

**Boston Logan Airport Noise Study**  
**Phase 3 Completion Scope Outline through September 30, 2016**  
**Revised 2-510-2016**

**OPTION 6**

Schedule dates are provided assuming CAC approves the Option 6 scope of services and budget by February 15, 2016.

**Task 1: Project Management** (*through September 30, 2016*)

- Project management efforts
  - Preparation and review of monthly invoices (PC, IC)
  - Monthly review/update to project schedule (PC)
- Monthly PMT Meetings (8) to take us through September 30, 2016 (PC, IC)
  - Via phone (unless we schedule one while we are already in BOS)
  - 1-hour meetings (additional PC time for agenda, coordination, and notes)
- FAA Coordination
  - PC weekly coordination with FAA
  - PC/IC weekly coordination

**Task 2: Public Coordination/Involvement** (*through September 30, 2016*)

- CAC Coordination Meetings (4) to take us through September 30, 2016
  - This would cover both full CAC meetings and CAC Officer meetings
  - 2 via phone (IC attend both, PC attend one)
  - 2 in person (IC attend both, PC attend one)
- Elected Representatives and Public Outreach
  - Assist FAA with 1 set of elected representatives outreach letters describing recommended runway use plan (PC)
  - Assist FAA with 1 public outreach effort describing recommended runway use plan (PC)
- Web-based Periodic Community Updates
  - Host website through September 30, 2016 (PC)
  - Upload information as needed through remainder of the study (PC)
  - Maintain and host website for up to 6 months after September 30, 2016, as FAA, Massport, and the CAC identify the best means for ongoing hosting the website information and making it available to the public (PC)

### Task 3: Runway Use Measure Analysis

- Test 1 (*test ended May 10, 2015*)
  - Provide Test 1 data in single, compiled file (Massport to provide file to PC to post on password protected ftp site for CAC access – *to be available for distribution to CAC by February 5, 2016*)
  - Review test data and coordinate questions with Massport and then IC (CAC membership filtered through CAC officers; time limit of 2 weeks suggested – *CAC full review completed by March 15, 2016*)
  - Review final CAC questions and finalize Test 1 Report (IC, with PC review)
  - Coordinate with CAC to obtain decision regarding moving forward with recommendations on measures included in Test 1, potentially with modifications (IC)
  - Finalize Test 1 Report (IC) (*Completed by March 31, 2016*)
  
- Test 2 (*test ended November 11, 2015*)
  - Provide Test 2 data in single, compiled file (Massport to provide file to PC to post on password protected ftp site for CAC access – *to be available for distribution to CAC by February 5, 2016*)
  - Review test data and coordinate questions with Massport and then IC (CAC membership filtered through CAC officers; time limit of 2 weeks suggested – *CAC full review completed by March 15, 2016*)
  - Review final CAC questions and complete analysis of operational data from Test 2 (IC)
    - Analysis will include reporting operational data provided by Massport, as well as evaluating the outcome against the previous year time period.
    - Reasons for FAA not being able to achieve goals will be discussed if that information is discernible from the data.
  - Prepare Preliminary Test 2 Report (IC, with PC review)
  - Present Preliminary Test 2 Report to CAC (IC)
  - Coordinate with CAC to obtain decision regarding moving forward with recommendations on measures included in Test 2, potentially with modifications (IC)
  - Finalize Test 2 Report (IC) – Up to two (2) iterations of the Final report will be prepared (preliminary Final and Final – *completed by April 30, 2016*)
  
- Test 3 (Information Gathering and Sharing Effort – No Analysis by PC or IC – *to be completed by February 29, 2016*)
  - Provide 12 months of data regarding nighttime (defined as 10:00 pm to 7:00 am) operations (Massport to provide to CAC); data to include type of operation (arrival/departure), time of operation, airline or other operator, aircraft type, 14 CFR Part 36 stage classification, including an indication if aircraft is hushkitted or re-engined

to meet Stage 3 noise standards. The information will be provided on a flight-by-flight basis. (Massport)<sup>1</sup>

- Provide documentation regarding laws preventing airport sponsors from imposing restrictions on aircraft operations related to noise, including the source justification and the process for review and possible revision (FAA and Massport)
- Provide a summary of all operational and noise restrictions in place at Boston Logan International Airport (FAA and Massport)
- Review Massport 2014 Environmental Data Report (EDR) regarding the effects of varying nighttime runway use patterns as the result of FAA's suspension of the use of head-to-head operations on Runway 15R-33L and runway closures, requiring the use of other runways during the nighttime hours; review of results provides information to CAC regarding nighttime runway use recommendations. This information is found in Chapter 6 of the EDR. (CAC membership)

