the Terminal E Modernization Project, the Logan Parking Project, and the 2017 ESPR

4. MEPA, and EEA must require that the Authority limit the length of all environmental compliance documents

At 1162 pages, the length of the 2020 / 2021 EDR is a massive obstacle for citizen participation. The length of this document is unnecessary. For example, the precursor to Logan's EDR and ESPR series, the 1979 Draft General Environmental Impact Report, provided insights into Logan's planning, impacts, and mitigation, in just 218 pages. The fact that Massport's annual disclosure documents have reached over 1,000 pages each year since the 2015 EDR is evidence of heinous indifference to East Boston's EJ challenges.



Flesch Reading Ease Guide

5. MEPA and EEA must require that Massport's MEPA submissions are succinct and readable

AIR, Inc. used the Online-Utility.org's Readability Calculator to test the readability of the EDR's introduction and Executive Summary. The utility reported a Flesch Reading Ease Score of 25.14, and indicated that a reader would need 16.16 years of formal education (per the Gunning Fox index) in order to easily understand the text on the first reading.

6. MEPA and EEA must require the Authority to calculate and report the socialized costs of Logan Airport operations

While the EDR mentions the word economy, or it's derivative words 51 times in the document's Executive Summary, 38 times in the Activity Levels section, 22 times in the Airport Planning section, and 64 times in the Regional Planning section, nowhere does the document provide economic data on the cost of lost productivity due to airport related traffic, the cost of lost wages due to sick time, or the cost of human life and suffering caused by illness. The message sent by these 185 economic references is that *Logan is an economic engine with which our state cannot afford to interfere*.

It is important to recognize that the implied reverse correlation -that Logan is in some way responsible for the strength of the economy is not supported by data. The economy might just as well be even stronger if growth and regional traffic and other environmental impacts were spread more evenly across the New England region in areas in which congestion's were less prevalent and mitigation would be far less costly. Rather than consuming the time and energy of EDR reviewers with descriptions of the biopharma industry, Massport should report the environmental impacts of their outfit in their MEPA filings.

The plain fact is that airports are not the economic engines of their regions, nor is proximity to airports in any way driving economic success. What has been proven is that proximity to airports to drives diseases such as childhood asthma, cancer, COPD, and heart disease.

More false economic narratives propose that multiplier effects cause the economic benefits of aviation to be accelerated through recirculation of money in the local economy after initially being spent by Airport tenants and their customers. This narrative carelessly fails to account for the money that leaves our economy as local dollars are spent on travel by New England residents at the Manny destinations to which Logan has service. The statewide economic impact assessment irresponsibly doesn't calculate the net impact. It only looks at the inputs. And MEPA and EEA are apparently uninterested.

7. MEPA and EEA must require Massport to develop a schedule of proactive policy and mitigation responses to future impact levels.

Massport bases it's mitigation planning on impact modeling based on passenger volume forecasts. When these forecasts are too low, impacts are under projected and actual passenger and flight levels rise. Impacts rise in direct correlation, but mitigation and environmental policy lag behind. Previous forecasting errors have
Resulted in a 10 million passenger mitigation lag.

A pre-negotiated mitigation approach which establishes appropriate policy and programming responses to increasing levels of impact across the major impact centers of noise, air pollution, and traffic can be established to trigger advancing responses as attainment of or approach toward progressive passenger volumes, flight levels, and traffic volumes are achieved. This solution eliminates the possibility of disagreement over the accuracy of forecasts, and ensures that EJ populations surrounding Logan are not burdened by unmitigated pollution, but instead that environmental justice burdens are mitigated in real time.

More Inaccuracies

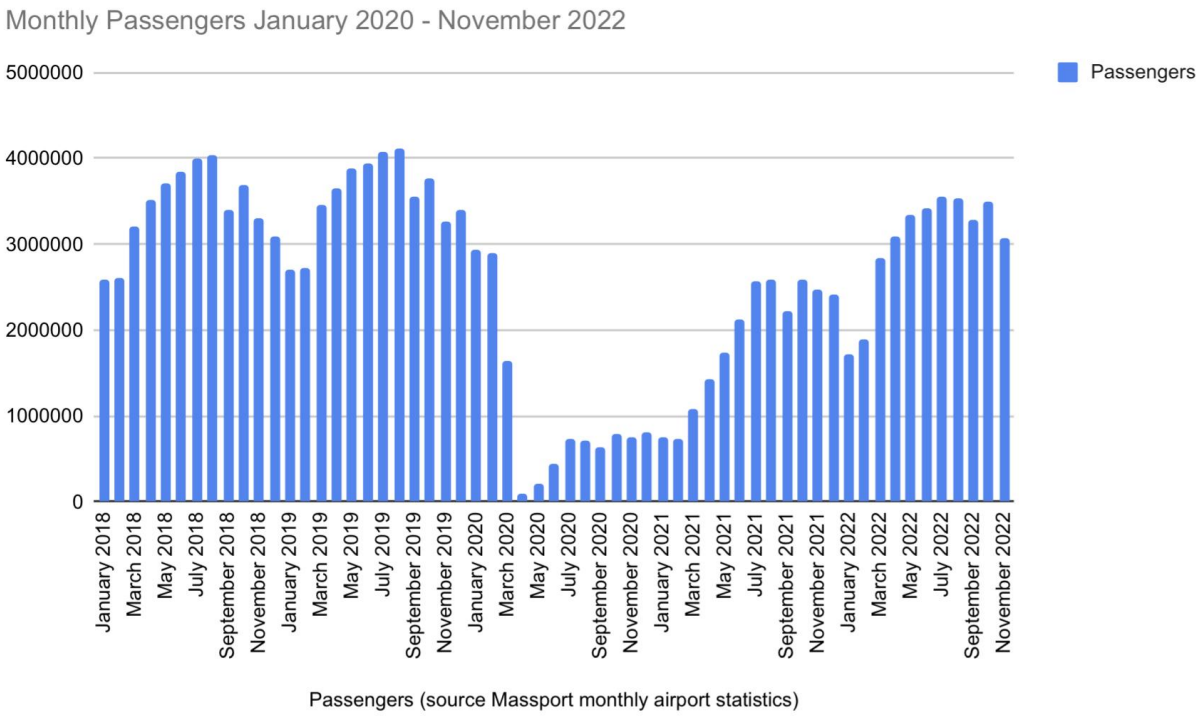
Of great importance in the present EDR is the urgency or lack thereof with which the Authority is addressing previous mitigation backlogs, as impacts -especially ground access impacts of traffic and engine idling pollution are rising more sharply now than ever due to the effects of the Covid 19 pandemic.

