DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

NEW ENGLAND REGION

AUGUST 2, 2002

RECORD OF DECISION

AIRSIDE IMPROVEMENTS PLANNING PROJECT

LOGAN INTERNATIONAL AIRPORT
BOSTON, MASSACHUSETTS

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I. INTRODUCTION

This Record of Decision (ROD) documents aircraft delay, air traffic control efficiency, aviation safety, and environmental factors considered in the Federal Aviation Administration's (FAA) decision to proceed, subject to mitigation measures discussed in detail in Chapter 4 of the Final Environmental Impact Statement (FEIS) and summarized in Section VIII of this ROD, with the following federal actions related to Logan International Airport, Boston, Massachusetts:

- The approval of the Logan International Airport Layout Plan (ALP) to depict certain Airside Improvements Planning Projects (Airside Projects) proposed by the Massachusetts Port Authority (Massport)[1], pursuant to 49 U.S.C. § 40103(b) and § 47107(a)(16). (Approval of the ALP to depict these projects does not constitute a commitment on the part of the FAA to participate in or fund the development.) The Airside Projects approved include: (1) construction and operation of unidirectional Runway 14-32, (2) reconfiguration of the southwest corner taxiway system, (3) extension of Taxiway Delta, and (4) realignment of Taxiway November[2]. These projects are shown in Figure 1 and are described in greater detail in Section IV below and as part of the Preferred Alternative (Proposed Action) of the *Final Environmental Impact Statement (Final EIS) Logan Airside Improvements Planning Project* (June 2002).
- The federal environmental approval necessary to proceed with the processing of an application for federal grant-in-aid funds (49 U.S.C. §§ 47101 *et seq.)* and Passenger Facility Charge funds (49 U.S.C. § 40117).
- The administrative action pursuant to 49 U.S.C. §§ 40101(d) and 40103(b) to reduce instrument approach minimums to Runways 22L, 27, 15R, and 33L.

These actions require compliance with the National Environmental Policy Act (42 U.S.C. §§ 4321 *et seq.),* as implemented by the regulations of the Council on Environmental Quality (40 C.F.R. Parts 1500-1508), and other federal environmental laws, regulations, and Executive Orders, in accordance with environmental directives of the FAA (Orders

[1] Massport is the proprietor of Logan International Airport. In this role, Massport has proposed and sponsored all of the improvement projects discussed in this EIS, with the exception of the reduced minimums.
[2] Inherent in these improvements is the establishment or modification of air traffic control procedures and attendant navigational aids pursuant to 49 U.S.C. § 40103 and § 44502.

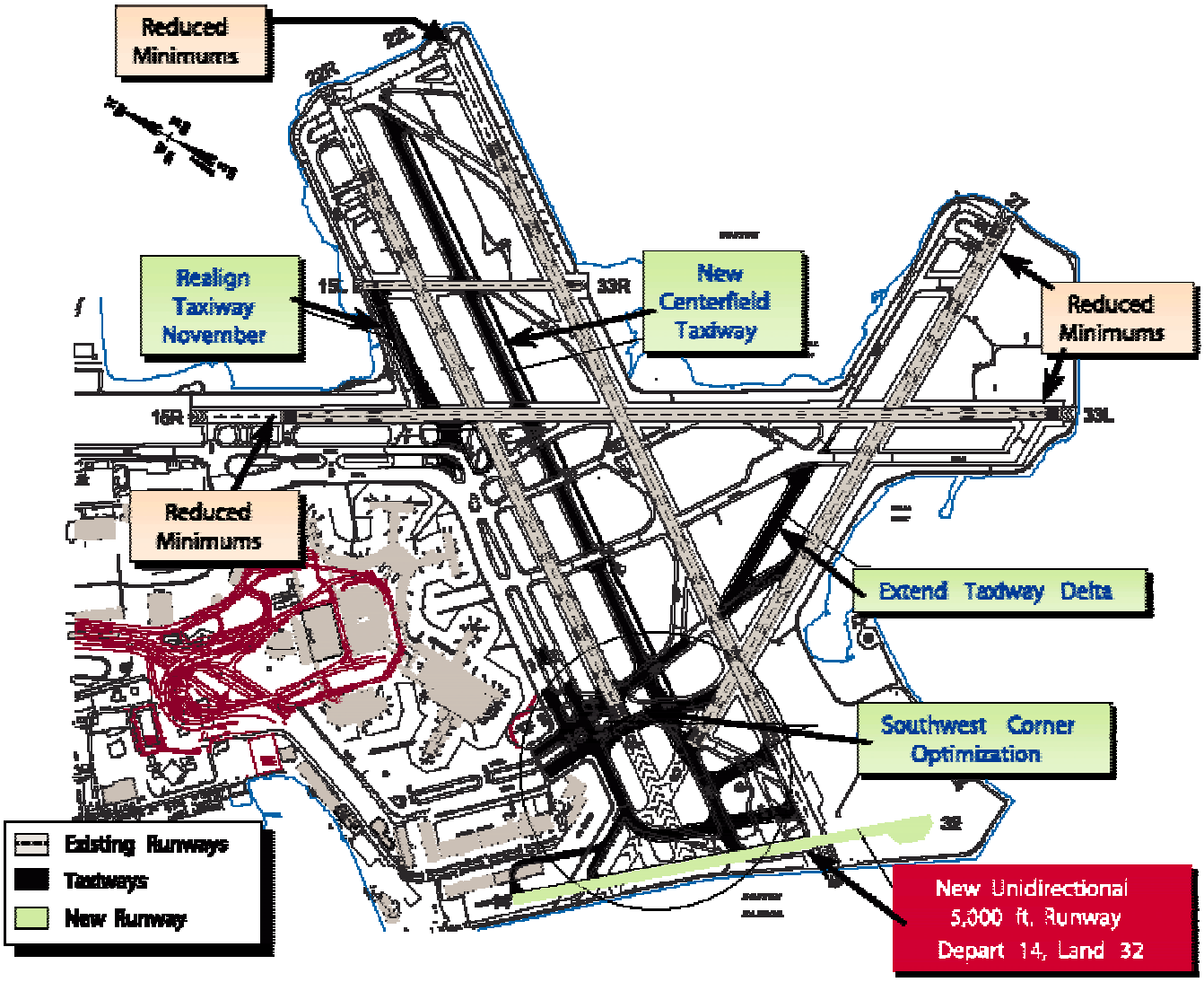

Figure 1

PHYSICAL AND OPERATIONAL IMPROVEMENT OPTIONS

1050.1D, Policies and Procedures for Considering Environmental Impacts, and 5050.4A, Airport Environmental Handbook).

During the environmental impact statement process and as part of its review, the FAA has identified all practicable means to avoid or minimize environmental harm from the Preferred Alternative, including (1) unidirectional use of Runway 14-32 (arrivals from and departures to the southeast only) and (2) restriction on the use of unidirectional Runway 14-32 to conditions when northwest or southeast winds equal or exceed ten knots. Details concerning these and other mitigation measures are contained in Chapter 4 of the Final EIS and summarized in Section VIII of this ROD. The FAA adopts and commits to these mitigation measures as part of this decision. As discussed in detail in Section VIII, the FAA shall monitor compliance with the wind restriction on Runway 14-32 and take appropriate steps such as conditions in project grant agreements to ensure that other mitigation measures are implemented during project development.

FAA is also deferring any decision concerning the Centerfield Taxiway until FAA conducts an additional evaluation of potential beneficial operational procedures that would preserve or improve the operational and environmental benefits of the Centerfield Taxiway shown in the Final EIS. The measure is also discussed in detail in Chapter 4 of the Final EIS and Section VIII below.

II. BACKGROUND: ENVIRONMENTAL REVIEW PROCESS AND COMMUNITY INVOLVEMENT

The Airside Improvements Planning Project began in 1995 with a Massport evaluation of earlier FAA airport capacity studies and a decision to support certain recommendations of these studies. On August 22, 1995, EPA published FAA's Notice of Intent to prepare an EIS. FAA and Massport then began preparation of a combined Environmental Impact Statement (EIS)/ Environmental Impact Report (EIR) to meet federal and state requirements, respectively. The Massachusetts Secretary of Environmental Affairs defined the Scope of the Draft EIR in November 1995 and the FAA issued the Scope for the Draft EIS in January 1996.

An extensive public review process was conducted during production of the Draft EIS/EIR. In November 1995, Massport formed an Airside Review Committee (ARC), consisting of the Logan Community Advisory Committee (CAC, representing 24 communities in the vicinity of Logan) and 11 business and industry organizations. Massport also funded an independent consultant for the CAC to professionally assess the analysis and conclusions of the consultant team used by FAA and Massport. Massport, in conjunction with the FAA, held 16 meetings with the ARC between 1995 and 1999, 15 additional meetings with the CAC, and multiple meetings with the CAC's consultant. Massport also made 29 presentations to elected officials and held 45 meetings with community and business leaders, reaching an audience of over 3,000 people. FAA attended many of these meetings. Following a change in Massport administration during

this time period, there were approximately 18 months when there was no substantial progress on the study while Massport evaluated the Airside Project.

A Draft EIS/EIR was filed for review in February 1999, followed by a 60-day comment period. Public hearings occurred on April 7th and 8th of 1999. Approximately 800 people attended the hearings and FAA received approximately 500 comment letters.

On May 7, 1999, the Massachusetts Secretary of Environmental Affairs concluded that the Draft EIR for the Airside Improvements Project adequately and properly complied with the Massachusetts Environmental Policy Act (MEPA) and that the project should proceed to a Final EIR. In this certificate, the Secretary directed Massport to respond to substantive comments in the Final EIR.

In January 2000, FAA decided to prepare a Supplemental Draft EIS (SDEIS) to address certain additional issues. Under FAA's direction, a SDEIS Panel was formed that consisted of three members appointed by the Mayor of the City of Boston and three members appointed by the Governor of the Commonwealth of Massachusetts. The Panel met 12 times between March and December of 2000, for the purpose of better understanding technical issues and advising FAA on the contents of the SDEIS. FAA arranged for a number of technical presentations to the Panel and developed a Scope of Work for the SDEIS that reflected concerns of the Panel. The SDEIS also reflected issues raised by the Secretary of Environmental Affairs and was subsequently published as a joint SDEIS/Final EIR. Notice of Availability of the SDEIS was published in the *Federal Register* on March 23, 2001.

The SDEIS was the subject of an extended 75-day comment period and two public hearings held on April 25, 2001. Approximately 800 people attended and an estimated 850 comment letters were received.

On June 15, 2001, the Secretary certified that the Final EIR adequately and properly complied with MEPA and its implementing regulations based on inclusion of the following measures: the NOx cap, noise mitigation, revamping of the Preferential Runway Advisory System (PRAS) goals, regionalization, and participation in the Logan Transportation Management Association. Massport subsequently adopted 14 findings that contained all these mitigation commitments and added commitments that might arise from the Final EIS. These findings included: (1) peak period monitoring as a demand management program; (2) commitment to begin working with CAC to update PRAS; and (3) a regional transportation program to improve public transportation and other alternative modes of transportation.

After the State approval, Massport initiated legal action in State court against the City of Boston and others to dissolve the 26-year old injunction against construction of an antecedent to Runway 14-32. The City of Chelsea and several South Shore towns and cities joined in the legal action to support the City of Boston's contention that Massport had agreed to the injunction. The Town of Hull filed a separate legal action alleging that

Massport's Final EIR violated MEPA. The Hull MEPA case is now being heard and the case seeking to dissolve the injunction is scheduled to be heard in January 2003.

On June 28, 2002, FAA published a Notice of Availability of the Final EIS in the *Federal Register* and announced a 30-day comment period. The Final EIS presented updated, additional, and in some areas further independent analyses, as well as more detailed mitigation commitments on the part of FAA. It also responded to comments received on the SDEIS.

The Final EIS expressly relied upon and incorporated by reference the Draft EIS/EIR and the Supplemental DEIS/Final EIR and did not attempt to repeat that foundational information and analysis except as necessary to support the conclusions of the Final EIS.

III. PURPOSE AND NEED: LOGAN AND AIRCRAFT DELAYS

FAA's Responsibilities. The Federal Aviation Act (49 U.S.C. §§ 40101 *et seq.*) charges the FAA with providing for a safe and efficient national airspace system. FAA accomplishes this in part by funding airport development that enhances air traffic control efficiency and aviation safety. Projects that reduce air traffic control delays or reduce the probability of missed approaches are examples of actions that FAA can take to accomplish this mission.

Logan Delays. Logan International Airport provides access to a national and international air transportation system. This role is documented in FAA's *National Plan of Integrated Airport Systems*. Logan is the largest airport in the six-state New England Region and also operates as a regional hub for connecting passengers. The air traffic control tower recorded 488,000 landings and takeoffs in 2000. The airlines recorded 27.4 million passengers during the same year.

Logan is consistently ranked as one of America's most delayed airports. In 2000, Logan was the 6th most delayed airport overall, yet 11th in terms of total aircraft landings and takeoffs (operations). In 2000, Logan also had the 2nd highest amount of arrival delays of any airport in the nation. In 1998, airlines and passengers experienced approximately 142,000 hours of delay. These delays not only inconvenience the traveling public and adversely affect the regional economy, but also result in increased complexity for the air traffic control system and environmental degradation such as air pollution. FAA has a responsibility to work with Massport toward reducing aircraft delays.

The tragic events of September 11, 2001, severely affected airline travel and consequently aircraft delays. Since then, passenger levels and aircraft operations have slowly increased and FAA forecasts a strong recovery in 2003 with passenger levels returning to those prior to September 11th. Therefore, it is important not to lose the sense of urgency to expand airport infrastructure as delays increase again. At Logan, it is noteworthy that the delay reduction benefits of Runway 14-32 and other proposed

improvements would have occurred even at historic levels and do not depend on future growth.

Considering the magnitude of aircraft delays at Logan over the years and FAA's responsibility to provide for orderly and efficient air traffic control at Logan, it is appropriate for FAA to do its part to reduce aircraft delays at Logan. A significant cause of Logan delays is northwest winds, when the airport must shift from a north-south, three-runway configuration to an east-west, two-runway combination. (Another cause of delays is an inefficient taxiway system that causes ground delays.) The purpose of the Airside Projects is to reduce delays caused by these conditions. The proposed reductions in approach minimums will also enhance safety and improve runway reliability.

If Runway 14-32 had been available in 1998, annual runway delays would have been reduced by 32 percent and Visual Flight Rules (good weather) delays occurring during northwest winds would have been reduced 87 percent. Under the 29 million and 37.5 million passenger fleet scenarios[3] studied in the EIS, the proposed improvements would reduce runway delays by 21 to 28 percent. Assuming increased use of regional jets as part of the same passenger fleet scenarios, runway delays are reduced by 27 to 29 percent respectively.

The proposed taxiway improvements would eliminate 26 to 47 percent of projected ground delays under the long-term (2015) fleet assumptions. As airport activity grows over time, delay reduction benefits also increase.

Additional Means of Addressing Aircraft Delays. FAA has promoted and become an active participant in airport system planning to reexamine the role that regional airports such as Manchester Airport and Providence-T.F. Green Airport can perform in assuming greater market shares of passengers and aircraft operations. In the early 1990s, FAA began significantly increasing the level of infrastructure funding at Manchester and Providence when it became apparent that the airlines were beginning to make long-term service commitments. The introduction of low-cost carrier service in the mid-1990s accelerated the growth of airline activity until Manchester and Providence were the two fastest growing airports in the United States. In contrast, Logan's rate of growth has declined to a level lower than the national average. Since 1996, eight of ten new air passengers in New England used regional airports rather than Logan, reversing the historic pattern of eight out of ten new passengers using Logan.

This trend toward use of regional airports continues. FAA, along with Massport and each New England State, have recently initiated a *New England Regional Aviation System Plan Update* that will examine what can be done to even more efficiently distribute

[3] Throughout this ROD and the EIS forecasted passenger levels and levels of aircraft operations are associated with predicted delays. As an example, the "29 Million Low Fleet" refers to 29 million passengers and an aircraft fleet mix with a low number of turboprop operations (landings and takeoffs). Similarly, the term "37.5 Million High Fleet" refers to 37.5 million passengers and an aircraft fleet mix with a high number of turboprop operations. Various passenger levels and aircraft operations were used in order to permit a broad range of analysis of delays and environmental impact.

aviation demand throughout New England. FAA expects the study to develop air transportation strategies for more efficient use of the Region's airports, as well as opportunities for increased use of other modes of transportation, such as AMTRAK.

Also in the early 1990s, the Massachusetts Aeronautics Commission, with the participation of FAA, evaluated the potential of 182 sites for a Second Major Airport (SMA). Three were selected for further review but the study was unable to make a clear determination of an acceptable site. The study noted that a SMA would require 10 to 15 years of planning from site selection through initial airport construction and therefore was not a solution for accommodating growth in demand for a decade and a half. A follow-on Strategic Assessment Report examined regional air, rail, and land use issues and the amount of demand that could be shifted to alternative transportation modes. This study concluded that active pursuit of all available strategies for relieving passenger demand at Logan (including high-speed rail and regional airports) would not eliminate the need for landside and airside improvements at Logan.

As a part of the U.S. Department of Transportation, FAA has also explored inter-modal opportunities, participating as a cooperating agency in the electrification of rail between Boston and New York and recognizing that competitive rail service could help alleviate demand for shuttle airline traffic to LaGuardia. As part of a One DOT initiative, FAA meets periodically with its inter-modal counterparts to assess opportunities for complementing modal projects. Rhode Island's inter-modal transfer station, linking AMTRAK and commuter rail with the passenger terminal at TF Green Airport, is one such example.

Delays are a multi-faceted problem with different solutions. FAA continues to conduct research into delay reduction technology and air traffic control procedural improvements. While these initiatives have resulted in meaningful opportunities to reduce airspace delays, they have provided only limited opportunities to reduce airport-specific delays. The greatest opportunity to reduce airport-related delays lies in the need to construct new runways.

The EIS concludes that collectively these transportation system alternatives could potentially reduce demand at Logan by approximately 7 million passengers in 2015, but this future reduction in demand from transportation system alternatives will not fully meet the purpose and need of the Airside Project. Most of this 7 million passengers reduction will be reflected in the growth in passengers and aircraft operations at air carrier airports such as Manchester and Providence. In addition, Bedford-Hanscom Field will continue to provide much needed general aviation capacity. FAA anticipates that most of the growth in corporate aircraft operations in the metropolitan area will occur at Hanscom, which had approximately 40,000 such operations in 2000. These are operations that would otherwise occur at Logan.

IV. ALTERNATIVES CONSIDERED

In addition to the relevant environmental statutes, the FAA in its consideration of alternatives has been mindful of its statutory charter to encourage the development of civil aeronautics and safety of air commerce in the United States (49 U.S.C. § 40104). FAA has also considered congressional policy direction that airport construction and improvement projects that increase the ability of facilities to accommodate passenger traffic be undertaken to the maximum feasible extent so that safety and efficiency increase and delays decrease (49 U.S.C. § 47101(a)(7)). While FAA does not have the authority to control or direct the actions and decisions of Massport relative to planning for Logan airport, FAA does have the authority to withhold project approval, including federal funding and the other federal actions discussed in this ROD. It was from this perspective that the various alternatives were considered in terms of evaluating and comparing their impacts to determine whether there was a superior alternative or whether the proposed action would cause impacts warranting disapproval of the federal actions discussed in this ROD, including the withholding of federal funds.

FAA provides for a safe and efficient air traffic control and air navigation system and approves and funds infrastructure that enhances safety, efficiency, and security. It is important to note that, while FAA's role is to manage the national airspace system, this role does not extend to determining what airports the airlines serve or the level of service at airports. In today's deregulated environment, airlines make these decisions. At the most capacity constrained airports (Chicago O'Hare, LaGuardia, John F. Kennedy, and Reagan National), FAA has regulated the number of operations at these airports in the interest of maintaining a safe and efficient air traffic control system, through a slot system that Congress has mandated shall end in 2007 for the last three of four airports.

Range of Alternatives. The EIS evaluated a number of alternatives to reduce delays at Logan International Airport. In a broad sense these included an investigation into increased reliance on regional airports as a means to reduce delay at Logan, the role that high-speed rail might provide as an alternative to air carrier shuttle service to New York, and the significance of teleconferencing and air traffic control technology in further reducing delay.

While the magnitude of the delay problem at Logan warrants FAA continuing to pursue airport system alternatives (as noted in the previous section), Logan is nevertheless expected to experience 29 million passengers and 529,000 operations in 2004, and 37.5 million passengers and 585,000 operations in 2015 (under the near-term and long-term Regional Jet [RJ] fleet scenarios, respectively). Runway delays in 2004 are estimated at 204,000 annual hours and are expected to grow to 372,000 annual hours by 2015 if no action is taken (under the same RJ fleet scenarios).[4] These figures demonstrate that actions in addition to regional airports, inter-modal transportation, teleconferencing, and air traffic control technology are appropriate to reduce existing and anticipated delays.

[4] An evaluation performed by MITRE, Inc. for FAA made similar conclusions. Details are contained in Section V of this ROD and Appendix J of the Final EIS.