#### Test 4 (*Test to be conducted from April 1, 2016 through June 30, 2016*)

- Develop Test 4 protocol (IC, with PC review); test potentially to include<sup>2</sup>:
  - Balancing Runway 27 and Runway 33L departures
  - Reduce Runway 4R arrivals, increasing arrivals to other runways (e.g., Runway 15R); with an initial goal of reducing Runway 4R arrivals by approximately 5 percentage points
- Review 2014 EDR to assess potential noise effects from a change in runway use, particularly at the Runway 15R end and within communities in the highest noise exposure areas (CAC)
- Coordinate with CAC to obtain decision of asking Massport/FAA to implement Test 4 (IC)
- Coordinate with Massport/FAA to finalize plan for Test 4 (PC, IC)
- For each month during the test, provide runway use percentages and flight tracks for jets only, as available from the Noise and Operations Monitoring System (NOMS) within two weeks of the end of the month or as soon as practicable (Massport)
- Following the receipt of monthly data by CAC, conduct informal meetings between FAA, Massport, and CAC leadership to discuss interim test progress and results and to discuss any potential modifications to improve results; meetings not considered formal PMT meetings and meeting records or notes would not be prepared; however decisions

<sup>1</sup> Massport has agreed to provide data for 2014 by February 29, 2016. It is anticipated that data for 2015 will be available in April 2016 and can be provided to CAC at that time.

<sup>2</sup> It is noted that CAC has discussed the potential for applying the Massport noise rule to Runway 4L departures and Runway 22R arrivals, as described in the noise rule based on noise levels rather than jets versus nonjets. CAC has also discussed the potential of removing the wind restriction on Runway 14-32. Due to the history of how the noise rule was established and implemented and the litigation resulting in the wind restriction on Runway 14-32, it is not possible to address these as part of BLANS Phase 3. It is acknowledged the CAC may request consideration of both following in their recommendations from Phase 3 of the BLANS.

based on meetings can be documented via email exchanges between CAC, Massport, and the FAA (FAA, Massport, CAC leadership)

- Provide Test 4 data in single, compiled file (Massport to provide file to PC to post on password protected ftp site for CAC access – *to be posted by July 15, 2016*)
- Review test data and coordinate questions with Massport and then IC (CAC membership filtered through CAC officers; time limit of 2 weeks suggested –*to be completed by July 31, 2016*)

- Review final CAC questions and complete analysis of operational data from Test 4 (IC)
  - Analysis will include reporting operational data provided by Massport, as well as evaluating the outcome against the previous year time period.
  - Reasons for FAA not being able to achieve goals will be discussed if that information is discernible from the data.
- Prepare Preliminary Test 4 Report (IC, with PC review)
- Present Preliminary Test 4 Report to CAC (IC)
- Finalize Test 4 Report (IC) – up to two (2) iterations of the Final report will be prepared (preliminary Final and Final)
- Coordinate with CAC to obtain decision regarding moving forward with Test 4, potentially with modifications (IC) (*Completed by August 15, 2016*)
- Runway Use Program Definition (*Completed by August 31, 2016*)
  - Develop a Final Runway Use Program protocol based on the recommendations of Tests 1-4 (IC, with PC review)
  - Coordinate with CAC to obtain decision of moving forward with the Final Runway Use Program (IC)
  - Coordinate with Massport to develop recommendation of Final Runway Use Program to FAA (PC, IC)

#### Noise Analysis

- Update 2015 baseline noise to reflect FAA rules affecting operations on non-intersecting, converging runways (CRO) and other changes in operations/procedures implemented since completion of the original 2015 baseline noise contour update early in Phase 3. Noise analysis will include noise exposure down to DNL 45. (PC, with IC review – *Completed by April 15, 2016*)
- Conduct population and grid analyses using established census centroids and additional identified grid locations (PC, with IC review – *Completed by April 15, 2016*)
- Conduct level-weighted population analysis (IC, with PC revise – *Completed by April 22, 2016*)
- Prepare final noise analysis reflecting anticipated runway use changes associated with the Final Runway Use Program, based upon updated 2015 baseline noise contour (*Completed by September 15, 2016*)
- Conduct population and grid analyses, including noise level change analysis associated with the effects of the Final Runway Use Program. Noise analysis will include noise exposure down to DNL 45. (PC, with IC review – *Completed by September 15, 2016*)
- Conduct population and grid analyses using established census centroids and additional identified grid locations (PC, with IC review – *Completed by September 15, 2016*)
- Conduct level-weighted population analysis (IC, with PC revise – *Completed by September 22, 2016*)