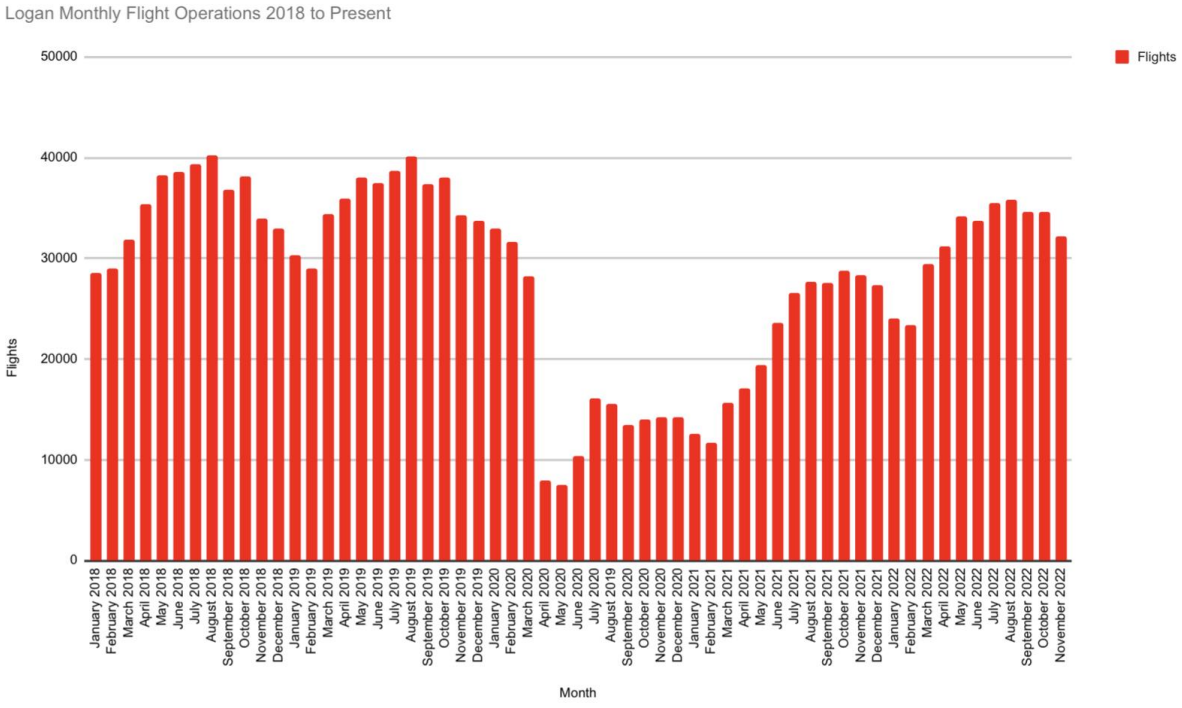
8. MEPA and EEA must require the Authority to provide comprehensive data.

Massport has a long-standing habit of statistical shenanigans. For example, in the EDR, the Authority has elected to report 2020 and 2021 passenger activity levels as an annual percentage of 2019 peak volumes.

The use of annual reporting periods obscures the true nature and progress of Logan's recovery. For example, in the EDR, Massport reports that "*total flight operations and passenger levels recovered to approximately 62 percent and 53 percent, respectively, of 2019 levels*". In this report, released on the 3rd week of November, in 2022,at a time by which the Authority had already released multiple monthly airport statistics postings showing that passenger and flight volumes had risen above the 90% recovery level, the Authority surmised that these total flight and passenger levels showed "*a gradual return towards 2019 levels*". This misleads readers by creating the impression that over the reporting period, Logan operations had climbed halfway back to prior levels.

A more granular analysis of monthly Logan Airport statistics shows that in January of 2021, flight and passenger activity were at 38% and 27% of 2019 peak levels, and that; over the year, despite multiple virus variants and ongoing international travel bans, flights and passenger levels exceeded 83% and 76% (both were achieved during November 2021).





The 30% disparity between what Massport reported in its EDR and the degree of passenger volume recovery actually attained by the end of 2021 represents an passenger monthly density of not an airport serving 22 million passengers, but one instead which is serving 35.2 million.Therefore, through the EDR's misleading statistics, Massport obscures a 13 million

passenger annual recovery rate, and downplays the urgency with which and degree to which Massport must prepare mitigation strategies.

Elsewhere in the EDR, Massport repeats this tactic, providing an update covering up to the first 8 months of 2022 and suggesting that operations and passenger levels to that point were down 13% and 18% respectively. However, by July 2022, flights were at 92% of 2019 levels and passengers were at 87% for an aggregate of 90%. By the time of the EDR's release, in November 2022, both flights and passengers had reached 94% of pre-pandemic peak levels. AIR, Inc. predicted such a rapid recovery in our 2018 / 2019 EDR comments. Barring any global economic or pandemic related downturns Logan, is likely to eclipse its previous high monthly passenger volumesthe within the next 6 months.

In perhaps the most important example, while in 2019, Massport reported an average weekday daily traffic (AWDT) total of 143,189 vehicular trips per day to Logan, and a total of 42,522,411 passengers, producing a ratio of 0.003368 AWDT to annual passenger volume, in 2021, the Authority reported 90,185 AWDT and 22,678,499 passengers. The 2021 AWDT to annual passenger level ratio was therefore 0.00398. With monthly passenger volumes having returned to 83% of 2019 levels by the end of 2021 (an annualized rate of 35,293,601) we can calculate that Logan was attracting a monthly AWDT of 140,351 by the end of the year. Massport however leaves us with the impression that AWDT was at 90,185 in 2021, or just 63% of 2019. Furthermore, Massport has reported that passenger levels have returned to 94% of 2019 levels as of this November (2022). This, considering the 2021 AWDT to annual passenger volume ratio, allows us to calculate that airport vehicular traffic has already eclipsed 2019's all time high levels with a monthly AWDT of 158,952 in November. Mitigation planning which is based on actual passenger levels attained would eliminate the risk of these sort of errors.

