UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

OFFICE OF THE
REGIONAL ADMINISTRATOR

June 20, 2001

Mr. John Silva, ANE-600
Federal Aviation Administration
New England Regional Office
12 New England Executive Park
Burlington, Massachusetts 01803

RE: Supplemental Draft Environmental Impact Statement for Logan Airside Improvements Planning Project Boston-Logan International Airport Boston, Massachusetts dated March, 2001
EPA ERP # FAA-B51017-MA

Dear Mr. Silva:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, we have reviewed the Supplemental Draft Environmental Impact Statement (SDEIS) for the proposed Logan Airside Improvements Planning Project at Boston-Logan International Airport, Boston, Massachusetts.

The proposed project and the goals it is intended to achieve, as described in the SDEIS, remain consistent with those outlined in the 1999 DEIS. Namely, the project is intended to reduce current and anticipated aircraft delay through a combination of measures, including runway and taxiway construction, to position the airport to better handle poor weather conditions and unfavorable winds. The preferred alternative continues to be a new 5000 foot unidirectional runway 14/32; a new centerfield taxiway; and changes to the southwest corner taxiway, Taxiway Delta and Taxiway November. The proposal also includes reductions in approach minimums on runways 22L, 27, 15R and 33L.

EPA is grateful that Administrator Garvey decided to supplement the 1999 DEIS with this SDEIS that responds to objections and concerns that we raised. While the new document represents an improvement, we believe that the FEIS should provide additional analysis on several issues that are important to assessing the project. These include the noise impacts of the project on surrounding communities, strategies for mitigating these impacts, and the degree to which the project will achieve its purpose.

EPA's primary objection about this project is focused on the increase in noise impacts on neighborhoods off runways 27 and 33 and this is amplified because of concerns about impacts on minority and low income populations. The SDEIS concludes that 378 residents in Chelsea, East Boston, South Boston, and Winthrop would be newly exposed to noise at the 65 DNL level if the project is built. An analysis required by the Massachusetts Executive Office of Environmental

Affairs indicates that 1619 people in these neighborhoods and Everett will be newly exposed to significant increases in noise. In view of these varying estimates the FEIS needs to address whether the noise modeling accurately portrays the noise impacts off runway 27, and whether, in addition, those impacts create disproportionate and adverse impacts on minority and low income residents.

We recommend that the issues discussed below and in the attachment, many of which were raised in our April 1999 and November 2000 comment letters and in the advisory panel process, be addressed in the FEIS:

Project Impacts

- The comparison between impacted neighborhoods and the general population in the environmental justice analysis:

  EPA appreciates the considerable expansion of the environmental justice (EJ) analysis in the SDEIS, and especially the level of detail in the noise analysis that allows specific neighborhoods to better understand how they might be impacted. Using Suffolk County as the only reference community to determine whether disproportionate impacts exist needs explanation. As the SDEIS documents, Suffolk County includes a substantial number of minority and low income residents. The FEIS should explain why Suffolk County is the sole and most appropriate area of comparison. In addition, we note that consistent with the Department of Transportation Order to Address Environmental Justice in Minority Populations and Low-income Populations, the analysis of disproportionality could be undertaken within the context of the analysis of which "population is served and or affected by race, color or national origin and income level." 62 Fed. Reg. 18377, 18380 (April 15, 1997).

- Assumptions about future air traffic patterns:

  Questions concerning the capacity of different runway configurations need to be considered in the FEIS in incorporating Preferential Runway Advisory System (PRAS) goals into assumptions used to model noise impacts.

- The noise impacts from increased use of runway 27 on land use plans for the South Boston waterfront:

  The FEIS should address the noise impacts the preferred alternative could have on the future development projects that Boston plans to create in that district.

