

BOS LOGAN TWAY STUDY ———
January 27, 2005 —

GAIL LATRELL	FAA Airports	781-238-7615
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Ron Seungny	FAA	781-238-7027
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GARY HURNAGNE	FAA-BOS	617-561-5756
John Donnelly	FAA AWE-7	781-238-7045
Christopher Mendge	HMMH	781-229-0707
BOB MILLER	HMMH	(781) 229-0707
RICHARD LETHERI	ROPERWAY (MAYPOW)	617 951-7092
Betty Desrosiers	Messport	617 568-3530
Ira Wallach	Messport	617.568.3151

Gail Lattrell/ANE/FAA
03/22/2005 03:43 PM

To rhh118@comcast.net
cc
bcc
Subject Re: Proposed May Meeting□

How does 9:30 to 11:30 work? We will get right on task and move through the work to get out of there before 12.
Thanks very much. The Logan Office Center was only available on Friday, but if the morning works for you, we can do that for sure.

Thanks Gail

rhh118@comcast.net



rhh118@comcast.net
03/22/2005 03:34 PM

To Gail Lattrell/ANE/FAA@FAA
cc
Subject Re: Proposed May Meeting

Ms Lattrell: I appreciate you trying to shift. We have my 14 year old son's church confirmation that weekend with out of town guests arriving on Friday. If you could start the meeting by 09:30 and finish by 12N, we can make it fit. Please advise. Tkx...Ron Hardaway

----- Original message -----

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> Ron
>
> Could we do it in the morning on the 27th so it doesn't mess up the
> afternoon grandchildren transportation conflict?
> The 27th seems to be the better day, but I don't know if it works out at
> all for you. Please advise. If it doesn't work, the 26th in the morning.
>
> Gail
>
>
>
>
> rhh118@comcast.net

> I
> To
> 03/18/2005 03:28 Gail Lattrell/ANE/FAA@FAA
> PM cc
>
> Subject
> Proposed May Meeting
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> MS Lattrell:
> Received your letter today and thank you for some progress.
> Friday 05-27 is bad for me; Thursday 05-26 is better, however a morning
> meeting would be preferable due to school pickup conflicts.
> Please advise your decision, after you hear from everyone.
> Thanks, Ron Hardaway.
>

Gail Lattrell/ANE/FAA
03/22/2005 01:33 PM

To rhh118@comcast.net
cc
bcc
Subject Re: Proposed May Meeting

Ron

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Gail

rhh118@comcast.net



rhh118@comcast.net
03/18/2005 03:28 PM

To Gail Lattrell/ANE/FAA@FAA
cc
Subject Proposed May Meeting

MS Lattrell:

Received your letter today and thank you for some progress.
Friday 05-27 is bad for me; Thursday 05-26 is better, however a morning meeting would be preferable due to school pickup conflicts.
Please advise your decision, after you hear from everyone.
Thanks, Ron Hardaway.

HARRIS MILLER MILLER & HANSON INC.

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Burlington, MA 01803
T 781.229.0707
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E-mail for Christopher Menge: cmenge@hmmh.com

Thursday, March 31, 2005

Ms. Gail Lattrell
Federal Aviation Administration
16 New England Executive Park
Burlington, MA 01803

Subject: Proposed Scope of Work Outline for Document Preparation on Operational and Environmental Issues for November and Centerfield Taxiways at Logan International Airport

Reference: HMMH Project No. 300280

Dear Ms. Lattrell,

Harris Miller Miller & Hanson Inc. (HMMH) is pleased to submit this proposal outline to prepare documentation for operational, noise, and air quality studies for Taxiway November and the proposed Centerfield Taxiway in response to the Record of Decision on the Logan Airside Improvements Planning Project EIS.

As you know, HMMH has been working with the FAA and the taxi/queue operational log their tower personnel created in 2003 to develop an appropriate peak-period scenario for the noise and air quality analyses.

Phase I – Completion of November Taxiway Studies and Documents

Scope of Work Outline: HMMH will update the noise and air quality studies to reflect the alternative operational model for taxi and queue times based on the logs. At the conclusion of these assessments, HMMH will revise the FAA's draft document entitled "Evaluation of Taxiway Operations North of Runway 15R/33L, Phase I: Operations on Taxiway November." This document will summarize the candidate actions evaluated in response to the ROD, assess the feasibility and merits of such actions, and summarize the operational and environmental effects (noise and air quality) of the most promising actions. The document will incorporate as appendixes the technical reports on noise by HMMH and on air quality by URS.

Schedule: We expect to complete and submit the draft document during the week of April 18, prior to the next study team meeting scheduled for April 22. We then will incorporate comments received at that meeting, and produce a final Phase I report in time for distribution to the six community members prior to the presentation to them scheduled for May 27.

Phase II – Centerfield Taxiway Studies and Documents

Scope of Work Outline: HMMH will subcontract to one or two additional firms (Leigh Fisher Associates and possibly Flight Transportation Associates) to provide operational modeling, needed for the development of taxi and queue times for the proposed Centerfield Taxiway. Four operational scenarios are planned for the year 2010, and one additional undefined scenario will provided for in the budget. The possible four scenarios include 1) utilizing the Centerfield Taxiway when Runways

HARRIS MILLER MILLER & HANSON INC.

Ms. Gail Lattrell, Federal Aviation Administration
March 31, 2005
Page 2

22L and 22R are being used for departures, 2) utilizing Taxiway November with the same runway use, for comparison as a no-action alternative, 3) utilizing the Centerfield Taxiway when Runways 4L and 4R are being used for arrivals, and 4) utilizing Taxiway November when Runways 4L and 4R are being used for arrivals, as a no-action comparison. These scenarios will be developed from the detailed 2010 fleet mix, which will be developed soon as part of the New England Regional Airport System Plan (NERASP).

HMMH will produce a draft document entitled "Evaluation of Taxiway Operations North of Runway 15R/33L, Phase II: Operations on Proposed Centerfield Taxiway." This document will address alternative additional beneficial actions evaluated in response to the FAA ROD, assess the feasibility and merits of such actions, and summarize the operational and environmental effects of the most promising actions. The document will incorporate as appendixes technical reports on operations, noise, and air quality. HMMH expects to attend several project meetings as well as meetings with the six members of the community advisory committee in connection with this second phase.

Schedule: We expect to begin the operational modeling once the detailed 2010 fleet mix is developed as part of the NERASP, which is expected to be issued this summer. Once we receive this, we expect the overall study to take approximately 4 to 6 months to complete.

Should you have any questions regarding our technical approach, deliverables or schedule, please feel free to call me. I will be serving as the project manager for this study; Mr. Robert Miller will be the overall project director.

Sincerely,

HARRIS MILLER MILLER & HANSON INC.



Christopher W. Menge
Senior Vice President

copies: Mr. Robert Miller, HMMH



rh118@comcast.net
05/24/2005 03:59 PM

To: Gail Lattrell/ANE/FAA@FAA
cc
bcc
Subject: Requesting advance copy of 05-27 agenda

History: This message has been forwarded.

MS Lattrell:

Would you please provide a current copy of the page[s] of the FAA regulations which covers the parallel [side by side] separation minimums for [a] taxiways, [b] runways and [c] taxiways and runways.

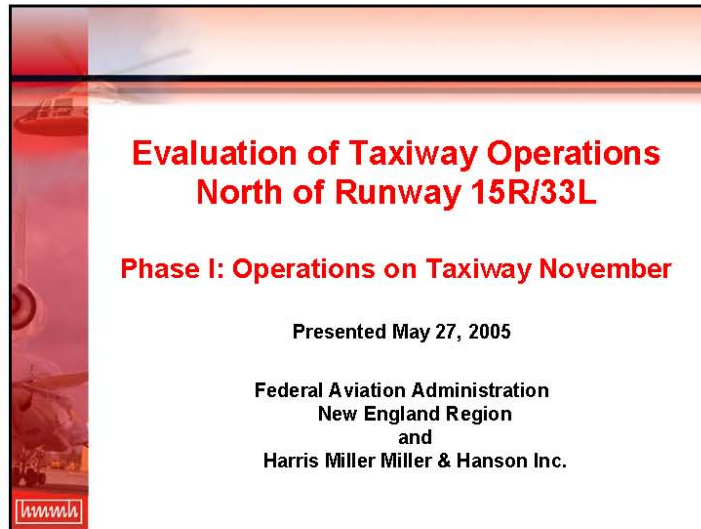
See ya Friday.

Tkx...Ron Hardaway

TAXIWAY STUDY - 5-27-05

GAIL LATIRELL

BETTINA M. PEROTTI	BOS ATCT	617-567-6622
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ART FLAVIN	Winthrop	617-846-5069
Harvey Maibor	Winthrop	617-846-9085
Sen. HANCOCK	Centerfield	617-569-1515
ROBERT DAMICO	FART-200	617-635-3616
Brian Rando	FAA	781-238-7610

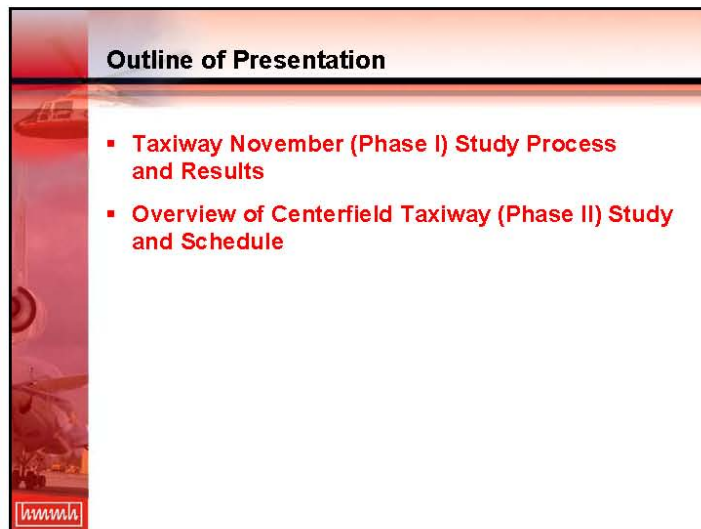



**Evaluation of Taxiway Operations
North of Runway 15R/33L**

Phase I: Operations on Taxiway November


Presented May 27, 2005

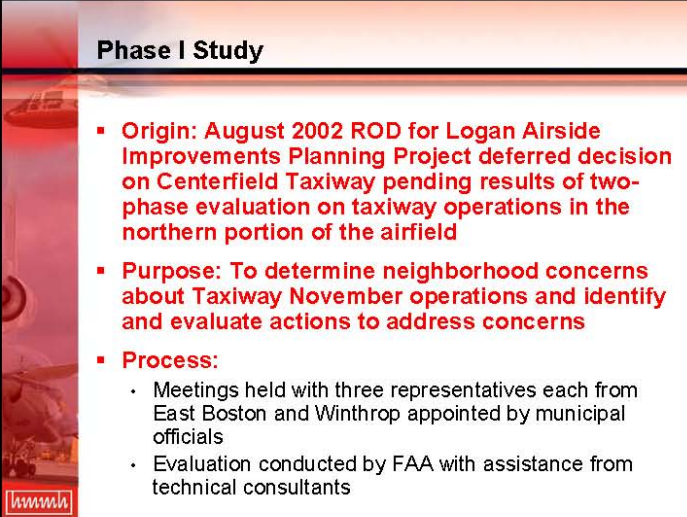
Federal Aviation Administration
New England Region
and
Harris Miller Miller & Hanson Inc.