Pollutant	Units	LDGV	LDGT
VOC	g/hr g/min	2.683 0.045	4.043 0.067
THC	g/hr g/min	3.163 0.053	4.838 0.081
CO	g/hr g/min	71.225 1.187	72.725 1.212
NOx	g/hr g/min	3.515 0.059	4.065 0.068

Idling emissions factors (Source EPA 2008)

9. MEPA and EEA must demand that Massport provide an accurate and detailed reporting of on-airport vehicle idling data, and a plan to control this avoidable form of pollution

The EDR provides emissions estimates for Parking / Curbside. In the example of carbon monoxide (CO), the Authority reported 4 kg/day for 2021. At this level, idling and parking vehicles at Logan airport would produce 0.1667 kg (or 166.7 gm) of CO per hour. Using the EPA idling emissions factors for CO emissions from gasoline powered light duty vehicles of 72 gm/hr, the data in the Report proposes that 2.3 vehicles would be idling at Logan at any given time. This is not realistic. AIR, Inc. observed idling behavior at Logan's terminal curbs, cell phone lots and professional lots and found an aggregate idling rate of 50% and an average idle time of 12.5 minutes. Applying our idling rate and duration factors to the 2021 EDR's reported average weekday daily traffic (AWDT) level of 90,185 vehicles, 45,092 vehicles idled at Logan for a total period of 9,300 hours per day. The EPA's 72 gm/hr emission factor places Logan's daily CO emission at over 636 kilograms (1491 lbs) per day, over 150 times the EDR estimate.

10. MEPA and EEA must require Massport to commence planning for aircraft emissions reduction programs at Logan by:
    - Initiating a groundbreaking tri-state regional airport master planning process
    - Developing an airport Emissions Rule
    - Making single engine taxiing mandatory
    - Development if a proposed electric aircraft airports plan
    - Developing a Beta testing plan for electric aircraft which assures that electric aircraft distribution will benefit EJ communities
    - Develop electric aircraft infrastructure and evaluate alternate technologies to generate power such as installation of microgrids and airfield solar farms
    - Immediately designing and fully funding a community air filtration program for classroom and residential applications

11. MEPA and EEA must require Massport to consider the costs and benefits of all viable ground access policy and mitigation alternatives, including use of an airport roadway fee, and all reasonable monetary and non-monetary pricing adjustments under Massport's control in a transparent manner within the EDR / ESPR series. MEPA and EEA must get serious about protecting public health by insisting that Massport consider eliminating Logan's 'free ride' policy

Massport's ground access strategy is failing badly. The 30 month self-prescribed period of inactivity in HOV program advancement is a generational environmental policy and transportation planning blunder. We note that in the noise section, Massport states that they accelerated a runway rehabilitation project to avoid operational disruptions, illustrating the fact the the Authority recognizes the opportunity to accelerate beneficial programs during the Covid pause.

While modern planners and community stakeholders around the world embrace all manner of innovation in mode shifts away from motorized modes as a means of improving local air quality, Massport has remained entrenched in its mid-twentieth century autocentric mindset. The Authority's long lists of HOV services, and recent much publicized goals set with Conservation Law Foundation merely pay lip service to environmental policy while the Authority indulges every possible form of single occupancy travel to Logan.

According to Massport's 2019 Air Traveler Survey:

- 21.2% of passengers at Logan arrived by way of Massport's most popular ground access program: their unofficial Free Ride traveler curbside pick-up and drop-off option
- 16.7% of airport passengers arrive in ride apps, taxis or limousines
- 20.8% of passengers arrive via passenger cars in Ride app, taxi, or limousines, but through the magic of CLF and Massport's low-standard formula, since these trips have at least one additional passenger, they are considered high occupancy trips
- 10.7% of Logan customers rent a vehicle, and
- 9.3% of travelers drive to Logan and rent parking
- 1.5% park off airport

Therefore, 78.7% of Logan travelers arrive via passenger car.

In the example of on-airport parking, Massport claims that pricing has been set to ensure that the cheapest on-airport option, parking at the economy garage (normally $29 but now inexplicably discounted to $25/day), is more expensive than Logan Express (LEX) (normally $11 but now discounted to $9/ride). As the table below indicates, this HOV cost benefit assertion is factually incorrect for the majority 17 out of 35, or 51% of traveler scenarios (shown in bold typeface).

Length of stay (days)	Cost Logan Express Parking	Cost: economy on Airport parking	Cost: Logan Express 1 rider plus parking	Cost: Logan Express 2 riders plus parking	Cost: Logan Express 3 riders plus parking	Cost: Logan Express 4 riders plus parking	Cost: Logan Express 5 riders plus parking
1	$7	$25	$25	$43	$61	$79	$97
2	$14	$50	**$32**	$50	$68	$86	$104
3	$21	$75	**$39**	**$47**	$75	$93	$111
4	$28	$100	**$46**	**$64**	$82	$100	$118
5	$35	$125	**$53**	**$71**	**$89**	$107	$125
6	$42	$150	**$60**	**$78**	**$96**	**$114**	**$132**
7	$49	$175	**$67**	**$85**	**$103**	**$121**	**$139**

For a single passenger driving and parking at an LEX facility at their daily parking rate of $7, this HOV mode is equal to or the more affordable choice. However, given that on-airport parking rates are fixed daily costs per vehicle, while Logan Express fares are $9 per trip, per individual, this cost advantage is not clear and consistent. The table above demonstrates that the current pricing strategy provides only regressive benefits. HOV mode monetary cost benefit is illustrated above by use of bold black typeface.

Other considerations play a role in traveler airport ground access mode decision making, including travel time, trip purpose, travel cost, parking fee, comfort, and convenience. From a travel time, comfort and convenience perspective, there can be little doubt that drive and park options carry significant benefits. Applying a $50 penalty to LEX services assuming a 20 - 30 minute increase in travel time, and a major downgrade in convenience and comfort, cost benefits of LEX (shown in dark red bold typeface) reduce to only 11 (31%) out of a possible 35 scenarios. For a two passenger group, cost benefit begins with a four day trip, for a three passenger group- on the 5th day, a four passenger group- on the seventh day, and for a party of five, there is no cost benefit. If Covid-driven HOV hesitancy adds another $50 penalty, bringing the total HOV trip mode convenient cost penalty up to $100, there is almost never any total cost benefit to use of LEX HOV airport travel mode, with a benefit showing up in just a single scenario (2.8%). This benefit is indicated by use of bright red bolded typeface. All said, given Massport's current ground access pricing strategies, there is almost no incentive to use Logan Express.

12. MEPA and EEA must specifically acknowledge the disparities of scale factoring into Massport's emissions reporting

The MPA has released fanciful announcements of its dreams to produce a Roadmap to Net Zero plan at some point in the future. This plan would redirect $1 billion of Massport's billion dollar per year budget toward a splashy, high-level, global corporate citizenship goal of reducing Logan's carbon footprint. This plan includes 30% - 40% use of offsets, to cut the sources of CO2 which the MOA considers "under their control". However, the Authority has reported that aircraft exhaust emissions which they say are not under their control, comprise 95% of Logan emissions. Thus, the emissions over which Massport has sway are around 5% of a raging and ever-growing airport cumulative CO2 impact.