The Airside Project evaluated a range of Logan-centered physical and operational improvements to increase airfield efficiency, enhance safety, and reduce current and future levels of aircraft and passenger delay. Prior to the Airside Project, FAA published *Boston Logan International Airport Capacity Enhancement Plan* (1992) and *Logan Runway Incursion Mitigation Plan /Taxiway Relocation* Study (1993). These reports made specific recommendations to reduce delays and enhance safety and efficiency. Massport evaluated the recommendations of these reports as part of the initial phase of the Airside Project (*Logan Airside Improvements Feasibility Study*, 1995). This initial phase examined the nature of delays at Logan and evaluated the potential delay savings and efficiency and safety enhancements of a range of improvement concepts. Based on the results of this study, FAA and Massport chose seven improvement concepts for advancement of a more detailed operational and environmental analysis through a joint EIS/EIR. The remaining improvement concepts were eliminated from more detailed consideration because they were not feasible or practical means to meet the purpose and need of the Airside Project. The improvement concepts that were retained for detailed study in the EIS/EIR are listed in Table 1under "Improvement Concept" and details are provided later in this section.

Table 1
Logan Airside Improvements Alternative Packages

	Alternative 1	Alternative 1A*	Alternative 2	Alternative 3	Alternative 4
	All Actions	All Actions Except Peak Period Pricing	All Actions Except Runway 14/32	No Build	No Action
IMPROVEMENT CONCEPT		PREFERRED ALTERNATIVE			NO ACTION ALTERNATIVE
Runway 14/32	■	■			
Taxiways:					
Centerfield	■	■	■		
Extend Delta	■	■	■		
Realign November	■	■	■		
South West Corner Optimization	■	■	■		
Operational:					
Reduced Minimums	■	■	■	■	
Administrative:					
Peak Period Pricing	■		■	■	

* Peak Period Pricing or an alternative demand management program with comparable effectiveness is part of the mitigation program for the Preferred Alternative.

Improvement Concepts. Unidirectional Runway 14-32 is designed to address a major cause of delay—moderate to high northwest winds—by providing a third runway when these wind conditions require the airport to operate on an east-west runway configuration utilizing Runways 27 and 33L, or Runway 33L alone. The taxiway improvements are designed to reduce taxiway congestion, thereby reducing ground delays and enhancing

safety. Reductions of approach minimums would provide for additional runway availability in poor weather, thereby enhancing safety and reducing delays. Peak Period Pricing is designed to reduce delay by eliminating flights during periods when demand exceeds capacity for a substantial period of time.

Details of these improvement concepts are as follows:

Unidirectional Runway 14-32 would be 5,000 feet in length, with additional 1,000-foot Runway Safety Areas at each end. The runway would be located along the southwestern edge of the airport (Figure 1). Arrivals would only be from the southeast and departures only toward the southeast, thereby avoiding the use of airspace over the Jeffries Point area of East Boston and maximizing the use of airspace over Boston Harbor. The Draft EIS evaluated three runway and runway safety area length concepts.

The runway would be operated ultimately as an Instrument Flight Rules (poor weather) runway, with minimums as low as 400 feet ceiling and ¾ miles visibility. These minimums are reasonably foreseeable with GPS (Global Positioning System) approaches. While most of the delay reduction benefit of Runway 14-32 comes from its use in Visual Flight Rules conditions, GPS instrumentation will enhance safety by providing positive guidance to aircraft during visual as well as non-visual conditions.

The primary benefit of Runway 14-32 will occur during high to moderate northwest wind conditions, when airfield capacity declines sharply as operations shift from Logan's normal three-runway configurations to current lower capacity configurations using Runways 33L and 27 or Runway 33L alone. With Runway 14-32, air traffic controllers will have the opportunity to avoid this decline in capacity, thereby reducing delays.

The Centerfield Taxiway would be approximately 9,300 feet long and located between Runways 4L and 4R (Figure1). It would provide for alternative taxi routings for more efficient movement of aircraft between the runways and terminal areas. More efficient taxi routes would reduce ground delays for both arriving and departing aircraft.

Extension of Taxiway Delta would provide for an additional 2,000 feet of taxiway between Taxiway Charlie and Runway 4R-22L (Figure 1). It would provide an alternate route for departures on Runways 27 and 33L, thereby reducing congestion on Taxiway Charlie, which is now the only access to these runways. Efficiency would be enhanced by separating jets taxiing to Runways 27 and 33L from non-jets using Taxiways Charlie and Golf for Runway 33L intersection departures. Separating these taxi flows will also enhance safety by reducing the potential for pilot confusion.

Realignment of Taxiway November involves approximately 2,200 feet of pavement between Runways 15R-33L and 15L-33R (Figure 1) that would directly connect with Taxiways Kilo and Alpha, which provide the main flow through the terminal areas. The realignment eliminates a confusing simultaneous intersection of Taxiway Tango with both Runways 33L and 22R. This improvement would not only improve efficiency but

also enhance safety by reducing the potential for runway incursions[5] (especially at night and during reduced visibility).

The Reconfiguration of the Southwest Corner Taxiway System in the southwest corner of the airport (Figure 1) would simplify taxiway layout, reduce the potential for runway incursions, and expedite aircraft ground movement. Access to Runways 4L, 4R, and 9 would be simplified and flow improved for inbound and outbound aircraft when Runways 27 and 33L are active.

The Reduction of Instrument Approach Minimums for Runways 22L, 27, 15R, and 33L would enable these minimums to be set consistent with the standards of the navigational aids that serve these runway ends. They are presently artificially high. Lowering approach minimums would not change the flight path or aircraft altitude over residential areas. The action slightly increases the availability of the runway end, reduces the potential for missed approaches in poor weather, and provides positive guidance at lower altitudes during the final approach, thereby reducing delays and enhancing safety. Environmental assessment in the EIS also fulfills a commitment made by FAA a number of years ago when the navigational aids were installed. At that time FAA committed, through Massport lease agreements, not to reduce minimums until they were environmentally assessed.

Peak Period Pricing is a demand management tool that is intended to reduce delays where demand exceeds capacity over a sustained period of time. Some aircraft operations would be discontinued or shifted to off-peak hours if the cost of using Logan during peak hours would exceed the value of the economic return to the carrier. Peak Period Pricing would be effective where scheduled aircraft operations exceeded airport capacity. The Draft EIS additionally evaluated two pricing levels for Peak Period Pricing (along with case studies of their likely effects on service levels).

Alternative Packages. The EIS grouped the improvement concepts into four alternative packages, in a manner that permitted a detailed examination of a range of delay reduction and environmental impact. An additional no-action alternative was included for comparison. For example, a comparison of Alternative 1 and Alternative 1A (Preferred Alternative) provides context for evaluating the benefits and deficiencies of Peak Period Pricing as distinct from other improvement concepts. Similarly, a comparison between Alternative 2 and Alternative 1 provides context for evaluating the benefits and deficiencies of unidirectional Runway 14-32 as distinct from other infrastructure improvements. The inclusion of the No Build (Alternative 3) and No Action (Alternative 4) alternatives allow for baseline comparisons of infrastructure improvements to only administrative actions or no improvements.

[5] A runway incursion is defined as "any occurrence at an airport involving an aircraft, vehicle, person, or object on the ground that creates a collision hazard or results in loss of separation with an aircraft taking off, landing, or intending to land." (FAA Order 7210.58)

The SDEIS included an independent analysis (Muldoon) of the utility of the proposed Runway 14-32 for the RJ fleet predicted to use Logan. This study concluded that nearly 80% of Logan's current RJ fleet and 70 % of the forecasted fleet would be able to land on Runway 32 with a length of 5,000 feet. These data were confirmed through letters from the primary airlines at Logan that use RJs, stating their intent to use the runway at 5,000 feet with their RJ aircraft.

The Final EIS also reassessed the delay reduction benefits of fleet mixes with RJs and found that the operational and environmental effects associated with the Preferred Alternative are consistent with the seven other fleet scenarios studied in the Draft EIS/EIR and SDEIS/Final EIR. In the near term the runway would reduce delays by 27% over the No Action, saving 54,000 hours of delay per year. Increases in RJs would still produce decreases in air pollution and reductions in the numbers of people exposed to the highest levels of aircraft noise.

An additional independent study (MITRE, Inc.)[6] concluded that "the rationale for the runway appears to be valid: the new runway is expected to reduce delays under northwest wind visual meteorological conditions . It can also provide more operational flexibility to permit more frequent use of the runway configuration, which has lower noise impacts." This study also concluded, "the estimates of delays and growth in the Supplemental Draft EIS seem high and as a result, the projected delay savings from Runway 32 seem to be overstated, though still substantial." This is consistent with the conclusion in the EIS that demand management will be implemented before the airport reaches those higher levels of operations where airline schedules exceed the capacity of the airport.

With regard to capacity, the MITRE evaluation indicates that the 22R/22L/27 configuration is as good or better than any of the 32/33L/27 configurations because it permits more operations. On the other hand, MITRE stated that the 32/33L/27 configuration could provide nearly as much capacity as 22R/22L/27 and permits greater operational flexibility to reduce noise impacts. Table 2 compares the MITRE capacities with those of the EIS. Additional information is contained in Section V below.

Table 2
Comparison of EIS and MITRE Runway Configuration Capacities

Runway Configuration	EIS Capacity	EIS Rank	MITRE Capacity	MITRE Rank
Arrive 4L and R, Depart 9	126	1	118-126	1
Arrive 33L and 32, Depart 33L and 27	118	2	112	3
Arrive 22L and 27, Depart 22L and 22R	106	3	115	2

[6] Details are included in Section V of this ROD.

The Preferred Alternative and Other Alternatives. Selection of the Preferred Alternative (Alternative 1A) is based primarily on the consideration of delay reduction, affect on aviation safety, and environmental impact. Each of these factors is summarized below.

The Preferred Alternative was subjected to a detailed mitigation analysis to minimize environmental impact. As modified through mitigation measures, it is the environmentally preferred alternative because it provides a balance between delay reduction and environmental impacts. These mitigation measures include unidirectional use of Runway 14-32, wind-restricted use of Runway 14-32, deferral of a decision to approve the Centerfield Taxiway subject to additional evaluation of taxiway operations north of Runway 15R-33L, residential sound insulation, and continued management of a regional aviation study. These and other mitigation measures are described in greater detail in the Mitigation Measures, Section VIII below.

The analysis of delays is dependent on the level of aircraft operations. With Alternative 1 (all improvements), the near-term 29 Million Low Fleet (510,000 aircraft operations) delay savings over Alternative 4 (no action) are 46,100 annual hours. With Alternative 1A (all improvements except Peak Period Pricing), delay savings are 43,050 hours. The incremental benefit of Peak Period Pricing would therefore be 3,050 annual hours in the near term. In contrast, with the long-term (2015) 37.5 High level of operations of 608,000, Alternative 1 delay savings are 194,800 and Alternative 1A delay savings are 113,800, indicating a substantial incremental delay benefit from Peak Period Pricing. However, it is likely that Peak Period Pricing would be implemented before delays ever increased to a level that would result in this savings. MITRE evaluated the delay results of the EIS and concluded that some intervention would most likely occur before delays ever reached those projected in the long-term high fleets in the EIS.

With the same level of near-term operations, Alternative 1A delay savings related to just the runway are 28,000 hours over the No-Action Alternative and taxiway delay savings are 15,050 hours over the No-Action Alternative (most of them from the Centerfield Taxiway). In the long term with 608,000 operations, these benefits increase to 94,000 hours of runway delay savings and 19,800 hours of taxiway delay savings. While it is unlikely that these long-term benefits would ever be fully realized because of the likelihood of the imposition of Peak Period Pricing, FAA concludes that significant delay savings will accrue in both the near term and long term from both the runway and taxiway improvements. Alternative 2, which does not include Runway 14-32, would not provide this opportunity for significant delay savings related to the runway.

Alternative 3 (No-Build) is limited to Peak Period Pricing and Reduced Minimums and would reduce delays by 11,900 in the near term. In comparison, the Preferred Alternative would reduce total delays by 43,050 hours. While the benefit in delay reduction from Reduced Minimums is small, there are substantial benefits in enhanced safety from this improvement.

A more thorough discussion of aircraft delay and delay savings may be found in Section 4.5 of the Draft EIS.

In comparing environmental impacts of the Airside project alternatives, the Preferred Alternative results in a near-term (29 Million Low Fleet) residential population exposure of 65 dB (decibels) DNL (Day-Night Average Sound Level) or higher to 18,562 people, compared to the No-Action Alternative that results in a residential population exposure of 18,960. While the total population exposed to 65 dB DNL or higher declines by 398 people, the population exposed to 65 dB DNL or higher increases by 401 in Chelsea and 61 in South Boston, due to a shift in runway utilization to the east-west runways. In the long term (37.5 Million High Fleet), there are 253 people added to the 65 DNL contour compared to the No-Action Alternative.

Since changes in adverse noise exposure are only associated with Runway 14-32, alternatives without the runway are not predicted to change the noise environment substantially. No other categories of environmental impact are predicted to have significant adverse effect. Chapter 6 of the SDEIS discusses the environmental consequences of the Airside Project alternatives in greater detail.

V. DELAY REDUCTION BENEFITS

The EIS examined aircraft delays under existing, near-term (2004), and long-term forecast scenarios, with a variety of fleet assumptions. In August 2001, FAA asked the Center for Advanced Aviation System Development of the MITRE Corporation to review and comment on four specific topics in the EIS: (1) Regional Jet forecasts (are the percentages of Regional Jets and the distribution by RJ type reasonable in the 29 Million RJ and the 37.5 Million High RJ fleet forecasts?), (2) runway usage for Regional Jets (are the Airside Supplemental Draft EIS assumptions regarding the types of RJs that can use Runway 14-32 for arrivals and departures in various wind and runway conditions valid?), (3) delay results (are the delay savings forecast in the Supplemental Draft EIS reasonable, particularly under long-term conditions when large delays are predicted?), and (4) limited capacity analysis (how do the capacities of two specific runway configurations, 32/33L/27 [proposed] versus 22R/22L/27 [existing], compare under visual conditions and calm winds?). Results of the MITRE evaluation of the first two topics were consistent with those of the EIS. Results of evaluation of the latter two topics, delay results and capacity analysis, showed some differences.

While MITRE did not re-run the simulation models used in the EIS or alternative delay models, and thus it is not possible to compare delay results of different scenarios, they were able to provide some valuable judgments on the delay and capacity data in the EIS. For example, MITRE concluded that the projections of long-term growth in the SDEIS, for at least some of the scenarios, appear too high, with the delay growth for the RJ and High Fleet scenarios particularly high. MITRE determined that delays were unlikely to reach the forecasted 2015 levels of the EIS prior to the implementation of some form of demand management. They also noted that Runway 14-32 would provide significant delay reduction even if demand management were implemented.

In the EIS, under the No Action Alternative, annual runway-related delays could grow from approximately 120,000 hours in 1998 to as high as 333,000 hours in 2015, under the 37.5 Million High Fleet. This equates to an increase in average delays per flight from 14 minutes to 33 minutes. Comparatively, implementation of the Preferred Alternative would have reduced 1998 runway delays by 21% (28,000 hours) and is anticipated to reduce 2015 delays by 29% (109,000 hours) under the 37.5 Million High RJ Fleet.

The Final EIS also calculated delays and delay savings with the assumption that some form of demand management would likely be in place prior to 2015, which is consistent with MITRE's conclusion. This additional analysis indicates that, under the 37.5 Million High RJ Fleet, delays would be reduced by 68,000 hours with only demand management (from 372,000 delay hours with No Action down to 304,000) and an additional 85,000 hours by including the runway with demand management (from 304,000 delay hours down to 219,000 hours), for a total benefit over No Action in 2015 of 153,000 hours of delay reduction. Since the current and pre-September 11, 2001 schedule at Logan does not exceed airport capacity, Peak Period Pricing or alternative forms of demand management would not be an effective means of delay reduction in the near term.

MITRE's limited capacity analysis compared the capacity of the Runway 32/33L/27 configuration with that of the existing high capacity and frequently used Runway 22L/22R/27 configuration, under visual calm wind conditions and assuming the 37.5 Million High RJ fleet. Capacities were estimated using the Enhanced Airfield Capacity Model and indicate that the 22R/22L/27 configuration is as good or better because it permits more operations than any of the 32/33L/27 configurations. On the other hand, MITRE stated that the 32/33L/27 configuration could provide nearly as much capacity as 22R/22L/27 and permits greater operational flexibility to reduce noise impacts. Table 2 compares the MITRE capacities with those of the EIS.

The modeled capacities represent a computer representation of the real world and can never perfectly capture the complexities of pilot and air traffic controller technique, aircraft flight characteristics, and airport infrastructure. While modeling can accurately reflect the required separation distances and runway dependencies when operating a new runway configuration, the practical experience of controllers and pilots plays an important role. Initially the real-world capacity of the Runway 33L, 32, and 27 configuration may be lower than the modeled capacity.

The EIS and MITRE findings not only point to the long-term significance of the runway in reducing delays, but also indicate that demand management needs to be considered as a viable long-term measure. FAA is aware of Massport's intent to implement Peak Period Pricing or a comparable means of demand management. FAA expects that any such program will be consistent with applicable federal law and will conform to policies of the federal Department of Transportation (DOT). Massport has included a number of elements in its plan that the DOT/FAA has previously found to be appropriate considerations in a proprietor's Peak Period Pricing program. These include: revenue neutrality, an exemption program that mirrors the federal Essential Air Service program's

criteria and sites, a program that aligns operations with capacity, and a program that has a reasonable, cost-justified methodology for establishing landing fees.

Massport's suggestion of a further "economic hardship" exemption for Cape Air, to reflect unique seasonal peaking and aircraft size requirements in its market, are premature for FAA's consideration. Other alternatives Massport has suggested, such as the possibility of inclusion of gate prioritization for large aircraft in terminal leases, have not been developed or analyzed to date and are also premature to consider in this ROD.

DOT and FAA are examining the broader policy implications of demand management options at congested airports throughout the United States in order to provide appropriate public policy tools that focus on ways to reduce delays, improve capacity management, enhance competition, and promote the efficiency of the overall aviation system. In connection with this effort, DOT published notices requesting comment on the broader policy implications of demand management. In light of the events of September 11th, those notices were temporarily suspended. In April 2002, DOT published a notice renewing this effort and setting a date for the close of comments of July 22, 2002. In conjunction with this effort, DOT/FAA are exploring the delay problems at three airports in the National Airspace System for possible implementation of new federal policies or possible legislative proposals to Congress. In recognition of the analysis done during the EIS process showing trends suggesting that over-scheduling problems resulting in additional delays will develop at Logan, Logan has been included as one of the three airports.

VI. AVIATION SAFETY BENEFITS

Runway and taxiway components of the Airside Project have been reviewed for aviation safety. Unidirectional Runway 14-32 will be constructed in accordance with all applicable FAA design standards, thus ensuring aviation safety. FAA has agreed to modify its standard with regard to the Runway Safety Area (RSA) at the southeastern end of the runway. Two small corners at the far end of this 500-foot by 1,000-foot area would be over water. FAA concludes that this modification to standard would have no significant effect on runway safety and that it is not otherwise practical to fill in areas of Boston Harbor in order to attain the full extent of the RSA. This conclusion is based in part on the fact that a standard 1,000 feet would be attained on runway centerline and the relative higher utilization of the runway by arrivals to the northwest than by departures to the southeast. Arrivals to the northwest are more likely to be aligned with the extended runway centerline.

In April 2002, FAA conducted a comprehensive safety review of the proposed taxiway improvements and reductions in minimums, particularly the Centerfield Taxiway and its effect on potential runway incursions. In the context of taxing aircraft, a runway incursion typically occurs when safe separation standards are violated by a taxing aircraft that moves onto or across an active runway at a time when an arriving or departing aircraft is intending to use that runway. Working closely with the national Director and staff of the Runway Safety Office, FAA concluded that no decrease in safety would occur

from the Centerfield Taxiway compared to the current operation and confirmed that the proposed taxiway improvements and reductions in minimums would enhance safety in addition to reducing delays. Details of this safety review are documented in Section 3.9 of the Final EIS. Some of the findings are that the Centerfield Taxiway would:

- Provide multiple paths for routing aircraft to and from the ends of Runways 4L-22R and 4R-22L;
- Reduce the number and frequency of crossings of Runway 4L-22R;
- Ensure safe taxiway routings for the next generation of aircraft with wider wing spans;
- Facilitate the return of departing aircraft to the terminal area as necessitated by equipment malfunctions or de-icing;
- Increase the margin of safety by providing opportunities to move crossings away from areas where aircraft are operating at higher speeds.

It is noteworthy that all of the taxiway improvements included in the Preferred Alternative were originally recommended as safety improvements in 1993 (*Runway Incursion Mitigation Plan)* by a Technical Advisory Committee that included representatives of the FAA Air Traffic Control Tower, FAA New England Regional Office, Air Transport Association, Air Line Pilots Association, Massport, and airlines serving Logan. The objective of the study was to identify potential revisions to the Logan taxiway configuration that would reduce the potential for runway incursions.

The proposed reduction in ceiling and visibility landing minimums on Runways 22L, 27, 15R, and 33L will allow air traffic controllers to assign runways that are more closely aligned with the prevailing wind during instrument conditions. Landing into a headwind is preferable since it reduces the touchdown speed of the aircraft. On the other hand, landing with a crosswind is more difficult, especially if gusts are present. The reduced minimums will enhance safety by permitting instrument approaches more closely aligned with the wind, by providing positive instrument guidance at lower altitudes, and by reducing the probability of missed approaches.