Outline of Presentation

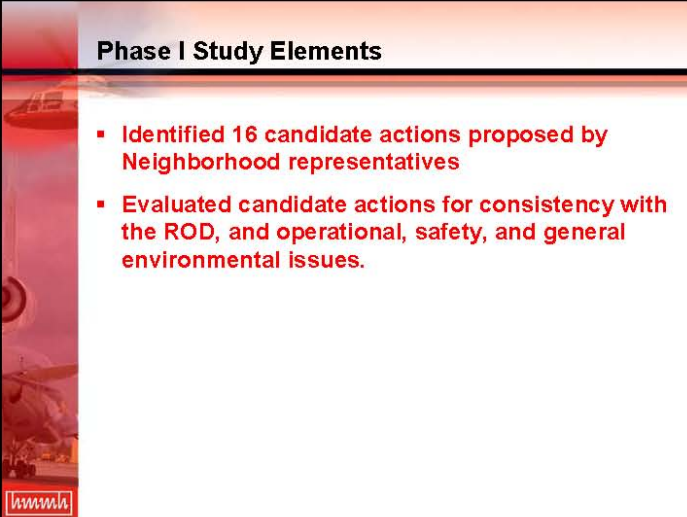
- Taxiway November (Phase I) Study Process and Results
- Overview of Centerfield Taxiway (Phase II) Study and Schedule





Phase I Study

- **Origin: August 2002 ROD for Logan Airside Improvements Planning Project deferred decision on Centerfield Taxiway pending results of two-phase evaluation on taxiway operations in the northern portion of the airfield**
- **Purpose: To determine neighborhood concerns about Taxiway November operations and identify and evaluate actions to address concerns**
- **Process:**
 - Meetings held with three representatives each from East Boston and Winthrop appointed by municipal officials
 - Evaluation conducted by FAA with assistance from technical consultants



Phase I Study Elements


- **Identified 16 candidate actions proposed by Neighborhood representatives**
- **Evaluated candidate actions for consistency with the ROD, and operational, safety, and general environmental issues.**

Candidate Actions Initial Evaluation

- Action 1: Restrict the use of Taxiway November for queuing, including the use of a "hold line."
 - Previous hold line determined to be problematic by FAA Flight Standards Division and Runway Safety Office:
 - In a non-standard location
 - Therefore could be confusing to pilots
 - Thereby increase risk of runway incursions
 - Impedes efficient flow of aircraft onto Runway 22R


Candidate Actions Initial Evaluation

- Action 2: Revise the existing Noise Abatement Order to further limit the number of queued aircraft on Taxiway November.
- This action warranted further operational and environmental analysis, which is discussed later



Candidate Actions Initial Evaluation

- Action 3: Prohibit queuing of aircraft between Runways 22R and 22L.
 - The section of Taxiway November between Runway 22R and Runway 22L is used to stage aircraft for departure on Runway 22L and also when necessary to re-sequence aircraft departing on 22R due to traffic management initiatives or any other situation when an aircraft is not ready for departure
 - If this section of Taxiway November were not available for temporary queuing of aircraft, much longer queues and the potential for delays would be generated, thereby interfering with airport efficiency and increasing noise and air emissions.



Candidate Actions Initial Evaluation

- Action 4: Queue aircraft farther south on Taxiway November.
 - Requires establishment of a hold line on Taxiway November south of the departure threshold. This has similar issues as Action 1:
 - Previous hold line was problematic
 - Impedes efficient flow of aircraft onto Runway 22R

Candidate Actions Initial Evaluation

- Action 5: Impose a curfew on the use of Taxiway November or Runways 22L and 22R during certain hours.
 - Closing these two primary runways or their access taxiway anytime winds are from south/southwest would severely restrict airport usage and hamper airport operating efficiency
 - Could constitute unjust discrimination of certain aeronautical activities.

Candidate Actions Initial Evaluation

- Action 6: Restrict the use of Taxiway November to certain aircraft types during specified hours.
 - Such restrictions would limit the use of Runways 22L and 22R, and therefore have a negative impact on airport safety, efficiency and capacity. These runways represent one of the three most heavily-used configurations at Logan Airport, and such would have a serious impact on the airport's capacity.
- Action 7: Build berms at the north end of the airport.
 - Berms sufficient to provide noise benefit would obstruct access to the approach ends of Runways 22L and 22R

Candidate Actions Initial Evaluation

- Action 8: Tow aircraft to departure end of 22R
 - Ineffective and impractical from perspectives of airport operator, air carriers and air traffic control, due to decreased departure rates
 - Increased emissions from aircraft engines, which generate greater emissions during start and warm-up
 - Possible increased dwell time on taxiway while pilots complete checklists
- Action 9: Ensure compliance with regulations, orders and other commitments related to use of Taxiway November
 - FAA has been in compliance with all applicable regulations and orders
 - Concerns may be addressed in further study of Action 2

Candidate Actions Initial Evaluation


- Action 10: Create an information system to monitor compliance with regulations, orders and other commitments related to use of Taxiway November
 - Massport has existing systems to monitor airport operations and their impacts, including PASSUR, noise monitoring, and air quality monitoring. Data from these systems are accessible to the community.
 - No problems with compliance have been identified
 - Potential benefits of requiring the good neighbor policy at all times is addressed later in the evaluation of Action 2
- Action 11: Establish a telephone complaint line for citizens to report violations of regulations, orders and other commitments related to use of Taxiway November
 - Massport has existing capabilities to receive complaints, questions and concerns at 617-561-3333
 - FAA reviews Massport's written reports of complaints received on telephone hotline.

Candidate Actions Initial Evaluation

- Action 12: Provide an air quality monitoring site for taxi operations at the north end of the airport.
 - Massport maintains an extensive network of 27 air quality monitoring sites both on airport and in surrounding communities
 - North end of airport : ends of Runways 22L/22R, East Boston and Winthrop
 - Positioned strategically to monitor air quality impacts, including taxi operations at north end of airport
 - No recorded violations of the ambient air quality standards
- Action 13: Institute regulations or incentives to encourage shift to more "neighborhood-friendly" aircraft.
 - Massport or FAA cannot prohibit use of aircraft that meet current State and Federal regulations.
 - Massport is actively working with airlines to encourage use of quieter Stage 3 aircraft.


Candidate Actions Initial Evaluation

- Action 14: Encourage development of more environmentally friendly aircraft engines.
 - The Federal government (FAA and U.S. EPA) and international agencies (ICAO) are actively pursuing and mandating quieter and lower emission aircraft engines.
 - Occurring on a global level, resulting from national and international agreements, involving engine manufacturers, NASA and many other stakeholders
 - Massport has and will continue to support these efforts
- Action 15: Increase the use of other airports in the region to reduce traffic at Logan.
 - FAA is currently funding a New England regional system plan to support and strengthen the roles and development of major New England commercial airports.
 - Massport has committed to promoting increased utilization of other regional airports to relieve traffic at Logan, as stated in the Section 61 Findings published in the Logan Airside Improvements Project FEIS.



Candidate Actions Initial Evaluation

- Action 16: Close Taxiway November if/when the Centerfield Taxiway is built.
 - The purpose of constructing the Centerfield Taxiway is to improve safety and the efficiency of operations by adding additional flexibility for taxiing aircraft in the north end of the airport.
 - By closing Taxiway November, the existing constraints and queues would be transferred to the Centerfield taxiway, and safety and efficiency benefits would be lost.



Action 2 Evaluation

- Action 2: Revise the existing Noise Abatement Order to limit the number of queued aircraft on Taxiway November at all times, rather than "when possible," as the current order states.
 - No more than five jet aircraft would be permitted to queue north of Runway 15L.
 - The order would be revised to be more definitive and enforceable
- The operational details and environmental effects of these revisions are discussed below
 - Operations Analysis
 - Noise Analysis
 - Air Quality Analysis

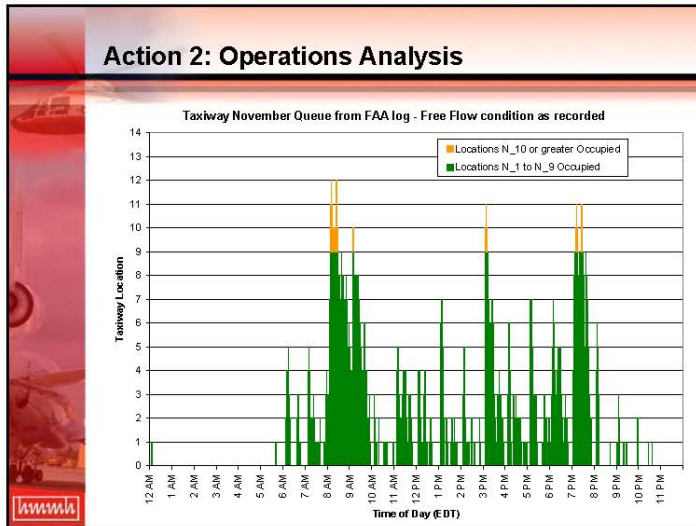
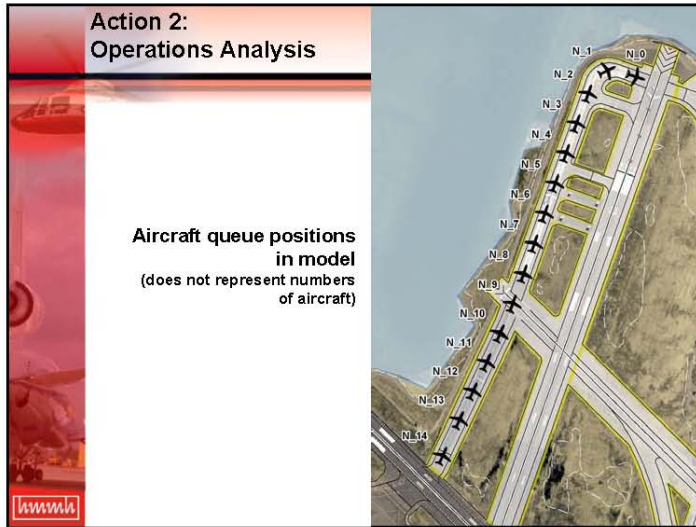
Action 2: Revise existing Noise Abatement Order