13. MEPA and EEA must require Massport to take action immediately to reduce nighttime aircraft noise

Massport's forecasting of nighttime noise has been even less accurate than their passenger growth forecasting. With nighttime flights climbing a remarkable 16% over the previous reporting period, then totaling 17% of Logan operations, unspeakable disturbances of EH communities evening hours reached an unbelievable 195 operations per night (or a flight every 2 minutes on average). Current flight operations are near, at, or potentially even above 2019 peak levels. Therefore, this health-shattering adverse airport impact is now likely to have fully recovered from the pandemic. MEPA and EEA must demand that the Authority produce a plan to reduce Logan's nighttime noise footprint which is equal to their ambitions in reducing Logan's carbon impacts.

Pursuant to that goal, AIR, Inc. renews its demand (from multiple EDR / ESPR comments) that Massport update the Preferential Runway Advisory System (PRAS), providing target percentages for runway use to control noise impacts, including nighttime noise. We reiterate that updating PRAS was a condition of the FAA Record of Decision of 2002, and that while Massport has reported that the Logan CAC voted to abandon PRAS, MEPA must recognize that the FAA RoD created a legal obligation that PRAS be updated or replaced as part of Massport's Airport Improvement plan and did not offer Massport, or the Logan CAC authority to abandon PRAS without replacement. The RoD specifically states that PRAS shall remain in place until replaced or updated. This is the reason that Massport continues to report on PRAS; as a hedge against legal reprisal.

Given that MEPA and EEA are bound by law to ensure that all feasible alternatives to environmental damage be explored, these agencies are required to insist that Massport use PRAS to reduce noise, including nighttime noise.

14. MEPA and EEA must immediately demand that Massport commence an actual emissions measurement and reporting system

The EDR reports on 13 different modeling systems over the past 21 years. This equates to a change in method every 1.6 years. The result has been a nearly incomprehensible rollercoaster ride of reported emissions levels, confounding attempts to interpret and manage air pollution.

This should prompt MEPA and EEA to demand change as part of its powers to require that all feasible efforts be made to avoid environmental damage. Under this authority, MEPA and EEA can require Massport to provide a history of actual measured air quality (AQ) levels for all EPA criteria pollutants, and ultrafine particulate matter counts, as best as can be produced until a full and complete measurement and reporting system can be implemented, using a variety of qualified data sets produced in the past, by a variety of partners, and; to install a network of high grade AQ sensor devices across the region to collect subsequent readings of the same. When such a database of pollution levels is completed, data can be analyzed as needed, providing MEPA, EEA, and community stakeholders with clear comparisons.

15. MEPA and EEA must require Massport to substantiate any claimed improvement in air quality due to changes in the fleet (retirement of old, polluting aircraft) in quantitative terms

16. MEPA and EEA must either require Massport to provide narrative context describing the relative effects on impact levels for metrics they report, or prevent the Authority from wasting reviewers time with meaningless dialogues.

In one example, the Authority in two consecutive EDR's claims a forthcoming improvement in air quality which they say will be achieved due to changes in the fleet (retirement of old, polluting aircraft), but have not provided quantitative data on the anticipated effect. This is important, as use of 10% cleaner aircraft by 25% of aircraft would create a significant 2.5% benefit. But this one-time fleet improvement benefit would be outpaced by one year's worth of flight operations growth at previous 10 year rates. Without context, community stakeholder reviewers and MEPA analysts might be misled into assuming that pollution levels will be decreasing, when instead they are simply nust temporarily not increasing by as much for one year:

The EDR occupies dozens of pages entertaining busy readers -local low income families and state regulators alike -with irrelevant lists of facts and accomplishments explaining all the good things they do in the margins, or on the sidelines. Nobody is asking the Port Authority to participate in toy drives and such largess has no relevance to Airport environmental planning. Enough good deeds cannot be done to offset the premeditated destruction of community health. MEPA and EEA should require that Massport put forth a serious effort to analyze and improve environmental outcomes.

17. MEPA and EEA must stop approving incremental airport capacity-building projects

The EDR states "*Several projects aimed at providing on-Airport roadway congestion relief are ongoing and are expected to be complete by summer 2023. …Recent and ongoing terminal area projects are providing seamless post-security connectivity and flexibility among the terminals along with enhancements to passenger processing through consolidated security checking areas*."

MEPA has approved the illegal segmentation of airport expansion above AIR, Inc.'s objections for over a decade now. This needs to stop.

18. MEPA and EEA should require Massport to disclose Logan's maximum flight and passenger capacity and report each year on the percentage of attainment of that level

No airport has infinite capacity. Logan has systematically built additional capacity through airfield, terminal and roadway projects. Boston's roadway network appears to have reached its capacity in 2019, by which time we had been labeled the most congested city in the United States. Airfield capacity is another story. While Logan may not have reached its practical capacity yet, at some point it will. Whatever that capacity is, MEPA and community stakeholders deserve advanced warning. Overcapacity conditions create exponential congestion impacts. Myopic planning may serve the airlines' needs, but it spells disaster for the city.

Conclusion

Overall, the MEPA review process and Massport's and EEA's political gamesmanship within it spells disaster for the city.

clf
conservation law foundation

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January 23, 2023

Via Electronic Mail and Online Portal

Secretary Rebecca Tepper
Executive Office of Energy and Environmental Affairs
Attention: Jennifer Hughes
100 Cambridge Street, Suite 900
Boston, MA 02114

Subject: EEA #3247: Boston Logan International Airport 2020/2021 Environmental Data Report

Dear Secretary Tepper, Director Kim, and Jennifer Hughes:

On behalf of the Conservation Law Foundation (CLF) and its members,[1] we provide comments regarding Massachusetts Port Authority's (Massport) Boston Logan International Airport 2020/2021 Environmental Data Report (EDR). CLF has appreciated its ongoing communications with Massport on a variety of issues. Through these discussions, it is apparent that Massport and CLF share the goal of reducing the overall environmental, emissions, and traffic impacts of travel to and from Logan Airport and encouraging an increase in the number and percentage of airport passengers who get to and from the airport by high-occupancy vehicle (HOV) modes.