VII. ENVIRONMENTAL IMPACT

In accordance with FAA Orders 1050.1D and 5050.4A, the EIS examined a comprehensive range of environmental impacts. Those categories of environmental impact that were potentially significant were examined in detail and include aircraft noise and compatible land use, Environmental Justice, air quality, historic and cultural resources, other Section 4(f) lands (parkland, wildlife and waterfowl refuges, and historic sites), coastal zone management, construction related impacts, and cumulative impact of the Airside and other past, present, and reasonably foreseeable projects. Other impact categories that were determined to have no substantially adverse impact or were not applicable include social impacts (relocation of businesses and changes in surface

transportation), water quality and hazardous soils, endangered or threatened species[7], biotic communities, wetlands, floodplains, coastal barriers, wild and scenic rivers, farmland, energy supply and natural resources, light emissions, solid waste, and hazardous waste.

Conclusions of the EIS with regard to categories of environmental impact that were potentially significant are as follows:

Aircraft Noise and Compatible Land Use. The Preferred Alternative significantly reduces the number of residents in surrounding communities that would be exposed to the most significant noise levels (within the 70 and 75 DNL noise contours), both in the near term and long term, but increases noise within the 65 DNL noise contour in the long term, the threshold that FAA uses to define significant noise levels with regard to residential land use.

As an example, under the 29 Million Low Fleet near-term forecast, the Preferred Alternative results in 120 fewer people within the 75 DNL noise contour, a 98 percent reduction over the No Action Alternative. Similarly, under the 37.5 Million High Fleet long-term forecast, the Preferred Alternative results in 187 fewer people within the 75 DNL contour, a 100 % reduction over the No Action Alternative. The 29 Million Low Fleet and 37.5 Million High Fleet are used as examples because they bracket the range of probable noise impact.

Using the same fleet examples and applying them to the 70 DNL contour, the Preferred Alternative results in 231 fewer people adversely affected in the near term and 2,765 fewer people adversely affected in the long term compared to the No Action Alternative.

Again using the same near-term fleet example and applying it to the 65 DNL contour, the Preferred Alternative also reduces population exposure--398 fewer people than the No Action Alternative. However, the reduction in noise at higher levels (75 and 70 DNL) is generally achieved by redistributing aircraft onto other runways, resulting in additional noise at lower levels. Consequently, under the long-term 37.5 Million High Fleet, 253 more people are exposed to 65 DNL than the No Action Alternative. Most of the residents added to the contour are located in Chelsea and the Eagle Hill section of East Boston.

FAA evaluated potential mitigation measures involving restricted use of Unidirectional Runway 14-32 as a means to reduce this adverse noise impact. These measures included northwest wind restrictions that varied from 5 to 20 knots and a combined northwest/southeast wind restriction of 10 knots. The results are presented in Section 3.8 of the Final EIS and summarized in the Mitigation section below. A 10-knot northwest/southeast wind restriction would result in near-term (29 Million Low Fleet)

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[7] While there are no federally threatened or endangered species affected by the Airside Project, FAA recognizes that the State-listed upland sandpiper would be adversely affected by taxiway construction. The EIS/EIR addresses these impacts and Massport has committed through the State process to a mitigation plan satisfactory to the Massachusetts Natural Heritage Program.

noise exposure to 16,935 residents within the 65 DNL noise contour, a reduction of 2,025 residents from the No Action alternative (18,960 residents) in the near term with the same passenger and fleet assumptions. The 10-knot northwest-southeast wind-restricted runway impacts fewer residents exposed to 65 DNL noise than the unrestricted Preferred Alternative (16,935 residents versus 18,562 residents). Additional details are contained in Tables 3.8-5 and 3.8-6 of the Final EIS.

Noise impacts from ground taxi operations on the proposed taxiways are significantly lower than noise impacts from aircraft on the runways and in flight. Nevertheless, the Preferred Alternative generally reduces ground noise by lowering DNL levels by less than 1 dB to as much as 3 dB at seven close-in monitoring locations (Table 6.2-16 of the SDEIS).

Environmental Justice. Since the Preferred Alternative could have adverse noise impacts to minority populations in Chelsea, the EIS examined whether such noise impacts were disproportionately high and adverse, to either minority or low-income residents. The Final EIS was updated to include minority population data from the 2000 Census. While these data indicate that minority populations in communities surrounding Logan have increased since the 1990 Census, the minority percentage within the 65 DNL noise contour for both the No Action and the Preferred Alternatives continues to indicate that minority populations would not be disproportionately affected by aircraft noise.

The additional area within the 65 DNL contour associated with the unrestricted Preferred Alternative includes a predominately Hispanic neighborhood in Chelsea that is predicted to experience an increase of .6 dB DNL or less under the near-term 29 Million Low Fleet, which is the scenario with the greatest noise exposure. FAA's standard of significant adverse noise is 1.5 dB DNL or greater.

As a means to further reduce adverse noise impacts to Environmental Justice populations, FAA also evaluated potential mitigation measures involving restricted use of Unidirectional Runway 14-32. For example, compared to the No-Action Alternative, a northwest/southeast wind restriction of 10 knots would reduce the number of residents within the 65 DNL contour by an additional 1627 people from the Preferred Alternative (no wind restriction). The results are presented in the Final EIS Mitigation chapter and summarized in the Mitigation section below.

Air Quality. Implementation of the Preferred Alternative would produce a reduction in emissions and an improvement in ambient air quality compared to the No Action Alternative. These benefits reflect improved airfield efficiency related to delay reduction. The Preferred Alternative would not exceed any National Ambient Air Quality standards for any criteria pollutant and therefore conforms to the Massachusetts State Implementation Plan and is consistent with the requirements of EPA's General Conformity regulations.

Historical and Cultural Resources. The Massachusetts Historical Commission has concurred with FAA's determination that the Preferred Alternative will have No Adverse

Effect on historical or archaeological resources. In consideration of the Department of Transportation Act, Section 4(f), there will be no taking or constructive use of historical resources. FAA notes that, as a part of noise mitigation described in the Mitigation Section below, it commits to ensuring that sound insulation will be provided in accordance with the historic building rehabilitation standards established by the Secretary of Interior (36 CFR 800.5(b)).

Other Section 4(f) Resources. The implementation of the Preferred Alternative will neither incorporate land from a Section 4(f) resource nor affect the normal activity or aesthetic value of a public park, recreation area, or wildlife or waterfowl refuge. When compared to the No Action Alternative, the Preferred Alternative does not add any of these resources to the 65 dB DNL noise contour area. The development of the South Boston waterfront area would be considered compatible land use under FAA's Land Use Compatibility Guidelines (14 CFR Part 150) because that area is currently (see Logan Airport 2000 Environmental Data Report) and would continue to be exposed to noise levels at or less than 69 DNL under both the No Action and the Preferred Alternative for the scenarios analyzed in the Final EIS. FAA also evaluated potential mitigation measures that would enhance land use compatibility of the South Boston Waterfront Area. Indeed, the Preferred Alternative with the proposed northwest/southeast wind restriction would remove all but a small area of piers from the 65 DNL contour under the long-term 37.5 Million High RJ Fleet.

Coastal Zone Management (CZM). The EIS concludes that the Preferred Alternative is consistent with the policies of the Massachusetts Coastal Zone Management Plan. The Massachusetts Office of Coastal Zone Management completed its review of Massport's Coastal Zone Consistency Certification and determined that the activity, as proposed, is consistent with CZM enforceable program policies. This determination is based on Massport's approved plan to mitigate for impacts to the upland sandpiper by restoring approximately 150 acres of grassland habitat on Cape Cod.

Construction Related Impacts. Construction impacts could result from air quality that could be adversely affected by construction truck traffic and other equipment on the site. Construction noise and soils characteristics were also evaluated. Potential impacts are presently less than originally anticipated because elements of the Airside Project will be constructed over approximately 5 years (beginning with the runway in 2004), soils from the Third Harbor Tunnel containing hazardous materials have either been remediated and/or removed from the site, and an investigation of the construction area indicates the general suitability of soils. The construction time period also means that there will be less cumulative impact from other construction projects such as the Third Harbor Tunnel and roadway connections with Route 1, which will be substantially complete in 2004. As a result, emissions from the Airside Project would not exceed National Ambient Air Quality Standards for any criteria pollutant and noise levels would not exceed federal standards for ground noise from construction.

FAA also notes Massport's commitment to minimize construction impacts as part of its

Section 61[8] Findings. These initiatives include requirements that trucks will be routed away from residential neighborhoods, trucks and equipment will comply with the requirements of the Clean Air Construction Initiative, truck operations will exclude backup beepers, truck tires will be washed and loads covered, and Massport will provide for on-site environmental monitoring.

Cumulative Impact. Federal environmental regulations require that EISs consider the potential cumulative environmental impact of past, present, and reasonably foreseeable actions. The EIS evaluated other Logan landside projects and related projects such as the Central Artery/Third Harbor Tunnel (CAT), considering such details as the combined impacts of truck trips, air quality emissions, and noise of the Airside Project, CAT, and Logan landside projects (primarily terminal building improvements). The Airside Project would contribute less than .2% to traffic volume and would not cumulatively exceed either National Ambient Air Quality standards for any criteria pollutant or federal construction ground noise standards.

VIII. MITIGATION MEASURES

In accordance with 40 C.F.R. § 1505.3, the FAA will take appropriate steps, through federal grant funding assurances and special conditions, airport layout plan approval, and contract plans and specifications to ensure that the below measures are undertaken. The approvals contained in this ROD are specifically conditioned upon full implementation of these measures and actions. FAA will monitor these measures and actions to ensure implementation. Stated another way, the commitments described below are commitments of this ROD. If Massport does not fulfill these commitments, then the FAA will take action to restore compliance using the full range of legal remedies at its disposal, including the withholding of federal grant funds. As an additional measure, the FAA and Massport will report quarterly (or periodically) to the CAC on progress to ensure that these commitments are being fulfilled. The FAA will act as a facilitator to resolve disputes between the CAC and Massport related to these mitigation commitments.

Chapter 4 of the Final EIS discusses these mitigation measures and environmentally beneficial actions in detail. Based on the Final EIS, the FAA finds that all practicable means to avoid or minimize environmental harm have been adopted though appropriate mitigation planning. Mitigation measures for those impact categories where mitigation measures were necessary to avoid or minimize significant environmental impacts, including monitoring and enforcement, are included below. This ROD provides details particular to FAA's decision. Massport has committed to additional mitigation measures as part of its Section 61 Findings.

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[8] Section 61 of the Massachusetts Environmental Policy Act (M.G.L. c.30) requires that Massport make certain findings that will be adopted by Massport, prior to project commencement, that contain all of the mitigation commitments that emerge from the EIR process, as well as any further commitments with MEPA jurisdiction that may arise during the federal review process.

FAA mitigation measures are as follows and include seven of the fourteen commitments made by Massport (numerals 1 and 4-9 below):

1. Runway 14-32 Unidirectional Limitation.

The Runway 14-32 component of the Preferred Alternative has been conceived and proposed by Massport to accommodate unidirectional operations only. All aircraft arrivals will occur over Boston Harbor to the Runway 32 approach end. All departures will take off from the Runway 14 end heading out over Boston Harbor.

The airport proprietor's decision to limit Runway 14-32 to unidirectional operations is based on a number of factors, including the desire to maximize use of over-the-water areas and minimize operational impacts to residential areas in Jeffries point, the presence of a hotel 174 feet high and 1,300 feet northwest of the runway that penetrates the approach surface thereby precluding arrivals from the west, and the absence of a taxiway to access the Runway 32 end. In 1992, FAA's *Logan Airport Capacity Enhancement Plan* recognized these limitations but concluded "about 90% of the benefit can be achieved with unidirectional use."

Given these physical and environmental considerations, Massport as airport proprietor proposes to limit Runway 14-32 to unidirectional operations only. FAA agrees to and will develop air traffic control procedures that will ensure the safe and efficient use of the runway in a manner consistent with Massport's intent of unidirectional use, subject to variances that may be required to accommodate particular aircraft emergencies.

2. Wind-Restricted Use of Runway 14-32.

Public comments have focused on the changes in runway utilization predicted to occur with Runway 14-32.

The primary benefit of Runway 14-32 occurs during northwest wind conditions, when available airfield capacity declines as operations shift from Logan's normal three-runway configurations to lower capacity configurations using Runways 33L and 27 or Runway 33L alone. With Runway 14-32, air traffic controllers can prevent the drop in capacity that currently occurs under northwest wind conditions.

Massport, with support from FAA, has committed to reassess the PRAS program, which establishes runway end utilization goals, as part of its Section 61 Findings. Given the reassessment of PRAS, it is reasonable to maintain historic runway utilization patterns rather than use Runway 14-32 to change runway use patterns, particularly when such changes are not necessary to achieve the principal delay-reduction benefit of the runway. Therefore, FAA may use Runway 14-32 when winds are 10 knots or greater from the northwest or southeast, in accordance with parameters explained later in this section. As designed, this mitigation measure for the Preferred Alternative will prevent Runway

14-32 from causing shifts in runway utilization from what currently occurs.

The wind restriction will limit the use of Runway 14-32 to those times when winds are equal to or greater than 10 knots from the northwest or southeast (between 275 degrees and 005 degrees, or 095 degrees and 185 degrees respectively). Since this wind restriction does not materially change runway utilization when compared to calendar year 2000 runway end use, the 10-knot wind restriction also reduces the total number of people within the 65 DNL contour when compared to the No Action Alternative.

The 10-knot wind restriction achieves the purpose and need of the Airside Project because it is predicted to reduce delays during northwest wind conditions. At the same time, a 10-knot wind restriction, as designed, prevents Runway 14-32 from changing overall runway utilization patterns at Logan, enhances consistency of the Project with City of Boston land use planning objectives, and thus addresses some of the public's concerns regarding Runway 14-32. The 10-knot wind restriction enhances consistency with local planning by removing all but a small area of piers on the South Boston waterfront from the 65 DNL contour, under the long-term 37.5 Million High RJ Fleet, when compared to the unrestricted Preferred Alternative (Figure 3.8-17 of Final EIS).

The wind restriction will be implemented through a Boston Air Traffic Control Tower directive. In order to ensure safety, procedures to implement the wind restriction by the air traffic control tower will consider the following:

- Forecasted Winds: Configuration changes are based on forecasted winds and typically occur in advance of the time of the change in winds. Weather patterns at Logan can change rapidly and are unlikely to permit a precise determination of when the winds will be 10 knots or greater. On occasion a forecasted wind speed of 10 knots may not occur.
- Wind Gusts: Gusts are taken into account in determining if winds equal or exceed 10 knots. For example, if winds are reported as 5 knots gusting to 15 knots or more, Runway 14-32 would be available.
- Runway Configuration Change: If the airport is already in a configuration that includes Runway 14-32, the configuration will change only if actual winds are significantly different from forecasted winds and as quickly and efficiently as possible but within two hours.
- Emergencies: Runway 14-32 must be available for emergencies regardless of wind speed.

The Boston Tower directive will indicate that the wind restriction is a mandatory EIS mitigation measure to which adherence is imperative. FAA, which has sole responsibility for implementation of this measure, will review the use of the runway relative to the wind restriction based on the data compiled by Massport.[9] FAA will also provide quarterly

[9] As discussed in Section 4.1.2 of the Final EIS, Massport has committed in its Section 61 Findings to develop a PRAS Monitoring System and to implement a new distribution system for reports that will be expanded to include information on the use of Runway 14-32 in comparison to wind and other operational criteria that define the wind restriction. The reports will be distributed in the same manner as other PRAS reports.

reports to the City of Boston and the CAC concerning FAA's record of compliance with the wind restriction. Complaints regarding non-compliance will be taken seriously and investigated promptly. The Quality Assurance department of Boston Tower will review the use of Runway 14-32 on a daily basis to assure compliance with restrictions in this ROD. In the event it is revealed that Runway 14-32 was used outside the parameters specified in the ROD, the facility manager will offset this by preventing the runway's use when it otherwise would have been used.

In addition, pending resolution of the ongoing state court litigation, the FAA will also begin working with the City of Boston, the CAC, and Massport to formalize an agreement to address further ways to monitor how the restriction impacts the surrounding communities and the traveling public. This agreement will provide opportunities for the Mayor of Boston (or his representative) and the CAC to meet regularly with the FAA to understand how the restriction will be utilized, to review PRAS reports, and to discuss progress on the use of the runway in accordance with the restriction. This agreement will be revised as necessary to reflect any settlement agreement that lifts the state court injunction.

3. Deferral of Decision to Approve Centerfield Taxiway Subject to Additional Evaluation of Taxiway Operations North of Runway 15R-33L.

FAA is deferring any decision to approve the Centerfield Taxiway pending additional evaluation of taxiway operations north of Runway 15R/33L. Although the analysis in the EIS states that the Centerfield Taxiway has environmental benefits and does not adversely impact noise or reduce air quality in the areas adjacent to the northern portion of the airfield, residents of the East Boston (Bayswater and Constitution Beach) and Winthrop (Court Road) neighborhoods closest to the existing Taxiway November and proposed northern end of the Centerfield Taxiway have specifically expressed their concerns about the Centerfield Taxiway. Residents of these neighborhoods have also expressed concerns regarding the use of Taxiway November and have questioned FAA's compliance with the existing "good neighbor" policy regarding queuing aircraft on Taxiway November[10]. Given these concerns, FAA will conduct an additional evaluation of taxiway operations in the northern portion of the airfield to assess potential beneficial operational procedures that would preserve or improve the operational and environmental benefits of the Centerfield Taxiway as shown in the EIS. FAA will not make any decision concerning the Centerfield Taxiway until after the evaluation and appropriate environmental review have been completed, as detailed below. It is intended that any procedures or operating restrictions would not limit use of the Centerfield Taxiway in the event of emergencies, key equipment outages, or scheduled maintenance that requires the closure of taxiways at the north end of the airport

[10] FAA Order BOS TWR 7040.1, "Noise Abatement" states that whenever possible "No more than five turbojets, including one in position, shall be cleared beyond Runway 15L. Only one turbojet is allowed to be held on November Taxiway between Runways 22R and 22L." The limit applies to aircraft north of Runway 15L/33R, the 2,600-foot runway. Under this policy, there is no limit on the number of aircraft between Runway 15R-33L and Runway 15L-33R.

Section 3.9 of the Final EIS describes the operational and safety benefits of constructing the Centerfield Taxiway. Section 3.10 describes the environmental impacts of the Centerfield Taxiway and concludes that the deferral of a decision on the Centerfield Taxiway would have no measurable impact on the environmental assessment of the remaining improvements of the Preferred Alternative.

The taxiway evaluation would be conducted in two phases. Phase 1 would address operations on Taxiway November and Phase 2 would address taxi operations on the Centerfield Taxiway. Phase 1 would begin by developing a clear understanding of the concerns that the neighborhoods surrounding the approach ends of Runways 22L and 22R have regarding operations on the existing taxiway system north of Runway 15R/L. Specifically, this first part of Phase 1 would have the following tasks:

- Identify and review federal and state policies, regulations, and directives related to community concerns with taxi operations north of Runway 15R/33L. These include, at least, noise, air quality, and visual impacts.
- Meet with representatives from neighborhoods surrounding the north end of the airport to better ascertain their concerns, solicit potential actions to address their concerns, and discuss operational difficulties in meeting current policy.
- Review neighborhood concerns in the context of relevant federal and state policies, regulations, and directives in order to determine which relate to neighborhood concerns.
- Assemble and review recent field monitoring results (e.g., noise and air quality impacts) and analyses of taxi operations, their impacts, or potential mitigation measures north of Runway 15R/33L.
- Conduct further field studies, if warranted, to document existing impacts associated with taxi operations (e.g., noise monitoring, air quality).
- Review the results of field studies to determine whether existing conditions approach or violate applicable regulations and what actions are warranted to mitigate the impacts of taxi operations.
- Identify other candidate actions (beyond those suggested by the communities) that can mitigate impacts most appropriately. These actions will focus primarily on operational measures within the control of the FAA (e.g., taxi procedures) but may also include other actions that could address neighborhood concerns (e.g., physical changes to the airport, airline schedule, or gate management actions).
- Review candidate actions and assess them at a high level to determine their effectiveness in addressing neighborhood concerns and impacts to safety, efficiency, capacity, cost, or other consequences.
- Develop a detailed plan, if warranted, to implement promising actions. The evaluation could be terminated if current conditions related to neighborhood concerns do not exceed federal or state standards or if candidate actions are not expected to be effective, safe, or within reasonable cost.

Any decision with regard to approval of the Centerfield Taxiway, including appropriate beneficial operating procedures, will be made following completion of a Phase 2 Scope of Work and evaluation. A written re-evaluation will be conducted by FAA as to whether the decision can be made based upon the data and analysis contained in the EIS and evaluation, or whether further environmental documentation is necessary before such a decision could be made. Any such written re-evaluation will conform to the requirements of paragraph 103 of FAA Order 5050.4A.