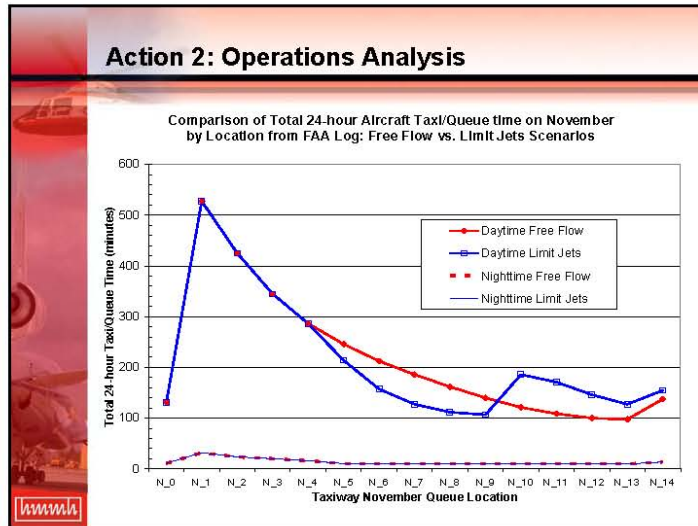
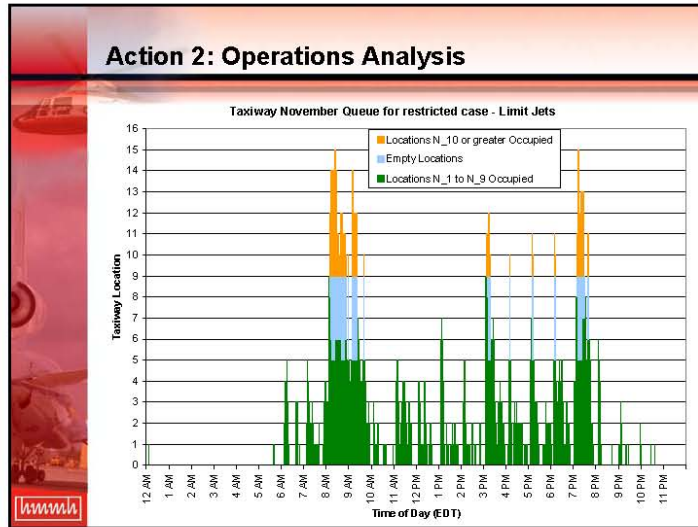
■ Operations Analysis

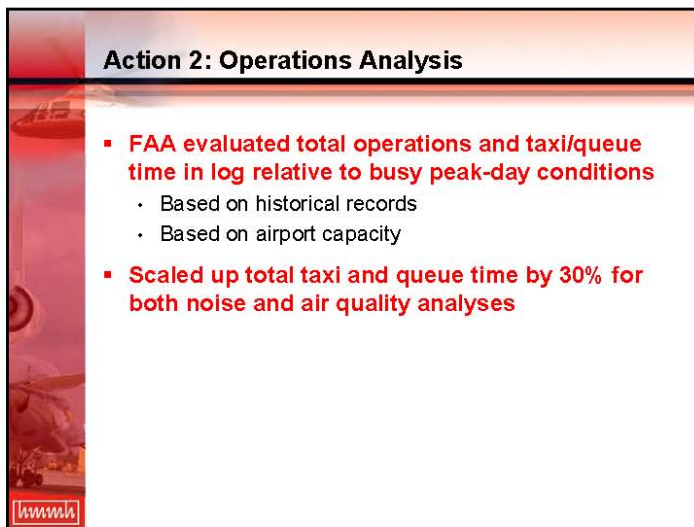
- To assess the effects of queue lengths, two scenarios were evaluated for queuing on Taxiway November to bracket the potential impacts:
 - Unrestricted free-flow queuing and departures
 - Mandatory limit of no more than five jets queued north of Runway 15L (turboprop aircraft would not be restricted)

Action 2: Operations Analysis

- FAA log of all operations on Taxiway November during 24-hour period in 2003 when Runways 22R and 22L in continuous use for departures
- Log of each aircraft included:
 - Aircraft type
 - Time of arrival at queue
 - Number of aircraft in queue
 - Time of departure
- Log used to model the duration each aircraft spends taxiing and holding on Taxiway November under the two scenarios

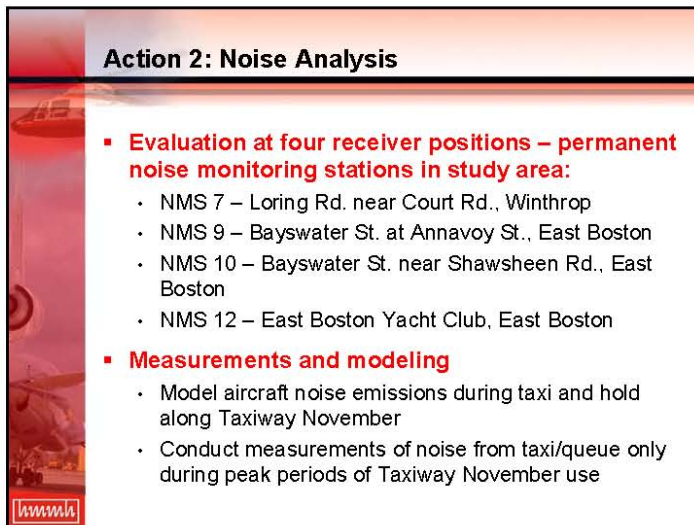






Action 2: Operations Analysis

- **FAA evaluated total operations and taxi/queue time in log relative to busy peak-day conditions**
 - Based on historical records
 - Based on airport capacity
- **Scaled up total taxi and queue time by 30% for both noise and air quality analyses**

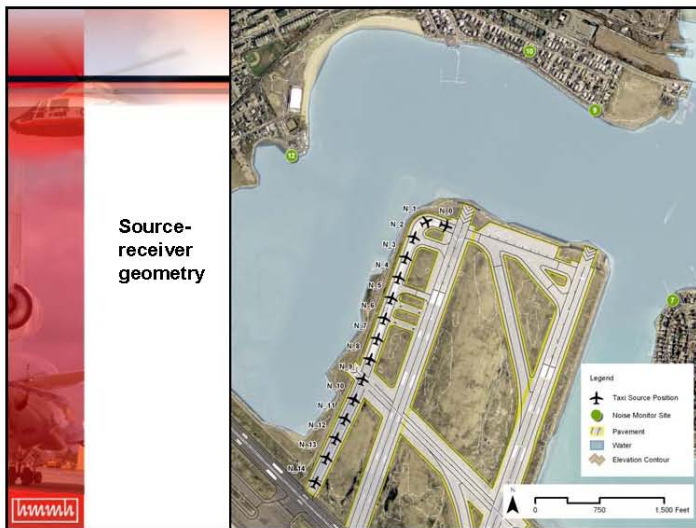


Action 2: Noise Analysis

- **Evaluation at four receiver positions – permanent noise monitoring stations in study area:**
 - NMS 7 – Loring Rd. near Court Rd., Winthrop
 - NMS 9 – Bayswater St. at Annavoy St., East Boston
 - NMS 10 – Bayswater St. near Shawsheen Rd., East Boston
 - NMS 12 – East Boston Yacht Club, East Boston
- **Measurements and modeling**
 - Model aircraft noise emissions during taxi and hold along Taxiway November
 - Conduct measurements of noise from taxi/queue only during peak periods of Taxiway November use

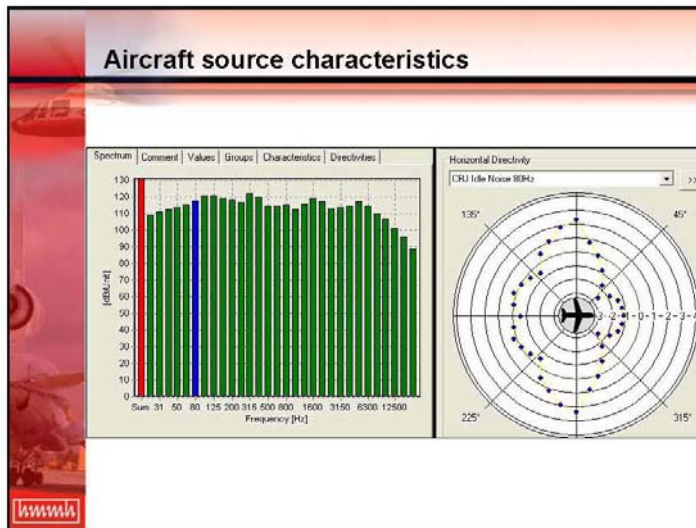
Action 2: Noise Analysis

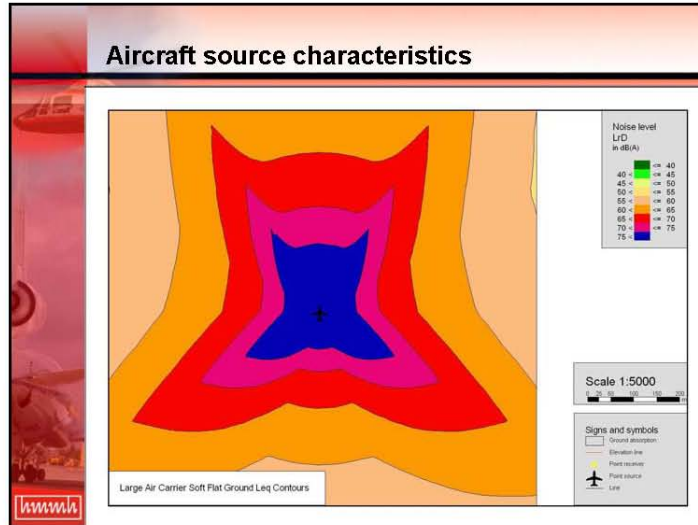
- **Noise modeling**
 - SoundPLAN – best for ground operations noise modeling
 - Aircraft source characteristics
 - Terrain features
 - Ground effects
 - Shielding and reflections
 - Atmospheric effects
 - Source-receiver geometry



Action 2: Noise Analysis

- **Taxi/idle aircraft noise emissions – grouped into five categories:**
 - Jumbo Air Carrier – Boeing 747
 - Heavy Air Carrier – Boeing 767
 - Large Air Carrier – Boeing 737-300
 - Regional and Corporate Jets – Canadair Regional Jet
 - Propeller Aircraft – Beech 1900





Taxi Operations

- **Total taxi/queue time by aircraft type by location on Taxiway November**

Free Flow Condition – Equivalent Taxi and Hold Minutes by Location and Aircraft Group

Group	Equivalent Minutes (day*10*night)														All Locations	
	N_0	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_10	N_11	N_12	N_13		N_14
Jumbo	7	18	12	12	15	14	12	12	11	10	9	8	8	8	11	188
Heavy	17	74	51	26	21	18	17	15	15	15	13	13	13	13	19	340
Large	133	498	445	375	298	208	172	159	143	131	121	115	107	105	148	3155
RJCJ	96	320	200	171	149	133	127	116	108	96	88	81	79	78	110	1952
Prop	54	186	148	124	93	82	72	63	57	54	49	47	46	46	65	1189
All Groups	307	1097	856	708	576	454	400	365	334	306	281	265	254	250	353	6905

