

## BOSTON OVERFLIGHT NOISE STUDY

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**BOS/TAC MEETING**  
**November 8<sup>th</sup>, 2006, 8:45 am – 4:30pm**

### **PROPOSED AGENDA**

<u>Time</u>	<u>Topic</u>
8:45 – 9:00	<b>Introductions</b> <ul style="list-style-type: none"><li>• Client opening remarks</li><li>• Meeting purpose:<ul style="list-style-type: none"><li>○ Review the Phase 1 findings</li><li>○ Pre-decision discussion</li><li>○ Agree that there is adequate information to make a decision</li></ul></li><li>• Review agenda</li></ul>
9:00 – 9:30	<b>Phase 1 Overview</b> <ul style="list-style-type: none"><li>• General approach</li><li>• Alternative screening</li><li>• Noise metrics</li></ul>
9:30 – 10:30	<b>Phase 1 Findings</b> <ul style="list-style-type: none"><li>• Alternative Definitions</li><li>• Noise evaluation</li></ul>
10:30 – 10:45	<b>BREAK</b>
10:45– 11:45	<b>Phase 1 Findings (Cont'd.)</b>
11:45 – 12:30	<b>LUNCH (working lunch)</b>
12:30 – 3:30	<b>Phase 1 Findings (Cont'd.)</b>
3:30 – 4:00	<b>Next Steps</b> <ul style="list-style-type: none"><li>• Phase 1 Wrap-up<ul style="list-style-type: none"><li>○ Decision process</li><li>○ Documentation</li></ul></li><li>• Phase 2 Kickoff<ul style="list-style-type: none"><li>○ Project team changes</li><li>○ Initial tasks</li><li>○ Tentative schedule</li></ul></li></ul>
4:00 – 4:30	<b>Closing Remarks</b> <ul style="list-style-type: none"><li>• Follow-up actions</li><li>• Public comment</li></ul>

**Boston Overflight Noise Study (BONS)  
BOS/TAC Meeting**

**MEETING SUMMARY**

November 8, 2006

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**Attendance:**

**BOS/TAC Members:**

Joseph Davies (FAA Air Traffic), Joseph Bellabona (FAA), Gail Lattrell (FAA Airports), Gary Hufnagle (FAA), Richard Doucette (FAA), R. Travers Wright (FAA), Gerard Holtorf (FAA), George Yardley (FAA), Bettina Peronti (FAA), Brian Brunelle (FAA), Ernestine Gatewood (FAA), David Hall (FAA), Flavio Leo (Massport), Frank Iacovino (Massport), Betty Desrosiers (Massport), Steve Lathrop (Hull), Dovi Abbey (Roxbury), Sandra Kunz (Braintree), John Stewart (South End), Dick Morrison (Chelsea), Bob D'Amico (City of Boston Mayor's Office), Ralph Dormitzer (Cohasset), Jerry Falbo (Winthrop), Bob Driscoll (Winthrop), Laura Eaton (Hull), Dan McCormack (Weymouth), Leo White (Beverly),

**Project Consultant (PC) Team:**

Greg Wellman (Ricondo & Associates, Inc.), Denny Burke (Ricondo & Associates, Inc.), Stephen Smith (Ricondo & Associates, Inc.), Robert Varani (ASRC Aerospace), Roger Odegard (Wyle), Scott Hamwey (Planners Collaborative)

**Independent Consultant (IC) Team:**

Jon Woodward (Landrum & Brown, Inc.)

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**1. Introductions**

Greg Wellman opened the meeting and all attendees introduced themselves. G. Wellman then asked representatives from the CAC, Massport and the FAA to comment on the process.

Ralph Dormitzer stated that Phase I has been the product of the work of many people, and noted how the project had evolved over the years from the initial goal of studying 22 departures over the ocean and 33 arrivals over the harbor mouth. He said that as initial lawsuits had resulted in mitigation agreements, what started out as a contentious process is no longer contentious. R. Dormitzer explained that this had been accomplished by starting with simple concepts (using the ocean as a buffer, and keeping planes higher when they come back across the shoreline) and staying positive.