- The effect of this and other improvement projects on Logan's overall capacity:

  The conclusion that the new runway will not cause significant adverse impacts relies largely on the premise that the project will not expand capacity at Logan. The FEIS needs to address whether the net effect of this and numerous other improvement projects at Logan would be an increase in the airport's capacity for aircraft operations. Also, previous modeling from Massport of the operational capacity of the runway configurations at Logan raises the question whether the airfield in fact has the capacity to handle 120 operations per hour most of the time. Therefore, the FEIS should address whether it is reasonable to assume that Logan is over scheduled only when operations exceed 120 per hour.

Project Mitigation

- Additional mitigation strategies that could reduce potential impacts:

  The SDEIS identifies a series of mitigation measures, including soundproofing residences, that will be made to reduce the impacts of the proposed project. EPA recommends that other measures also be assessed in the FEIS. If FAA decides to approve the runway without requiring peak period pricing first, then Massport should consider implementing a pricing strategy designed to have a predictable effect on regional jet traffic now, rather than wait for delays to mount first. We also recommend that the FEIS assess the noise impacts of a restriction on runway use in wind conditions 20 knots and higher, and explain whether such a restriction could be implemented. Massport should also consider additional noise reduction measures pursuant to a Part 161 process. We recommend that FAA and Massport explain how such commitments and mitigation measures can be made and remain enforceable. Further, we recommend that the FEIS compare the delay reduction aspects of implementing peak period pricing to the delay reduction benefits of the new runway, and then present the benefits of peak period pricing with and without the benefits from the new runway.

Project Need

- Impact of regional jet (RJ) operations on delay reduction from runway 14/32:

  Consultants to the Community Advisory Committee (CAC) have provided data that indicate the SDEIS may understate the numbers of RJs that will be operating out of Logan and overstate the ability of those RJs to use the new runway. This new information raises important questions about the ability of a 5000-foot runway to accommodate RJ traffic, which may prevent the project from achieving the delay reductions and the noise redistribution projected in the SDEIS. It will be important for the FEIS to address this new information.

- Regional multimodal transportation planning:

  Whether or not the FAA approves this project, it and other improvements at Logan should be considered in the context of a more substantial multimodal regional transportation plan than currently exists. Therefore, EPA recommends that Massport and the FAA join with other federal, state and regional authorities to address transportation in the region. Increased mass transit linkage to and between regional airports, shuttle service and the development of rail service are all measures that could be actively pursued to address flight delay. For example, a rail connection to T.F. Green Airport in Rhode Island is in development, but no such progress is being made with Manchester Airport. Massport, the Massachusetts Bay Transportation Authority, and MassHighway have an opportunity at this time to cooperate with the New Hampshire Department of Transportation (NH DOT) in their ongoing work in the I-93 corridor. NH DOT is considering two rail options, as well as expanding the highway. We encourage Massport to work with EOTC agencies and NH agencies to get such a study underway immediately, in order to ensure that rail service will be available in a timely way and will provide good linkages to the region's airports. The SDEIS did discuss Massport's recent efforts to support New England's other airports but we believe more should be done. Recent news reports indicate that Massport has championed establishment of a unified airport system for New England. This is an innovative suggestion that should be considered in the dialogue about tools to help reduce airport delay in the region.

  Finally, Logan's largest market is travel to New York City. Assuming LaGuardia remains the nation's most delayed airport, passengers will have a major incentive to use the train. That shift should have a corresponding benefit of reducing Logan flights to an airport with delays that directly impact Logan's operations.

For the reasons discussed above and in the attachment, EPA has rated this SDEIS "Environmental Objections; Insufficient Information" in accordance with EPA's national rating system, a description of which is attached. Please feel free to contact me or Elizabeth Higgins of the Office of Environmental Review at 617/918-1051 if you wish to discuss these comments further.