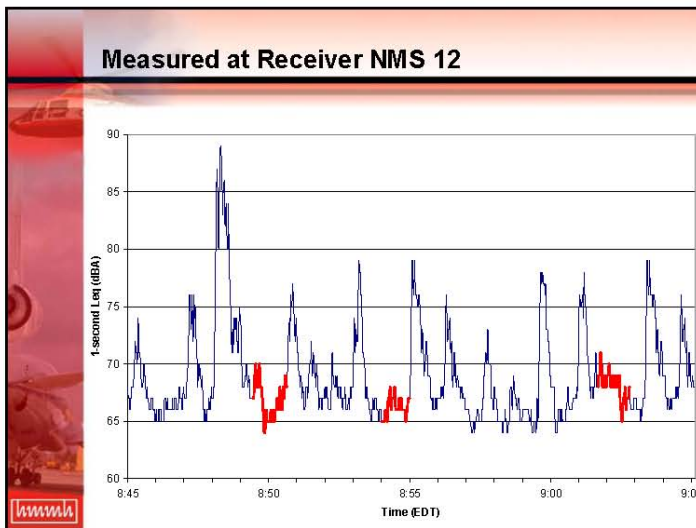
Taxi Operations

- **Total taxi/queue time by alternative**

Period	Total Taxi/Queue Time (minutes)	
	Free Flow	Limit Jets
Day	4,191	4,180
Night	261	261
Day plus night	4,452	4,441
Equivalent	6,805	6,794

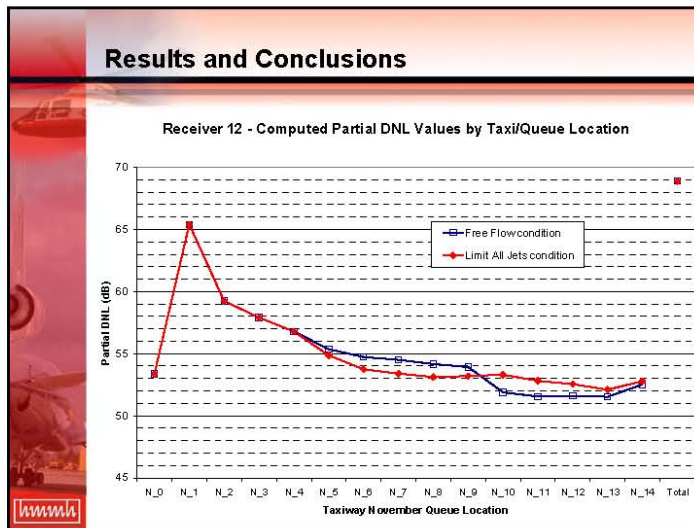
Noise model validation

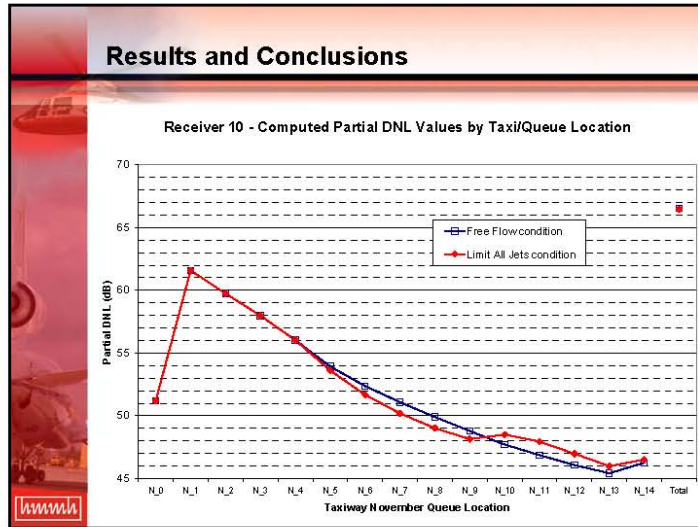
- **Comparison with measurements**
 - Receiver at NMS 12 – East Boston Yacht Club
 - Receiver at NMS 10 – Bayswater St. at Shawsheen Rd.



Comparison of measured and computed

Wind Conditions	Date	Time EDT	Noise Monitor	Measured Leq (dBA)	Computed Leq (dBA)	Computed minus Measured (dB)
direct upwind	23 Jun 04	8:38	12	60	70	10
direct upwind	23 Jun 04	9:22	12	63	73	10
upwind	30 Jun 04	8:44	12	66	73	7
upwind	30 Jun 04	8:54	12	64	71	7
upwind	30 Jun 04	9:03	12	63	71	8
crosswind	25 Jun 04	8:54	12	66	70	4
crosswind	25 Jun 04	9:02	12	68	74	6
slight downwind	30 Jun 04	8:44	10	71	71	0
slight downwind	30 Jun 04	8:54	10	66	69	3
slight downwind	30 Jun 04	9:03	10	69	70	1





Results and Conclusions

DNL Results from Taxi Noise Model

Receiver	Free Flow DNL (dBA)	Limit Jets	
		Total DNL (dBA)	Change from Free Flow
NMS 7	62.4	62.4	0.0
NMS 9	67.1	67.0	-0.1
NMS 10	66.5	66.5	0.0
NMS 12	68.9	68.9	0.0

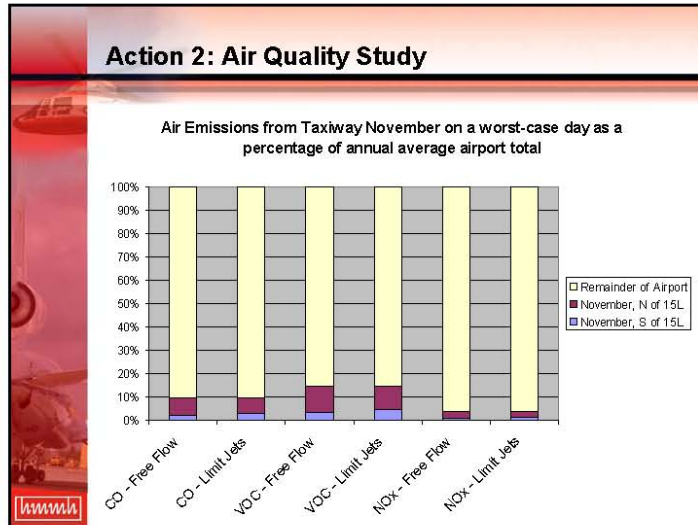
Action 2: Air Quality Study

- **Standard approach for airport air quality assessment**
- **Emissions inventory conducted as first step to determine need for additional dispersion modeling**
- **Examined total air emissions from two scenarios, in context of total airport air emissions.**
 - Carbon monoxide (CO)
 - Nitrogen oxides (NOx)
 - Volatile organic compounds (VOC)
 - Sulfur oxides (SOx)
- **Aircraft emissions data from FAA Emissions Dispersion & Modeling System (EDMS) v. 4.2**
- **Same taxi/queue times and locations as noise study**

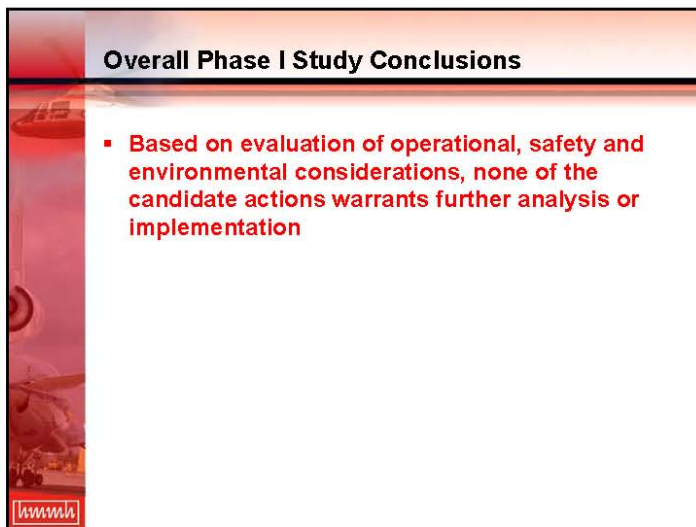
Action 2: Air Quality Study

- **Emissions inventory in terms of tons per year by pollutant is the same for both the Free Flow and Limit Jets scenarios, since the total taxi/hold time is the same**

Alternative	CO	VOC	NOx	SOx
Free Flow	375	67	55	12
Limit Jets	375	67	55	12

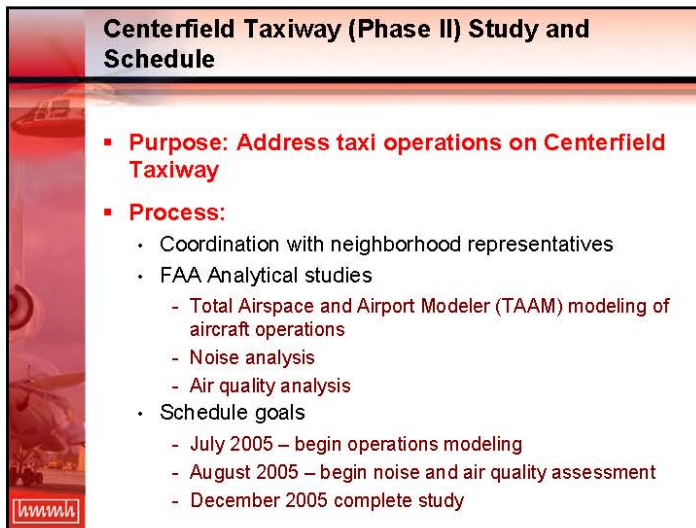


- ### Action 2: Air Quality Study
- **Conclusions**
- No difference (or benefit) from Limit Jets alternative with respect to total emissions generated on Taxiway November
 - Emissions on Taxiway November are a small percentage of the overall total at the airport
 - Local air quality in East Boston and Winthrop will not likely experience any measurable benefits from the Limit Jets alternative
 - Increased distance of queued aircraft in Limit Jets alternative is not great enough to cause noticeable differences in air quality



Overall Phase I Study Conclusions

- **Based on evaluation of operational, safety and environmental considerations, none of the candidate actions warrants further analysis or implementation**



Centerfield Taxiway (Phase II) Study and Schedule

- **Purpose: Address taxi operations on Centerfield Taxiway**
- **Process:**
 - Coordination with neighborhood representatives
 - FAA Analytical studies
 - Total Airspace and Airport Modeler (TAAM) modeling of aircraft operations
 - Noise analysis
 - Air quality analysis
 - Schedule goals
 - July 2005 – begin operations modeling
 - August 2005 – begin noise and air quality assessment
 - December 2005 complete study



U.S. Department
of Transportation
**Federal Aviation
Administration**

New England Region

12 New England Executive Park
Burlington, MA 01803-5299

July 5, 2005

Mr. Harvey Maibor
33 Court Road
Winthrop, MA 02152

Dear Mr. Maibor:

Enclosed are the draft minutes of the Taxiway Study Meeting held on May 27 at the Logan Office Center. Please advise if you have any edits or comments.

The minutes reflect not only the discussion that occurred in the meeting room, but also follow up answers from the air quality experts who were not in attendance.

Mike Kenney of KB Environmental Sciences will be attending our next meeting, which will be scheduled with you later in the summer.

