

FAA News



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Contact: Arlene Salac or Jim Peters at 718-553-3015

UPDATE/Boston Logan Airport Noise Study

Initial Screening of Phase 2 Noise Abatement Procedures Completed Phase 1 Conventional Procedures Fully Implemented Work Continues on Implementation of Phase 1 RNAV Procedures

Following the development and implementation of conventional noise abatement procedures last year, substantial progress continues to be made in bringing to fruition procedures to reduce noise for communities within 20 nautical miles of Boston Logan International Airport.

Project Overview:

The Boston Logan Airport Noise Study (BLANS) is the result of a mitigation requirement contained in the Federal Aviation Administration's (FAA) 2002 environmental Record of Decision (ROD) for the Boston Logan Airside Improvements Planning Project.

The noise study is a cooperative and unique effort undertaken by the FAA, the Massachusetts Port Authority (Massport) and the Logan Airport Community Advisory Committee (CAC). They worked jointly to develop a scope of a noise study to determine viable means to reduce noise from aircraft at, to and from Boston Logan International Airport which would not diminish safety and efficiency, and/or cause adverse impacts to other communities. CAC represents more than 30 of the 90 communities within the project study area.

The study is being conducted in phases: Phase 1 was called the Boston Overflight Noise Study or BONS and Phase 2 is known as BLANS. A third phase is also anticipated. Phase 1 assessed measures that could reduce noise exposure levels and could be implemented as soon as possible without the more detailed review required in an environmental assessment or environmental impact statement. Phase 2 includes both flight route and aircraft ground movement measures that will likely require at least an environmental assessment in Phase 3 of the noise study, prior to implementation.

- more -

UPDATE – Page 2

The cost for Phase 1 and Phase 2 is \$8.3 million, with \$6.6 million being funded by FAA Airport Improvement Program (AIP) grants. The remaining \$1.7 million is funded by Massport. Phase 1 began in October 2002 and ended in October 2007. Phase 2 began in October 2007 and is expected to end by December 2011.

The results to date:

Phase 1 (BONS):

- > The Alternative 6 conventional (air traffic controller issued headings) noise abatement procedure was implemented on October 1, 2009. Under this procedure, runway 22L arrivals from the south proceed east until over the water and then are vectored to intercept the final approach for runway 22L. This procedure is expected to reduce noise exposure for communities south of the airport affected by jet aircraft arrivals to runway 22L.
- > Alternative 11, an over-the-water visual approach to runway 33L, was implemented in May 2009. This procedure is expected to reduce noise exposure for South Shore communities when operational demand levels are low, especially during late night hours.
- > FAA plans a phased implementation schedule for the Area Navigation (RNAV) departure procedure alternatives 1, 2, 3, 5, 14 and 15.
- > Operational training is to be conducted in January 2010. RNAV procedures for runways 4, 9, 15 and 22 will be phased in, with the first being implemented in February and the last RNAV procedures expected by mid-November 2010.

Phase 2 (BLANS):

> The first level of screening of 53 proposed arrival, departure and ground noise measures has been completed. The screening was designed to eliminate those proposals that would diminish safety or present substantial operational hurdles. The measures were evaluated independently by FAA and Massport. The CAC also reviewed each of the measures to confirm those that met its goals and objectives related to noise reduction. Those measures that contradicted those goals and objectives were eliminated and measures that were duplicates of others previously evaluated in other studies were also dropped from further screening. Twenty two measures were advanced to the next screening level

The next level is to further define the measures and to eliminate any measure that would significantly compromise the FAA's goals and stated mission and/or not provide a noise reduction.

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UPDATE – Page 3

> The Final Report, Boston Logan Airport Noise Study, Level I Screening Analysis, has been posted on the project's redesigned website:

http://www.bostonoverflightnoisestudy.com/docs/BLANS_Phase_2_Level1ScreeningReport_091009.pdf

> The 22 noise abatement measures that advance to the next level of screening can be viewed in detail on the project website and include the following:

Ground Concepts:

> **Measure G-D:** Runway 4R arrivals on the centerfield taxiway. The intent is to reduce aircraft ground noise levels for communities west of taxiway November by increasing distance between the source (aircraft) and the receiver (residents west of the airport located within close proximity of line-of-site of taxiway November).

> **Measure G-F:** Limit use of reverse thrust during landing on all runways. The intent is to reduce landing noise levels on nearby communities. This measure would require longer landing roll distances.

> **Measure G-G:** Erect noise barriers on the community side of the shoreline. The intent is to reduce aircraft ground noise levels for residences that have direct line of site of runways 15R/22L/22R/27. The number of residences targeted for reduction depends on the height of the proposed noise barriers.

> **Measure G-I:** Build a dedicated hush house building for run-ups. The intent is to reduce aircraft maintenance run-ups by as much as 20 dBA.

> **Measure G-J:** Seek a location on the airport for a hold apron/penalty box to park aircraft as they await takeoff queuing onto Taxiway November. The intent is to reduce the duration of aircraft ground noise levels associated with taxiway movements and queuing.

> **Measure G-M:** Erect noise barrier for 15R departures - northwest end of 15R/33L along East Boston shoreline. The intent is to reduce aircraft ground movement, departure roll and arrival reverse thrust noise levels for residents located northwest of the airport within close proximity to the direct line of site of runways 15R/22L/22R.