Flavio Leo said that one outcome has been that there has been a greater collaboration and trust among the various participants. He noted that the FAA has provided the largest noise planning grant in the country and this is a unique opportunity for communities to address their noise concerns. He also said that Massport will support alternatives that the FAA deems as CATEX, that the communities support, and that do not reduce Logan's airfield and airspace efficiency.

Gail Latrell acknowledged the amount of work that has been done by the CAC, a volunteer group. She emphasized that FAA is taking the study very seriously and

asked for the group's patience as the project moves forward.

G. Wellman explained that this was not a decision-making meeting, and that its purpose is to review Phase I findings and work on next steps. He reviewed the agenda and the logistics for the meeting.

## **2. Phase I Overview**

G. Wellman said that the group had come a long way since the initial meeting in June of 2003. He explained the unique nature of this project and that it was the first of its kind done in the country. He said that the goal of Phase I was to go after the "low-hanging fruit" and reviewed the process that took the group from the initial 50 alternatives to the point at which they are now. He also said that there would be more alternatives reviewed as part of Phase II. G. Wellman concluded the overview by identifying the specific noise metrics used in the study (in addition to DNL).

## **3. Phase I Findings**

The PC staff reviewed the intent and noise results of each alternative, followed by a discussion by the BOS/TAC.

### Alternative 1/14/15 – Runway 4R Departures with Alt Shoreline Crossing and Minot's Light

Denny Burke providing a summary of the intent of Alternative 1/14/15. Roger Odegard presented the results of the noise analysis, explaining that they were conservative with their approach to representing dispersion. Robert Varani explained that there was wider dispersion when using RNAV due to the aircraft's tendency to cut the corner when flying by a waypoint in anticipation of the next waypoint. (about 0.62 nmi on either side of the center route)

While interpreting the noise results, R. Odegard added that noise effects can occur up to five miles away. S. Lathrop asked if an aircraft five to six miles away would generate 60 SEL (or about 50 Lmax), to which R. Odegard replied that it could. S. Lathrop asked what the point of the analysis was if every aircraft affected communities everywhere. R. Odegard explained that he was simply trying to show that the number of events did not equal the number of overflights. Jon Woodward added that this was an assessment of deltas related to a particular alternative. He said that ultimately the group will need to look at them all together. S. Lathrop said that if the 60 SEL threshold is movable by events five miles away, then you could draw a circle, 10 miles in diameter, that affects everything. Steve Smith explained that the changes in this graphic are solely for this alternative. S. Lathrop questioned how precise an analysis could be that says an aircraft five miles away can create a new 60 SEL event. S. Smith suggested that they have an offline discussion later, but the methodology conducted for each alternative meets industry guidelines for noise modeling. Aircraft noise for all runway operations, including those that change in the

alternative, provide a thorough analysis of all noise effects. The change reflected in the analysis is associated with what happens if the alternative is implemented.

John Stewart asked the PC to explain what “no notable change in DNL” meant. R. Odegard said that “notable” in this case meant “more than one DNL”. J. Stewart then asked what “number of events above 60 SEL” meant. He wanted clarification on whether that could mean that there were a large number of events under 60 SEL. R. Odegard said that the main reason they are using that definition is because there are no changes in DNL, and that IC picked 60 SEL, which indicates a threshold for outdoor speech interruption. J. Woodward explained that 60 SEL approximates outside speech disruption. He said that 50 SEL was a good representation of ambient levels outside for a quiet suburban area. J. Woodward said that above 50 SEL you would hear it, above 60 you would start to get annoyed if you were carrying on a conversation, and above 80 you would start to get annoyed if you were conversing inside a house (assuming the house structure provides about a 20 dB reduction with windows closed). J. Stewart asked how the decision was made to use 50 or 60. R. Odegard said that IC and the PC had agreed on 60 because it was the level of outside speech interference. At the June meeting, BOS/TAC had suggested that it was too much information if we showed each metric for each alternative, so one was selected.