4. Residential Sound Insulation.

FAA will fund a Massport sound insulation program to address noise exposure within the 65 DNL contour that results from implementation of the Preferred Alternative as mitigated with a 10-knot northwest/southeast wind restriction. This involves an estimated 1,200 to 1,470 dwelling units. Approximately 1,000 to 1,100 of these are in Chelsea. FAA will begin funding sound insulation prior to funding construction of the runway and FAA will ensure that funding the sound insulation program is complete prior to commissioning the runway. If federal funding is not available to complete the sound insulation program, Massport has committed to providing the necessary funding (Final EIS, Appendix B, Section 3.0.). FAA will also fund a Massport program to provide building code upgrades needed for sound insulation, to the extent that such code upgrades are necessary.

For residences that are on or eligible for inclusion on the National Register of Historic Places and within the 65 DNL contour, sound insulation will be provided in accordance with the historic building rehabilitation standards established by the Secretary of Interior (36 CFR 800.5(b)).

5. Development of Detailed Plan for Peak Period Pricing or Other Comparable Demand Management Program.

As part of the Section 61 Findings under the MEPA, Massport has outlined a conceptual plan and committed to implement an enforceable peak period pricing program at Logan Airport or an alternative demand management program with comparable effectiveness. As a first step, Massport committed to establish and maintain a monitoring system that will: (i) provide advance indication of when airline over-scheduling is likely to become a significant contributing factor to aircraft arrival and departure delays at Logan regardless of the weather; and (ii) identify the portion of the day during which an over-scheduling condition would likely occur. This commitment to implement peak period pricing (or alternative demand management program) was required by the Secretary of Environmental Affairs for the Commonwealth of Massachusetts because he found that peak period pricing will reduce noise and air pollution impacts on “the most immediately affected communities.” (FEIR Certificate at 7.) The U.S. EPA Region 1 and the Commonwealth’s Department of Environmental Protection have indicated support for a Peak Period pricing program. In comments submitted on the SDEIS/Final EIR (comment letters 4 and 6), both of these agencies urged Massport to accelerate its schedule for

implementing peak period pricing as a means to reduce air pollution caused by delays from airline over-scheduling.

While federal law prohibits an airport authority from imposing demand management strategies that interfere with interstate commerce or are unjust, unreasonable or discriminatory, Massport may under its proprietary authority implement peak period pricing or other comparable demand management program so long as it complies with the applicable federal requirements. Consistent with the commitments made by Massport in its Section 61 Findings (FEIS at 4-14 and B-11), the FAA is directing Massport to develop and submit a detailed plan or draft proposal for peak period pricing, or other comparable demand management program, before commencing construction of Runway 14-32. The FAA stands ready as necessary to assist Massport in this endeavor.

6. Noise Abatement Study and Review of Preferential Runway Advisory System.

Many reviewers of the EIS have asked for a review of Logan Airport noise impacts and an analysis identifying new noise abatement procedures to further minimize impacts from aircraft overflights. Commenters such as the CAC and South Shore communities have made specific noise abatement proposals. FAA's preliminary assessment of proposals by South Shore communities indicates that changes in flight tracks and possibly other proposals may be feasible. FAA, Massport, and the CAC (which includes South Shore communities) will work jointly to develop the scope of a noise study that will include enhancing existing or developing new noise abatement measures applicable to aircraft overflights. The study will evaluate proposals on the basis of environmental benefit, operational impact, aviation safety and efficiency, and consistency with applicable legal requirements. Noise abatement proposals that FAA considers safe and efficient and that will not adversely affect other communities will be implemented. These proposals will be implemented to the extent feasible prior to completion of the noise abatement study.

Massport has also committed, as part of its Section 61 Findings, to begin working with the CAC to update the existing PRAS program. FAA supports these efforts and will work with Massport and the CAC to assess the PRAS program with the understanding that the PRAS will remain in place until superseded. FAA will work with Massport to provide technical assistance to facilitate the CAC's participation in the noise study. FAA believes that any examination of PRAS should be undertaken within the broader context of the new noise study as proposed in the previous paragraph.

The CAC should be provided funding to make independent technical assistance available in conjunction with the noise study and PRAS reassessment. This funding can be incorporated as part of an FAA grant to Massport for the noise study and PRAS reassessment.

7. Regional Transportation.

FAA and Massport actively support a regional transportation policy to improve the efficient use of the region's transportation infrastructure by expanding use of regional airports and other transportation modes, where appropriate. FAA will continue to work with New England State Aviation Directors and regional airports as part of the ongoing *New England Regional System Plan Study*. This study is:

- Evaluating the potential for domestic, international, charter, and cargo services at the regional airports;
- Evaluating capacity and other constraints at New England's airports;
- Considering the development of high-occupancy vehicle/ground transportation and rail services to improve access to the regional airports;
- Assessing alternative aviation policy strategies that may not be possible given existing constraints.

8. Airport Tenant Relocation Assistance.

The construction of Runway 14-32 will require the demolition of existing Buildings 60 and 61, which are used for cargo operations. Massport intends to provide relocation assistance in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended), 49 C.F.R. Part 24, M.G.L. Chapter 79A and implementing regulations, and other applicable law. FAA will ensure that this mitigation measure is followed through appropriate grant conditions.

9. Water Quality and Best Management Practices.

Construction of Runway 14-32 and taxiway components of the Preferred Alternative will result in a slight increase (3.8%) in peak runoff to tidal waters. Peak discharges will be minimized through the use of grassed swales and infiltration of runoff. No long-term impacts to water quality are anticipated.

The existing storm water drainage system will be reconfigured slightly to accommodate runoff from the runway and taxiway improvements. A low-flow water quality treatment structure will be incorporated into the existing system to handle the first flush runoff from portions of the airfield. Sediment and erosion controls will be installed during construction. Construction will be phased in order to minimize the extent of exposed soil at any one time. All new runway and taxiway construction will be subject to the Massachusetts Department of Environmental Protection's Storm Water Management Policy and will be consistent with all applicable policies and performance standards.

FAA will ensure compliance with these and other water quality Best Management Practices through its engineering oversight.

IX. RESPONSE TO COMMENTS ON FINAL ENVIRONMENTAL IMPACT STATEMENT

The FAA received approximately 95 comment letters on the Final EIS. Each of the comment letters was reviewed to determine if it raised substantive new issues about the Final EIS or if the comments raised issues that had been previously addressed in the Draft EIS or Final EIS. If the comment letter raised one or more substantive new comments, those comments were noted and place into appropriate categories. In all, the FAA identified 42 areas of concern raised in the comment letters. Appendix B of this ROD contains a summary of new substantive issues followed by responses that are arranged by issue. Appendix B also includes a summary of other comments that did not raise new substantive issues, as well as appropriate references to the EIS where these comments are addressed.

Copies of letters received by FAA, as well as the entire ROD, will be available electronically upon request of FAA (9-ANE-BOSROD@FAA.GOV) or by calling 781-238-7609. Additionally, the Record of Decision will be available at www.faa.gov/region/ane/rod.htm.

X. FAA DETERMINATIONS

In accordance with applicable law and FAA Order 5050.4A, FAA makes the following determinations. These determinations are supported by evidence contained in the EIS.

With regard to applicable grant assurances required by FAA prior to federal funding:

- The Airside Project is reasonably consistent with existing plans of public agencies for the development of the area (49 U.S.C. § 47106(a)(1)).
- Fair consideration has been given to the interest of communities in or near the project location (49 U.S.C. § 47105(b)(2)).
- Appropriate action has been or will be taken, including the adoption of zoning laws, to restrict to the extent reasonable, the use of land in the vicinity of the airport to purposes compatible with airport operations (49 U.S.C. § 47107(a)(10)).
- Appropriate air and water quality certificates have been obtained (49 U.S.C. § 47106(c)(1)(B)). (See Appendix A.)

With regard to actions involving runway location:

- There is no feasible and prudent alternative.
- All reasonable steps have been taken to minimize adverse effects.

With regard to the use of land in an area covered by an approved state coastal zone management program:

- State coastal zone consistency review is complete (16 U.S.C. §§ 1451-1464).

With regard to air quality, FAA determines that:

- The Airside Project satisfies General Conformity requirements under Section 176(c) of the Clean Air Act (42 U.S.C. § 7506), as implemented by 40 CFR Part 93 in that it conforms to the purposes of the Massachusetts State Implementation Plan.

With regard to historical and archaeological resources:

- In accordance with Section 106 of the National Historic Preservation Act, the FAA determines that the Airside Project will have No Adverse Effect on properties on or eligible for inclusion on the National Register of Historic Places. The Massachusetts Historical Commission concurs with this determination.

With regard to potential Department of Transportation Act, Section 4(f) impacts to public parks, recreation areas, or wildlife and waterfowl refuges, FAA determines that:

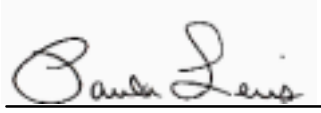
- The Airside Project would not use any such lands.
- Even if a Section 4(f) Determination were necessary, there is no feasible or prudent alternative to the use and all possible means to minimize harm have been taken.

XI. DECISION AND ORDER

I have carefully considered the FAA's goals and objectives in relation to aviation safety and efficiency and various aeronautical aspects of the proposed airside improvement projects discussed in the Draft, Supplemental, and Final EISs, including the purposes and needs to be served by the projects, the alternative means of achieving them, the environmental impacts of those alternatives, the mitigation and actions necessary to preserve and enhance the environment.

Therefore, under the authority delegated to me by the Administrator of the FAA, I find that the Preferred Alternative with mitigation as approved in this ROD is reasonably supported, and for those projects I therefore direct that action be taken to carry out the agency actions discussed more fully in this ROD. Subject to the mitigation measures specified above, I am directing approval of the Logan International Airport Layout Plan, as modified to depict the projects specified in the Preferred Alternative of the Final Environmental Impact Statement (EIS), with the exception of the proposed Centerfield Taxiway. I am deferring a decision on the Centerfield Taxiway until FAA conducts an additional evaluation of potential beneficial operational procedures that would preserve or improve the operational and environmental benefits of the Centerfield Taxiway shown in the Final EIS, as discussed in the Mitigation section above. I am also determining from an environmental perspective that those airport development projects specified in the Preferred Alternative, with the exception of the proposed Centerfield Taxiway, are eligible for federal funding under the Airport Improvement Program and, potentially, the Passenger Facility Charge program without limitation. Finally, I am directing the reduction of instrument approach minimums as specified in the Preferred Alternative. Under the authority delegated to me, I find that the federal actions stated herein are reasonably supported. I also certify, based upon the administrative record, that

implementation of the Preferred Alternative with mitigation approved in this ROD is reasonably necessary for use in air commerce, as required by 49 U.S.C. § 44502(b). This decision and order constitutes the federal approval for the actions identified above and any subsequent actions approving a grant of federal funds to Massport.



Paula Lewis
Acting Regional Administrator
FAA New England Region

August 2, 2002
Date

Right of Appeal: This decision and order is issued and these actions are taken pursuant to 49 U.S.C. §§ 40101 *et seq.*, Parts A and B, and constitute final orders of the Administrator that are subject to review by the appropriate Court of Appeals of the United States in accordance with the provisions of 49 U.S.C. § 46110.

APPENDIX A

STATE AIR QUALI TY AND WATER QUALITY CERTIFICATION

JUL-29-2002 09:46 MASSPORT PLANNING&DEV 6175683518 P.01/01

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE DEPARTMENT
STATE HOUSE • BOSTON 02133
(617) 727-3600

JANE SWIFT
GOVERNOR

July 26, 2002

John Silva
Manager
Environmental Programs
Federal Aviation Administration
12 New England Executive Park
Burlington, Massachusetts 01803

Re: Logan International Airport Airside Improvement Planning Project reasonable assurance related to applicable air and water quality standards

Dear Mr. Silva:

In accordance with the 1982 Airport Act and FAA's Order 5050.4A, I am writing to inform you that there are reasonable expectations that the proposed Airside Planning Project for Logan International Airport will be in compliance with applicable air and water quality standards.

Based on the information on the air and water quality set forth in the Logan Airside Improvements Planning Draft Environmental Impact Report (DEIR, February 1999), Final Environmental Impact Report (FEIR March 2001), and the conclusions that the Secretary of Environmental Affairs set forth in his certificates on the DEIR (March 7, 199) and FEIR (June 15, 2001), I certify that there is reasonable assurance that the proposed Logan International Airport Airside Improvement Planning Project will be located, designed, constructed and operated in compliance with applicable air and water quality standards.

Sincerely,

Jane M. Swift

APPENDIX B

New Comments on Final EIS

Letter	Name	Detailed Response			Topical Response
		Code	Topic	Issue	
1	U.S. Senator Edward Kennedy	A4	Wind Restriction	Future Changes	3
		A6	Wind Restriction	Parameters	5
		H1	Dispute Resolution	Third-party Meditation	7
		H2	Dispute Resolution	Penalties	7
		F1	Environmental Impacts	Direct Access to Data	15
		I1	Capacity	General	13
		J1	Centerfield Taxiway	Environmental Review	17
2	U.S. Representative Michael Capuano	A7	Wind Restriction	Threshold	4
		B3	Demand Management	Implementation	9
		D1	Noise	Part 161 Study of Hushkits	25
		C1	PRAS	Process for Reassessing PRAS	12
3	EPA Robert Varney	A1	Wind Restriction	Enforcement/ Monitoring	1
		A2	Wind Restriction	Enforcement/ Monitoring	7
		A3	Wind Restriction	Future Changes	3
		A5	Wind Restriction	Wind Speed Threshold	4
		B1	Demand Management	Implementation	9
		C1	PRAS	Process for Reassessing PRAS	12
		D1	Noise	Part 161 Study of Hushkits	25
		E1	Air Quality	Mitigation Commitments	16
		G1	Mitigation	Monitoring	7
		L3	MITRE Analysis	Delays	22
4	State Senator Robert Hedlund	A18	Wind Restriction	Enforceability	1
5	Senate Majority Whip Robert Travaglini and State Representative Anthony Petruccelli	A18	Wind Restriction	Enforceability	1
		J2	Centerfield Taxiway	Approval	19
6	State Representative Garrett Bradley	A1	Wind Restriction	Enforcement/ Monitoring	1
7	State Representative Garrett Bradley	AA	General Opposition		
8	Legislative Caucus on Air Transportation, Robert DeLeo	A18	Wind Restriction	Enforceability	1
9	Massport, Craig Coy	A11	Wind Restriction	Delay Reduction	2

Letter	Name	Detailed Response			Topical Response
		Code	Topic	Issue	
		A12	Wind Restriction	Threshold	4
		A13	Wind Restriction	Enforcement	3
		J4	Centerfield Taxiway	Approval	20
10	City of Boston, Mayor Thomas Menino	C1	PRAS	Process for Reassessing PRAS	12
		D1	Noise	Part 161 Study of Hushkits	25
		D6	Noise	Hill Effects	27
		D7	Noise	Runway 27 Flight Tracks	28
		G6	Mitigation	Sound Insulation	35
		D8	Noise	Error in FEIS	29
		E2	Air Quality	AQI	16
		E3	Air Quality	AQI	16
		J4	Centerfield Taxiway	Approval	20
		B6	Demand Management	Alternative Forms	10
		B7	Demand Management	Implementation	11
10	City of Boston, Mayor Thomas Menino *(continued)*	B3	Demand Management	Implementation	9
		G7	Mitigation	Commitments	13
		A1	Wind Restriction	Enforcement/ Monitoring	1
		A7	Wind Restriction	Threshold	4
		A14	Wind Restriction	Enforcement	1
		F2	Environmental Impacts	Parklands	31
		Q1	Forecasts	Monitor & Review	21
		D11	Noise	Land Use Plans	6
11	Mayor of Everett, David Ragucci	AA	General Opposition		
12	Alliance of Boston Neighborhoods, Edward Allan	A7	Wind Restriction	Threshold	4
		A8	Wind Restriction	Operational Implementation	5
13	Orient Heights Neighborhood Council, Alice Christopher	J2	Centerfield Taxiway	Approval	19
		J3	Centerfield Taxiway	Safety	18
14	City of Chelsea, Jay Ash	K1	EIS Analysis	September 11th	21
15	Selectman, Town of Cohasset, Michael Sullivan	D4	Noise	Flight Tracks	12
16	Selectman, Town of Cohasset, Frederick Koed	D4	Noise	Flight Tracks	12
		G9	Mitigation	Oversight	7
		G4	Mitigation	Monitoring	8
		A10	Wind Restriction	Enforcement	3
17	Town of Hingham, Matthew MacIver	A2	Wind Restriction	Enforcement/ Monitoring	7

Letter	Name	Detailed Response			Topical Response
		Code	Topic	Issue	
		A7	Wind Restriction	Threshold	4
		G3	Mitigation	Monitoring	7
		G4	Mitigation	Monitoring	8
		D4	Noise	Flight Tracks	12
		B2	Demand Management	Implementation	9
		J2	Centerfield Taxiway	Approval	19
		C1	PRAS	Process for Reassessing PRAS	12
18	City of Somerville, Mayor Dorothy Kelly Gay	A6	Wind Restriction	Parameters	5
		C1	PRAS	Process for Reassessing PRAS	12
		A8	Wind Restriction	Operational Implementation	5
		A7	Wind Restriction	Threshold	4
		G3	Mitigation	Monitoring	7
19	Town of Weymouth, Mayor David Madden	D2	Noise	Noise Study	12
20	Advocates for Transportation Alternatives, Martha Bewick	F3	Environmental Impacts	Cumulative Impacts	32
21	Air Transport Association, Katherine Andrus	A16	Wind Restriction	Enforcement	1
		B7	Demand Management	Implementation	11
		J4	Centerfield Taxiway	Approval	20
22	American Superconductor, Gregory Yurek	A11	Wind Restriction	Delay Reduction	2
		A15	Wind Restriction	Implementation	2
22	American Superconductor, Gregory Yurek *(continued)*	A16	Wind Restriction	Enforcement	1
		B7	Demand Management	Implementation	11
23	Analog Devices, Ray Stata	A11	Wind Restriction	Delay Reduction	2
		A15	Wind Restriction	Implementation	2
24	Best of Boston, Ltd., Ellen Burnett	J4	Centerfield Taxiway	Approval	20
25	Boston Scientific, Peter Nicholas	A11	Wind Restriction	Delay Reduction	2
		A15	Wind Restriction	Implementation	2
		A16	Wind Restriction	Enforcement	1
		B7	Demand Management	Implementation	11
26	CAC, Anastasia Lyman	A7	Wind Restriction	Threshold	4
		C4	PRAS	Process for Reassessing PRAS	12
		A10	Wind Restriction	Enforcement	3
		A6	Wind Restriction	Parameters	5

Letter	Name	Detailed Response			Topical Response
		Code	Topic	Issue	
		G3	Mitigation	Monitoring	7
		G4	Mitigation	Monitoring	8
		D4	Noise	Flight Tracks	12
		B2	Demand Management	Implementation	9
		J2	Centerfield Taxiway	Approval	19
		C1	PRAS	Process for Reassessing PRAS	12
27	CAC Consultants	G8	Mitigation	Commitments	7
		G10	Mitigation	Funding	8
		G11	Mitigation	Enforcement	7
		J1	Centerfield Taxiway	Environmental Review	17
		G15	Mitigation	Single Engine Taxi Procedures	34
		R2	Runway 14/32	Future Modifications	13
		B8	Demand Management	Commitment	9
		S1	National Airspace Redesign	Environmental Review	42
		R1	Runway 14/32	Precision Instrument Approach	40
		A10	Wind Restriction	Enforcement	3
		Q2	Forecasts	Range of Forecasts	38
		D9	Noise	Impacts >1.5 dB	30
		D10	Noise	Use of 29M Low fleet for Impacts to Historical Resources and EJ Impacts	26
		E1	Air Quality	Mitigation Commitments	16
		B3	Demand Management	Implementation	9
		Q3	Forecasts	Consistency with FAA TAF	39
		M2	Reduced Minimums	Bad Weather Approaches	
		A7	Wind Restriction	Threshold	4
		A3	Wind Restriction	Future Changes	3
		C5	PRAS	Reassessment of PRAS	12
		A8	Wind Restriction	Operational Implementation	5
		G16	Mitigation	Unidirectional Commitment	14
		G17	Mitigation	Unidirectional Commitment	14
		A17	Wind Restriction	Operational Implementation	24
		G12	Mitigation	Building Code Upgrades	8
		G13	Mitigation	Upland Sandpiper	33
27	CAC Consultants *(continued)*	G14	Mitigation	Noise Study/ PRAS Reassessment	12
28	Cambridge Office of Tourism, Robyn Thieringer	A11	Wind Restriction	Delay Reduction	2
		J4	Centerfield Taxiway	Approval	20