Please feel free to contact me via email, anytime, at gail.lattrell@faa.gov or by phone at 1-781-238-7615.

Thank you for your continued help in this important effort.

Sincerely,

Gail Lattrell
Community Planner

File:
WP: Damicotaxiwaystartup.doc
ANE-610:G.Lattrell:KVC:781-238-7615:07/05/2005



U.S. Department
of Transportation
**Federal Aviation
Administration**

New England Region

12 New England Executive Park
Burlington, Massachusetts 01803

Notes from May 27, 2005 Taxiway Study Meeting

The meeting started a little after 9:30 am. Gail Lattrell (FAA) introduced the team, and Gary Hufnagle (FAA) presented the discussion of Action items 1 thru 16.

Action 7: Build Berms at the North End of the Airport: Community members requested reports on studies of berms and shielding. Gail said FAA didn't have them, it was Massport effort.

Action 8: Tow Aircraft to the Departure End of 22R: Second bullet about increased emissions from engine start on taxiway was questioned. Chris Menge (HMMH) agreed to check with Mike Kenney (KB Environmental Sciences-Air Quality).

Mike Kenney provided the following: The merits of towing aircraft to the ends of runways as a means of reducing ground-based airport operational emissions has been deliberated for several years within the airport and environmental communities. While the concept appears to be a potential air quality mitigation measure, it has some hidden drawbacks that could inadvertently increase aircraft emissions and/or accidentally compromise the safety of the aircraft. Some of these important considerations are briefly discussed below:

Prior to take off, the pilots go through a mandatory and extensive check-list to ensure the aircraft is airworthy. An important part of this process requires the engines to be running so their performance and safety features can be verified. This pre-flight procedure is usually conducted at the terminal gate as the cargo and passengers are being loaded onto the aircraft. Towing the aircraft to the end of Runway 22R would require that this process is conducted closer to nearby communities (instead of the terminal area) and possibly delay some aircraft from taking off.

Similar to other internal combustion engines, aircraft engines go through a "warming up" process as the inner workings of the engine become operative and the dynamics of the combustion process reach optimum temperature and pressure. Until the engines reach this condition, the performance is less than ideal and excess emissions are generated. Again, towing the aircraft to the end of Runway 22R would require that this warming-up process be conducted closer to nearby communities (instead of in the terminal area) where these excess emissions would be released.

Most aircraft are designed to be towed with tugs and tractors and it is done on an "as needed" basis to maneuver the aircraft into or out of the terminal gate or to transport the aircraft from maintenance facilities or overnight parking areas. However, in many cases the aircraft landing gear are not designed to be towed over long distances or on a regular basis. Towing

the aircraft to the end of Runway 22R could put additional stress on these aircraft and inadvertently compromise the structural integrity of the aircraft.

As a means of saving fuel, some pilots now elect to taxi the aircraft using one engine while maneuvering to the runway end. This measure also helps to reduce air emissions and is practiced at Logan by some airlines.

Based on the above, it is unlikely that the proposal of towing aircraft to the end of Runway 22R as a means of reducing emissions on the north end of the airport will be very effective; and it may even be counter-productive. By comparison, the practice of single-engine taxiing combined with the efficient movement of aircraft and adequate capacity on the taxiway system will serve to reduce emissions more effectively.

Action 9: Ensure Compliance with Regulations, Orders, and other Commitments Related to the Use of Taxiway November: Gary was asked if separations were included in the evaluation of FAA compliance. He said that they were. Gail offered that FAA has the design standards for separations, including runway-to-runway and taxiway-to-taxiway.

Action 10: Create an Information System to Monitor Compliance with Regulations Orders and other Commitments Related to the use of Taxiway November: A community member argued that there was too much air traffic with too much noise and air pollution. Another asked for background on PASSUR. Gary stated it was a Massport system, and interactive on the Internet.

Art Flavin from Winthrop stated that a \$500,000 study was being funded by the city to look at air quality and respiratory illnesses. He knows the "2.5 micron" is an issue. A recent study showed increased heart attacks. Health is being affected by pollution generated at Logan. Studies have shown that people who live near the airport have greater respiratory illnesses than people removed from the airport.

Mike Kenney adds the following in response to Art's comment: The relationship between air quality and respiratory illnesses is a topic of increasing interest in both the medical and scientific arenas. The U.S. EPA has recently published reports that indicate that elevated concentrations of "fine" particulate matter (i.e. PM2.5) can have a detrimental impact on a human's ability to transpire oxygen and thereby place additional stress on the heart. However, in most cases the "cause-and-effect" between ambient (outdoor) air quality and health can be very complex and is not fully understood. This is because 1) the exposures of the subject populations are not consistent and often influenced by a host of variables, both environmental and man-made; 2) the effects of air pollution often take many years to manifest themselves; and 3) the disciplines involved in attributing the effects of one (or more) pollutant to a medical condition are still under development.

People who live near airports (including Logan) are potentially exposed to air pollutants from numerous and varied sources (e.g. aircraft, motor vehicles, marine vessels, industrial and power facilities, residential heaters and open burning), some of which may be located many miles away. This, combined with the epidemiological issues mentioned above make it very difficult to determine what effect, if any, airport emissions have on human health and welfare.

Studies that suggest that human health is being affected by pollution generated at Logan or that people that live near an airport have greater incidents of respiratory illnesses than people removed from the airport have been conducted. However, it has been suggested by some reviewers that these studies have potentially significant limitations based on the small size of the population examined and the method(s) used to obtain the data. (The Massachusetts DEP stated that the study conducted near Logan a few years ago could be characterized in this way.)

The following status report on Logan Airport Health Study has been provided by the Massachusetts Department of Public Health/Center for Environmental Health (MDPH/CEH):

Status Report on the Logan Airport Health Study

May 12, 2005

Background: The Logan Airport Health Study is being conducted by the Massachusetts Department of Public Health/Center for Environmental Health (MDPH/CEH) (formerly Bureau of Environmental Health Assessment). The goal of the study is to assess the prevalence of certain health outcomes in residents of these selected communities, with an effort to determine the possible relationship between opportunities for environmental exposure to activities at Logan Airport, and the health outcomes of interest, which include respiratory, cardiovascular, and auditory endpoints. The Logan study was initially requested in the Acts of 1999. In 2000, the MDPH/CEH hired a full-time project coordinator, conducted in-depth literature searches for information pertaining to the exposures and outcomes of interest, contracted an independent research firm to develop and pilot test the telephone questionnaire, and ultimately to conduct the interviews for this study. The MDPH/CEH also established a community advisory group that provided input to project staff. In 2003, funding was eliminated in the state budget, hence project staff were laid off and the project was suspended.

Current Status: The Acts of 2004 provided funds to move forward and continue the project. The funding to continue the study allowed the MDPH/CEH to hire a project coordinator, Margaret Round, in November 2004. Margaret brings 18 years of experience in working on environmental regulatory and health issues. Most recently, she was the senior air toxics coordinator for a regional consortium of air quality agencies. Since November, Margaret has been updating and finalizing the study protocol, and reviewing more recent scientific literature regarding the health effects of airport-related activities. She has also re-established the contract with the survey research firm that previously developed and successfully pilot tested the telephone questionnaire. This questionnaire will ultimately be administered to approximately 6000 residents living in the 16 community study area. The survey research firm will begin interviews in May 2005 with the goal of completing the interviews by the end of December 2005. The MDPH/CEH is also reconvening the community advisory group and plan to meet with them in June 2005. Following completion of the interviews, MDPH/CEH will perform statistical analyses on the data and the results will be interpreted and described in a draft report. The draft report will then be reviewed internally, revised, and submitted for peer review. Comments from peer review will then be addressed, revisions made, and a final report is expected during the summer of 2006.

Contacts: Elaine Krueger, Director of the Environmental Toxicology Program, or Margaret Round, Project Director, 617-624-5757.

Fran Rowan from East Boston stated that someone has the responsibility for getting back to her on health issues – is it FAA or Massport? She stated that she had made a specific request. She wants to know what's in the air. She mentioned a 1972 government report that

had a complete pollution inventory and wondered why current reports do not have the same level of detail.

Mike Kenney later offered that as part of Massport's mandatory environmental assessment and reporting process under the Massachusetts Environmental Policy Act (MEPA), Massport prepares a detailed emissions inventory of all airport-related emissions at Logan. An *Environmental Data Report* (EDR) is prepared and published annually, and incorporates aircraft, ground service equipment (GSE), fuel storage and transfer facilities, the central power plant and other stationary sources as well as airport-related motor vehicles traveling both on and off the airport site.

Harvey Maibor said that the certificate issued by Secretary Durand stated that Massport must work with the Department of Public Health to create a database of pollutants. But – a database is not useful unless it is interpreted.

And a response from Mike Kenney: A review of the Certificate does not reveal the subject of a database of pollutants nor the work with the Department of Health. Rather, the Certificate calls for the assessment of NO_x reduction measures and an updated report on the GSE fleet conversion at Massport; both of which have been completed.

Action 12 Provide an Air Quality Monitoring Site for Taxiway Operations at the North End of the Airport: A fair amount of discussion took place about the adequacy of Massport's air quality monitoring system, after Chris Menge discussed its implementation, frequency of use and accuracy. Community members stated that all pollutants should be monitored, not simply NO₂. Menge stated that NO₂ is a more sensitive indicator of airport activity than the other pollutants. Art Flavin suggested that it is the particulates and odors that are particularly bothersome. Several comments suggested that continuous monitoring was needed, not occasional sampling. Others argued that peak periods needed to be monitored and reported. A community member stated that a complete database with all measurement results plus the winds, air temperature, runways in use, and humidity for each measurement would be better than publishing a single average. Menge stated that the health standards were in terms of the long-term averages that were measured by the monitors, not based on peak exposure. Community members argued that it is the peak periods – occasionally for days at a time, that deteriorate quality of life by making people gag and coating outdoor objects.

Mike Kenney also added here: The ongoing Massport NO₂ monitoring program in the vicinity of Logan provides one of the most comprehensive and extensive historical records of air quality conditions in the vicinity of a commercial airport. Combined with the DEP continuously running monitoring station formerly located on Bremen Street in East Boston (the station was closed last year due to construction activities), there is a broad database of air quality and meteorological measurements taken near the airport. With the exception of the pollutant ozone (O₃), these data reveal that the air quality in this area meets the National Ambient Air Quality Standards established by the U.S. EPA and adopted by the DEP. (O₃ is a regional pollutant and elevated levels occur throughout the Boston metropolitan area and not just in the vicinity of Logan.)

Studies of atmospheric fallout and particulate matter have been conducted in the vicinities of Logan and other U.S. airports. Thus far, these studies indicate that most of the material

originates from wind-blown dust, and that the small portion that is fuel-related is undifferentiated among aircraft, motor vehicles or power facilities.

Action 14: Encourage Development of More Environmentally Friendly Aircraft Engines:

Community members asked what future aircraft engine designs will be doing about air emissions and if Stage 4 had any air quality requirements. One suggested that current Stage 3 engines are more polluting than the older types. Menge said that he would consult with Mike Kenney for answers to these questions. Art Flavin wanted the air quality study to address particulate material, the "bubble effect" and the "near-field effect." He pointed out that during 3-hour periods, air quality can be so bad as to make neighbors gag.