S. Lathrop said that for dB/DNL you need to know the baseline and you need to know the change. He asked if they said it was the same with SEL, adding that he thought that they were treated differently. R. Odegard and J. Woodward explained the process to him. S. Lathrop went to the front of the room and used an electronic pointer to demonstrate his concerns using the five mile distance between Hull and Cohasset as his example. PC and IC emphasized the methodology and what the change indicates, changes in noise levels associated with the alternative.

G. Wellman said that they may want to look at modeled noise levels with more than one “bucket”. For example, he said there may be two events that both fall into the above 60 SEL bucket, but only one of them would be loud enough to fall into the above 70 SEL bucket as well. PC indicated that number above events for each 5 dB SEL level is provided in the Appendix tables for each grid point. IC’s matrix also provides some indication of NA levels for 50, 60 and 80 for each grid point. J. Woodward said that his metrics will be distributed in pdf format. Joe Davies said that J. Woodward’s handout will give everyone a fine-grained analysis.

G. Lattrell suggested that at the end of the day they walk the entire group through the website. All agreed.

S. Lathrop voiced his concern that the attractive graphics would be what drives decision-making and not the fine-grained analysis that they have. PC indicated that all the data is available to all members on the public website, and will go through an example to show where they can find such data.

Bob D'Amico asked if Phase I was only about shoreline crossings after departing over the water. S. Smith said that the goal of this alternative is to narrow the existing noise abatement procedure. B. D'Amico said the goal was to move the turn further out. R. Varani said that this alternative should result in more flights flying in the center of the flight tracks in the graphic (over the causeway). A discussion regarding 4 DME ensued. B. D'Amico replied that different aircraft will reach altitude at different points. S. Smith said that with RNAV, they have to turn at that point regardless of the aircraft altitude. R. Varani said that they modeled this alternative under bad weather conditions with a 60 knot tail wind on a 100 degree day. B. D'Amico asked if headwinds were considered. R. Varani said that the computer won't let the aircraft drift and that a headwind was actually better for them related to staying on the RNAV route. He added that he could model that for him and show him the results later in the day. B. D'Amico also inquired about gates. S. Smith said that this was an implementation issue, and something that would be dealt with down the road in Phase 2 if this alternative was to be implemented.

#### Alternative 2/14/15 – Runway 9 Departures with Shoreline Crossing and Minot's Light

D. Burke described the alternative. J. Davies mentioned that the controllers' first concern is for safety. S. Lathrop inquired about adding a DME mark east to ensure that departures stay east of Hull. D. Burke said that the RNAV fix will be accurate. He said the DME fix is usually only accurate for a few miles. J. Davies said that DME points are affected by the altitude of the aircraft and added that a DME point is not a point, but rather a general area and that nothing is gained by setting a DME point. G. Wellman added that alternative designs were discussed in detail in previous BOS/TAC meetings, and were ultimately accepted by BOS/TAC. Today's meeting is to focus on the noise results.

Dovi Abbey asked if S. Lathrop would be comfortable moving the turning point out. D. Burke replied that the procedure remains that within the constraints of the current airspace, and the design is utilizing all the space available. Gary Hufnagle asked if the noise changes are coming from the assumed alternative flight tracks, and received confirmation that this was the case.

#### Alternative 3/14/15 – Runway 15R Departures with Shoreline Crossing and Minot's Light

D. Burke described the alternative. S. Lathrop asked if the second waypoint is located at the same point as the waypoint for 22 departures. R. Varani replied that it was near the same location. S. Lathrop asked why this waypoint is as far south as it is if it is used at night when there are no 27 arrivals. S. Smith said that they don't only use Runway 15R for departures at night. This alternative was designed for 24-hour operations. S. Lathrop asked why there couldn't be a separate procedure. G. Wellman asked the BOS/TAC if they would prefer to discuss the definition of the procedure or the findings. D. Abbey replied that it would depend upon the impacts. Steve Kelley explained that S. Lathrop's discussion would deny the use of 27 for arrivals at night. G. Hufnagle said that it was not only used at night, but also in other combinations. S.

Lathrop said that was fine, but that he was talking specifically about night usage. S. Smith suggested that they could discuss this essentially new alternative in Phase 2.