Preliminary Statement

The 2020/2021 EDR provides a historical review of environmental conditions for the given reporting years and describes Massport's progress on its environmental mitigation commitments. As noted in the EDR, flight activity and passenger volumes dropped significantly during the reporting period due to the COVID-19 pandemic,[2] but the most recent 2022 data indicate that travel patterns are currently on track to soon meet or even exceed 2019 peak numbers. It is therefore imperative that mitigation efforts remain a priority to reduce environmental and public health impacts.

[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 transportation options across New England.
[2] EDR 2020/2021, page 1-1.

Given that growth is a primary driver of public health and environmental impact, and consequently will determine the scale of Massport's obligations and opportunities to avoid, minimize, and mitigate environmental and human harm, CLF recommends that the Secretary's Certificate provide further detail on methodology and reporting requirements, prioritize mitigation efforts as travel patterns rebound, specify transparent thresholds for deferred mitigation projects, and direct robust and ongoing community engagement. Despite decreased travel in recent years due to the pandemic, it is clear that activity is rapidly resuming, and mitigation for this new and increased travel is essential.

Communities near Logan Airport have long been disproportionately affected by air pollution. Public health studies document strong links between air pollution and COVID-19 health risk,[3] and indeed communities near Logan have also been disproportionately affected by COVID-19.[4] Given these risks, it remains critical that Massport continue its mitigation projects and provide clear thresholds for any deferrals, engage with residents and organizations from affected communities, and provide transparent and clear reporting of environmental impacts. While travel activity and operations have not yet fully returned to pre-pandemic levels, trends from the past two years show that travel is rapidly resuming and trending back up toward these levels.

Mitigation efforts therefore remain critical, and CLF encourages Massport to be more exacting in its activities and transparent in its decision-making. We applaud Massport for following through on several important commitments despite the ongoing uncertainty, and we offer the following comments regarding the 2020/2021 EDR.

Detailed Comments

CLF and Massport share and have worked collaboratively to achieve the goal of reducing overall environmental, emissions, and traffic impacts resulting from Logan Airport operations. CLF offers these comments regarding Massport's ongoing and planned initiatives to minimize and mitigate public health and environmental impacts as presented in the 2020/2021 EDR. We also reference the Executive Office of Energy and Environmental Affairs (EEA) certificate of the 2017 Environmental Status and Planning Report (ESPR) and the requests EEA posed to Massport in the certificate (ESPR Certificate). We note the importance of mitigation and a rigorous MEPA review process, which are even more urgent now as travel patterns increase with an easing of pandemic restrictions and years of delayed travel, and the ongoing need for robust community engagement and public information sharing regarding Massport activities.

A. Massport needs to ensure that mitigation efforts keep up with increasing rates of travel as pandemic restrictions ease and travel resumes.

[3] Wu, X., Nethery, R.C., Sabath, M.B., Braun, D. and Dominici, F., 2020. Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis. Science Advances, 6(45), p.eabd4049.

[4] McDonald, Danny. "East Boston's COVID-19 positive test rate is over 11 percent, the highest of any Boston neighborhood by far." Boston Globe. August 27, 2020. Accessed January 20, 2023 at https://www.bostonglobe.com/2020/08/27/metro/east-boston-covid-positive-test-rate-that-tops-11-percent-by-far-highest-city/.

The 2020/2021 EDR reports that passenger levels had returned to 53 percent of 2019 levels by the end of 2021,[5] and operations had increased to 62 percent of 2019 levels.[6] It is somewhat misleading to consider these data only on an annual basis. The most recent data as published by Logan Airport for November 2022 indicate that the total number of passengers in that month was 3,060,571, which is 94 percent of the total passengers in November 2019.[7] This trend is consistent throughout 2022; the total passenger count in October[8] and September[9] of 2022 was 92.5 percent and 92 percent of travel in those months in 2019, respectively. In short, it is useful to examine the monthly changes as well as annual changes, and in doing so the numbers indicate a much more rapid return to pre-pandemic levels of travel than is stated in the EDR. Even when considering the 2020/2021 EDR reporting period, passenger numbers were at 71 percent of 2019 numbers at that time, and total airport flight operations numbers were at 80 percent of 2019 numbers, indicating a strong upward trend.[10]

Given the indication of a rapid return to "normal," Massport must urgently prioritize mitigation efforts to reduce and ideally avoid human and environmental harms. The Secretary previously recommended that Massport work to fund the provision of HEPA room air purifier filters in key community locations such as schools, and to work with community-based organizations to collaboratively determine how to further mitigate air quality impacts.[11] We urge Massport to continue working with community-based organizations that have long been involved in this work, such as AIR, Inc., GreenRoots, Inc., and Mothers Out Front, and to support the dissemination of air filtration.

We also note the reference in the 2020/2021 EDR to recent and ongoing research studies including the current work of Boston University and Tufts University on Ultrafine Particulates (UFPs). The 2020/2021 EDR should provide a more detailed update on the study and how findings may relate to Massport activities. CLF underscores the importance of acting in accordance with the findings of this and other scientific research, and also of engaging with and responding to the nearby communities who experience the poor public health outcomes. We are pleased to see the ongoing efforts and partnership regarding treatment for asthma and other respiratory impacts, but underscore that prevention is far preferable to treatment and should be prioritized. The use of HEPA filters and other mitigation techniques should be a key goal to ensure that the negative impacts of airport activity are prevented and offset.

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[5] Logan Airport 2020/2021 EDR Overview, Accessed January 20, 2023 at https://www.massport.com/media/vgphi3os/logan-edr-overview_12-15-22-final.pdf, page 1.
[6] EDR 2020/2021, page 1-8.
[7] Boston Logan International Airport, Monthly Airport Statistics, November 2022, Accessed January 20, 2023 at https://www.massport.com/media/pjlpu1bv/1122-avstats-airport-traffic-summary.pdf.
[8] Boston Logan International Airport, Monthly Airport Statistics, October 2022, Accessed January 20, 2023 at https://www.massport.com/media/qa3di0ev/1022-avstats-airport-traffic-summary.pdf.
[9] Boston Logan International Airport, Monthly Airport Statistics, September 2022, Accessed January 20, 2023 at https://www.massport.com/media/jl3liaeg/0922-avstats-airport-traffic-summary.pdf.
[10] Boston Logan International Airport, Monthly Airport Statistics, December 2021, Accessed January 20, 2023 at https://www.massport.com/media/leufvaab/1221-avstats-airport-traffic-summary.pdf and 2019 numbers at https://www.massport.com/media/3927/1219-avstats-airport-traffic-summary.pdf.
[11] Certificate of the Secretary of Energy and Environmental Affairs on the 2017 Logan Airport Environmental Status and Planning Report, MEPA Certificate 3247, page 4 (Nov. 25, 2019).