Sincerely,

Ira W. Leighton
Acting Regional Administrator

enclosure
cc:
Jane Garvey, Administrator, FAA
Bob Durand, Secretary Executive Office of Environmental Affairs

cc list (continued):

Lauren Liss, Commissioner Massachusetts Department of Environmental Protection
Senator Edward M. Kennedy
Senator John F. Kerry
Congressman Edward Markey
Congressman Michael Capuano
Governor Jane Swift
Mayor Thomas Menino
Virginia Buckingham, Massport
Anastasia Lyman, Sandra Kunz, Co-Chairs Community Advisory Committee

SUMMARY OF RATING DEFINITIONS AND FOLLOW-UP ACTION

Environmental Impact of the Action

LO--Lack of Objections
The EPA review has not identified any potential impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC--Environmental Concerns
The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO--Environmental Objections
The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU--Environmentally Unsatisfactory
The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1--Adequate
EPA believes that draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2--Insufficient Information
The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3--Inadequate
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

Technical Attachment to EPA Comment Letter on Logan Airside Improvements Planning Project Supplemental Draft Environmental Impact Statement

Project Impacts

Noise

Community Impacts

EPA's primary objection about this project is focused on the increase in noise impacts on neighborhoods off runways 27 and 33 and this is amplified because of concerns about impacts on minority and low income populations. The SDEIS concludes that 378 residents in Chelsea, East Boston, South Boston, and Winthrop would be newly exposed to noise at the 65 DNL level if the project is built. An analysis required by the Massachusetts Executive Office of Environmental Affairs indicates that 1619 people in these neighborhoods and Everett will be newly exposed to significant increases in noise. In view of these varying estimates the FEIS needs to address whether the noise modeling accurately portrays the noise impacts off runway 27, and whether, in addition, those impacts create disproportionate and adverse impacts on minority and low income residents. (Also, see environmental justice comments below)

Preferential Runway Advisory System

The noise analyses presented to date include many references to compliance with the Preferential Runway Advisory System (PRAS), generally stating that the project will enhance FAA's ability to operate the airfield consistent with PRAS goals. It also appears that the SDEIS assumes a higher rate of compliance with the PRAS goals when projecting the impacts of the project. While the document does include a brief footnote stating that the CAC does not endorse the use of PRAS for these purposes, the SDEIS does not present the rationale behind that rejection. EPA believes that the FEIS should provide additional information on why the assumptions regarding the level of use of the preferential runway advisory system should be incorporated in the model.

South Boston Waterfront Development

Since this development is proposed to be a mixed-use neighborhood with a significant residential component we recommend that the FEIS discuss the likely noise and air exposures that might be experienced by the development . The SDEIS in section 6.3.1.2 simply concludes that operations off runway 14/32 over the Boston Harbor will not affect development in South Boston.

Growth

We recommend that the FEIS address the issue of whether the new runway will expand Logan's capacity, especially when combined with the new terminals and other landside improvements. MIT Professor Amedeo Odoni, one of the expert presenters at the advisory panel meetings, concluded that the net effect of the improvements at Logan would be to increase the airport's

capacity for aircraft operations, certainly in the near term. Professor Odoni suggested that the original DEIS and the so-called "Brown Book" or Interim SDEIS ignored not so much the possibility of induced growth as the likelihood of deterred operations at Logan. We recommend that the FEIS present an assessment of the deterrent effect that increasing delays under the no-build scenario would have on passengers' desire to use Logan and airlines' desire to schedule flights at the airport. It should then estimate the resulting difference in the number of operations under the build and no-build scenarios and the corresponding change in environmental impacts. Addressing the possibility of deterred growth in the FEIS will allow the FAA to examine the possibility that noise impacts might differ more significantly under the build scenario. This analysis may also show whether air emissions might show an increase under the build scenario. In addition, the SDEIS assumes that Logan is over scheduled only when operations exceed 120 per hour and that the baseline for planning at the airport should be 120 operations per hour maximum capacity. Data developed by the CAC's consultants from the Flexible Airport Simulation Model (FLAPS) Capacity Analysis presented to the Airside Review Committee in April 1996 suggests that there is only one runway configuration capable of operating at 120 operations per hour and then only under optimum conditions available roughly 18% of the time in a year, with a high percentage of non-jet aircraft. This study suggests that all other runway configurations at Logan appear to have substantially lower capacity for operations, even in otherwise good weather. Therefore the FEIS should address whether it is reasonable to assume that Logan is overscheduled only when operations exceed 120 per hour.