R. Odegard presented the noise data. S. Lathrop said that the increase in noise south of the Point Allerton suggested that planes are further south. He added that there was no change on the point because current flights are already over 60 SEL and this analysis doesn't consider that increase. S. Smith confirmed that the RNAV design does bring departures closer to Point Allerton, but does not cause direct overflights. Dick Morrison added that they needed to consider tradeoffs within each town, and in the case of Hull, there are decreases in southern Hull due to this alternative.

#### Alternative 5/14/15 – Runway 22L/R Departures with Alternate Shoreline Crossing and Minot's Light

D. Burke described the alternative and then R. Odegard presented the noise data. He explained that the biggest change is improvement for south shore communities. He added that there are some areas increase in the point of Hull and the Scituate coast. S. Kelley asked why there was a more dramatic change on the south shore compared to Alternative 3. S. Smith replied that it was due to the sheer number of activities, since 30% of activities at the airport use this departure.

S. Lathrop noted that the graphic was showing bigger effects south of Hull's point than on the point itself. He held this up as another example of his concerns with this method of analysis.

#### Alternative 6 – Runway 22L Jet Arrivals

D. Burke described the alternative and then R. Odegard presented the noise data. B. D'Amico asked why they were putting new traffic over Nahant. R. Odegard said that the traffic is over the causeway and only 5% of the traffic would use this procedure. S. Smith said that only 13 operations a day use this procedure and that 5% of that is less than one per day. This type of operation does occur today, but only one or two for an average annual day. Because this occurs today, PC modeled such an occurrence for the alternative to be consistent. He added that it would be mostly medium to small jets.

S. Lathrop asked what an average annual day was. S. Smith described the method used for arriving at an average annual day. S. Lathrop said to assume that 20% use instruments and 80% use visual at Logan and that the group was analyzing 33 arrivals. He wanted to know if they would assume that 20% of those 33 arrivals are by instrument and 80% are visual. He said that they would be skewing the results if the 20/80 split was assumed because the breakdown will be different on each runway. S. Smith replied that the average annual day construction used here is an industry standard. J. Woodward said that weather had no impact on the average annual day calculation. All weather scenarios are considered in the average annual day calculation.

#### Alternative 7 – Runway 27 Jet Arrivals

D. Burke described the alternative. J. Davies asked why there were different impacts over DRUNK compared to Alternative 6. R. Odegard said that it was due to the higher utilization of Runway 27 compared to Runway 22R for arrivals. D. Abbey asked if Marshfield had been invited to the meeting. R. Dormitzer said that they were, in addition to Beverly, Manchester-By-The-Sea, Duxbury and Scituate. J. Stewart asked that they do everything they can to include them. Further discussion was recommended for CAC meeting the next day.

#### Alternative 8 – Runway 15R Jet Arrivals

D. Burke described the alternative and then R. Odegard presented the noise data. R. Dormitzer said that Ron Fama of Weymouth would have issues with this. S. Smith said that the CAC should consider the cost of implementing this procedure, given the negligible benefits. It is used about 0.5% for an average annual day.

#### Alternative 9 – Runway 4L/R Left Downwind Arrivals

D. Burke described the alternative. D. Abbey said that he was concerned this will impact a wider area of Boston than the graphic shows, and asked if there had been any testing. S. Smith said that there has not been testing. J. Stewart said that the CAC did not believe that this alternative would be CatEx-able. S. Kelley said that it would be a decision for the CAC, but that FAA will acknowledge that an EIS would be required. He added that the CAC could vote to drop it or investigate ways to redefine the procedure to prevent significant impacts as part of Phase 2.

#### Alternative 11 – Runway 33L Visual Jet Arrivals

D. Burke described the alternative. S. Lathrop asked why this procedure wasn't just designed to mimic the approach to 27. D. Burke explained that FAA fatally-flawed that alternative, which was presented at the March 2005 BOS/TAC meeting. The primary reason was TERPS and obstruction clearance requirements. S. Lathrop questioned why the visual could not be started further east over the ocean so as to prevent the turn near Point Allerton as currently proposed. R. Varani explained that visual landmarks are required for a visual approach procedure. Conducting a visual approach further east does not provide pilots visual landmarks.