Mike Kenney added later: Under the federal Clean Air Act (CAA), aircraft engine emissions are regulated by the U.S. EPA. These standards are getting progressively more stringent and have already resulted in significant reductions in aircraft engines emissions. The newer Stage 4 aircraft emit less than the Stage 3 and older aircraft. It is also expected that the future commercial aircraft fleet will be even more environmentally friendly as FAA, NASA and the aviation industry research develops further improvements to the fuel combustion process.

As stated above, studies of atmospheric fallout and particulate matter have been conducted in the vicinities of Logan and other U.S. airports. These studies indicate that most of the material originates from wind-blown dust, and that the small portion that is fuel-related is undifferentiated among aircraft, motor vehicles or power facilities.

The "bubble" effect, or concept, of managing air emissions associated with airports was originally conceived in California over 15 years ago. In brief, the approach to this concept involves the treatment of all the emission sources at the airport as one entity operating (or encompassed) under a bubble. Notably, the *Air Quality Initiative* (AQI) developed by Massport for Logan functions very much like the bubble concept in that all of the NOx emissions from all airport sources are accounted for and managed. The objective of the AQI is to retain emissions levels of this pollutant to within 1990 levels at the airport. The progress of this management program is report on in the annual EDR.

From time to time, wind and other atmospheric conditions may cause airport-related odor-causing emissions to disperse over populated areas. These episodes are usually of short-term durations, occur on irregular basis, and the effects of which likely vary depending on the location. Moreover, there are no air quality standards for these types of emissions, nor are there monitoring data that specifically characterize such occurrences in the vicinity of Logan or any other airport. The FAA, US EPA and other agencies are undertaking a collaborative and comprehensive monitoring study at Los Angeles International Airport that may help to better define and delineate these and other air quality issues adjacent to an airport. The initial results of this study are expected to available in about one year.

Gail responded to a question about Part 161 by saying that it was not appropriate in this situation because this study only considers part of the airport, not a limit on operations at the whole airport.

Harvey Maibor of Winthrop stated that it is the peak periods that hurt them. He said the nighttime also hurts them, and that averaging dilutes the impacts. He said that people in

Winthrop get sick from spending too much time on their boats, and they now have to leave the area as soon as they get in their boats.

Fran Rowan expressed a general dissatisfaction with the process in this study. She stated that the community representatives were not experts. The 16 ideas that were evaluated in this study were suggestions meant to get at the symptoms of the problem. She had hoped that the experts would look at the problem and find solutions, not spend all their effort shooting down the community members' ideas.

Ron Hardaway asked if we could name one concession that has been made toward the community. (There was no response.)

Art Flavin suggested that if the Centerfield Taxiway is built, and the agencies stonewall all of the quality-of-life issues, then "we're not getting anywhere."

Fran Rowan suggested that given Mike Kenney's expertise and experience with other airports, he could share what other airports have done to improve air quality as a component of the report.

Mike Kenney commented: A partial listing and discussion of air quality mitigation measures at airports located both in the U.S. and abroad is contained in a new book entitled *Airport Air Quality: Approaches, Basics and Challenges* published by the University of California at Berkeley (see www.techtransfer.berkeley.edu). Mike Kenney is the co-editor of this book and is available to discuss these measures (as well as others not listed and discussed) based upon his experience at Logan and other airports located across the county and elsewhere. As a preview, it may be instructive to note that many of the airport air quality measures address the reduction of excess emissions from delayed aircraft and motor vehicles operating on airfield and roadway facilities that have reached (or exceeded) their capacities. Other common measures are aimed at reducing emissions by replacing GSE and other fleet vehicles with "low" or "no" emitting equipment.

Gary Hufnagle pointed out that the tower for years and years has been using Noise Abatement Procedures, and tower personnel have taken it very seriously.

Chris Menge gave a presentation of the results of the noise and air quality studies.

Community members requested a synopsis of the meeting within 30 days, and Gail agreed.

Gail also suggested that Mike Kenney should come to the next meeting to address air quality issues. She said the next meeting would be scheduled for August, most likely. Mike Kenney has agreed to attend.

Gail stated that the final report upon which the presentation was based would be issued sometime during the summer.

The meeting adjourned at approximately 12:30 pm.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TRANSPORTATION
REGULATORY AND COMMERCE COMMITTEE
RANKING MEMBER
SUBCOMMITTEE ON
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THE INTERNET
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August 24, 2005

Administrator Amy L. Corbett
Regional Administrator
Federal Aviation Administration
12 New England Executive Park
Burlington, Massachusetts 01803-5202

Dear Administrator Corbett:

I am writing on behalf of the residents in the Town of Winthrop, which I represent. The community has recently raised concerns over its role in Phases I and II of the FAA's ongoing taxiway evaluation study at Boston's Logan International Airport. I am requesting clarification and further explanation of the Town's function in the process and the FAA's responsibility to ensure the community's concerns are adequately addressed.

It is my understanding that as part of the FAA's August 2002 Record of Decision (ROD) on Logan's Airside Improvements Planning Project, the FAA agreed to approve the construction of the Centerfield Taxiway subject to additional evaluation of taxiway operations north of Runway 15R-33L. This evaluation would be conducted in two phases. Phase I, which is approaching completion, would address operations on Taxiway November and Phase II would address operations on the Centerfield Taxiway. The ROD states that "Phase I 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." The ROD further states that the FAA, as part of Phase I, must "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."

Last month, two of Winthrop's three Taxiway Committee members met with the Winthrop Board of Selectmen to provide an update on Phase I. With the first phase all but complete, the community representatives indicated that they had made some sixteen recommendations for mitigating existing negative impacts resulting from Taxiway November. However, they were disappointed to learn that none of their suggestions had been forwarded to the Massachusetts Port Authority (Massport). The members went on to point out that the FAA has made no recommendations to improve the existing situation.

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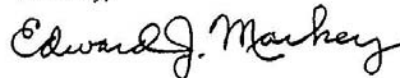
To better understand the role the communities of Winthrop and East Boston have in the taxiway evaluation study, I respectfully ask that you provide me with answers to the following questions relating to the process:

- 1.) What is the nature of the relationship between Massport and the FAA with regard to the taxiway evaluation effort? Specifically, is Massport required to implement any recommendations resulting from the evaluation? If not, what is the significance of community input?
- 2.) Has the FAA made any recommendations to mitigate existing impacts on surrounding communities resulting from operations on Taxiway November?
- 3.) Is it true that the FAA objected to all Phase I mitigation proposals submitted by the community representatives? If so, what are the reasons for not following through on their recommendations?
- 4.) What role will impacted communities have in Phase II of the evaluation?

I hope you agree that ensuring a high quality of life for residents in neighborhoods impacted by Logan Airport is a top priority and that suggestions raised by these communities must be fully explored and given complete consideration as the FAA moves forward with Phase II.

Thank you in advance for your prompt attention to this matter, I look forward to your response. Should you have any questions or require additional information, please do not hesitate to contact Patrick Lally of my Medford District Office at (781) 396-2900.

Sincerely,



Edward J. Markey

EJM/pjl



U.S. Department
of Transportation
Federal Aviation
Administration

New England Region

12 New England Executive Park
Burlington, MA 01803-5299

The Honorable Edward Markey
House of Representatives
Washington, DC 20515-2107

Dear Representative Markey:

Thank you for your letter of August 24, 2005, concerning the Centerfield Taxiway Evaluation for Logan International Airport.

In October 2002, the Federal Aviation Administration (FAA) began to deliver on commitments regarding the taxiway evaluation articulated on page 25 of the August 2002 Record of Decision (ROD) for the Airside Improvement Program at Logan. To ensure a clear understanding of neighborhood concerns, we invited three Winthrop and three East Boston community members chosen by Winthrop's Selectwoman Mary Turner and Boston's Mayor Thomas Menino, respectively, to participate in this study.

The first meeting of the taxiway evaluation group included both FAA and the six citizen members. These community members were asked to share their concerns regarding aircraft taxi operations in the north end of the airport, north of Runway 15R/33L. The scope of work identified potential candidate actions solicited from the citizen members to address their concerns. The scope also afforded FAA an opportunity to identify candidate actions, other than those suggested by the communities, that FAA thought may be promising to mitigate the issues raised by the citizens. A subsequent meeting with the citizen members was held in April 2003, after a qualitative analysis was accomplished by an FAA Evaluation Team. FAA identified the need to obtain consultant expertise in both air quality and noise to provide the best possible analysis of some of the candidate actions. FAA issued a press release to the larger airport community to advise that the study was proceeding.

After retaining the subject matter experts and sharing the candidate actions, the group met again in May 2005. The community members offered 16 proposals. Each proposal was evaluated and analyzed from an operational, environmental, and safety standpoint. At the conclusion of the analysis, the FAA and the consultants agreed that there were, unfortunately, no recommendations identified that would address and mitigate the concerns of the airport's northern neighbors. Some of the proposals were not possible due to violations of airport design standards, others were impractical from an aircraft operations standpoint, and others caused unacceptable discrimination of aeronautical activity.

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In addition, members of the FAA Evaluation Team met both in January 2003 with the air traffic consultant and subsequently with the environmental consultant group to discuss possible ideas to mitigate the concerns and were unable to identify workable solutions.

You question whether Massport would be required to implement any recommendations, and while the answer is technically no, had there been promising recommendations, I would expect Massport to support that effort and see no reason why they would not.

The citizens will again be asked to meet with FAA in early fall. We will be sharing the scope of work for the second phase of the study as well as the schedule. Both the noise and air quality consultants will be present to answer any questions raised by the citizen members. In Phase 2, the FAA will be considering alternatives that include operational or management techniques to minimize impacts of the use of a centerfield taxiway.

Based on the consultant's schedule, we anticipate the study will be complete by the end of the year. We have asked the consultant to prepare the evaluation report in one document that includes the analysis and research conducted by the group. There will be a final meeting with the community representatives after the first of the year to share the document in its entirety and to conclude the project.

Our commitment is unwavering to both the requirements of the FAA ROD of 2002 and to exploring the options and possibilities available to us to help Logan Airport to become a better neighbor. We will provide your office with copies of the Taxiway Evaluation document upon completion. If you need further information, please contact Barbara Travers-Wright at 1-781-238-7025.

Sincerely,

Amy L. Corbett
Regional Administrator

cc:
ANE-1, AOA-3, AGI-1, ANE-3C, ANE-500,
ANE-7, ETSU
District Office, Medford, MA

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MEMORANDUM

To: Centerfield Taxiway Study Team Members
From: Christopher Menge
Subject: Centerfield Taxiway Study: Phase 2 scope and proposed schedule
Reference: HMMH No. 300280
Date: September 15, 2005

This memo presents the proposed scope and schedule for Phase 2 of the Centerfield Taxiway study, based on discussions in a meeting on September 12 among Gail Lattrell, Gary Hufnagle, Flavio Leo, Chris Oswald of Leigh Fisher Associates, Jorge Rodriguez of LFA and myself.