Letter	Name	Detailed Response			Topical Response
		Code	Topic	Issue	
29	Cambridge Trust Company, James Dwinell	A11	Wind Restriction	Delay Reduction	2
		A18	Wind Restriction	Enforceability	1
		B7	Demand Management	Implementation	11
30	Cape Air, Daniel Wolf	B4	Demand Management	Small Community Air Service	11
		B5	Demand Management	Small Community Exemptions	11
31	Cape Cod Chamber of Commerce, Wendy Northcross	B5	Demand Management	Small Community Exemptions	11
32	EMC, Michael Ruettgers	A16	Wind Restriction	Enforcement	1
		A11	Wind Restriction	Delay Reduction	2
33	Fisher Law Offices, Joseph Fisher	AA	General Opposition		
34	Genuity, Paul Gudonis	A11	Wind Restriction	Delay Reduction	2
		A16	Wind Restriction	Enforcement	1
		A15	Wind Restriction	Implementation	2
35	Greater Boston Chamber, Paul Guzzi	A11	Wind Restriction	Delay Reduction	2
		J4	Centerfield Taxiway	Approval	20
36	Harvard University, Venkatesh Narayanamurti	BB	General Support		
37	Marriott, David Giblin	BB	General Support		
38	Marriott, Bill Skoglund	A13	Wind Restriction	Enforcement	3
		J4	Centerfield Taxiway	Approval	20
39	Massachusetts Convention Center Authority, Gloria Cordes Larson	A15	Wind Restriction	Implementation	2
40	Massachusetts High Tech Council, Christopher Anderson	A15	Wind Restriction	Implementation	2
		A16	Wind Restriction	Enforcement	1
		J4	Centerfield Taxiway	Approval	20
		A11	Wind Restriction	Delay Reduction	2
41	Mykrolis, C. William Zadel	A11	Wind Restriction	Delay Reduction	2
		A15	Wind Restriction	Implementation	2
		A16	Wind Restriction	Enforcement	1
		B7	Demand Management	Implementation	11
42	Planned Growth, LLC, A. Craig Stimmel	BB	General Support		
43	Sheraton Boston, Doug Ridge	A16	Wind Restriction	Enforcement	1
		J4	Centerfield Taxiway	Approval	20
44	Sierra Club, Mary Ann Nelson	G2	Mitigation	Commitments	7
		A7	Wind Restriction	Threshold	4

Letter	Name	Detailed Response			Topical Response
		Code	Topic	Issue	
		C1	PRAS	Process for Reassessing PRAS	12
		G3	Mitigation	Monitoring	7
		G4	Mitigation	Monitoring	8
		J1	Centerfield Taxiway	Environmental Review	17
		B2	Demand Management	Implementation	9
45	State Street, Ronald Logue	A11	Wind Restriction	Delay Reduction	2
		A15	Wind Restriction	Implementation	2
45	State Street, Ronald Logue *(continued)*	A16	Wind Restriction	Enforcement	1
46	State Street, Maureen Scannell Bateman	A15	Wind Restriction	Implementation	2
47	State Street, David Spina	A11	Wind Restriction	Delay Reduction	2
		J4	Centerfield Taxiway	Approval	20
48	State Street, John Towers	A15	Wind Restriction	Implementation	2
		B7	Demand Management	Implementation	11
49	Teradyne, George Chamillard	A11	Wind Restriction	Delay Reduction	2
		A15	Wind Restriction	Implementation	2
		A16	Wind Restriction	Enforcement	1
		B7	Demand Management	Implementation	11
50	The Tremont Boston, Fred Kleisner II	J4	Centerfield Taxiway	Approval	20
51	Travelers Aid Boston, Grace O'Donnell	A11	Wind Restriction	Delay Reduction	2
		A13	Wind Restriction	Enforcement	3
		J4	Centerfield Taxiway	Approval	20
52	Travelers Aid Boston, Richard Ring	A13	Wind Restriction	Enforcement	3
		J4	Centerfield Taxiway	Approval	20
53	Virginia and Imants Ansbergs	AA	General Opposition		
54	Tricia Baglio	A16	Wind Restriction	Enforcement	1
55	David Bartol	AA	General Opposition		
56	Michael Bernstein	B1	Demand Management	Implementation	9
57	Philip Carver	AA	General Opposition		
58	Stacey Chacker	B3	Demand Management	Implementation	9
59	Brenda Ciccio	BB	General Support		
60	Ann Clasby	BB	General Support		
61	Arthur Clasby	BB	General Support		
62	Lynn Conroy	AA	General Opposition		
63	Monika Corneille	AA	General Opposition		
64	Bob D'Amico	A15	Wind Restriction	Implementation	2
65	Priscilla Daniels	AA	General Opposition		

Letter	Name	Detailed Response			Topical Response
		Code	Topic	Issue	
66	Virginia and J. Herbert Fisher	AA	General Opposition		
67	Mary Ann Frye	A6	Wind Restriction	Parameters	5
		A7	Wind Restriction	Threshold	4
		B3	Demand Management	Implementation	9
		D4	Noise	Flight Tracks	12
		H1	Dispute Resolution	Third-party Meditation	7
		B2	Demand Management	Implementation	9
68	Bradley Galko	A18	Wind Restriction	Enforceability	1
		K1	EIS Analysis	September 11th	21
69	Robert Goldman	AA	General Opposition		
70	James Gordon	AA	General Opposition		
71	Alida Hanson	AA	General Opposition		
72	Ann Hershfang	B2	Demand Management	Implementation	9
		G5	Mitigation	Commitments	7
		A7	Wind Restriction	Threshold	4
		A8	Wind Restriction	Operational Implementation	5
72	Ann Hershfang *(continued)*	A10	Wind Restriction	Enforcement	3
		L2	MITRE Analysis	Fleet Mix	22
		G9	Mitigation	Oversight	7
73	Arthur Johnson	K1	EIS Analysis	September 11th	21
		K2	EIS Analysis	September 11th	21
		B1	Demand Management	Implementation	9
74	Barbara Kaplan	F2	Environmental Impacts	Parklands	31
		J2	Centerfield Taxiway	Approval	19
		K1	EIS Analysis	September 11th	21
		B3	Demand Management	Implementation	9
		G3	Mitigation	Monitoring	7
75	Marita King	AA	General Opposition		
76	Arthur Krolman	AA	General Opposition		
77	Elizabeth Levy Merrick	A5	Wind Restriction	Wind Speed Threshold	4
		A18	Wind Restriction	Enforceability	1
78	Jacqueline Llewellyn	AA	General Opposition		
79	Richard Mason	AA	General Opposition		
80	Mary Ellen McCabe	AA	General Opposition		
81	Joanne McGrath	B2	Demand Management	Implementation	9
		A7	Wind Restriction	Threshold	4
82	Susan McVeigh	AA	General Opposition		
83	Lois Meinhart	A18	Wind Restriction	Enforceability	1
84	Brian Merrick	A5	Wind Restriction	Wind Speed Threshold	4
		A10	Wind Restriction	Enforcement	3
		B3	Demand Management	Implementation	9
		K2	EIS Analysis	September 11th	21

Letter	Name	Detailed Response			Topical Response
		Code	Topic	Issue	
85	Martha Merson	K2	EIS Analysis	September 11th	21
		B3	Demand Management	Implementation	9
86	Katherine Murphy	AA	General Opposition		
87	Karen and Eben Myrick	K1	EIS Analysis	September 11th	21
88	Ansley Pearce	G5	Mitigation	Commitments	7
		H1	Dispute Resolution	Third-party Meditation	7
		H2	Dispute Resolution	Penalties	7
89	Ansley Pearce	D4	Noise	Flight Tracks	12
		A10	Wind Restriction	Enforcement	3
		K2	EIS Analysis	September 11th	21
90	Bonnie and Sherm Russ	AA	General Opposition		
91	Frederick Salvucci	A2	Wind Restriction	Enforcement/ Monitoring	7
		A5	Wind Restriction	Wind Speed Threshold	4
		A7	Wind Restriction	Threshold	4
		A10	Wind Restriction	Enforcement	3
		B3	Demand Management	Implementation	9
		C2	PRAS	Goals	12
		C3	PRAS	Process for Reassessing PRAS	12
		D5	Noise	Section 4(f)	6
		G4	Mitigation	Monitoring	8
		G5	Mitigation	Commitments	7
91	Frederick Salvucci *(continued)*	J1	Centerfield Taxiway	Environmental Review	17
		J3	Centerfield Taxiway	Safety	18
		K2	EIS Analysis	September 11th	21
		L1	MITRE Analysis	Capacity Analysis	22
		L2	MITRE Analysis	Fleet Mix	22
		M1	Reduced Minimums	Implementation	23
92	Richard Schieferdecker	AA	General Opposition		
93	Mary Jean Shultz	AA	General Opposition		
94	Monique and Justin Smith	AA	General Opposition		
95	Allison Stieber	AA	General Opposition		

APPENDIX B

FAA Responses to Comments on the Logan Airside FEIS

Issue #1 - Monitoring and Enforcement of the Wind Restriction

A number of comments included suggestions regarding the monitoring and enforcement of the wind restriction:

- *FAA and MPA should establish an independent, neutral facilitator to assess and report on compliance with the wind restriction.*
- *Mechanisms and enforceable administrative procedures must be developed for the monitoring and enforcement of the wind restriction.*
- *An analysis must be conducted to determine if the limits proposed for Runway 14-32 would withstand legal challenges. Construction cannot occur until the communities can be assured that the limits are legal and enforceable.*
- *In the event of an infraction, the wind restriction should increase to 20 knots for a one month period.*
- *The restriction should not include an enforcement provision as it is unclear who would be able to enforce such a restriction, and under what legal authority. Allowing a third-party with enforcement powers to second-guess the FAA and the aircraft operators would create an inappropriate and unacceptable hazard to air transportation.*

Given that there is no way the restriction can be enforced, Runway 14-32 should not be constructed, even with a wind restriction.

Response:

The FAA has sole responsibility for implementation of the wind restriction and commits to this mitigation measure as part of this Record of Decision. The Boston Air Traffic Control Tower directive implementing the wind restriction will indicate that the wind restriction is a mandatory EIS mitigation measure to which adherence is imperative. To ensure compliance, FAA will regularly review the use of the runway relative to the wind restriction based on data compiled by Massport. (The PRAS Monitoring System that Massport committed to in its Section 61 Findings, will be expanded to include information on the use of Runway 14-32 relative to the wind restriction.) FAA will also provide quarterly reports to the City of Boston, the CAC, and other interested members of the public concerning FAA's record of compliance with the wind restriction.

Complaints regarding noncompliance will be taken seriously and investigated promptly. The Quality Assurance department of Boston Tower will review the use of Runway 14-32 on a daily basis to assure compliance with restrictions in this ROD. In the event it is revealed that Runway 14-32 was used outside the parameters specified in the ROD, the

facility manager will offset this use by causing it not to be used when it otherwise would have been used.

In addition, pending resolution of the ongoing state court litigation, the FAA will also begin working with the City of Boston, the CAC, and Massport to formalize an agreement to address further ways to monitor how the restriction impacts surrounding communities and the traveling public. This agreement will provide opportunities for the Mayor of Boston or his representatives and the CAC to meet regularly with the FAA to understand how the restriction will be utilized, review PRAS reports, and discuss progress on the use of the runway in accordance with the restriction. This agreement will be revised as necessary to reflect any settlement agreement that lifts the state court injunction.

Issue #2 – Impacts of the Wind Restriction

Many comments expressed concern about the inclusion of the wind restriction in the ROD. They noted that a wind restriction was an unprecedented action that will have impacts such as the following:

- *It will sacrifice up to 20,000 annual hours of delay reduction.*
- *It will prevent air traffic control from fairly distributing Logan overflights.*
- *It will increase reliance on the north/south runways.*
- *It will increase noise impacts over north/south communities.*
- *It will make PRAS achievement impossible.*

In the event the wind restriction was approved, the comments recommended that the restriction not be considered until the runway is built and the impacts of such a proposal can be evaluated on the basis of actual experience.

Response:

The 10-knot northwest/southeast wind restriction achieves the purpose and need of the Airside Project because it is predicted to reduce delays during northwest wind conditions. At the same time, the wind restriction, as designed, prevents Runway 14-32 from changing overall runway utilization patterns at Logan; reduces the population exposed to 65 dB DNL by an additional 1,627 people compared to the unrestricted Preferred Alternative (29M Low fleet); reduces the population exposed to noise of 70 dB DNL or greater; and enhances consistency of the Project with City of Boston land-use planning objectives. Thus, the wind restriction provides a balance between delay reduction benefits and environmental impacts and addresses some of the public's concerns regarding Runway 14-32. Regarding PRAS achievement and runway utilization patterns with the wind restriction, Massport, with support from FAA, has committed to reassess the PRAS program as part of its Section 61 Findings. (See Section VIII of the Record of Decision.)

Issue #3 - Future Changes to the Wind Restriction

Many comments sought assurance that the wind restriction would be a permanent mitigation measure and suggested that the FAA permanently commit to an enforceable restriction in the ROD. They noted that the wind restriction should not be subject to any other noise abatement action, including PRAS, and that it should therefore not be subject to review in the PRAS revision process.

In the event that the wind restriction is modified in the future, other comments raised concerns that the "appropriate level of environmental review" described in the FEIS is unclear. The level of anticipated review, the nature and extent of assured public participation, and the potential bases for change in the restriction, should all be set forth in the ROD. Many comments recommended that the ROD should clearly specify that any substantial change to the wind restriction would trigger a full EIS process.

Still other comments stated that the FAA must avoid unintentionally making the wind restriction permanent by tying it to an environmental review process (e.g., revision of PRAS). Working within such a process, airport opponents would have no incentive to come to a resolution.

Response:

This ROD defines the conditions under which the wind restriction will be used. The wind restriction is a mandatory mitigation measure of the project. In response to the comments concerning the appropriate level of environmental review, the requirements are defined in FAA Order 5050.4A, Airport Environmental Handbook and FAA Order 1050.1D, Policies and Procedures for Considering Environmental Impacts.

Issue #4 - Wind Restriction Threshold

Some comments suggested increasing the threshold for the wind restriction to a speed of 15-knots or greater. A few noted that the operational implementation described in the FEIS allows for flexibility and that the modeled noise contour did not incorporate this flexible implementation. The authors of the comments therefore felt that the actual threshold should be set higher than 10-knots to ensure that the runway is only used during wind conditions of 10-knots or greater and that the actual impacts of the restriction reflect the modeled impacts. Others noted that the analysis showed that fewer people are impacted with the higher restriction and that a 15-knot restriction would minimize population within the 60, 65 and 70 dB DNL. Comments also noted that the MITRE analysis demonstrated that there would be little loss in delay reduction so the restriction should be increased to 15-knots.

In contrast, other comments recommended that the wind speed threshold be lowered. They suggested that the wind restriction threshold should be based on FAA Order

7110.65, which recommends use of the runway most closely aligned with the wind when wind speed is 5 knots or greater.

Response:

The FAA, as part of the decision-making process on the wind restriction, has considered the various reasons cited for adjusting the wind speed threshold, as well as numerous other factors. The individual points raised by commenters are discussed briefly below:

Flexibility of the Operational Implementation - The operational procedures outlined in the FEIS were examples of the types of procedures that will be defined and implemented in the Boston ATCT directive, not actual operating procedures. Section VIII of the ROD provides more information. While the differences between forecast and actual weather, the two-hour window for a configuration change, and emergency situations were not explicitly modeled, the modeled contour should still closely represent the actual operation of the wind restriction as the modeling included wind gusts, controller workload, and the actual wind speed threshold for use of Runway 14-32. The directive can be reviewed once the runway is commissioned to assess any unforeseen or evolving operational concerns and to refine the operational parameters if necessary.

Minimizing Impacted Population – The comment correctly notes that compared to a 10-knot restriction, the 15-knot wind restriction results in fewer total people within the 60, 65, and 70 DNL contours. However, it should also be noted that increasing the wind-restriction to 15 knots results in increased use of the north/south runway configurations compared to the 10-knot restriction. These configurations result in flights over the most-heavily impacted communities near Logan. When moving from a 10-knot restriction to a 15-knot restriction, Point Shirley, the only community within the 75 dB DNL contour under the 29M Low scenario, experiences increased overflights and increased noise impacts.

FAA Order 7110.65 - *FAA Order 7110.65, Air Traffic Control* does recommend use of the runway most nearly aligned with the wind when the wind speed is 5 knots or more, unless use of another runway would be operationally advantageous, or is requested by the pilot. However, *FAA Order 8400.9, National Safety and Operational Criteria for Runway Use Programs*, addresses safety requirements for runway use programs such as Logan's Preferential Runway Advisory System (PRAS). It provides that while aircraft operations should be conducted into the wind, considerations such as capacity and delay problems, runway length, approach aids, noise abatement, and other factors may require operations to be conducted on runways not directly aligned into the wind. It recommends a maximum crosswind of 20 knots under dry conditions and 15 knots under wet conditions. It also establishes a dry tailwind limit of 5 to 7 knots and a wet tailwind limit of 0 to 3 knots. Logan has established similar limits in *Boston Tower Order 7040.1, Noise Abatement.*

Given all of the factors raised above, FAA's selection of a wind restriction and a threshold must balance these considerations, plus delay reduction, environmental

impacts, and safety concerns. Given that Massport, with the support of FAA, has committed to begin working with the CAC to reassess PRAS as part of its Section 61 Findings, the FAA is including a 10-knot northwest/southeast wind restriction as a mitigation measure to the Preferred Alternative to prevent Runway 14-32 from causing major shifts in runway use while still retaining most of its delay reduction benefits. The analysis showed that a 10-knot threshold produced Runway 27 and 33L departure shares that were closest to the CY 2000 shares. By selecting a 10-knot threshold, FAA is attempting to prevent Runway 14-32 from causing increased use of the northwest wind configurations, while also trying to avoid increased operations on the north/south runways. A 10-knot wind speed threshold is also well within the safe runway use parameters described by FAA Order 8400.9. Based on these considerations, FAA has concluded that the 10-knot threshold provides the best balance among delay reduction, environmental impacts, and safety concerns.

Issue #5 - Implementation of the Wind Restriction

Many communities thought their input should be considered in developing the parameters of the wind restriction. They were concerned that the operational implementation described in the FEIS includes a number of loopholes such as the reliance on forecast rather than actual weather, the exceptions for scheduled maintenance, and the potential revision with a revised PRAS.

Response:

The Federal Aviation Act (49 U.S.C. §§ 40101 *et seq.*) charges the FAA with managing the use of the navigable airspace to assure safety and efficiency. As such, the FAA has the sole responsibility for implementing the wind restriction on Runway 14-32 and will do so through a Boston Air Traffic Control Tower directive. To ensure safety, the air traffic directive will consider the following: forecasted winds, wind gusts, runway configuration changes, and emergency use of the runway regardless of wind speed. As outlined in Section VIII of the ROD, the FAA will begin working with the City of Boston, the CAC, and Massport to formalize an agreement to involve the community in monitoring compliance with the wind restriction. The Quality Assurance department of the Boston Tower will monitor compliance on a daily basis and offset any use outside its parameters by preventing use of the runway when it otherwise would have been used. FAA will also provide quarterly reports to the City of Boston, the CAC, and other interested members of the public concerning FAA's record of compliance with the wind restriction. As to potential revision of the wind restriction through the PRAS update, see Response to Issue #3.

Issue #6 - Section 4(f) Impacts and the Wind Restriction

Comments noted that the analysis shows that the 10-knot wind restriction is a "feasible and prudent" alternative to avoid adverse impacts on historic and park resources in

Chelsea and South Boston, and that it must be chosen. Since 4(f) requires that all reasonable measures to mitigate must be taken and since the 15-knot wind restriction lowers the noise exposed population, comments also noted that it is reasonable to increase the restriction to 15-knots. Comments also stated the City of Boston and other communities could argue that only the 15-knot restriction achieves compatibility with their plans and takes reasonable consideration of their interests (two findings the Administrator must make to approve the plan). Other comments stated that the proposed Airside Improvements, particularly Runway 14-32, are inconsistent with the following local plans because of the noise and air quality impacts and ground transportation congestion of Logan:

- *South Boston Waterfront*
- *Seaport Public Realm Plan*
- *Master Plan for East Boston*
- *Municipal Harbor Plan for East Boston*
- *Designated Port Area Master Plan*
- *Developing plans such as Clippership Wharf, Pier One, Maverick Gardens HOPE VI, and Piers Park 1 and 2*

Based on the plans, the comments stated that Section 4(f) and the study findings required the strengthening of the restriction enforceability and its increase to 15 knots.

Response:

Historic Properties. FAA notes that the Massachusetts Historical Commission has concurred with FAA's determination that the Preferred Alternative will have No Adverse effect on historical or archaeological resources. This supports the conclusion that the Airside Project does not result in a use of historic properties under DOT Section 4(f). As part of the noise mitigation program described in Section VIII of the Record of Decision, the FAA commits to ensuring that sound insulation of eligible historic properties will be provided in accordance with the historic building rehabilitation standards established by the Secretary of Interior (36 CFR 800.5(b)).

Other Section 4(f) Resources. The implementation of the Preferred Alternative will neither incorporate land from a Section 4(f) resource nor affect the normal activity or aesthetic value of a public park, recreation area, or wildlife or waterfowl refuge. When compared to the No Action Alternative, the Preferred Alternative does not add any of these resources to the 65 dB DNL noise contour area. The development of the South Boston Waterfront area would be considered compatible land use under FAA's Land Use Compatibility Guidelines (14 CFR Part 150) because that area is currently (see Logan Airport 2000 Environmental Data Report) and would continue to be exposed to noise levels at or less than 69 DNL under both the No Action and the Preferred Alternative for the scenarios analyzed in the Final EIS. Nevertheless, to address some of the public's concerns, FAA evaluated the restricted use of Unidirectional Runway 14-32, which enhances the land-use compatibility of the South Boston Waterfront area. Indeed, the Preferred Alternative with a 10-knot northwest/southeast wind restriction would remove

all of the South Boston Waterfront, except for a small area of piers, from the 65 dB DNL contour under the long-term 37.5 Million High RJ Fleet.