R. Varani described the design and flyability determinations. He said that airlines may accept 900 to 1,000 feet for the final turn but that four airlines at another airport where this was tried all said they wanted the turn around 1,000 feet at three nautical miles. He added that there were also considerations for FAA rules related to segment length.

R. Odegard presented the noise data. B. D'Amico asked why they were adding events over Nahant. D. Burke explained that they had talked to FAA but had decided that it was not practical to put them elsewhere (continue east over the causeway and merge with traffic from the northeast). He said that for practicality and safety, they could not go north or south of Nahant.

G. Wellman asked S. Lathrop if he was questioning the design. S. Lathrop replied that they would need to have a chance to have some feedback. G. Wellman said that if they made the changes they would need to move the procedure into Phase II. S. Lathrop asked why they don't delay the end of Phase I. D. Morrison asked why they would delay the end of Phase I when the results are all benefits.

B. D'Amico asked them why they couldn't look north. J. Woodward said that they were talking only about one flight per day over Nahant and one flight per day over Marshfield.

S. Lathrop questioned why they could assume that an exact route can be flown from Boston Light to the runway, but not from the ocean to the light. R. Varani replied that it was because you have the shoreline as a visual reference coming in, which is not available if you proceed further east. He demonstrated this on the white board. S. Lathrop asked why they couldn't be sent from the north. S. Smith stated that asking a pilot to fly way out over the dark ocean and accept the visual presents a serious safety issue, and would most likely not be acceptable for a pilot. This effect is known as the "black hole" effect for pilots due to the fact that there is no visual reference of the ground and sky. He emphasized that PC was asked by BOS/TAC to design a visual approach that meets the intent and is a viable design that airlines and ATC are comfortable using. Based on our professional experience and input from FAA and the airlines, we put forth a viable design. The main issue for use of this procedure is lighting at night.

F. Leo asked what would happen if they drew the tracks. Joe Bellabona said that if the group didn't want this visual then you end up with the RNAV instrument approach which was fatally flawed by the FAA during the alternative screening process. S. Lathrop said that the difference is that Point Allerton would get three or four events in a row between 3am and 6am. D. Morrison and S. Lathrop had a discussion about who should be able to hold back benefits from the rest of the group. G. Wellman reminded them that this discussion was more appropriate for the CAC, and that the purpose of today's meeting was simply to review the findings.

#### Alternative 12 – Late Night Jet Arrivals on 4R, 22L, and 33R

D. Burke described the alternative and then R. Odegard presented the noise data. D. Abbey asked if Randolph and Canton were in the CAC. R. Dormitzer said they were not, but this alternative was not a big issue for them. S. Lathrop disagreed, saying that the notion that no one is affected is wrong. R. Dormitzer said that Cohasset was one of the worst affected towns by this alternative, and they didn't care. S. Smith focused members on the intent of this alternative, and based on the noise results, does not provide a benefit to any community, just slight increases in number of events.

#### Alternative 13 – Late Night Propeller Departures 22L/R and 15R

D. Burke described the alternative. R. Dormitzer said that the alternative violated the principal of not shifting flights from one community to another. R. Odegard said that

there were no changes in the noise impacts. S. Smith reminded members of the intent, and based on the noise results, does not appear to provide any noise benefit.

#### **4. IC Analysis**

J. Woodward distributed a handout of a matrix which featured the noise impacts assigned to various buckets (greater than 60 SEL, greater than 80 SEL, etc.) that he had described earlier in the meeting. A second handout included a map with a summary of the alternatives. He discussed the degree of change and the relative nature of changes. He also defined “notable” as a change of 10 events or more. J. Woodward added that changes in the number of events representing less than 5% of events would not rate as “notable” even if the change in the number of events was greater than 10. He explained that he divided the communities into seven sectors (far north, near north, close in, 27 departures, 4 arrivals, south shore, and southwest shore) and that within each sector he evaluated at every gridpoint. He concluded his presentation by explaining the color scheme used in the matrix (yellow = notable increase, green = notable decrease, grey = change, but not notable).