Environmental Justice

EPA appreciates the considerable expansion of the environmental justice (EJ) analysis that the SDEIS contains compared with the DEIS. It is especially helpful that the SDEIS presents the noise analysis with a level of detail that allows specific neighborhoods to better understand how they might be impacted. EPA is concerned, however, that the EJ analysis in the SDEIS does not address several comments EPA made on the Brown Book in the November 6, 2000, letter.

Reference Community

EPA remains concerned that using Suffolk County as the only reference community for the purposes of assessing whether there is a disproportionate impact may unnecessarily narrow the utility of the comparisons of populations in the EJ analysis. As noted in Environmental Justice Q&A: Interim FAA Policy Guidance, "additional care should be taken to determine if the percentage of the minority population within the affected area is meaningfully greater than the minority population's percentage in the general population or other appropriate area." p. 3. Suffolk County is a very small geographic area comprised substantially of the City of Boston and communities impacted by the airport's operations. Moreover, its population has a substantially higher minority and low-income population than the surrounding metropolitan area or the rest of the Commonwealth. The FEIS should explain why Suffolk County is the sole and most appropriate area of comparison. In addition, we note that consistent with Department of Transportation Order to Address Environmental Justice in Minority Populations and Low-income Populations, the analysis of disproportionality could be undertaken within the context of the analysis of which "population is served and or affected by race, color or national origin and

income level." 62 Fed. Reg. 18377, 18380 (April 15, 1997).

Public Health Studies

EPA is concerned that the SDEIS does not sufficiently acknowledge the implications of the Winthrop study. During the meetings of the FAA advisory panel, several panel members noted that the Winthrop Community Health Survey raised troubling questions about the impacts of Logan on the surrounding communities, in light of the increased incidence of self-reported health problems in the neighborhood near Logan when compared with an otherwise similar population in a neighborhood further from Logan. While it is true that the Massachusetts Department of Public Health had concerns about the Winthrop study's methodology, the Department did acknowledge that the study raised important questions. It is also notable that the Department is undertaking its own study to pursue questions about the impact of the airport's operations on the surrounding communities. To assess the cumulative effect of proposed airside and landside changes at Logan the public should have a chance to understand the results of the Department's public health assessment. The FEIS should consider the possibility of adaptive mitigation if the DPH study confirms the implications of the Winthrop study.

Noise Modeling and Affected Populations

Community representatives have submitted monitoring data to EPA showing annual noise levels at the 65 DNL level in Roxbury well beyond the projected contours presented in the SDEIS. This raises a question whether the noise models used for the SDEIS are capturing all the affected populations, especially off Runway 27. If the 65 DNL contour does reach into Roxbury (see Figure 6.2-9 of the SDEIS), then the affected minority and low income population may increase. We recommend that the FEIS address these issues, including exploring EPA's mitigation recommendations below. In addition, the FEIS needs to examine the possible disruptive effect daytime noise has on school operations, even if they are beyond the 65 DNL boundary.

Air Pollution

The SDEIS concludes that the preferred alternative will result in fewer airside emissions [volatile organic compounds (VOCs), nitrogen oxide (NOx), carbon monoxide (CO) and particulate matter (PM)] than the no-action alternative. As noted in our April 1999 comments on the DEIS, this conclusion rests on the assumption that the future number of aircraft operations remains constant whether or not Runway 14/32 and the many other improvements at Logan are built. We continue to have questions about this core assumption underlying the analysis. Based on that assumption, the preferred alternative would have fewer emissions of volatile organic compounds, nitrogen oxides, carbon monoxide and particulate matter than the no-action alternative, since the total flight operations are the same for both alternatives, but the preferred alternative's fewer delays and greater airside efficiency result in less idling of aircraft engines.