Threshold and Enforcement. Since the EIS analysis demonstrates that the Preferred Alternative does not cause the use of any protected DOT Section 4(f) properties, there is no need to strengthen the enforceability of the wind restriction or increase the restriction to 15 knots. The FAA has determined that a 10-knot threshold for the wind restriction effectively balances the delay reduction benefits and environmental impacts of the Airside Project. (See Response to Issue #4.) Enforcement measures are described in Response to Issue #1 and Section VIII of the Record of Decision.

Issue #7 – General Monitoring and Enforcement of Mitigation Commitments

Comments included numerous general suggestions regarding monitoring and enforcement of mitigation commitments, agreements and contracts with communities, and dispute resolution:

- *FAA and MPA should commit to a schedule and deadline for development and implementation of the monitoring and enforcement program in the ROD per CEQ regulations (40 CFR 1505.2(c)).*
- *FAA should periodically report to the agencies and the public on the status and effectiveness of mitigation measures per CEQ(40 CFR 1505.3 (c,d)).*
- *A neutral third-party should monitor compliance and enforce mitigation commitments.*
- *Massport should enter into an agreement with the communities regarding elements of concern with the project.*
- *All prior and new mitigation commitments need to be honored before the commencement of runway construction. Fair consideration of the interests of affected communities must include honoring commitments.*
- *FAA should facilitate a Memorandum of Understanding between Massport and the communities on the resolution of disputes arising from the planning, construction and implementation of the airside improvements. For example, third-party mediation.*
- *If dispute resolution reveals that Massport has violated agreements, fines and penalties should be imposed. Revenue from these fines should be used to fund community development including noise mitigation.*
- *The ROD should incorporate all mitigation proposals and promises in the FEIS and the Section 61 Findings as binding commitments of the FAA and binding, enforceable obligations upon Massport.*
- *Mitigation commitments in the ROD should create an oversight group of impacted neighborhood representatives that holds quarterly public meetings. This group should be empowered to receive, review and publish mitigation compliance information.*

- *Enforceability should be established through an FAA commitment to withhold future grant funds, including unexpended portions of awarded grants, in the event of Massport failure to honor mitigation obligations.*

Response:

In accordance with CEQ (40 CFR 1505.2 (c)), the FAA finds that all practicable means to avoid or minimize environmental harm have been adopted though appropriate mitigation planning. Mitigation measures for those impact categories where mitigation measures were necessary to avoid or minimize significant environmental impacts, including monitoring and enforcement, are set forth in this Record of Decision. Massport has committed to additional mitigation measures as part of its Section 61 Findings. Seven of the fourteen mitigation measures that Massport has committed to in its Section 61 Findings are described and adopted in this Record of Decision. (See Section VIII of the Record of Decision for a description of the mitigation measures and which of these measures is a Massport commitment.)

Per CEQ (40 CFR 1505.3), FAA will take appropriate steps, through federal grant funding assurances and special conditions, airport layout plan approval, and contract plans and specifications to ensure that the below measures are undertaken. The approvals contained in this ROD are specifically conditioned upon full implementation of these measures and actions. If Massport does not fulfill its commitments, as contained in the ROD, then the FAA will take action to restore compliance using the full range of legal remedies at its disposal, including the withholding of federal grant funds. FAA will monitor these measures and actions to ensure implementation. The Record of Decision describes several monitoring and enforcement mechanisms for ensuring compliance with specific mitigation measures:

Wind Restriction. To ensure compliance, FAA will regularly review the use of the runway relative to the wind restriction based on data compiled by Massport. FAA will also provide **quarterly** reports to the City of Boston, the CAC, and other interested members of the public concerning FAA's record of compliance with the wind restriction. Further, the Quality Assurance department of Boston Tower will review the use of Runway 14-32 on a **daily** basis to assure compliance with the wind restriction. If violations of the wind restriction are revealed, the facility manager will offset this use by causing Runway 14/32 not to be used when it otherwise would have been used. (See also Response to Issue #1.)

Sound Insulation. FAA will begin funding sound insulation prior to funding construction of the runway and FAA will ensure that funding the sound insulation program is complete prior to commissioning the runway. If federal funding is not available to complete the sound insulation program, Massport has committed to providing the necessary funding (Final EIS, Appendix B, Section 3.0.).

Implementation of Demand Management. Consistent with the commitments made by Massport in its Section 61 Findings, the FAA is directing Massport to develop and submit

a detailed plan or draft proposal for peak period pricing, or other comparable demand management program, before commencing construction of Runway 14-32.

As an additional measure to monitor and assure that the ROD commitments are fulfilled, the FAA will act as a facilitator to resolve disputes between Massport and the CAC related to this and all other mitigation commitments.

Issue #8 - Mitigation Funding

A number of comments focused on the funding of mitigation commitments. Comments recommended that the FAA should fund technical assistance for communities or the CAC to review monitoring and compliance. There should be a clear commitment by FAA to fund building code upgrades that may be necessary to complete the proposed sound insulation program.

Comments suggested that the ROD establish a positive link between grants for construction funds and grants for mitigation programs. For example, mitigation funds should be included in the construction grant. If that is not possible, funds should be released simultaneously, construction grants should be unavailable until mitigation grants are made, and the expenditure of mitigation funds should take place within the same time period as the expenditure of construction funds to the extent appropriate.

Response:

In this ROD, the FAA has committed to provide funding to CAC for technical assistance associated with the noise study and PRAS reassessment. The FAA will also fund a Massport program to provide building code upgrades to the extent they are necessary to Massport's residential sound insulation program.

As discussed in detail in Section VIII of the ROD and above in Response to Issue #7, funding for the runway is already linked to residential sound insulation. The FAA will begin funding sound insulation prior to funding construction of the runway and FAA will ensure that funding for the sound insulation program is complete prior to commissioning the runway. As construction of Runway 14-32 is not expected to begin before 2004, Massport and FAA will have time to begin funding mitigation measures other than residential sound insulation before runway construction begins. Accordingly, it does not seem necessary to further link funds for runway construction and mitigation.

Issue #9 - Demand Management Implementation

Comments noted that the FEIS did not contain a defined demand management program. They suggested that the ROD should include a clarification of the commitment to demand management, with clear common language presented by both MPA and the FAA and subjected to review and comment by interested parties.

Comments also stated that Peak Period Pricing should be approved immediately in the ROD since FAA identified no concerns regarding the Massport proposal. They noted that demand management should not be a "conditional mitigation measure" and that the program should be implemented before runway construction. A two-year demand management testing period was also recommended before runway construction.

Response:

Peak Period Pricing, a form of demand management, was identified in the EIS as one of the seven improvement concepts for the Airside Project. It is designed to address delays caused primarily by airline overscheduling and thus is a distinct concept from Runway 14-32 which is designed to address delays caused during northwest wind conditions. Peak Period Pricing was not included as an element of the Preferred Alternative because the analysis associated with the EIS/EIR demonstrated that airline overscheduling was not a likely problem in the near term (defined as the year 2004) and thus it, or another form of demand management, would not provide significant delay reduction benefits. See Sections III and IV of the ROD and Section 3.2 of the FEIS for more information.

In the future, Logan may benefit from a Peak Period Pricing program because overscheduling is predicted to become a problem. The analysis in the EIS/EIR demonstrated that Peak Period Pricing or an alternative form of demand management is likely to provide substantial delay reduction benefits as the number of passengers using Logan increases up to as many as 37.5 million passengers a year in 2015. (See FEIS at 3-15.) After considering this and other factors, the Massachusetts Secretary of Environmental Affairs directed Massport to implement a Peak Period Pricing program. (See FEIS, Appendix A.) Massport adopted this requirement in its Section 61 Findings and provided a conceptual plan for a program if it were to be implemented. This program has not yet been fully defined because additional study is necessary to determine the appropriate program for Logan. As discussed in detail in Sections III and IV, the Draft EIS evaluated the pricing levels for Peak Period Pricing, but did not contain a proposal. Massport does include a number of elements in its conceptual plan that DOT/FAA found to be appropriate considerations. However, it is premature for FAA to consider other elements suggested by Massport because they have not been fully developed or analyzed yet.

This ROD requires Massport to develop and submit to the FAA a detailed plan or draft proposal for a Peak Period Pricing program or alternative demand management program prior to beginning construction of Unidirectional Runway 14-32. At the same time Massport finalizes and submits such a plan to the FAA, Massport will need to undergo a state administrative process. This state process will include opportunities for public input. Under the schedule presented in the EIS, construction is not scheduled to begin before the year 2004.

This requirement to develop and submit a detailed plan is a condition of the ROD and if Massport does not fulfill this requirement, the FAA is entitled to use a full range of legal options to compel Massport to fulfill this requirement.

Issue #10 - Demand Management Concepts

Some comments noted that in addition to Peak Period Pricing, the FAA, Massport, and community representatives should develop a menu of demand management options for further consideration. They recommended that experts in economics and related academic fields should be used as a resource in this process.

Response:

As indicated in response to Issue #9, the FAA in this ROD is requiring Massport to develop and submit a detailed plan for implementing Peak Period Pricing or another comparable form of demand management. DOT has already initiated a broader effort to develop policies for using demand management at airports across the United States. In conjunction with this effort, DOT/FAA are exploring the delay problems at three airports in the National Airspace System for possible implementation of new federal policies or possible legislative proposals to Congress. Logan is one of these three airports.

The type of input, including that received from local communities and experts, used to develop a Peak Period Pricing program or other comparable form of demand management is initially within the discretion of Massport. However, once Massport finalizes and submits such a plan to the FAA, Massport will need to undergo a state administrative process. This state process will include opportunities for public input.

Issue #11 - Demand Management and Exemption Issues

Some comments opposed Peak Period Pricing and other forms of demand management and some even recommended rejection of the concept. They stated that demand management would do nothing to address the underlying need for airport capacity and would interfere with the deregulated free-market choices made by airlines and passengers regarding prices, routes, and services. They also questioned the effectiveness of market-based solutions and whether such a program can be consistent with national air transportation goals to increase service to small communities.

Additional comments felt that at a minimum, demand management should be deferred either until overscheduling conditions return or until after completion of the construction of Runway 14-32. Others noted that the FAA ROD should include a requirement to study alternative forms of exemptions. They also felt the ROD should include a detailed exemption plan that will ensure the economic sustainability of year-round service to the Cape and Islands and that the ROD should further require that peak period pricing only be implemented if such an exemption program is in place.

Response:

Peak Period Pricing was considered as an improvement concept in the EIS as a means to eliminate flights during periods when demand exceeds airfield capacity. (See FEIS at 1-31.) While Peak Period Pricing is not included as an element of the Preferred Alternative, Massport's commitment to implement it is included as an environmentally beneficial mitigation measure because the EIS demonstrated that long-term it may substantially assist in reducing delay caused by airline overscheduling.

This ROD directs Massport to complete a detailed plan for peak period pricing or another comparable form of demand management before Massport can begin construction of Runway 14-32. Any program implemented by Massport, whether it be Peak Period Pricing or another form of demand management, must meet applicable federal guidelines. These include the requirements that the program not be applied in a manner that is unjust, unreasonable or discriminatory.

Any exemptions must also meet all applicable federal guidelines. Massport's Section 61 Findings indicate that its proposed demand management program may include a properly structured exemption program. DOT/FAA has previously found an exemption program that mirrors the Federal Essential Air Service program criteria and sites to be appropriate considerations in a Peak Period Pricing program. Other exemptions, such as those suggested by the comment and previously by Massport, are premature for the FAA consideration.

Issue #12 - New Noise Study and Review of PRAS

A number of comments focused on the New Noise Study and Review of PRAS. Some comments noted that the FAA should provide funding assurance, schedules, and procedures for the Noise Study and the Reassessment of PRAS. Some communities, Weymouth in particular, wanted to participate in developing the study scope, and many comments suggested that the Noise Study and PRAS review should be developed in the context of a full Part 150 study. It was recommended that the revised PRAS be in place before Runway 14-32 is commissioned, and this revised PRAS should be consistent with all prior mitigation commitments as well as any new commitments in the ROD. It should be noted that the CAC has stated it will not participate in the review of PRAS if it could result in the removal of the wind restriction. Additional comments noted that no update of PRAS would be regarded as meaningful unless it includes incentives for compliance and, conversely, disincentives for non-compliance (e.g., performance evaluation of Tower Chief). These comments recommended that the ROD include a clear commitment to operational conformance of a revised PRAS, establishment of mechanisms to ensure conformance, and revisiting the metrics associated with impact assessment.

Comments noted that the goals of the new PRAS should include minimizing the population exposed to 60 dB DNL and 65 dB DNL and a renewed focus on short-term

"dwell and persistence". Comments also noted that as part of the Noise Study and PRAS review, FAA, with the CAC, should explore the use of Runway 14-32 in conjunction with runways other than 15R arrivals, 9 arrivals, 27 departures, and 33L departures. This use could help reduce reliance on 4L/R and 22L/R. Comments also suggested that the FAA review the potential for expanding "head to head" operations and for ATC RNAV refinement of noise abatement procedures at Logan.

Comments suggested that the proposed South Shore flight tracks for 33L arrivals and departures and 22L and 22R departures should be included as mitigation in the ROD, rather than as part of the New Noise Study.

Response:

Noise Study. Many reviewers of the EIS have asked for an examination of Logan Airport noise impacts and an analysis identifying new noise abatement procedures to further minimize impacts from aircraft overflights. Commenters such as the CAC and South Shore communities have made specific noise abatement proposals. FAA's preliminary assessment of proposals by South Shore communities indicates that changes in flight tracks and possibly other proposals may be feasible. FAA, Massport, and the CAC (which includes the South Shore communities) will work jointly to develop the scope of a noise study that will include enhancing existing or developing new noise abatement measures applicable to aircraft overflights. The study will evaluate proposals on the basis of environmental benefit, operational impact, aviation safety and efficiency, and consistency with applicable legal requirements. Noise abatement proposals that FAA considers safe and efficient and that will not adversely affect other communities will be implemented. These proposals will be implemented to the extent feasible prior to completion of the noise abatement study.

Reassessment of PRAS. Massport has also committed, as part of its Section 61 Findings, to begin working with the CAC to update the existing PRAS program. FAA supports these efforts and will work with Massport and the CAC to assess the PRAS program with the understanding that the current PRAS will remain in place until superseded. FAA will work with Massport to provide technical assistance to facilitate the CAC's participation in the noise study. FAA believes that any examination of PRAS should be undertaken within the broader context of the new noise study as proposed in the previous paragraph.

The CAC should be provided funding to make independent technical assistance available in conjunction with the noise study and PRAS reassessment. This funding can be incorporated as part of an FAA grant to Massport for the noise study and PRAS reassessment.

Many of the specific recommendations made by commenters with respect to specific noise abatement procedures and the PRAS program can be appropriately reviewed and considered in the noise and PRAS studies.

Issue #13 - Future Airfield Improvements

Comments raised concerns about future airfield improvements and made the following recommendations:

- *The ROD should be clear that there would be no declared distances, displaced thresholds, or length extensions for Runway 14-32.*
- *The FAA and Massport should enter into a legally binding agreement with the City of Boston to not lengthen any runways in the future.*
- *Massport should agree not to propose any capacity increases after the runway is built.*

Response:

As airport proprietor, Massport is responsible for providing and maintaining runways, taxiways, and other airport infrastructure. FAA, as the principal federal entity responsible for national aviation planning, supports the development of airport infrastructure by administering the Airport Improvement Program (AIP) Trust Fund, approving Passenger Facility Charges (PFCs); and promulgating standards for airport design and construction. The FAA has a statutory charter to encourage the development of civil aeronautics and safety of air commerce in the United States (49 U.S.C. § 40101). In carrying out its responsibilities, FAA must also consider congressional policy direction that airport construction and improvement projects that increase the ability of airport facilities to accommodate passenger traffic be undertaken to the maximum feasible extent so that safety and efficiency increase and delays decrease (49 U.S.C. § 47101 (a) (7)).

Issue #14 – Unidirectionality

Comments raised the issue of unidirectionality, and recommended that the ROD should present a specific entity, document, and procedure for Massport to execute a contract to ensure the unidirectionality commitment. Additional comments suggested that the exceptions to unidirectional use of Runway 14-32 should be clearly limited to "particular aircraft emergencies" because the existing language in the FEIS is too broad and can be interpreted to open the door for "bi-directional" use.

Response:

Massport, as airport proprietor conceived of the unidirectional limitation for Runway 14-32 to maximize use of over-the-water flight paths and to minimize operational impacts to residential areas in the Jeffries Point section of East Boston. FAA agrees to develop air traffic control procedures consistent with Massport's intent of unidirectional use, subject to variances that may be required to accommodate particular aircraft emergencies. FAA will act as a facilitator to resolve disputes between Massport and the CAC related to this and all other mitigation commitments. (For more information see Section VIII of the ROD.)

Issue #15 - Environmental Data Reporting

Some comments stated that noise and air quality monitoring data should be made available to surrounding communities on a regular basis. They recommended that the data be synthesized and presented in a clear manner, and that it be posted online and sent directly to community members on a weekly basis.

Response:

Massport assesses the cumulative environmental impacts associated with the on-going operation of Logan Airport through a state-level environmental review process in accordance with the Massachusetts Environmental Policy Act (MEPA) Office of the Executive Office of Environmental Affairs (EOEA). Massport is required to evaluate the cumulative impacts of airport activities and anticipated future conditions every five years through the Environmental Status and Planning Report (ESPR, formerly GEIR). In the interim years, Massport prepares and files an Environmental Data Report (EDR, formerly Annual Update) to report on annual activity levels and associated environmental impacts. The 1999 ESPR was filed in 2000 and the most recent EDR was filed in December 2001. Massport is currently preparing the 2001 EDR.

Issue #16 - Air Quality

Comments recommended that FAA should support and affirmatively commit to air quality mitigation measures as outlined in Massport's Section 61 Findings, including regionalization, a peak period monitoring system, Massport's AQI, Massport's program to reduce GSE emissions, Massport's Clean Air Construction Initiative, on-going airport access measures, and Massport's efforts to install retrofits for diesel trucks, buses, and other equipment.

Some comments specifically addressed the AQI, and stated that Massport must invest in the AQI prior to proceeding with the proposed project improvements. They further recommended that the AQI be structured to minimize the chances for successful legal challenges.

Comments also suggested that FAA require that non-road Engine Tier rules (Rated Power of Construction Equipment Tiered by Emissions Factors) are implemented during construction of the airside improvements.

Response:

Massport has committed in its Section 61 findings to several measures cited by the EPA and other commenters to mitigate impacts associated with the Airside Project. These project-specific mitigation commitments include: active steps to promote and encourage

greater use of regional airports; development and implementation of a peak period monitoring system, adherence to the MA DEP's Clean Air Construction Initiative during construction of the Airside Projects; and other construction mitigation measures related to construction traffic, air quality and noise. Other mitigation commitments cited in comments on the FEIS are commitments that Massport has made to lessen the overall impact of Logan Airport on the environment, and are not specific to the Airside Project. These include the AQI, efforts to reduce ground service equipment (GSE) emissions, and on-going airport access measures.

FAA will ensure Massport's compliance with the mitigation commitments of this ROD. (See Section VIII of the Record of Decision) In accordance with 40 C.F.R. § 1505.3, FAA will take appropriate steps, through federal grant funding assurances and special conditions, airport layout plan approval, and contract plans and specifications to ensure that the mitigation measures outlined in the ROD are implemented. As an additional measure to monitor and ensure that the ROD commitments are fulfilled, the FAA will act as a facilitator between Massport and the CAC to resolve disputes related to these mitigation commitments.

Issue #17 - Centerfield Taxiway Environmental Review

Comments noted that the "appropriate level of environmental review" for Centerfield Taxiway approval is not clearly described in the FEIS. They requested that the level of anticipated review, the nature and extent of assured public participation, and the potential bases for a decision to proceed with the construction of the Centerfield taxiway, be set forth in the ROD.

Comments also noted that construction of the Centerfield Taxiway should require a full EIS. This EIS should include consideration of a waiver of first come/first serve as well as improved taxiway noise mitigation. It should also discuss improved safety procedures to reduce the risk of incursions. A comment also suggested that this Centerfield Taxiway EIS should not begin for three years.

Response:

The FEIS at page 4-13 elaborates on the term "appropriate environmental review." It explains that upon completion of Phase 2 of the taxiway evaluation, the FAA will complete a written evaluation (also called a written re-evaluation) pursuant to FAA Order 5050.4A, paragraph 103. Similar language can be found in Section VIII of the ROD. If the written re-evaluation demonstrates that there are significant changes from the EIS, then the FAA will prepare a supplement or a new environmental document. If the written re-evaluation demonstrates that the contents of the EIS for the Airside Projects remain valid, then no further environmental documentation is required.