F. Leo asked if the results presented in the matrix could be summed into a cumulative result. J. Woodward replied that they could not be for total events, but could for changes. He said that you could sum the matrix across but not down. Frank Iacovino asked why there was no information in there for DNL. J. Woodward said that the changes need to be 3 dB DNL or more. F. Leo asked if you could look at the changes for the just the nighttime departures. J. Woodward said you could do this only by dividing by the number of events by the percentage of use, although would be very conservative estimate.

Jerry Falbo asked how the grid points were selected. J. Woodward explained that they were existing monitors, CAC member houses, and locations that either currently have or are proposed to receive a lot of flights. He stressed that this data was modeled and not measured. D. Abbey said that Roxbury, Dorchester and Mattapan have historically been under-monitored and that there are not enough permanent sites. J. Woodward repeated that this was modeled noise data, not measured data. He added that Phase 2 will include portable measurements. Bob Driscoll said that there should be more grid points for 33 departures.

Betty Desrosiers suggested that phone calls be made to the communities not already participating that have sites appearing in yellow in the matrix. She said that they wouldn't want people to be able to come in downstream and say that they didn't do enough outreach. R. Dormitzer agreed. A discussion followed as to who should take this step.

B. D'Amico asked if when one flight per day was mentioned, if it meant all day or late night. J. Woodward replied that it was all day for alternatives 1 through 11, and late night only (12 a.m. to 6 a.m.) for alternatives 12 and 13.

## **5. Website Discussion**

G. Wellman asked S. Smith to provide a quick tutorial on the use of the [bostonoverflightnoisestudy.com](http://bostonoverflightnoisestudy.com) website. S. Smith showed the group how to access meeting announcements, handouts, agendas, and meeting notes. He also directed them to the flash presentation made at this meeting. He also showed members the appendices that contain detailed grid point modeling results. He noted that the areas identified in the PC tables are not the same as those defined in J. Woodward's IC matrix. He also pointed to the point of closest approach data requested for Alternative 3, 5 and 11 for the Hull grid points in the appendix.

D. Abbey asked who the contact person is for website questions. F. Leo said that people should contact S. Smith about the website functionality, and to contact J. Woodward about the data.

S. Kelley asked that the group close the loop on the earlier discussion about reaching out to non-CAC towns that appear to incur aircraft noise event changes according to IC' matrix. G. Lattrell said that in February 2005 they contacted everyone within the noise study area, and that they recently distributed materials for Phase 2. R. Dormitzer said that the obligation falls on the consultant, FAA, or Massport. S. Kelley asked what the expectation was, in particular, whether or not the CAC would be able to make a decision absent the participation of the towns with grid points highlighted in yellow on IC's matrix. F. Leo said that this is a sufficiently critical point in the process to merit sending out a third letter. He added that FAA needs to make a concerted effort to reach out to the "yellow" towns. D. Abbey asked if it would be possible to copy Massport as many towns may not identify Logan Airport with the FAA. F. Leo said that they did not want to surprise anyone in the bottom of the ninth. He added that if FAA makes the calls, Massport would be happy to talk to them. FAA (G Lattrell) agreed that FAA would send out the additional notification letters to the communities on the matrix with green or yellow indications to ensure inclusive notification for all communities.

Joe Peters said that a Boston Globe reporter would be visiting the tower tomorrow. He explained that the goal was to familiarize reporters who write about Logan with the operations of the airport. He hopes that the Globe does a story on the current status of the noise study to get the word out.

## **6. Next Steps**

G. Wellman mentioned that tomorrow night's CAC meeting will kick off the decision making process. R. Dormitzer said no one responds to the meeting announcements so it is impossible to know the attendance for sure. He said the agenda for the meeting will be a review of what has been done in the BOS/TAC process, as well as a discussion of how the CAC decision process will work. G. Lattrell announced that she has received 20 responses from people who will attend. G. Hufnagle asked if the

meeting would run until 9pm. R. Dormitzer said that he thought the meeting would run until 11pm.

## **7. Closing Remarks**

B. Desrosiers commented on how great the meeting's graphics and presentations. R. Dormitzer said that he hoped that all CAC members do their homework before December's meeting.