With or without this project, the overall air pollution impacts of Logan Airport's operations and ground access to the airport are substantial and call for significant mitigation. Air quality in the Boston area continues to regularly exceed EPA's 8-hour ozone national ambient air quality

standard (NAAQS) and preliminary monitoring indicates that some monitoring sites in Boston are quite close to EPA's annual NAAQS for fine particulate matter ($PM_{2.5}$ also expressed as PM_{fine}). As a result of EPA and state air quality requirements, emissions of the pollutants contributing to ozone and fine particulate matter are falling significantly in most categories of sources. An exception is aircraft operations at Logan Airport. While emissions of volatile organic compounds and carbon monoxide are expected to drop in future years, the emissions of NOx from aircraft are expected to increase in future years. Because other major emitters of NOx are reducing their emissions, Logan Airport is expected to become the second largest producer of NOx emissions in Massachusetts within a few years. EPA is prepared to continue its work with DEP and Massport to pursue reasonable steps to reduce emissions associated with Logan's operations.

Massport addresses ongoing and future efforts in the SDEIS which would reduce emissions of VOC, NOx and PM from airside activities. We have also identified two additional efforts below that Massport could undertake. EPA believes these strategies should be committed to in the FEIS and Record of Decision to ensure that these emission reduction measures are implemented and the environmental and health benefits realized.

The emission reduction measures discussed in the SDEIS which Massport has indicated it could implement are as follows:

Efficient Use Of The Region's Transportation Infrastructure

Massport and FAA have a great opportunity to continue to support regional transportation strategies through work to implement reasonable transportation strategies identified in the ongoing "New England Airports System Study." When complete, it is expected that the study will evaluate the potential for international, charter, and cargo services at each of the regional airports; evaluate capacity issues at each of the regional airports; and consider the development of high occupancy vehicle/ground transportation and rail alternatives to improve access to the regional airports.

Peak Period Pricing Peak period pricing is a demand management tool that Massport should consider using now to avoid air traffic congestion. The SDEIS proposes that Massport will resort to peak period pricing only after it builds 14/32 and then only after delays have begun to mount at the airport. The SDEIS also appears to assume that regional jets in the High RJ scenario will overwhelmingly displace regional non-jet operations, with only a marginal impact on mainline jet operations. It will be critical to explain the basis for this assumption and how it compares with historical patterns of RJ use in fleets. If RJ's have a greater effect in displacing larger mainline jet operations, then a peak period pricing regime structured to create an incentive to consolidate RJ flights into mainline jets could have a substantial effect on delays. Moreover, if the CAC's new information is correct that most RJ's will not use runway 14/32, a pricing mechanism may be one of the only realistic options for addressing the resulting delays, short of building a new 7000 foot runway. A Peak Period Pricing System could also avoid airline over-scheduling contributing to delays that cause increased air pollution.

Massport's Air Quality Initiative (AQI) This initiative will cap Nitrogen Oxide and Volatile

Organic Compounds emissions, two key ingredients for ground level ozone, at 1999 levels. EPA recommends that Massport's primary emission control strategy should be to reduce airside and access emissions to the maximum extent possible at Logan Airport, prior to supporting regional reduction measures or emission trading.

Reduce Emissions From Ground Support Equipment (GSE) through the use of alternative fuel (cleaner burning fuels) and conversion of a portion of the GSE fleet to electric-powered ground support equipment. Massport should continue to support converting ground support equipment and ground service vehicles to clean alternative fuels including compressed natural gas (CNG) and electricity by writing such strategies in leases and agreements with the air carriers and service providers. EPA supports expansion of the ongoing "Clean Air Partners" program where tenants can receive reimbursement for electric ground support equipment.

Implementing the Clean Air Construction Initiative in cooperation with MADEP and Northeast States for Coordinated Air Use Management (NESCAUM). Massport will require contractors to retrofit their heavy construction equipment with advanced pollution control devices during construction in accordance with DEP's Clean Air Construction Initiative.