The evaluation of taxiway operations will consider actions, including suggestions from local neighborhoods that may further reduce environmental impacts from the taxiway

operations north of Runway 15R-33L. If the evaluation determines that the actions suggested in the comments are appropriate, then they will be included in the evaluation. It is anticipated that Phase 1 of the evaluation will begin shortly after FAA's approval of the ROD.

Among other things, the proposed Centerfield Taxiway would increase the margin of safety by providing opportunities to move runway crossings away from areas where aircraft are operating at higher speeds.

Issue #18 - Centerfield Taxiway Safety

Some comments recommended that the Centerfield Taxiway be rejected for safety reasons. They noted that there are inconsistent claims in the FEIS regarding simultaneous crossings, and that these crossings increase the risk of incursions and are a safety hazard. They were also concerned that that the actual taxiway utilization procedures have not been clearly identified.

Response:

In April 2002, the FAA completed an internal review to address safety related concerns about the taxiways with an emphasis on the Centerfield Taxiway. The review included representatives from the FAA's Flight Standards Division and Runway Safety Office, who concluded that the Centerfield Taxiway would provide safety benefits. (See FEIS at 3-140.) This review addressed ways to reduce or minimize any potential safety hazards associated with runway crossings and possible incursions. The review team concluded that the planned use of the proposed airport taxiway network would not decrease safety. The statements in the FEIS regarding simultaneous crossing are consistent. The Centerfield Taxiway, as proposed in the EIS, would enhances safety and efficiency by providing additional opportunities to route aircraft to and from the ends of Runways 4L-22R and 4R-22L. It also would allow controllers the opportunity to move crossings away from areas where aircraft are operating at higher speeds.

More detail on the proposed use of the taxiways, through narrative and diagrams, is included in the FEIS at 3-140-3-147.

Issue #19 - Centerfield Taxiway Impacts

Some comments suggested non-safety reasons for rejection of the Centerfield Taxiway. They noted that it would significantly worsen the environment in adjacent neighborhoods such as Orient Heights and Constitution Beach. Comments also stated that if the FAA followed the existing rules such as the noise abatement ground procedures for Taxiway November, there would be no need for the Centerfield Taxiway. Finally, comments suggested FAA consider that the taxiway costs as much as the runway and provides little delay reduction benefit.

Response:

The analysis in the EIS demonstrates that the Centerfield Taxiway will improve the environment in adjacent neighbors such as Constitution Beach by reducing overall ground noise and improving air quality. Nonetheless, in response to comments and concerns raised by the communities, the FAA has determined to defer a decision on the Centerfield Taxiway until it can complete a taxiway study. This evaluation will explore options for preserving or further improving the operational and environmental benefits of the Centerfield Taxiway. See Section VI of the ROD for more detail on the evaluation. Even if it were feasible to have 100% compliance with the good neighbor policy (which involves using existing rules for runway noise abatement ground procedures), the analysis in the EIS demonstrated that the proposed Centerfield Taxiway would enhance safety and reduce delays - two of the primary reasons for the Airside Project.

Issue #20 - Centerfield Taxiway Approval

Comments stated that deferring the decision to approve the Centerfield Taxiway, given its safety, delay reduction and environmental merits, would be unprecedented and would raise the bar for other airports contemplating similar improvements around the country. They noted that further development of operational procedures that may provide additional benefits could be pursued without delaying construction of the Centerfield Taxiway or prolonging an already lengthy environmental review process.

Response:

Deferring a decision on the Centerfield Taxiway is not expected to affect Massport's construction schedule. According to the construction schedule provided in the EIS, construction on the Centerfield Taxiway is not anticipated to begin until approximately 2005, after construction of Runway 14/32 is complete. (See FEIS at 2-26.) This delay in the construction schedule should provide the FAA with time to continue to address the concerns of the communities by exploring additional means of preserving or improving the operational and environmental benefits of the Centerfield Taxiway. Considering these unique factors, FAA has determined that deferring the decision on the Centerfield Taxiway is appropriate in these circumstances and sets no national precedent.

Issue #21 - September 11th

Many comments discussed the impacts of September 11th, and noted that the analysis and data in the FEIS are outdated. Comments stated that the FAA should have considered the decline in activity and the decline in delays that have occurred as a result of September 11th. They noted that September 11th has dramatically increased passenger travel time due to increased security and has increased the use of regional jets. As a result, priorities have shifted to effective and sufficient security, and there is a greater need for demand

management and regionalization. Comments noted that the ROD should consider this new operating environment, and consider safety-enhancing options such as a ban on non-scheduled GA flights at Logan.

Other comments requested a reevaluation of the fleet mix forecasts to reflect changes since September 11th. They requested that the FAA direct Massport to survey the current fleet mix, compare that mix to the projected fleet mix for 2002, note discrepancies, track aircraft orders, and adjust future projections based on this analysis. They also requested that Massport be directed to publish and distribute to all project commenters a comprehensive bi-annual report on Logan's fleet mix.

Response:

The reduction in delays associated with reduced air travel demand attributable to the September 11th events is viewed as temporary. The FAA predicts that air travel will undergo a strong recovery in 2003 and return to the levels achieved prior to September 11th. Furthermore, the EIS analysis indicates that the delay reduction benefits of the Preferred Alternative would have been realized at historic activity levels and do not depend on future growth.

While passenger travel times have increased since new security procedures were implemented, the Transportation Security Administration (TSA), the airlines and airport operators are working on measures to reduce the additional time required to process passengers while maintaining effective security screening.

FAA is concerned that a proposal to ban non-scheduled GA operations at Logan would be inconsistent with Massport's federal grant obligations prohibiting unjust economic discrimination and creation of exclusive rights. Through its *National Plan of Integrated Airport Systems (NPIAS),* the FAA has identified a network of general aviation reliever airports for Logan Airport. These airports include Hanscom Field in Bedford, MA; Norwood Memorial in Norwood, MA; Beverly Municipal in Beverly, MA; Lawrence Municipal in Lawrence, MA; and Boire Field in Nashua, NH. As reliever airports, these facilities attract activity that may have otherwise occurred at Logan Airport. For example, Hanscom Field accommodated approximately 40,000 corporate aviation flights in 2000 and approximately 130,000 total itinerant operations. As part of its mandate, the TSA is also working to increase security for general aviation flights at our nation's airports.

Massport reports changes in Logan's fleet mix in it annual environmental reporting with the Massachusetts Environmental Protection Act Office (MEPA). Massport evaluates the cumulative impacts of airport activities and anticipated future conditions and fleet mix changes every five years through the Environmental Status and Planning Report (ESPR, formerly GEIR). In the interim years, Massport prepares and files an Environmental Data Report (EDR, formerly Annual Update) to report on annual activity levels, including fleet mix, and associated environmental impacts. Change in Logan's fleet mix since September 11th will be reported in the upcoming 2001 EDR. At MEPA's request, the

2001 EDR will analyze activity levels and fleet mix for the periods before and after September 11th as well as for calendar year 2001.

In addition to state environmental reporting requirements, the Massport Board of Directors committed in its Section 61 Findings pursuant to MEPA to develop and implement a Peak Period Monitoring Program. The Peak Period Monitoring Program will provide advance indication of when airline scheduling is likely to develop. Projections of Logan flight activity will be developed on a semi-annual basis. These projections will be prepared 4-6 months in advance of seasonal schedule periods and will include flight activity by carrier, origin/destination, aircraft type, and time of day. Also, this ROD requires Massport to develop and submit to the FAA a detailed plan or draft proposal for a Peak Period Pricing program, or alternative demand management program, prior to beginning construction of Runway 14-32.

Issue #22 - MITRE Analysis

Comments stated that the MITRE capacity analysis demonstrates that the delay reduction benefits of the runway are overstated. They also noted that the MITRE analysis demonstrates the essential equivalency of a 10- or 15-knot restriction to an unrestricted runway in terms of delay relief. These comments further stated that these conclusions are not clearly presented in the FEIS, and that the FEIS fails to make a judgment as to which interpretation of delay is correct.

Other comments noted that the MITRE fleet analysis demonstrates that the 37.5M High RJ Fleet underestimates future levels of RJs, thus understating the urgency of peak period pricing.

Other comments noted that MITRE's analysis demonstrated that it is not realistic to assume unmitigated passenger growth and mounting delays as the baseline against which to conduct the environmental analysis. These comments agreed that using an unconstrained no-action scenario may inflate the benefits of the new runway. They recommended that the FEIS should show a more realistic comparison of how a "mitigated" growth scenario would effect the environmental analysis, especially for noise and air quality impacts.

Response:

The MITRE analysis provided a useful second opinion that helped inform the FAA's decision process. The individual comments are addressed below:

<u>Capacity Analysis</u> - The MITRE capacity analysis concluded that the capacity of the 22L/R & 27 configuration was as good or better than the capacity of the 33L/32 & 27 configuration. As a result, the runway would have less benefit under calm wind conditions and the commenter is therefore correct that there would be little difference in the delay reduction between the unrestricted, 10-knot, and 15-knot scenarios. As stated

on page 3-81 of the FEIS, “With a northwest wind restriction ranging from 5 to 20 knots, most of the predicted delay reduction benefits of an unrestricted Runway 32 would be retained.” As stated on page 3-82 of the FEIS, “Under the alternative capacity assumptions analyzed in Section 3.7.4, the differences between the delay reduction benefits with and without the various northwest wind restrictions would be even smaller.” See Section VIII of the ROD and Response to Issue #4 for an explanation of why the 10-knot northwest/southeast restriction was selected.

“Correct” Interpretation – While MITRE did not attempt to make an actual estimate of delay with or without the runway, the MITRE capacity analysis represents a second opinion or alternate interpretation of the benefits of the runway. FAA gave due consideration to the MITRE capacity analysis in its decision-making process. It was not appropriate to compare the two analyses because the MITRE analysis was more limited in nature. Moreover, as it relates to delay reduction benefits of the new runway the conclusions of both analyses were consistent. Runway 14-32 provides additional capacity under moderate to high northwest winds and will provide delay reduction benefits under those conditions. Although the MITRE analysis suggests that a wind restriction may not be necessary, FAA deemed it prudent to identify mitigation measures in reliance upon the Airside FEIS capacity analysis recognizing that modeled capacities are imperfect. (See, FEIS Section 3.7.4.)

RJ Fleet Mix – The MITRE fleet analysis concluded that the near-term 29M RJ Fleet was reasonable and consistent with current trends and that the long-term 37.5M High RJ Fleet was within the range of reasonable forecasts but that it may understate the number of RJs. While continued growth in RJs could potentially accelerate the need for Peak Period Pricing, Massport has committed in its Section 61 Findings to put in place an enforceable Peak Period Pricing program or an alternative demand management program with comparable effectiveness. As described in Section VIII of this ROD, FAA has required that Massport submit a detailed plan or draft proposal for Peak Period Pricing or an alternative form of demand management before construction of the runway begins. MITRE's analysis indicated that the addition of a new three-runway configuration would address delays that occur during northwest winds and provide more flexibility for distributing aircraft overflights.

Unconstrained Growth Scenario - The MITRE analysis stated that the high delay levels experienced in the long-term High Fleet No Action scenarios may be too high and that Massport, the airlines, or the FAA would likely act to limit delay growth before it achieved these levels. This is consistent with the FEIS analysis. With the proposed monitoring system described in the SDEIS and in Massport’s Section 61 Findings, peak period pricing or an alternative form of demand management would have been implemented before delays reached the levels reflected in the long-term High and High RJ fleet scenarios. Since demand management (peak period pricing) was considered as an improvement concept in the Airside EIS, the No Action forecast scenarios could not include the implementation of demand management (peak period pricing). Rather, as a conservative approach, unconstrained No Action scenarios were used through the EIS analysis. In order to evaluate the noise and air quality impacts of the proposed

improvements under a “mitigated” growth scenario (a scenario with demand management in place), the results of Alternative 3 can be compared with the results of Alternative 2 and Alternative 1 (presented in the both the DEIS and the SDEIS). This comparison allows isolation of the incremental benefits of the taxiway or runway improvements with demand management (peak period pricing) already in place.

Issue #23 - Reduced Minimums

It was recommended that the reduced minimums should be deferred until the PRAS revision so that use of 15 and 27 in low visibility can be made a last resort under PRAS.

Response:

The reduced minimums are designed to improve safety as described in Section 3.9.4 of the FEIS. They enhance safety by allowing aircraft following instrument approaches to land into the prevailing wind and with limited crosswinds. The reduced minimums also enhance safety by providing positive instrument guidance at low altitudes and reducing the probability of missed approaches. Moreover, there is no need to defer implementation because prioritizing these approaches can still be evaluated as part of the review of PRAS. One of the benefits of the minimums is to prevent pilots from being forced to arrive on 4R in low visibility with strong crosswinds or gusts, when 15R, 22L, 27, or 33L may allow a more preferable approach into a headwind.

Issue #24 - Wind Restriction Modeling

One comment stated that the FAA has assured the CAC that the operational factors set forth in the FEIS were considered in modeling the impacts and benefits of the runways with a wind restriction of 10-knots or greater.

Response:

This statement is incorrect. While FAA assured CAC that the analysis of the wind restriction included information on gusts, FAA clearly explained that the analysis did not incorporate the specific operational implementation procedures developed by MITRE and described in the mitigation section of the FEIS. These procedures had not been developed at the time of the analysis, and the modeling did not consider the differences between forecast and actual weather, the two-hour window for a configuration change, and potential emergency situations. The modeling should still closely represent the actual operation of the wind restriction as the modeling reflected wind gusts, controller workload, and the actual wind speed threshold for use of Runway 14-32.

Issue #25 - Part 161 Study of Hushkits

Comments recommended that the ROD should encourage Massport to begin a Part 161 study of nighttime Hush-kitted cargo aircraft operations.

Response:

The FAA supports Massport's efforts to encourage airlines to voluntarily replace older hushkitted aircraft with new-technology Stage 3 aircraft at Logan. In addition, the Massport Board of Directors committed in its Section 61 Findings, pursuant to MEPA, to continue to work with airline tenants to discourage the use of hushkitted aircraft at Logan. FAA encourages airports to explore voluntary agreements before beginning the process to impose mandatory airport noise and access restriction under the Airport Noise and Capacity Act, as implemented by 14 CFR Part 161. In the case of hushkitted Stage 3 aircraft operations, that process includes FAA approval. No airport to date has applied for such approval. In addition to meeting requirements under ANCA, restrictions on operations by Stage 3 hushkitted aircraft must comply with requirements under Massport's federal grant obligations prohibiting unjust economic discrimination and the creation of an exclusive right.

Issue #26 - 29M Low Fleet

A comment noted that the noise impacts to historical resources and the Environmental Justice impacts have been evaluated for the 29M Low 65 dB DNL contour but not for the High fleet. The comment questioned whether there would be additional eligible properties or different Environmental Justice conclusions if the High fleet were used.

Response:

The 29 million Low fleet was used to assess impacts to historic properties and Environmental Justice because the EIS analysis indicates that there are more people exposed to aircraft noise in the Preferred Alternative 65 dB DNL contour under the 29M Low fleet than under any of the High fleets. Moreover, the 29 million Low fleet is a reasonably foreseeable near-term scenario, whereas the 37 million High fleet is considered a long-term scenario and more speculative in nature. Since the 29M Low fleet covers a wider geographic area than the contours associated with the 37.5 million High and High RJ fleets, there would not be any additional eligible historic properties under the long-term high fleets.

Issue #27 - Hill Effects

It was recommended that "hill effects" in Mission Hill, Roxbury Highlands, Jamaica Plain, West Roxbury and Roslindale be evaluated through monitoring, and that FAA modify the INM to accurately reflect residents' experience.

Response:

In response to community concerns regarding the possible influence of terrain elevation on Logan Airport's annual noise exposure contours, Massport conducted the *Effects of Terrain on Aircraft Noise Exposure in East Boston* study, which was completed in July 2000. The study identified the impact of terrain elevation on noise propagation and developed an adjustment to the INM model to account for the impact of "hill effects" on noise modeling. The FAA approved the INM adjustment for hill effects on June 7, 2000. The purpose of the hill effect adjustment is to correct for excess ground attenuation that occurs when an observation point is relatively high above the airfield looking down at aircraft on the runway. No other area besides Orient Heights in East Boston experiences such propagation conditions.

Issue #28 - Runway 27 Flight Tracks

A comment recommended that since Runway 27 departures would increase with Runway 14-32, an analysis of Runway 27 flight track procedures be completed and solutions be tested before infrastructure improvements are made at Logan.

Response:

Many comments on the EIS have focused on the changes in runway utilization predicted to occur with Runway 14-32, including the increased use of Runway 27 for departures. Since Massport has committed in its Section 61 Findings to reassess the PRAS program, which establishes runway end utilization goals, it is reasonable to prevent Runway 14-32 from changing historic runway use patterns, particularly when such changes are not necessary to achieve the principal delay reduction benefits of the runway. Therefore, the FAA will restrict use of Runway 14-32 to those times when winds are 10-knots or greater from the northwest or southeast.

In addition, the FAA and Massport commit to conduct a Noise Study that will review Logan Airport noise impacts and analyze potential new noise abatement procedures to further minimize impacts from aircraft overflights. FAA, Massport, and the CAC will work jointly to develop a scope for the Noise Study. See Section VIII, number 6 of the Record of Decision.

Issue #29 - Roxbury Housing Counts

Some comments pointed out an error in the number of housing units reported in Roxbury in the 60 dB DNL – 14 units (see Tables 3.8-3 and 3.8-7) The corresponding population for these units is reported as 1,565 (see Tables 3.8-2 and 3.8-6), which results in an average household size of 112 persons.

Response:

The 60 dB DNL population and housing unit data presented in the Final EIS for Roxbury are correct. The reported Census 2000 population of 1,565 includes the institutional population of the Suffolk County Jail, which did not exist when the 1990 Census was conducted. The reported 14 housing units are associated with the non-institutional population in that census block.

Issue #30 - Noise Impacts >1.5 dB

A comment noted that page 2-14 of the FEIS indicates that there are no increases greater than 1.5 dB for the 29M Low scenario. The comment questioned whether there are increases of 15 dB in DNL 65 dB or greater for the High Fleet.

Response:

The 29M Low fleet (with and without the wind restriction) produces the largest contours and includes more population than any of the High fleets. While under the near-term fleets there are no increases in noise exposure of 1.5 dB or greater, there are increases of 1.5 dB or greater off the Runway 33L departure end in Chelsea and East Boston under the 37.5 million High and High RJ fleets. However, all people exposed to increases of 1.5 dB or greater under the high fleets will receive mitigation since the 29M Low contour will be used for the sound insulation program. See Section VIII of the ROD for more information on the sound insulation program.

Issue #31 – Parklands

A comment pointed out that the proposed new runway will impact Franklin Park, which is listed on the National Register of Historic Places.

Response:

Franklin Park is currently outside the 60 dB DNL contour and would remain well outside the 60 dB DNL contour under all of the future fleets analyzed in the EIS. In accordance with Section 106 of the National Historic Preservation Act, the FAA determined that the

Airside Project will have No Adverse Effect on properties on or eligible for inclusion on the National Register of Historic Places. The Massachusetts Historical Commission concurs with this determination. With regard to potential Department of Transportation Act, Section 4(f) impacts to public parks, recreation areas, or wildlife and waterfowl refuges, FAA determined that: the Airside Project would not use any such lands and even if a Section 4(f) Determination were necessary, there is no feasible or prudent alternative to the use and all possible means to minimize harm have been taken.

Issue #32 - Greenbush Corridor Cumulative Impacts

A comment noted that the cumulative impact of noise, vibration, and emissions generated by the increased air traffic in the airspace of the Greenbush Corridor has not yet been assessed in the Airside EIS.

Response:

The cumulative impact assessment was conducted in accordance with Council on Environmental Quality (CEQ) regulations and guidance and FAA implementing directives, as well as MEPA regulations. The Greenbush Corridor begins in Braintree and extends through Weymouth, Hingham, Cohasset and Scituate. These towns are well outside the 60 dB DNL contour for Logan and are projected to remain well outside the 60 dB DNL with the Airside Project.

Issue #33 - Upland Sandpiper

A comment recommended that FAA should not approve the revised Airport Layout Plan until the NHESP has approved and implemented the proposed Upland Sandpiper Habitat Enhancement Plan.

Response:

The Upland Sandpiper is a state-listed endangered species; not a federally listed endangered species. In coordination with the Massachusetts Natural Heritage and Endangered Species Program (NHESP), Massport has developed an appropriate plan to mitigate impacts to the Upland Sandpiper. The Massport Board of Directors committed to implement mitigation for the Upland Sandpiper in its Section 61 Findings pursuant to MEPA.

Issue #34 – Single-Engine Taxi Procedures

A comment recommended that the ROD should require that Massport develop a single-engine taxi procedures program.

Response:

The Massport Board of Directors committed in its Section 61 Findings pursuant to MEPA to develop and implement a program to encourage the use of single-engine taxi procedures by all its tenant airlines, consistent with safety requirements, pilot judgment, and the requirements of federal law.

Issue #35 - South Boston Sound Insulation

Since use of Runway 27 for departures would increase with Runway 14-32 and the number of South Boston residents in the 65 dB DNL would increase, comments recommended that sound insulation be provided to South Boston residents.