B. We recommend that Massport continue to clarify and refine its process for estimating growth rates and for other calculations and provide additional detail for the forecast methodology.

We commend the inclusion of the section outlining the 2022 ESPR Forecast Methodology in the current EDR and encourage even further detail and transparency in this section of the 2020/2021 EDR, in the 2022 ESPR, and in future reporting. CLF has identified in the past that Massport's characterizations of environmental impact were based on an inadequate forecasting process for both operations and passenger activity. As previously noted, the forecasting process in the 2017 ESPR was inconsistently represented, historically inaccurate, and did not match the qualitative descriptions of key growth drivers within the ESPR. Further, as stated earlier, it is instructive to consider multiple timeframes when analyzing this data; short-term monthly reporting paints a much different picture of the recovery of travel patterns than when looking at the data over an annual timeframe. Given the importance of prevention and mitigation for its work, Massport's process for measuring impacts and devising appropriate mitigation activities must be sufficiently robust to meet situational uncertainties.

Measuring impact (e.g., noise, air quality, vehicle miles traveled (VMT)) on inaccurate activity forecasts is problematic. We recommend that Massport provide a list of all measured impacts, how said impacts are methodologically related to the activity levels presented in the ESPR forecast, and how current and forward-looking data can be used instead in both the MEPA reporting process, and in other public engagement forums. We encourage Massport to work with community stakeholders to create a mitigation planning system which is based on actual passenger, flight, and daily traffic volumes.

To that end, Massport should more thoroughly document public health impacts. Massport should provide a more detailed update on the Tufts and Boston University Ultrafine Particulate (UFP) study and associated findings. EEA notes that the EDR should "provide an update on the status and finding of UFP research being performed by Tufts University and Boston University regarding the identification of airport-specific related UFPs in an urban environment."[12] The 2020/2021 EDR notes Massport's cooperation and data sharing in regard to the study but does not provide additional details on study findings or relevance to Massport activities. Further, CLF made this request in regard to the 2018/2019 EDR as well, so it is concerning to see a continued lack of detailed updates on this important work.

C. CLF seeks additional details in the EDR regarding ground transportation to conform with the Massport-CLF agreement.

The 2020/2021 EDR notes that HOV ridership dropped in the reporting years due to decreased travel overall and because of reluctance to use HOV modes of travel due to the ongoing COVID-19 pandemic.[13] Now that overall passenger numbers are increasing at Logan, this reluctance may be subsiding. Ideally HOV trips would keep pace with this trend. Per the 2017 Massport-CLF agreement, Massport needed to have achieved at least 35.5 HOV mode share by December 31,

[12] 2017 ESPR Certificate, p. 18.
[13] EDR 2020/2021, page 5-1.

2022 and at least 40 percent by December 31, 2027.[14] Massport may have met this goal; the EDR states that according to the most recent reporting, conducted in 2019, air passenger ground access mode share is "40.4 percent for HOV and shared-ride modes, exceeding both near-term and longer-term goals."[15]

It is not clear, however, how these numbers may have changed due to the pandemic. HOV ridership decreased severely along with all travel, and while it does appear to be rebounding, it is not clear in the 2020/2021 EDR whether the 35.5 percent goal for 2022 has truly been met. There was only a 12 percent increase from 2020 to 2021 reported in the EDR, when considering all HOV vehicles that the EDR reports on (MBTA Blue and Silver Lines, the Logan Express Bus, the MBTA Ferry, and private water taxis; this excludes RideApp trips because it is not clear what portion of these rides are considered HOV).[16] Additionally, when comparing the HOV passenger numbers to overall airport passengers, total HOV passengers only constituted 11 percent of all airport passengers in 2021.[17] Given that some HOV-related mitigation measures have been deferred (see Table 1), it's possible that HOV mode share has now been reduced below the goal percentage.

While Massport states that they are on track to meet the goals of the Massport-CLF agreement, it is difficult to confirm this based on the information in the EDR. Massport must prioritize mitigation efforts that support increasing HOV mode share and must be transparent about this reporting in the forthcoming 2022 ESPR.

D. <u>There should be transparent thresholds for deferred mitigation projects.</u>

We are pleased to see that several mitigation projects that were previously on hold are moving forward or have been completed, including plans to procure eight additional MBTA Silver Line buses, and incentives for Logan Express riders such as security line priority status. Notwithstanding, there are still several initiatives that remain deferred without clear guidelines or goals for when they will resume. We list these in the table below. We recommend that Massport develop transparent thresholds of the appropriate metric (e.g., VMT, operations, passenger activity, etc.) for when Massport will return to the implementation of these projects, or at least clarify decision-making processes for returning to these mitigation measures. The 2020/2021 EDR notes that these projects will need to be re-evaluated but the decision-making processes that indicate when and under what conditions Massport will conduct this re-evaluation in unclear. In some cases, Massport notes that they will begin the project once passenger activities reach 2019 levels, and it is evident based on the 2022 Airport Statistics that current activities may already or very soon will match 2019 activities. CLF recommends that the Secretary's 2020/21 Certificate establish thresholds for Massport to recommence deferred mitigation projects.

[14] Massport-CLF Agreement (May 18, 2017).
[15] EDR 2020/2021, page 3-8.
[16] EDR 2020/2021, page 5-11.
[17] Calculated based on Boston Logan December 2021 Airport Statistics as accessed January 20, 2023 at https://www.massport.com/media/leufvaab/1221-avstats-airport-traffic-summary.pdf.

Table 1 – Key Deferred Mitigation Projects

Project Category	Mitigation Activity	Environmental Impact	2020/2021 EDR page reference
Airport Ground Transportation and Parking Projects/Planning Concepts	Logan Airport Parking Project (additional 5,000 spaces)	Reduced VMT	1-17
Suburban Logan Express Enhancement	Add about 1,000 additional spaces to the Framingham garage.	Added HOV share, reduced VMT.	1-21
Suburban Logan Express Enhancement	Evaluate new Logan Express suburban locations, with a plan to open at least one new site.	Added HOV share, reduced VMT.	3-7
Airport Ground Transportation and Parking Projects/Planning Concepts	Terminal E Modernization (incorporates former West Concourse Project) - Blue Line Pedestrian Connection	Added HOV share through pedestrian connectivity.	3-16 / 9-42
Urban Logan Express Service	Massport's plan to operate a new urban Logan Express location between North Station and Logan Airport is currently on-hold (although Massport procured buses for this service in 2020).	Added HOV share, reduced VMT.	9-14
Other	Several options were identified to reduce on-Airport congestion and improve on-Airport ground access efficiency. Initial options included dedicated HOV bus lanes, the creation of an intermodal transportation center with bus service to terminals, the construction of an Automated People Mover (APM), or some combination of these improvements. These and other options are currently on hold and will be revisited once passenger levels recover closer to 2019 levels.	Added HOV share through intermodal transit, infrastructure improvements, reduced VMT	9-17