Proposed Scope of Work

1. We (our subcontractor, Leigh Fisher Associates (LFA)) will use the TAAM (Total Airspace and Airport Modeller) simulator to develop a busy summer day taxi operations model for a 24-hour period during which Runways 22R and 22L are in continuous for departures. An estimate of a future level of activity will be used in the model to be developed from an FAA-accepted forecast (e.g. the FAA TAF for Boston Logan). The base case model will reflect unrestricted use of the Centerfield and November taxiways in a manner that reflects a high degree of both safety and efficiency as expected by FAA tower personnel. Details of LFA's work tasks are attached at the end of this memorandum.
2. After a meeting with the community representatives, up to five "specific operating procedures"¹ will be developed for evaluation.
3. Noise and air quality studies will be conducted for the base case and the additional operating procedures, in a manner similar to those prepared for the Phase 1 analysis.
4. A comprehensive study report will be prepared and submitted to FAA for review and comment. The report will document the Phase 1 and 2 operational, noise and air quality analyses, and the community involvement process.
5. One meeting with the six community representatives will be held at the end of the study.

¹ As stated on page 4-13 of the Final EIS: "The second task [this Phase 2 study] would ... evaluate specific operating procedures that could mitigate community concerns regarding the impacts of the Centerfield Taxiway while preserving the operational and other environmental benefits shown in the EIS. Any such procedures or prohibitions would not limit the 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."

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MEMORANDUM

Centerfield Taxiway Study Phase 2 study scope and schedule

September 15, 2005

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Schedule

Schedule for Phase 2 Logan Centerfield Taxiway Operations and Environmental Study
Sept 15, 2005 C. Menge

TASKS	HALF-MONTH STARTING:	SEP 15	OCT 1	OCT 15	NOV 1	NOV 15	DEC 1	DEC 15	JAN 1	JAN 15	FEB 1
Operations data gathering		█									
TAAM modeling		█	█	█	█						
Noise and air quality analysis					█	█	█				
Meetings with community representatives			1st wk								1st wk
Draft study report preparation					█	█	█	█	█		
Agency review of draft report										█	
Final study report											█

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MEMORANDUM
Centerfield Taxiway Study Phase 2 study scope and schedule

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***Scope of Work and Tasks for TAAM Modeling – to be conducted by
Leigh Fisher Associates under subcontract to HMMH***

Purpose and Scope

The purpose of this analysis is to assist HMMH in understanding how implementation of the proposed full-length taxiway between Runways 4L-22R and 4R-22L (the centerfield taxiway) would change aircraft taxiing patterns, departure queuing locations, and departure queuing durations. These simulation results would then be used by HMMH in subsequent noise and air quality modeling efforts.

In the study, a baseline centerfield taxiway operational scenario will be simulated using the Total Airspace and Airport Modeller (TAAM). In addition, up to five potential operational variations will be modeled to provide operational data that can be used to assess how the variations change environmental impacts and operational efficiency associated with the taxiway. These variations will be specified after a meeting with community representatives.

The baseline centerfield taxiway operational scenario and alternative taxiway use strategies will be simulated at a projected Year 2010 activity level. All simulations will be conducted assuming good weather conditions, when the Airport's runways can be used by arrivals and departures as described in Table 1.

Task Descriptions

The following paragraphs summarize the tasks that LFA would undertake as part of this assignment.

Task 1: Define Level of Modeling Detail Needed and Collect Input Data

Task 1 will involve the following subtasks:

- Definitions of the conditions under which the secondary arrival and departure runways are used
- Specification of the aircraft types and/or routes that are typically assigned to the secondary runways
- Determination of the level of modeling detail required in the airport terminal area, including whether detailed airline gate assignments will be required
- Assessment of whether runway and taxiway operating configurations can be simplified for purposes of the simulation analysis

As part of Task 1, LFA will also collect data available from prior modeling efforts, including prior TAAM analyses of Taxiway N conducted by the MITRE

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MEMORANDUM

Centerfield Taxiway Study Phase 2 study scope and schedule

September 15, 2005

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Corporation for the FAA. The budget, schedule, and tasks described below are predicated on these prior TAAM model files being provided to LFA.

Task 2: Develop 2010 Design Day Flight Schedules

In Task 2, LFA will develop a 2010 “design day” flight schedule for use in TAAM. This flight schedule will reflect forecast information – particularly aircraft fleet mix information – recently developed by the FAA as part of the New England Regional Airport System Plan (NERASP). The TAAM flight schedule will reflect a high-activity design day in order to approximate “worst-case” noise and air quality impacts.

The 2010 flight schedule will be developed using historical airline schedule information from 2005, supplemented with information regarding non-scheduled activity (e.g., general aviation activity, air taxi, and air cargo activity), obtained from Massport’s noise monitoring system or FAA Enhanced Traffic Management System (ETMS) operations logs.

After obtaining necessary historical data, LFA will “match” arriving flights with departing flights using flight matching software that we have developed specifically for this purpose to quickly develop a matched flight schedule. After flights are matched, LFA will supplement the 2005 flight schedule with additional operations to reflect anticipated growth in operations through 2010.

LFA will confirm the characteristics of the resulting 2010 flight schedule with the FAA and Massport prior to finalizing the flight schedule. These characteristics include (1) the average annual design day activity level, (2) the average annual design day fleet, and (3) hourly peaking characteristics.

Task 3: Develop and Confirm Airfield Operating Assumptions

In Task 3, LFA will develop necessary airfield operating assumptions for use in TAAM. These assumptions, which will be developed in collaboration with FAA Air Traffic Organization and Massport representatives, include the following:

- Runway assignment strategies
- Preferred taxiway routings to and from active runways
- Departure queuing strategies
- Runway crossing strategies
- Airline gate/parking position assignments
- Inter-arrival and inter-departure separations
- Runway dependencies

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MEMORANDUM

Centerfield Taxiway Study Phase 2 study scope and schedule

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- Taxiing speeds

Task 3 will involve two coordination trips to Boston by LFA staff. The first trip, which will take place in early- to mid-September will involve meetings with FAA air traffic and ground controllers from the Boston-Logan Airport Traffic Control Tower and Massport staff to develop initial modeling assumptions. The second trip, which will take place in early to mid-October, would be to review initial TAAM models interactively with controllers and Massport staff and adjust modeling assumptions as needed.

Task 4: Conduct Baseline TAAM Simulation Experiment

LFA will perform a TAAM simulation experiment of the baseline centerfield taxiway operating configuration using the flight schedule and operating assumptions developed in Tasks 2 and 3. The baseline experiment will consider a south flow operating configuration in which Runways 27 and 22L are used by arrivals and Runways 22R and 22L are used by departures. The baseline experiment will include all of the airfield improvements proposed in the Airside Development Program Final Environmental Impact Study, including the centerfield taxiway, extension of Taxiway D, realignment of the southwest corner taxiway system, and realignment of Taxiway N, and Runway 14-32. After an initial "draft" version of the baseline experiment is developed, LFA will travel to Boston to validate the draft experiment with FAA Boston Tower controllers and Massport staff through examination of TAAM animations, simulation queuing statistics, and runway flow rates. The baseline experiment will then be refined to reflect controller comments. Initially, a single "replication" of the final TAAM baseline experiment will then be performed. Multiple replications of TAAM experiments will be conducted as the project simulation schedule and budget permit.

Task 5: Develop and Conduct TAAM Simulation Experiments of Proposed Operational Variations

In coordination with HMMH, FAA Air Traffic Organization representatives, FAA Airports Division representatives and Massport, LFA will develop up to five additional TAAM experiments assess the environmental and operational effects associated with potential operational variations in the use of the crossfield taxiway.

All of these experiments will be developed for south flow conditions at the 2010 demand level. As in Task 4, initially a single "replication" of the TAAM experiments will be performed. Multiple replications of TAAM experiments will be conducted as the project simulation schedule and budget permit.

HARRIS MILLER MILLER & HANSON INC.

MEMORANDUM

Centerfield Taxiway Study Phase 2 study scope and schedule

September 15, 2005

Page 6

Task 6: Compile Needed Operational Data from TAAM Experiments

LFA will compile operational data from the TAAM experiments for subsequent use by HMMH in noise and air quality modeling efforts. At this time, the following operational data have been assumed to be needed:

- Cumulative time spent on selected taxiway links by aircraft type
- Selected taxiway utilization statistics by aircraft type
- Runway utilization statistics by aircraft type
- Operational performance metrics for the simulated design day, including average unimpeded taxiing time, taxiing delay, and total delay incurred by arrivals and departures.

These data will be provided to HMMH in an electronic format that will be developed jointly by LFA and HMMH.

Task 7: Prepare Briefing Materials and Reports

In Task 6, LFA will document the methodology, assumptions, results, and implications of the analyses performed in Tasks 1 through 5 in a report to HMMH. Ten paper copies and an electronic copy (in Adobe Acrobat format) of the report will be produced in draft form for review by the HMMH, the FAA, and Massport. Upon receipt of comments from these stakeholders, LFA will revise the report and issue a final version. Ten paper copies and an electronic copy (in Adobe Acrobat and Microsoft Word format) of the final report will be produced.

Task 8: Participate in Coordination Meetings

LFA will participate in up to two study coordination meetings in Boston as part of the Study at times and dates to be determined by HMMH, the FAA, and Massport. These coordination meetings would be in addition to the two model development trips described in Task 3.



U.S. Department
of Transportation
**Federal Aviation
Administration**

New England Region

12 New England Executive Park
Burlington, MA 01803-5299

September 19, 2005

Mr. Arthur Flavin
42 Center Street
Winthrop, MA 02152

Dear Mr. Flavin:

Thank you for your continued involvement and local insight with the Logan International Airport Taxiway Evaluation. As promised, we would like to share our approach to Phase 2 of the Taxiway Evaluation as we consider appropriate beneficial operating procedures for a Centerfield Taxiway.

We would like to meet with you on October 6 or 7 at the Logan Air Traffic Control Tower. As requested, the air quality consultant will be available at that meeting to answer technical questions.

Please check your availability on these dates. I will be contacting you in the next few days to confirm. We will arrange parking for you in advance of the meeting. Thank you very much, in advance, for your time and involvement.

Sincerely,

Gail Lattrell
Community Planner

Gail Lattrell/ANE/FAA
09/22/2005 08:46 AM

To rhh118@comcast.net
cc
bcc
Subject Re: Tentative Taxiway Meeting 10-6 or 7

Thanks for the note, Ron, I just have to touch base with a couple more folks and I will get right back to you.....

Gail

rhh118@comcast.net



rhh118@comcast.net
09/21/2005 05:42 PM

To Gail Lattrell/ANE/FAA@FAA
cc
Subject Tentative Taxiway Meeting 10-6 or 7

Ms Lattrell:

Thank you for your letter.

I have a doctor's appointment for 10-6 at 09:30 but I can reschedule if the 6th is the better date for everyone.

However, I would prefer the 10-7 [Friday] date in the AM, to be finished by 13:00 [but no lunch].