> **Measure G-N:** Encourage air carriers and based or frequent general aviation users at Boston Logan Airport - subject to pilot discretion and the absence of conflicting traffic in Visual Meteorological Conditions (VMC) with clear and dry pavements – to:

1. voluntarily use single-engine taxi operations for ground operations.
2. voluntarily give preference to the use of an engine on the aircraft side away from the nearest communities. The intent is to reduce ground taxi noise when possible.

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Flight Procedure Concept/Approach:

> **Measure F-A:** Establish continuous descent approach to runways 4R/L, 27, 33L, 32, 22R/L and 15R. The intent is to allow for a gradual descent at low power settings all the way to the runway end, which generally results in lower noise in areas beyond the final approach.

> **Measure F-G:** Establish an over water visual or RNAV arrival to runways 33L/32 over the harbor mouth during night hours to increase distance north from Point Allerton. The intent is to increase the distance between an aircraft (noise source) and receiver (residents located on Point Allerton), thereby reducing noise levels during more sensitive hours.

> **Measure F-H:** Leave runway 32 arrivals where they are indicated by the runway 14/32 environmental impact statement (which is approximately 4,000 feet west of the runway 33L approach course) when used in conjunction with runway 33L arrivals. The intent is to maintain an offset approach to runway 32 west of Hull at all times, instead of a straight-in approach to runway 32, which may reduce the noise over Hull when runway 32 is in use.

> **Measure F-I:** Maintain 3 mile in-trail separation intervals between all aircraft on arrival to runways 22R/L. Never let the 2.5 mile exemption to the separation rule be applied. The intent is to reduce intensity of aircraft arrival noise events, even if it does not reduce the overall noise.

> **Measure F-GG:** Establish a new approach crossing point at a location that is approximately 2 miles to the east and several miles south of the current DRUNK intersection for arrivals to runways 22R/L, 27, 33L and 32 from the Providence (PVD) fix (related only to Phase 1 Alternatives 6, 7 and 11), and establish a minimum crossing altitude of not less than 8,000 feet MSL (mean sea level). The intent is to raise the altitude of arrivals to runway 22L and runway 27 over land while the aircraft are descending to the proposed fix, and relocate the arrivals to remove runway 27 and 22L jet arrival noise over Marshfield.

Flight Procedure Concepts/Departure:

> **Measure F-K:** Extend runway 27 departure gates farther south to I-95/R128/Dedham area before turning to en route courses. The intent is to reduce frequency of over flight noise events.

Measure F-M: Develop departure procedures to increase altitudes of aircraft over land by establishing course guidance to route traffic north of Hull, when used in conjunction

UPDATE – Page 5

with runway 27 arrivals. The intent is to increase distance between an aircraft (noise source) and residents (receiver) on the ground by staying north of Hull and increase the altitude when crossing back over the shoreline. By increasing distance, noise levels detected on the ground could be reduced. This measure carries over from Phase 1.

> **Measure F-N:** Establish a departure waypoint from runway 15R for use at night to move departures farther north of Hull than established by Phase 1 Alternative 3. The intent is to increase the distance between an aircraft (noise source) and receiver (residents located on Point Allerton), thereby reducing noise levels during more sensitive hours.

> **Measure F-R:** Shift runway 4R Phase 1 Alternative 1 RNAV initial fix to the east to move the course away from Revere Beach, while avoiding noise increases to Nahant. The intent is to increase the distance between an aircraft (noise source) and receiver (residents located along Revere), thereby reducing noise levels. This measure is intended to assure that any modification of the course of the Phase 1 RNAV departure course from runway 4R does not result in increased noise impacts in the Nahant area.

> **Measure F-S:** Departure runways 4R, 9, 27, and 33L: apply cockpit alternatives for thrust and climb management to benefit certain nearby communities through implementation of close-in or distant noise abatement departure procedures. The intent is to evaluate each measure for noise reduction effects off the end of each runway. Effects from either a close-in or distant noise abatement departure procedure may vary among runways 4R, 27, and 33L, while runway 9 is expected to achieve greater benefit from a close-in departure procedure. This measure is carried over from Phase 1.

> **Measure F-DD:** Move all the departures over Marshfield, including for runways 4, 9, 14, 15, 22L and 22R out over the water. This includes both conventional and RNAV procedures. The intent is to reduce noise levels by having the traffic stay over the water as it heads south toward Cape Cod and Providence, rather than coming over Marshfield at North Marshfield and then heading south over Marshfield.

> **Measure F-HH:** Jet aircraft departing runway 33L shall be assigned a course that will route the aircraft over the Wellington Station until reaching a point seven miles beyond the fly-over end of the runway or to an altitude of 5,000 MSL before turning to enroute or intermediate courses. The intent is to reduce frequency of over flight noise events above noise-sensitive areas by increasing flights over less sensitive areas (e.g., industrial, commercial).

Flight Procedure Concepts/Local Traffic:

- > **Measure F-T:** Establish altitude floor to increase altitudes over downtown area for local VFR (Visual Flight Rules) traffic under Boston Logan Airport Traffic Control Tower control that are not on approach or initial climb. The intent is to increase the distance between an aircraft (noise source) and receiver (residents located in the downtown area), thereby potentially reducing noise levels.

- > **Measure F-U:** Maintain helicopter routings within downtown area airspace for all users, including hospitals, businesses and media. The intent is to locate all helicopter operations over less noise-sensitive areas such as highways.

- > **Measure F-V:** Extend initial departure course for turboprop aircraft to 2,000 MSL before initiating turns over populated areas. The intent is to reduce the frequency of low altitude propeller departures and associated noise levels (below 2,000 feet MSL) over populated areas by increasing flights over less sensitive areas (e.g., industrial, commercial).

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