Support Of Ongoing Airport Access Measures Massport should continue to enhance their accomplishments in promoting mass transit access and marketing alternative travel modes (Logan Express - Logan DART) for the flying public and airport employees to travel to Logan.

Additional emission reduction measures that should be considered as part of the project are discussed in the following section.

Project Mitigation

The discussion of mitigation proposals contained in the SDEIS needs to be expanded in the FEIS to include the following:

Enforceability

The FEIS should contain a thorough analysis of options for legally binding mechanisms for implementation of mitigation commitments such as unidirectional use of the runway and others, discussed below. EPA believes that including this in the FEIS could enhance the public's sense of certainty regarding implementation of these measures.

Wind-Restricted Runway

The idea of a wind-restricted runway emerged during FAA's advisory panel process. Advocates argue that the restriction would protect against the prospect that the new runway would increase the overall capacity of the airfield and would protect against increased noise impacts off Runway 27. Opponents of this measure counter that the restriction would limit FAA's ability to use the airfield freely to distribute noise according to PRAS. In any case, it is difficult to assess the wisdom of a wind-restricted runway using the presentation in the SDEIS. The noise analysis in

Appendix D covers only a runway restricted to use during a 5 knot northwest wind. Five knots appears to be an unrealistically low level at which to set the wind restriction and does not provide a useful basis for assessing the value or harm of such a restriction. If one of the main purposes of runway 14/32 is to provide a second or third runway when Logan is restricted to one or two runways, then it appears that a real wind restriction might reasonably correspond to the level at which the tower is forced to use a two runway configuration. A full analysis of the impacts and potential benefits of a range of wind restriction scenarios should be presented in the FEIS, including winds of at least 20 knots and including a discussion of how the tower would implement the restriction.

Peak Period Pricing

We believe that peak period pricing should be implemented now as a way to reduce delays at Logan whether or not the FAA decides to approve a new runway. Massport should not wait to implement peak period pricing until after the end of a lengthy monitoring process. It should be possible to structure a peak period pricing program that could be adopted now that would send the right market signals to airlines about the optimal fleet mix for maximizing Logan's capacity. Indeed, with the program of exemptions for certain communities that depend on commuter plane connections to Logan, it appears that imposing peak period pricing on the current level of operations would have very little negative impact on operations at Logan. Such an approach could send clear market signals now to avoid mounting congestion peaks with corresponding reduction of air pollution, rather than trying to undo those peaks after they have materialized.

Sound Proofing Schools

Massport should assess whether some schools in the 60 DNL contour would benefit from soundproofing, and if so, implement those measures. One approach would be assess the schools which are nearest the airport 65 DNL contour.

Diesel Fuel For Construction Vehicles

An additional construction emission reduction measure which would provide substantial benefit would be the requirement that contractors use highway diesel fuel (fuel with a maximum sulfur content of 500 parts per million) for all diesel construction equipment. Currently earth moving construction equipment and other construction vehicles that remain on the construction site are exempted from using highway diesel fuel and can use a diesel fuel with an unregulated sulfur content that could be as high as 2,500 to 3,000 parts per million. Highway diesel fuel is readily available and would provide the benefit of reducing particulate matter.

Retrofits for Diesel Trucks, Buses, and other Equipment

As part of their Air Quality Initiative, Massport should consider including particulate matter filter retrofits of any diesel equipment not being converted to an alternative fuel or electric, not just construction equipment as described above. Control of particulate matter from such vehicles will provide local air quality benefits to mitigate any potential impacts from such equipment.

A similar retrofit program is currently in place for the Central Artery/Tunnel, where conversion of 25 percent (70 pieces) of construction equipment will reduce emissions of hydrocarbons (or volatile organic compounds), carbon monoxide, and particulate matter. NESCAUM studies show that use of an oxidation catalyst, which may also be used in conjunction with a fuel-borne catalyst, can reduce, on average, volatile organic compounds by 42 percent, carbon monoxide by 31 percent, and particulate matter by 23 percent. Use of a particulate filter can reduce particulate matter by 81 to 96 percent and, when the filter is coated with an oxidation catalyst, carbon monoxide and volatile organic compounds can be reduced by 66 percent.