#### Task 4: Project Documentation

- Prepare draft BLANS report (PC, with IC input and review)
  - Summarize the three phases of the BLANS and results of Phases 1 and 2
  - Describe runway use test program conducted during Phase 3
  - Present summary of runway use program results
  - Document recommended Final Runway Use Program, along with other noise abatement measures in place at the Airport, including measures adopted in Phase 1 and Phase 2 of the BLANS to present an overall Boston Logan International Airport Noise Abatement Plan
- Prepare final BLANS report based on review by PMT (PC – *Completed by September 30, 2016*)
- Prepare executive summary of Final BLANS Report (PC, with IC review – *Completed by September 30, 2016*)

**Efforts Outside of the Budget of BLANS to Support CAC Decision-Making (No Impact on BLANS Budget)**

- Fulfill Data Requests by CAC (*Completed by April 30, 2016*)
  - CAC formally requested Massport to provide data from previous EDRs in order to answer questions and to develop reports that would inform CAC and the general public about activity at BOS
  - Conduct analyses of data to fulfill CAC requests as follows<sup>3</sup> (IC and HMMH)<sup>4</sup>:
    1. Runway Use (Arrivals and Departures Operations) by Runway End. [Events. Arrivals and Departures with Subtotals and Grand Total. Including Number and % of Total]
    2. Noise (Exposure and Impacts) by Runway End ~~and by Community from Runway End~~. [Exposure, dose: Yearly Day-Night Average Sound Level (DNL). Impacts, effects: Sound-Level Weighted Population (LWP) = DNL x Population x % Highly Annoyed @ DNL.]
    3. Noise (Exposure and Impacts) by ~~Runway End and~~ by Community from Runway End. Impacts, effects: Sound-Level Weighted Population (LWP)=DNL x Population x % Highly Annoyed @ DNL [Including Boston Neighborhoods and Boston Community subtotal.]

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<sup>3</sup> List ~~provided by Massport based on information presented by the CAC President at a meeting in the Town of Milton~~ revised to match descriptions of requested data included in an email from Darryl Pomictor to John Williams dated February 8, 2016, at 7:08 p.m. EST. NOTE: Editorial and formatting comments included in the email were not included herein.

4. All aircraft (not just jets)
5. ~~Turboprops and Piston props > 15% Logan operations (>18% Jets)~~ Historic Baseline: from 5 years before new Runway 14-32 in 2007 and since.  
With average pre R14-32 and post R14-32.
  - HMMH, the IC and the PC participated in a teleconference to discuss options for fulfilling the CAC data request task. It was proposed that HMMH will provide to the IC in a spreadsheet format historical data from 2002 to 2014 using the EDR databases as the source for runway use by runway end, jets and non jets, and noise by runway end and community as specified in items 1 through 5 from CAC<sup>5</sup>.
  - CAC and the IC will work together to finalize formats for tables and graphics to fulfill the CAC's data request within the total budget allocated to the IC from the overall consultant budget of up to \$30,000 committed by Massport. IC would then utilize the spread sheets to compile tables for each year. Sample tables prepared by HMMH are attached for your review. These tables represent the types of data that can be reported and we believe the tables, prepared for each year, are consistent with the CAC request in terms of the types of data request. The format of the tables as they are to be provided will be included in the final scope of work.
  - This effort will not exceed \$30,000 with about \$15,000 allocated to HMMH and \$15,000 to the IC. ~~In order for HMMH and IC to finalize the cost estimate they need agreement that these example tables are acceptable.~~
- Development of Metrics/Monitoring Program (*Completed by September 30, 2016*)
  - Develop metrics for monitoring the success of the Phase 1 flight tracks and runway use program (Massport, FAA, CAC)
  - Develop metric reporting template for use by Massport on an on-going basis (Massport, FAA, CAC)
  - Develop graphic depictions of post-Phase 1 flight tracks compared with RNAV designs, including design and actual aircraft altitudes; Massport to provide sample graphics for review by CAC, with the intent of developing a standard template for ongoing reporting (FAA, Massport, CAC)

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<sup>5</sup> The CAC has requested EDR data through 2015. These data will be made available to CAC by Massport as soon as they are completed as part of the EDR process. It is anticipated that the data will be available during the summer of 2016 and should therefore give CAC time to compare the results of Test 4 with the 2015 data in order to make final decisions and recommendations on a runway use program within the BLANS Phase 3 schedule.

~~Sample Tables in Response to CAC Data Request to be Completed Outside of BLANS Budget~~