E. Massport must continue to engage with affected communities to discuss mitigation opportunities.

The 2020/2021 EDR reports on mitigation commitments and environmental impacts within the reporting period. In the EDR review process, Massport produces these documents internally, and then releases them to the public for comment and input after they are already complete. Given the rapid changes that have followed from the pandemic, an annual public review process where public input is only provided after Massport releases a document is insufficient for proper mitigation planning, especially as Massport is making decisions about mitigation projects and operations as the pandemic situation shifts. Instead, Massport should work with organizations and members from the most affected communities prior to the release of the next iteration of the report. This will allow Massport to conduct more thoughtful planning as operations and impacts shift. It would also significantly improve a reporting process that is opaque and very technical by making this information more accessible.

State laws and policies require enhanced engagement with residents of environmental justice populations.[18] We note Massport's acknowledgement of the updated MEPA protocols regarding public involvement, environmental justice populations, and climate change adaptation and resiliency.[19] To go even further and best address goals of equitable and efficient public involvement, CLF encourages Massport to hold community meetings, outside of MEPA processes and after MEPA deadlines expire, to discuss ways for Massport to be a great neighbor and best implement mitigation measures associated with its environmental impacts, which are especially important as we live through the next phase of the COVID-19 pandemic.

CLF is happy to provide additional information and assistance as may be required. You may contact me with questions at SRubin@clf.org.

Sincerely,

Staci Rubin
Vice President, Environmental Justice
Conservation Law Foundation

[18] An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy, St. 2021, c. 8, § 60; Exec. Order 552 (2014); 301 CMR 11.00 et seq., Executive Office of Energy and Environmental Affairs Environmental Justice Policy 2021.
[19] EDR 2020/2021, page 1-7.

Massport Community Advisory Committee
P.O. Box 470614
Brookline, MA 02447

January 23, 2023

The Honorable Bethany A. Card, 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 2020/2021 Environmental Data Report – EEA #3247

Dear Secretary Card and Ms. Hughes,

Please accept this comment letter from the Massachusetts Port Authority Community Advisory Committee (MCAC) on the Boston Logan International Airport 2020/2021 Environmental Data Report – EEA #3247 (EDR) submitted on November 23, 2022. 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 provide oversight to Massport in order to minimize and mitigate the impacts that Massport has on our member communities. A representative from the MCAC attended the public consultation session on December 15, 2022, and we submit these comments based on the information presented at that hearing as well as the document referenced above.

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. It is clear from the great deal of information presented in the 2020/2021 EDR that Massport devotes significant resources to collecting operational data and forecasting future growth. However, in reviewing the growth forecasts for the past several years, it is difficult to understand the methodology used to produce the growth forecasts. What is clear is that the estimates for passenger levels have been grossly underestimated for the past decade. In the 2011 ESPR, Massport estimated an annual growth rate in passengers of 1.7% annually through 2030, despite averaging much higher annual growth rates in most years prior. That would have meant reaching 39.8 million passengers in 2030. This estimate was made even though the same ESPR reported an increase in passengers from 2010 to 2011 of 5.4% (from 27.4 million to 28.9 million). In reality, Logan served almost 42.5 million passengers in 2019, eclipsing by about 10% their own projections for 2030 (still 11 years in the future).

We are not the first organization to point out this discrepancy and to request more detailed information on how the forecasting is done. In the Certificate of the Secretary of Energy and Environmental Affairs on the 2018/2019 Logan Airport Environmental Data Report (March 19, 2021), the Secretary said that "the next EDR should describe the methodology for the forthcoming future forecast which should be provided in the 2022 ESPR." The MCAC would

Massport Community Advisory Committee
P.O. Box 470614
Brookline, MA 02447

repeat this request to understand more fully how much growth is expected at the airport in the future and what mitigation will be necessary to protect our member communities.

Forecasting passenger growth is not the only area where more transparency and more robust information sharing would be helpful. The EDR discusses efforts to evaluate new Logan Express sites without going into detail about what factors are considered or how each line of the service is currently performing. As ground access and increasing the share of HOV users to the airport are important issues, more information would allow the MCAC to partner with Massport and make recommendations for minimizing impact to our communities, particularly those that are near to the airport itself. More detailed information on parking usage and how rates are set would serve the same purpose.

Noise abatement and pollution prevention are two other areas where progress could be made with more information and dialogue to support partnership. The MCAC is aware that the Federal Aviation Administration is currently undertaking a review of their noise policy. Massport collects a great deal of information from its noise monitoring system which could be useful in supporting our participation in this effort. Sharing this information with our members would assist us in determining the optimal placement of these monitors as well as evaluating the data that they produce. To fully support the research efforts of local universities in air quality, access to detailed monitoring data of all emissions sources under Massport's control is also critical. We look forward to working with Massport to ensure that the public has access to this information.

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: Stewart Dalzell
Brad Washburn
Thomas Butler

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF
ENERGY AND ENVIRONMENTAL AFFAIRS
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Governor

Kim Driscoll
Lt. Governor

Rebecca Tepper
Secretary

Patrick Woodcock
Commissioner

31 January 2023

Rebecca Tepper, Secretary
Executive Office of Energy & Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02114
Attn: MEPA Unit

RE: 2020/2021 Environmental Data Report, Boston Logan International Airport, Boston EEA #3247

cc: Maggie McCarey, Director of Energy Efficiency, Department of Energy Resource
Patrick Woodcock, Commissioner, Department of Energy Resources

Dear Secretary Tepper:

We've reviewed the Environmental Data Report (EDR) for 2020/2021 (published November 2022) for Boston Logan International Airport. EDRs are produced annually to identify environmental impacts based on measured passenger activity and operations. EDRs complement Environmental Status and Planning Reports (ESPRs), filed periodically, which provide both a data lookback, like an EDR, and a planning perspective looking forward.

