FAA and Massachusetts Port Authority

Memorandum of Understanding (MOU) Background

The Federal Aviation Administration and the Massachusetts Institute of Technology (MIT) in 2015 began working jointly on noise research through the Aviation Sustainability Center (ASCENT), the FAA's Center of Excellence for Alternative Jet Fuels and Environment. Under this program, MIT continues to explore ideas for reducing noise in communities around airports with consideration for potential operational impacts. The Massachusetts Port Authority (Massport) has been a cost-share partner.

The FAA, Massport and MIT in 2016 discussed utilizing BOS as a case study to evaluate ideas developed under ASCENT. Focus areas included developing environmental tools and concepts that could be applied at other airports, and sharing ideas on other ways to manage aircraft noise.

In September 2016, the FAA and Massport signed a Memorandum of Understanding (MOU) establishing an agreement on how they would work to reduce the effects of aircraft noise, while maintaining the safety and efficiency benefits of Performance Based Navigation (PBN) procedures at BOS. The agencies agreed that Massport is responsible for recommending changes to flight procedures to the FAA. Massport has partnered with MIT to identify promising concepts for further study under the MOU. Massport also coordinates with the Massport Community Advisory Committee (MCAC) before submitting recommendations to the FAA.

Proposed changes to flight procedures are subject to safety and environmental reviews. The FAA gathers input from the public through its community involvement process before implementing new procedures.

Under the MOU, ideas for potential procedure modifications were separated into two sequential "Blocks" by MIT. Block 1 procedures were characterized by MIT as having clear predicted noise benefits, limited operational/technical barriers, and a lack of equity issues (defined as noise redistribution between communities for the purposes of this study). Block 2 procedures exhibit greater complexity due to potential operational and technical barriers as well as equity issues.

Massport submitted an initial set of Block 1 recommendations to the FAA on December 20, 2017. The FAA evaluated the recommendations for safety and their effect on efficiency at BOS and the National Airspace System.

This chart lists the recommendations.

Block 1 Procedure Recommendations

Proc. ID D = Dep. A = Arr.	Procedure	Primary Benefits
1-D1	Restrict target climb speed for jet departures from Runways 33L and 27 to 220 knots or minimum safe airspeed in clean configuration, whichever is higher.	Reduced airframe and total noise during climb below 10,000 ft (beyond immediate airport vicinity)
1-D2	Modify RNAV SID from Runway 15R to move tracks further to the north away from populated areas.	Departure flight paths moved north away from Hull
1-D3	Modify RNAV SID from Runway 22L and 22R to initiate turns sooner after takeoff and move tracks further to the north away from populated areas.	Departure flight paths moved north away from Hull and South Boston
1-D3a	*Option A*: Climb to intercept course (VI-CF) procedure	
1-D3b	*Option B*: Climb to altitude, then direct (VA-DF) procedure	
1-D3c	*Option C*: Heading-based procedure	
1-A1	Implement an overwater RNAV approach procedure with RNP overlay to Runway 33L that follows the ground track of the jetBlue RNAV Visual procedure as closely as possible.	Arrival flight paths moved overwater instead of over the Hull peninsula and points further south
1-A1a	*Option A*: Published instrument approach procedure	
1-A1b	*Option B*: Public distribution of RNAV Visual procedure	

Block 1 recommendations accepted by the FAA are 1-D2 and 1-A1/1-A1a. FAA continues to work closely with Massport and MCAC on final procedure designs that meet FAA safety criteria and meet the intent of the recommendations. Block 2 recommendations have not yet been formally submitted to FAA.

- Massport MOU (PDF)
- News Release – October 7, 2016: FAA and Massport to Explore Noise Mitigation
- Letter from Massport to FAA (PDF)

- MIT International Center for Air Transportation Block 1 Procedure Recommendations for Logan Airport Community Noise Reduction (PDF)