Response:

Even with the unrestricted Preferred Alternative, the 65 dB DNL contour for South Boston is within the existing 65 dB DNL contours for both 1999 and 2000 because of Runway 27 departures. Massport's current sound insulation contour (approved by the FAA) includes areas of South Boston under the Runway 27 departure tracks, and Massport is currently soundproofing homes in this area.

The predicted increase in flights using Runways 27 and 33L for departure that would occur with the construction of Runway 14-32 has generated comments throughout the EIS process. While the increased departures to the west and northwest are consistent with the goals of Logan's Preferential Runway Advisory System (PRAS), community representatives have withdrawn their support for the existing PRAS system. With support from FAA, Massport has committed in its Section 61 Findings to begin working with the Community Advisory Committee (CAC) to reassess the PRAS program. Given this reassessment of PRAS, FAA is implementing a 10-knot northwest/southeast wind restriction that is designed to prevent Runway 14-32 from changing historic runway utilization patterns at Logan (see Section VIII of the ROD).

In addition, FAA has committed to a sound insulation program for homes within the 65 dB DNL contour for the 29M Low Fleet Preferred Alternative with the 10-knot northwest/southeast restriction as described in the Mitigation section of this ROD. Table 4.1-1 of the FEIS shows that this program includes 50-100 additional dwelling units in South Boston.

Issue #36 - Bad Weather Approaches

A comment noted that the response to Comment 18.87 regarding the potential for reduced minimums to increase the number of bad weather approaches, is based on the 37M Low Fleet. It questioned whether the increases in the number of bad weather approaches would be different for the 37.5M High or 37.5M High RJ Fleets.

Response:

Appendix D of the Draft EIS showed that the reduced minimums would only increase the total availability of the airport by 8 hours per year, or 0.1 percent. The primary reason for the reduced minimums is to provide safer approaches under poor weather by allowing aircraft to conduct their landings with reduced crosswinds. They also reduce delays by enabling aircraft to land a few more hours per year and by avoiding runway changes under such conditions. As the availability of the approaches depends on weather conditions and since multiple years of weather were used for each fleet scenario, the increases in IFR landings would be proportional to the change in the total number of operations assumed in each fleet. The 37.5M High RJ Fleet and the 37.5M High Fleet, respectively, assume 7% and 12% more annual operations than the 37.5M Low Fleet. Consequently, the absolute number of approaches under these fleet scenarios would increase by approximately the same percentages, while the increases in bad weather approaches to each runway would represent approximately the same share of total operations, around 0.1 percent.

Issue #37 - 2000 Census Income Data

Comments recommended that further analysis of 2000 Census income data should be performed given the change in Boston's demographics since 1990.

Response:

The EIS analysis relied on available Census 2000 population data. The US Census Bureau has not yet released Census 2000 block level income data for Massachusetts.

Issue #38 - Range of Forecasts

A comment noted that since the 29M Low has more affected population in the 60 dB and 65 dB DNL contours than the 37.5M High Fleet No Action scenario, the High Fleet forecasts do not "provide an upper bound for noise impacts".

Response:

The long-range, 37.5 million High fleet has a higher level of passenger traffic and aircraft operations compared to the 29 million Low fleet. In that regard, the 37.5 million High fleet provides an upper bound for long-term environmental impact assessment. While activity levels are higher for the 37.5 million High fleet, noise exposure is lower because of changes in the aircraft fleet mix.

Issue #39 - Consistency with FAA TAF

While the FEIS indicates that the passenger forecasts are consistent with the FAA Terminal Area Forecast (TAF), a comment noted that the current 2001 TAF indicates 40 million Logan passengers in 2015 compared to the 37.5 million used in the FEIS. The comment stated that the FEIS forecasts should be consistent with TAF.

Response:

The EIS forecasts are consistent with the FAA Terminal Area Forecasts (TAF) from 2000. While the 2001 TAF indicates a forecast of 40 million for Logan in 2015, the FAA has cautioned users of the data that these projections were prepared before the events of September 11th and that projections for 2002 will be substantially different. In any event, the EIS has studied a range of future passenger levels from 29 million to 45 million, which encompasses the 2001 TAF projection.

Issue #40 - Precision Instrument Approach to 14-32

A comment pointed out that it is unclear whether Appendix G of the FEIS incorporated the Runway 14-32 RJ utilization assumptions. It also noted that it is unlikely that most turboprops would have GPS receivers. Given these two factors, the comment questioned whether the delay reduction benefits of Runway 14-32 could be even less than those presented in Table G-1.

Response:

The results in Appendix G incorporate the baseline assumptions on RJ runway utilization: that no Canadair Regional Jets (CRJs) can land on Runway 32, that all Fairchild-Dornier 328 Regional Jets (DRJs) can land on it, and that Embraer 135 and 145 Regional Jets (ERJs) can only land on it under dry conditions. The results do assume that all aircraft conducting approaches below the minimum vectoring conditions (MVC, 2500 feet and 3 miles) are equipped with suitable onboard navigation systems (e.g. GPS). However, if the runway use is limited to MVC, the delay reduction is still 95,600 hours or 26%, compared to the 100,100 (27%) presented in Appendix G. The average delay for MVC limited approaches is 20.9 minutes versus 20.6 for full GPS capability. This analysis clearly indicates that the benefits of Runway 14-32 occur under good weather conditions and a change in approach minimums would have little impact.

Issue #41 - RJ Landing Distances

A comment noted that at Philadelphia Airport, where a 5,000 foot runway was built two years ago, US Airways is requesting the runway be lengthened to 7,000 feet to accommodate RJ's. The comment stated that while the FEIS admits some RJ's cannot use

a 5,000 foot runway, it points out that 15-knot headwinds make it more likely that RJ's could land within 5,000 feet. The comment therefore questions the fact that the FEIS failed to restrict runway use to 15-knot northwest winds.

Response:

The runway utilization that was used in the EIS was based on conservative assumptions regarding RJ landing requirements. These landing distances are certified for aircraft landing at maximum gross weight and with no wind at all, and they include FAA safety factors. The presence of a headwind during landing can significantly reduce the required runway distance. However, further restricting Runway 14-32 to a 15-knot wind speed threshold would unnecessarily sacrifice some delay savings and hamper the controllers' flexibility to provide noise relief to the north/south communities. The assumptions regarding runway use were developed by an independent FAA analysis and were reviewed and confirmed by MITRE. Furthermore, FAA corresponded directly with Logan's two largest RJ operators, American Eagle and Atlantic Coast Airlines, and received written confirmation of their intention to utilize Runway 14-32 for regional jet landings (see Appendix F of the FEIS).

Issue #42 - National Airspace Redesign

A comment requested that the ROD specify that an EIS is required for any changes in the national airspace design (currently being reevaluated by FAA) that affect Logan operations and flight tracks.

Response:

The on-going redesign of the national airspace system is subject to its own environmental regulatory and approval process, but the Logan Airside Improvements themselves do not involve any major airspace redesign issues. Aircraft operations to and from the proposed new Runway 14-32 can be accommodated with modifications to the existing terminal area airspace structure at Logan. Environmental impacts of operations with the modified flight tracks have been examined in detail in the DEIS, the SDEIS and the FEIS. The FAA has established a procedure to determine the need for further environmental consideration of new or revised air traffic routes used by jet aircraft operations between 3,000 and 18,000 feet AGL over residential areas. FAA Notice N7210.360 provides details of the screening procedure and a checklist to be filed with the environmental assessment of the proposed action. This procedure was applied to the Logan Airside Preferred Alternative, and the finding was that further review is not necessary. The complete N7210.360 analysis and checklist are contained in Appendix E.3 of the Supplemental DEIS. Any changes in the airspace that are recommended, as a result of a national airspace redesign, will be addressed within the environmental framework of that process.

APPENDIX B

Previously Answered Comments on Final EIS

Letter	Name	Topic	Subtopic	FEIS Response Code
1	U.S. Senator Edward Kennedy	Peak Period Pricing	Implementation	Topical Response 5.5
3	EPA Robert Varney	Air Quality	Construction Impacts	Letter 4.26
		Regional Transportation	North-South Rail Link	Topical Response 18.3
		Peak Period Pricing	Implementation	Topical Response 5.5
		Environmental Justice	Poverty Threshold	Topical Response 14.4
4	State Senator Robert Hedlund	Runway 14/32	Runway Use	Topical Response 3.12
		Regional Transportation	Regional Study	Topical Response 18.5
5	Senate Majority Whip Robert Travaglini and State Representative Anthony Petruccelli	Capacity	Increased Capacity	Topical Response 8.1
		Delay	Band Aid Solution	Topical Response 9.1
		Regional Transportation	Alternatives	Letter 10.1
		Alternatives	New Airport	Letter 17.119
		Runway 14/32	Alternatives	Topical Response 3.8
		Water Quality	Impacts	Topical Response 19.1
		Air Quality	Emissions Inventory	Topical Response 12.4
		Regional Transportation	Regional Study	Topical Response 18.5
6	State Representative Garrett Bradley	Regional Transportation	Alternatives	Topical Response 18.9
		Runway 14/32	Runway Use	Topical Response 3.12
8	Legislative Caucus on Air Transportation, Robert DeLeo	Induced Demand	Environmental Impacts	Topical Response 10.1
		Regional Transportation	Alternatives	Topical Response 18.9
		Delay	Band Aid Solution	Topical Response 9.1

Letter	Name	Topic	Subtopic	FEIS Response Code
		Environmental Justice	Runway Use	Topical Response 14.2
		Centerfield Taxiway	Impacts	Topical Response 2.1
		Centerfield Taxiway	Safety	Topical Response 2.3
		Health	Health Study	Letter 13.41
10	City of Boston, Mayor Thomas Menino	Air Quality	HAP Emissions	Letter 14.1
		Alternatives	Airspace Improvements	Letter 8.7
		Regional Transportation	Alternatives	Letter 15.4
		Regional Transportation	Alternatives	Letter 13.44
		Peak Period Pricing	Implementation	Topical Response 5.5
		Runway 14/32	Delay Reduction	Topical Response 3.3
		Runway 14/32	Utilization	Topical Response 3.17
		Delay	Delay Statistics	Topical Response 9.4
		Environmental Justice	Airport Users vs. Impacted Population	Topical Response 14.3
11	Mayor of Everett, David Ragucci	Runway 14/32	Runway Use	Topical Response 3.12
12	Alliance of Boston Neighborhoods, Edward Allan	Capacity	Increased Capacity	Topical Response 8.1
		Runway 14/32	Runway Use	Topical Response 3.12
		Reduced Minimums	Safety	Topical Response 4.1
		Reduced Minimums	Impacts	Topical Response 4.2
		Reduced Minimums	Agreements	Topical Response 4.3
		Centerfield Taxiway	Impacts	Topical Response 2.1
		Centerfield Taxiway	Safety	Topical Response 2.3
		Centerfield Taxiway	November Taxiway Queue	Topical Response 2.4
12	Alliance of Boston Neighborhoods, Edward Allan *(continued)*	Alternatives	All Alternatives	Topical Response 1.1
		Reduced Minimums	Agreements	Topical Response

Letter	Name	Topic	Subtopic	FEIS Response Code
				4.3
		Alternatives	Demand Management	Topical Response 1.5
		Health Impacts	Existing Health Studies	Topical Response 20.1
		Regional Jets	Philadelphia	Topical Response 7.6
13	Orient Heights Neighborhood Council, Alice Christopher	Alternatives	All Alternatives	Topical Response 1.1
		Alternatives	Demand Management	Topical Response 1.5
		Centerfield Taxiway	Impacts	Topical Response 2.1
		Centerfield Taxiway	Safety	Topical Response 2.3
		Centerfield Taxiway	November Taxiway Queue	Topical Response 2.4
		Runway 14/32	Runway Use	Topical Response 3.12
		Reduced Minimums	Safety	Topical Response 4.1
		Reduced Minimums	Impacts	Topical Response 4.2
		Reduced Minimums	Agreements	Topical Response 4.3
		Regional Jets	Philadelphia	Topical Response 7.6
		Health Impacts	Existing Health Studies	Topical Response 20.1
		Public Process	CAC Involvement	Topical Response 24.1
		Public Process	Information	Topical Response 24.4
14	City of Chelsea, Jay Ash	Runway 14/32	Cost-Benefit Analysis	Topical Response 3.13
		Induced Demand	Environmental Impacts	Topical Response 10.1
		Delay	No Serious Delay Problem	Topical Response 9.2
		Health Impacts	Existing Health Studies	Topical Response 20.1
		Regional Transportation	Alternatives	Topical Response 18.9
		Regional Transportation	Regional Transportation	Topical Response

Letter	Name	Topic	Subtopic	FEIS Response Code
			Authority	18.16
18	City of Somerville, Mayor Dorothy Kelly Gay	PRAS	Utilization	Topical Response 11.6
		Regional Transportation	Regional Alternatives	Topical Response 18.4
19	Town of Weymouth, Mayor David Madden	Noise	Impacts Beyond 65db DNL	Topical Response 13.10
26	CAC, Anastasia Lyman	PRAS	Utilization	Letter 18.125
27	CAC Consultants	Runway 14/32	Unidirectionality	Topical Response 3.16
		Capacity	Airfield Capacity Under VFR	Topical Response 8.2
		PRAS	Reporting	Topical Response 11.13
		Peak Period Pricing	Implementation	Topical Response 5.5
		Peak Period Pricing	Exemptions	Topical Response 5.8
		Runway 14/32	Safety	Topical Response 3.10
		Cumulative Impacts	Land Use	Topical Response 21.6
		Cumulative Impacts	Generic Airport Impacts vs. Project Specific Impacts	Topical Response 21.1
		Runway 14/32	Runway Use	Letter 18.141
		Cumulative	Airport vs. Project	Letter 18.1
		Cumulative	Airport vs. Project	Letter 18.2
		Cumulative	Airport vs. Project	Letter 18.3
		Cumulative	Airport vs. Project	Letter 18.29
		Cumulative	Land Use	Letter 18.216
		Reduced Minimums	Impacts	Letter 18.87
30	Cape Air, Daniel Wolf	Peak Period Pricing	Impacts	Topical Response 5.2
33	Fisher Law Offices, Joseph Fisher	Runway 14/32	Impacts	Topical Response 3.2
		Runway 14/32	Flight Tracks	Topical Response 3.1
		Noise	Impacts Beyond 65db DNL	Topical Response 13.10
44	Sierra Club, Mary Ann Nelson	Regional Transportation	Regional Study	Topical Response 18.5
53	Virginia and Imants Ansbergs	Runway 14/32	Flight Tracks	Topical Response 3.1
		Regional Transportation	Alternatives	Topical Response

Letter	Name	Topic	Subtopic	FEIS Response Code
				18.9
		Air Quality	Impacts	Topical Response 12.11
55	David Bartol	Induced Demand	Environmental Impacts	Topical Response 10.1
56	Michael Bernstein	Alternatives	PPP vs. 14/32	Topical Response 1.6
		Alternatives	Schedule Management	Topical Response 1.3
		Runway 14/32	Delay Reduction	Topical Response 3.3
57	Philip Carver	Capacity	Increased Capacity	Topical Response 8.1
		Delay	Band Aid Solution	Topical Response 9.1
		Delay	Logan-caused Delays	Topical Response 9.5
		Runway 14/32	Flight Tracks	Topical Response 3.11
		Runway 14/32	Unidirectionality	Topical Response 3.16
		Regional Transportation	Alternatives	Topical Response 18.9
58	Stacey Chacker	Runway 14/32	Runway Use	Topical Response 3.12
62	Lynn Conroy	Alternatives	All Alternatives	Topical Response 1.1
		Runway 14/32	Runway Use	Topical Response 3.12
63	Monika Corneille	Environmental Justice	Runway Use	Topical Response 14.2
		Regional Transportation	Alternatives	Topical Response 18.9
		Mitigation	Commitments	Topical Response 22.1
64	Bob D'Amico	Environmental Justice	2000 Census Data	Topical Response 14.1
65	Priscilla Daniels	Runway 14/32	Runway Use	Topical Response 3.12
66	Virginia and J. Herbert Fisher	Runway 14/32	Runway Use	Topical Response 3.12
		Regional Transportation	Regional Alternatives	Topical Response 18.4
68	Bradley Galko	Air Quality	Impacts	Topical Response

Letter	Name	Topic	Subtopic	FEIS Response Code
				12.2
		Alternatives	No-Growth Alternative	Topical Response 1.10
		Alternatives	New Technology	Topical Response 1.9
		Runway 14/32	Flight Tracks	Letter 18.191
70	James Gordon	Air Quality	Impacts	Topical Response 12.11
71	Alida Hanson	Runway 14/32	Runway Use	Topical Response 3.12
		Induced Demand	Environmental Impacts	Topical Response 10.1
		Cumulative Impacts	Property Values	Topical Response 21.3
72	Ann Hershfang	PRAS	Runway Use	Topical Response 11.3
		Regional Transportation	Alternatives	Topical Response 18.9
		Runway 14/32	Runway Use	Topical Response 3.12
73	Arthur Johnson	Alternatives	All Alternatives	Topical Response 1.1
74	Barbara Kaplan	Public Process	Comment Period	Topical Response 24.5
		Regional Transportation	Regional Alternatives	Topical Response 18.4
		Induced Demand	Environmental Impacts	Topical Response 10.1
75	Marita King	Noise	Monitors	Topical Response 13.2
76	Arthur Krolman	Noise	Impacts Beyond 65db DNL	Topical Response 13.10
76	Arthur Krolman *(continued)*	Regional Transportation	Regional Study	Topical Response 18.5
77	Elizabeth Levy Merrick	Capacity	Increased Capacity	Topical Response 8.1
		Regional Transportation	Alternatives	Topical Response 18.9
		Natural Resources	Upland Sandpiper	Topical Response 16.2
79	Richard Mason	Runway 14/32	Flight Tracks	Topical Response 3.1
		Cumulative Impacts	Property Values	Topical Response

Letter	Name	Topic	Subtopic	FEIS Response Code
				21.3
80	Mary Ellen McCabe	Runway 14/32	Flight Tracks	Topical Response 3.1
83	Lois Meinhart	Air Quality	Impacts	Topical Response 12.2
		Health Impacts	Existing Health Studies	Topical Response 20.1
		Regional Transportation	Alternatives	Topical Response 18.9
85	Martha Merson	Delay	No Serious Delay Problem	Topical Response 9.2
		Runway 14/32	Safety	Topical Response 3.10
		Regional Transportation	Rail	Topical Response 18.14
		Regional Transportation	Alternatives	Topical Response 18.9
		Regional Jets	Philadelphia	Topical Response 7.6
		Regional Transportation	Regional Alternatives	Topical Response 18.4
		Runway 14/32	Weather	Topical Response 3.18
86	Katherine Murphy	Runway 14/32	Impacts	Topical Response 3.2
87	Karen and Eben Myrick	Peak Period Pricing	Benefits	Topical Response 5.1
		Regional Transportation	Alternatives	Topical Response 18.9
		Runway 14/32	Flight Tracks	Topical Response 3.1
		Induced Demand	Environmental Impacts	Topical Response 10.1
		Health Impacts	Learning	Topical Response 20.3
88	Ansley Pearce	Runway 14/32	Flight Tracks	Topical Response 3.1
		Air Quality	Alternative 1 vs. Alternative 1A	Topical Response 12.1
		Runway 14/32	Safety	Topical Response 3.10
89	Ansley Pearce	Runway 14/32	Flight Tracks	Topical Response 3.11
		Mitigation	Commitments	Topical Response

Letter	Name	Topic	Subtopic	FEIS Response Code
				22.1
90	Bonnie and Sherm Russ	Runway 14/32	Runway Use	Topical Response 3.12
91	Frederick Salvucci	Regional Transportation	GA	Letter 19.7
		Peak Period Pricing	PACE	Letter 1.6
		Regional Transportation	Alternatives	Letter 2.3
		Regional Transportation	Alternatives	Letter 15.4
		PRAS	Runway Use	Letter 15.27
		Runway 14/32	Injunction	Topical Response 3.5
		Noise	Blast Fence	Topical Response 13.8
		Reduced Minimums	Safety	Topical Response 4.1
		Regional Jets	Runway 14/32 Utilization	Letter 19.2
		Centerfield Taxiway	Safety	Letter 19.17
		Regional Jets	Forecast	Topical Response 7.1
		Runway 14/32	Runway Use	Topical Response 3.12
		Mitigation	Commitments	Topical Response 22.1
		Ground Access	Alternatives	Topical Response 17.1
		Centerfield Taxiway	November Taxiway Queue	Topical Response 2.4
		Reduced Minimums	Agreements	Topical Response 4.3
92	Richard Schieferdecker	Runway 14/32	Flight Tracks	Topical Response 3.1
		Noise	55db DNL	Topical Response 13.1
93	Mary Jean Shultz	Induced Demand	Environmental Impacts	Topical Response 10.1
93	Mary Jean Shultz *(continued)*	Alternatives	All Alternatives	Topical Response 1.1
		Ground Access	Capacity	Topical Response 17.2
94	Monique and Justin Smith	Cumulative Impacts	Property Values	Topical Response 21.3
95	Allison Stieber	Air Quality	Impacts	Topical Response 12.11
		Cumulative Impacts	Property Values	Topical Response 21.3

Letter	Name	Topic	Subtopic	FEIS Response Code
		Cumulative Impacts	Safety	Topical Response 21.5