The objective of this review is to highlight strategies which reduce building emissions. Based on our review of the EDR, our recommendations are as follows:

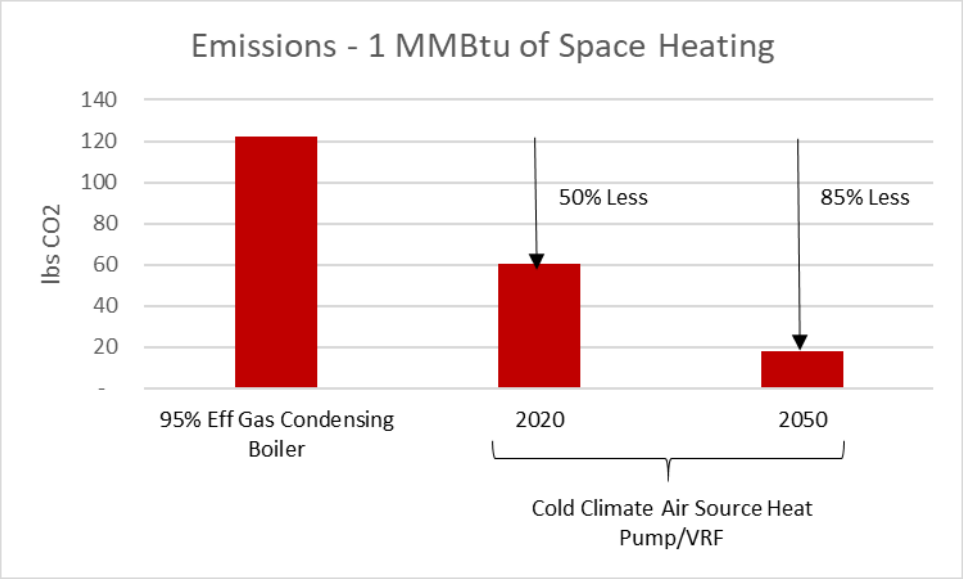
Electrification

We recommend new construction and renovations use 100% efficient electric space and water heating. Efficient electrification entails the swapping of fossil fuels (natural gas, oil, propane) and fossil-fuel generated heat energy from the combined heat and power plant (CHP) with cold-climate rated air source heat pumps.

Electrification of space and water heating is a key mitigation strategy with significant short- and long-term implications on GHG emissions. Massachusetts grid emissions rates continue to decline

with the implementation of clean energy policies that increase renewable electricity sources. The implication is that efficient electric space and water heating with cold climate air source heat pump equipment has lower emissions than other fossil-fuel based heating options, including best-in-class (95% efficient) condensing natural gas equipment and fossil-fuel generated combined heat and power (CHP).

For example, efficient electric space heating has approximately **50% lower emissions** in Massachusetts than condensing natural gas heating. By 2050, efficient electric heating is expected to have approximately **85% lower emissions** in Massachusetts than condensing natural gas heating. See illustration below.



Building Energy and Emissions Tracking

We are pleased to see that, in response to DOER's recommendation, these reports are continuing to track the following:

- GHG emissions in buildings, normalized by square foot (lbs CO2/sf-yr), and
- Energy use in buildings, normalized by square foot (kBtu/sf-yr)

The addition of these metrics will help provide important insights into the performance of Logan's buildings and help plan for the future.

We note, however, that the energy and emissions reported appear to take into effect on-site renewable energy production. We recommend that building energy and emissions use be tracked with and without effect of on-site renewable energy production to assess building efficiency measures themselves.

Estimating Building Emissions in Context of CHP

Estimating building emissions from buildings which use only utility provided electric and gas is relatively straightforward. However, we understand that, in addition to utility provided electric and gas, Logan also uses central plant combined heat and power (CHP) to heat, cool, and power buildings. When CHP is used, the building emissions picture is more complex.

To assess this, EDRs and ESPRs should also report the following:

- Space and water heating end use consumption, estimated and broken down by heating which is provided by central plant steam versus heating provided by fossil-fuel fired (or other) equipment;

- Space cooling end use consumption, estimated and broken down by cooling from central plant produced chilled water versus cooling provided by other non-CHP means;

- Estimated CHP heating, power, and cooling production efficiency

Once the above is estimated, the emissions of building space heating, space cooling, and service water heating can then be estimated. This analysis should be done using electric grid emissions of 633 lbs/MWhr (for year 2022) and 200 lbs/MWhr (for year 2050) to provide a picture of current and future emissions footprints.

New Construction, Additions, Alterations, and Change of Use

For new buildings, new building additions, and building which undergo alterations and/or change of use, we recommend the following:

- Prioritize building design and construction practices that result in low heating and cooling thermal energy demand intensity (heating and cooling "TEDI") with:
    - Built-up, framed, insulated walls with continuous insulation;
    - Thermally-broken windows and other components to eliminate thermal bridges;
    - Minimizing glass curtain wall assemblies and excessive windows;
    - Low air-infiltration, confirmed with in-building air-infiltration testing;
    - High levels of energy recovery;
    - Management of solar heat gains;

- If new or renovated residential or hotel space is planned, pursue Passivehouse (ether PHIUS or PHI certifications.)

- Use air source heat pump space and water heating.

- Avoid use of natural gas CHP and on-site gas combustion for space and water heating.

- Set aside as much rooftop space for solar as possible, including for projects in which solar may not be built as part of initial project.

- Prepare for ubiquitous electric vehicles with as much EV and EV ready parking spaces

Sincerely,

Paul F. Ormond, P.E.
Energy Efficiency Engineer
Massachusetts Department of Energy Resources

Friends of the Mary Ellen Welch Greenway
PO Box 74
East Boston, MA 02128

December 16th, 2022

Dear Secretary Theoharides,

The Friends of the Mary Ellen Welch Greenway would like to comment on the Boston Logan International Airport, 2020/2021 Environmental Data Report (EEA #3247).

First and foremost, we appreciate the extension of the deadline for comments to January 23, 2023. The previous deadline on January 6th, right after the holidays, would have been rushed.

We would like to see more detailed information about the impact methodology in regards to the impact along the Mary Ellen Welch Greenway. For example, what are the expected air quality metrics along the Greenway?

Additionally, as the airport continues to grow, we would like to see it address an increase in traffic on 1A. We are highly interested in the locations with the most traffic volume along the Greenway, particularly on the Martin A. Coughlin Bypass Road.

Finally we would like to echo's AIR Inc.'s note about adding key updates to the ESPR 2017 iteration of Logan's unique MEPA review process:

1. The relevant scientific research on health impacts of aviation noise and pollution
2. Additional strategies to keep mitigation on pace with growth
3. Strategies for the most effective distribution of air filtration units

Best regards,

Sincerely,

Karen Maddelana
President
Friends of the Mary Ellen Welch Greenway
Cc: Nathalia Benitez, COB Neighborhood Services and District 1 City Councillor Gabriela Coletta.