Adaptive Measures

Due to the uncertainty in aircraft operational forecasting, we recommend that the noise mitigation program include some adaptive aspects. For example, the noise model might be run with actual operational data a year after the new runway becomes operational. This would provide a more accurate view of the noise exposure situation and possible additional noise mitigation that would need implementation. Future noise modeling could be done whenever actual operational data indicates that the noise contours might have changed to the extent that additional noise mitigation is needed.

Project Need

Regional Jets

The SDEIS explains that it is likely that RJs will play an increasingly important role in Logan's future. As part of the analysis, Appendix C studies whether a 5000 foot runway will adequately serve RJs at Logan in the future. Specifically, the analysis considered FAA operating regulations and manufacturers' performance information to describe the likelihood that Canadair CRJ-200 (CRJ), Embraer 135 and Embraer 145 (ERJ), and Fairchild 328 jets would utilize runway 14/32. It concludes that Fairchild RJs would be able to land on 14/32 whenever it is in use, that ERJs would not use the runway in wet conditions, and that CRJ landings should not be expected on runway 14/32 at Logan.

The CAC consultants' analysis of firm orders for RJs for airlines that operate at Logan raises questions about the ability of 14/32 to reduce delays at Logan that are not addressed in the SDEIS. For example, the CAC report highlights the rapid growth in RJs and documents the presence of a strong RJ market at Logan today (close to 20% of the existing operations mix). The CAC report summarized firm orders for RJs as follows:

RJ Type	*Existing Fleet*	*New Firm Orders*	*Total RJs In Fleet*
CRJ	*242*	*226*	*468*
ERJ	*182*	*304*	*486*
DRJ (F/D):	*20*	*35*	*55*
Other	*35*	*0*	*35*

The SDEIS analysis does not contain this important information, and most of the long-term forecasts provided by Massport, with the exception of the 37.5 High RJ fleet, acknowledge only very low numbers of RJs in Logan's future. For example, the SDEIS 37.5M Low forecast assumes 5% RJs, the 37.5M High assumes 3% RJs and the 45M High assumes 4% RJs. However, the CAC report points out that, based on the current level of RJ operations and growth at Logan, it is "unrealistic to think that there will be fewer than 15% of RJs in any future fleet." More information is necessary to understand the basis for Massport's projections about RJs under future fleet scenarios.

The information in the SDEIS and the CAC consultants' report raises the question whether runway 14/32 can provide the assumed delay reduction benefits at the proposed 5000 foot length. The firm orders indicate a preponderance of CRJs and ERJs in the RJ fleet, planes that will not use 14/32, or will only use it under dry conditions, respectively, and would need to use another runway at Logan. Both the operational and environmental (noise, EJ) impacts of these changes to the fleet mix are not captured by the current analysis.

We recommend that the CAC consultants' "White Paper on Regional Jets & Boston Logan International Airport" be comprehensively addressed in the FEIS through the preparation of a revised analysis. Moreover, we recommend that the revised analysis examine the extent to which RJ use of the larger runways would alter the noise impacts forecasted in the SDEIS.

Demand Management

If the CAC is correct about Logan's average capacity (98 operations per hour currently and 110 operations per hour with 14/32), then as of August 2000, Logan was currently operating over or near its peak capacity for 6-7 hours a day;. adding 14/32 would still have left at least 3 hours a day with scheduled operations in excess of the airfields' capacity. This information suggests that demand management would be beneficial as a delay reduction tool for current operating conditions. Especially in light of the increased role of RJs in the fleet using Logan and the possibility that they may be competing with larger aircraft for use of the longer runways, we recommend that Massport consider imposing peak period pricing now to shape industry planning.