Please advise ASAF. Tlx...Ron Hardaway

Gail Lattrell/ANE/FAA
09/23/2005 02:58 PM

To rhh118@comcast.net
cc
bcc
Subject Re: Tentative Taxiway Meeting 10-6 or 7

It is looking like we can do the 7th, Ron, I haven't spoken to everyone yet, but keep your schedule on the 6th and I will confirm the time on the 7th next week.

Thanks.....Have a nice weekend. Gail
rhh118@comcast.net



rhh118@comcast.net
09/21/2005 05:42 PM

To Gail Lattrell/ANE/FAA@FAA
cc
Subject Tentative Taxiway Meeting 10-6 or 7

Ms Lattrell:
Thank you for your letter.
I have a doctor's appointment for 10-6 at 09:30 but I can reschedule if the 6th is the better date for everyone.
However, I would prefer the 10-7 [Friday] date in the AM, to be finished by 13:00 [but no lunch].
Please advise ASAF. Tkk...Ron Hardaway



U.S. Department
of Transportation
**Federal Aviation
Administration**

New England Region

12 New England Executive
Burlington, MA 01803-5295

September 26, 2005

Mr. Arthur Flavin
42 Center Street
Winthrop, MA 02152

Dear Mr. Flavin:

Thank you for your continued involvement with the Logan International Airport Taxiway Evaluation. We would like to share our approach to Phase 2 of the Taxiway Evaluation as we consider appropriate beneficial operating procedures for a Centerfield Taxiway.

This note is to confirm our meeting on October 7, at 9:30 am on the 19th floor of the Logan Air Traffic Control Tower. Please bring license or photo identification with you on the 7th. I will wait for you in front of the tower.

We will arrange parking for you in advance of the meeting, please call me to provide me with your license plate number. Thank you very much, in advance, for your time and involvement.

Sincerely,

ORIGINAL SIGNED BY:

Gail Lattrell
Community Planner

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U.S. Department
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**Federal Aviation
Administration**

New England Region

12 New England Executive
Burlington, MA 01803-5296

September 26, 2005

Mr. Ron Hardaway
118 Bayswater Street
East Boston, MA 02128

Dear Mr. Hardaway:

Thank you for your continued involvement with the Logan International Airport Taxiway Evaluation. We would like to share our approach to Phase 2 of the Taxiway Evaluation as we consider appropriate beneficial operating procedures for a Centerfield Taxiway.

This note is to confirm our meeting on October 7, at 9:30 am on the 19th floor of the Logan Air Traffic Control Tower. Please bring license or photo identification with you on the 7th. I will wait for you in front of the tower.

We will arrange parking for you in advance of the meeting, please call me to provide me with your license plate number. Thank you very much, in advance, for your time and involvement.

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New England Region

12 New England Executive
Burlington, MA 01803-5295

September 26, 2005

Mr. Ed Patten
6 Bartlett Parkway
Winthrop, MA 02152

Dear Mr. Patten:

Thank you for your continued involvement with the Logan International Airport Taxiway Evaluation. We would like to share our approach to Phase 2 of the Taxiway Evaluation as we consider appropriate beneficial operating procedures for a Centerfield Taxiway.

This note is to confirm our meeting on October 7, at 9:30 am on the 19th floor of the Logan Air Traffic Control Tower. Please bring license or photo identification with you on the 7th. I will wait for you in front of the tower.

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Sincerely,

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U.S. Department
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**Federal Aviation
Administration**

New England Region

12 New England Executive
Burlington, MA 01803-5295

September 26, 2005

Mr. Harvey Maibor
33 Court Road
Winthrop, MA 02152

Dear Mr. Maibor:

Thank you for your continued involvement with the Logan International Airport Taxiway Evaluation. We would like to share our approach to Phase 2 of the Taxiway Evaluation as we consider appropriate beneficial operating procedures for a Centerfield Taxiway.

This note is to confirm our meeting on October 7, at 9:30 am on the 19th floor of the Logan Air Traffic Control Tower. Please bring license or photo identification with you on the 7th. I will wait for you in front of the tower.

We will arrange parking for you in advance of the meeting, please call me to provide me with your license plate number. Thank you very much, in advance, for your time and involvement.

Sincerely,

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Gail Lattrell
Community Planner

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U.S. Department
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**Federal Aviation
Administration**

New England Region

12 New England Executive
Burlington, MA 01803-5296

September 26, 2005

Mr. Bob D'Amico
City of Boston
One City Hall Plaza
Room 805
Boston, MA 02201

Dear Mr. D'Amico:

Thank you for your continued involvement with the Logan International Airport Taxiway Evaluation. We would like to share our approach to Phase 2 of the Taxiway Evaluation as we consider appropriate beneficial operating procedures for a Centerfield Taxiway.

This note is to confirm our meeting on October 7, at 9:30 am on the 19th floor of the Logan Air Traffic Control Tower. Please bring license or photo identification with you on the 7th. I will wait for you in front of the tower.

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Sincerely,

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Gail Lattrell
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**Federal Aviation
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New England Region

12 New England Executive
Burlington, MA 01803-5295

September 26, 2005

Ms. Fran Rowan
7 Thurston Street
East Boston, MA 02128

Dear Ms. Rowan:

Thank you for your continued involvement with the Logan International Airport Taxiway Evaluation. We would like to share our approach to Phase 2 of the Taxiway Evaluation as we consider appropriate beneficial operating procedures for a Centerfield Taxiway.

This note is to confirm our meeting on October 7, at 9:30 am on the 19th floor of the Logan Air Traffic Control Tower. Please bring license or photo identification with you on the 7th. I will wait for you in front of the tower.

We will arrange parking for you in advance of the meeting, please call me to provide me with your license plate number. Thank you very much, in advance, for your time and involvement.

Sincerely,

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Gail Lattrell
Community Planner

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Gail Latrell//ANE/FAA
09/28/2005 01:01 PM

To rhh118@comcast.net
cc
bcc
Subject Re: Potential meeting date change [1]

Good Morning Ron....

I am so sorry you will be unable to join us on Friday. Both consultants have already arranged their travel plans for Friday and the tower folks have scheduled their staffing to accommodate our group at the tower as well as the schedules of the other community reps for Friday. As such, I will be unable to reschedule this meeting. I will be certain to send you the minutes of the meeting and will contact you regarding follow up meetings as well.

Thanks for the note.

Gail
rhh118@comcast.net



rhh118@comcast.net
09/27/2005 04:05 PM

To Gail Latrell//ANE/FAA@FAA
cc
Subject Potential meeting date change

Ms Latrell:

Gail, I have a conflict with the 6th & 7th now. Is it possible to move into the next week of the 10th? Ron Hardaway

October 13, 2005

Mr. Harvey Mailbor
33 Court Road
Winthrop, MA 02152

Dear Mr. Mailbor:

At the request of the community representatives the Centerfield Taxiway Study Meeting has been rescheduled. The new date for our meeting will be November 18, at 10 am. We will be meeting in the Logan Air Traffic Control Tower Conference Room on the 19th floor. I will wait for you outside the Tower building and we can all go up together. Please remember to bring your license or a picture identification.

Thank you, in advance, for your cooperation and continued involvement as a community representative.

I look forward to seeing you on the 18th of November.

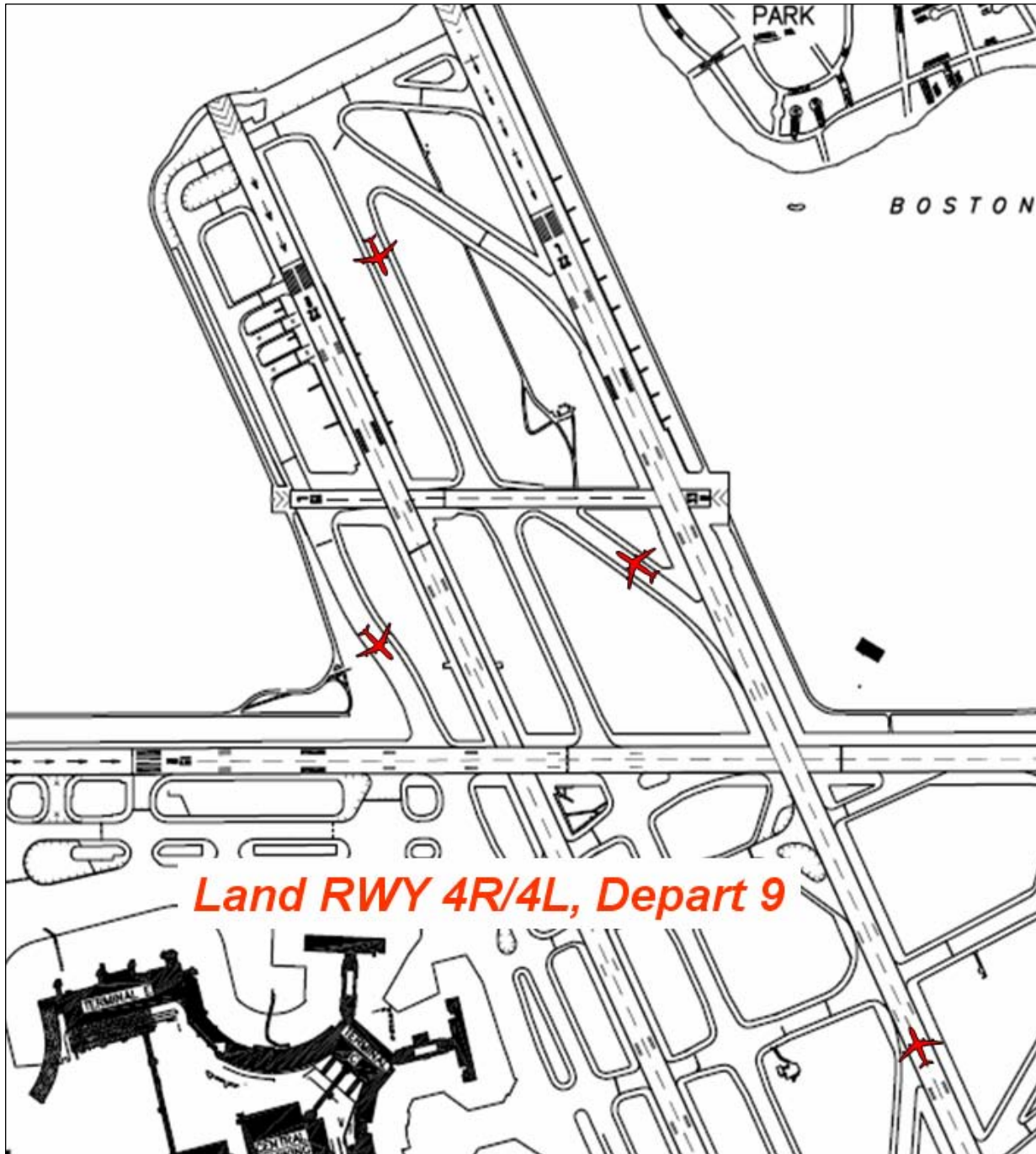
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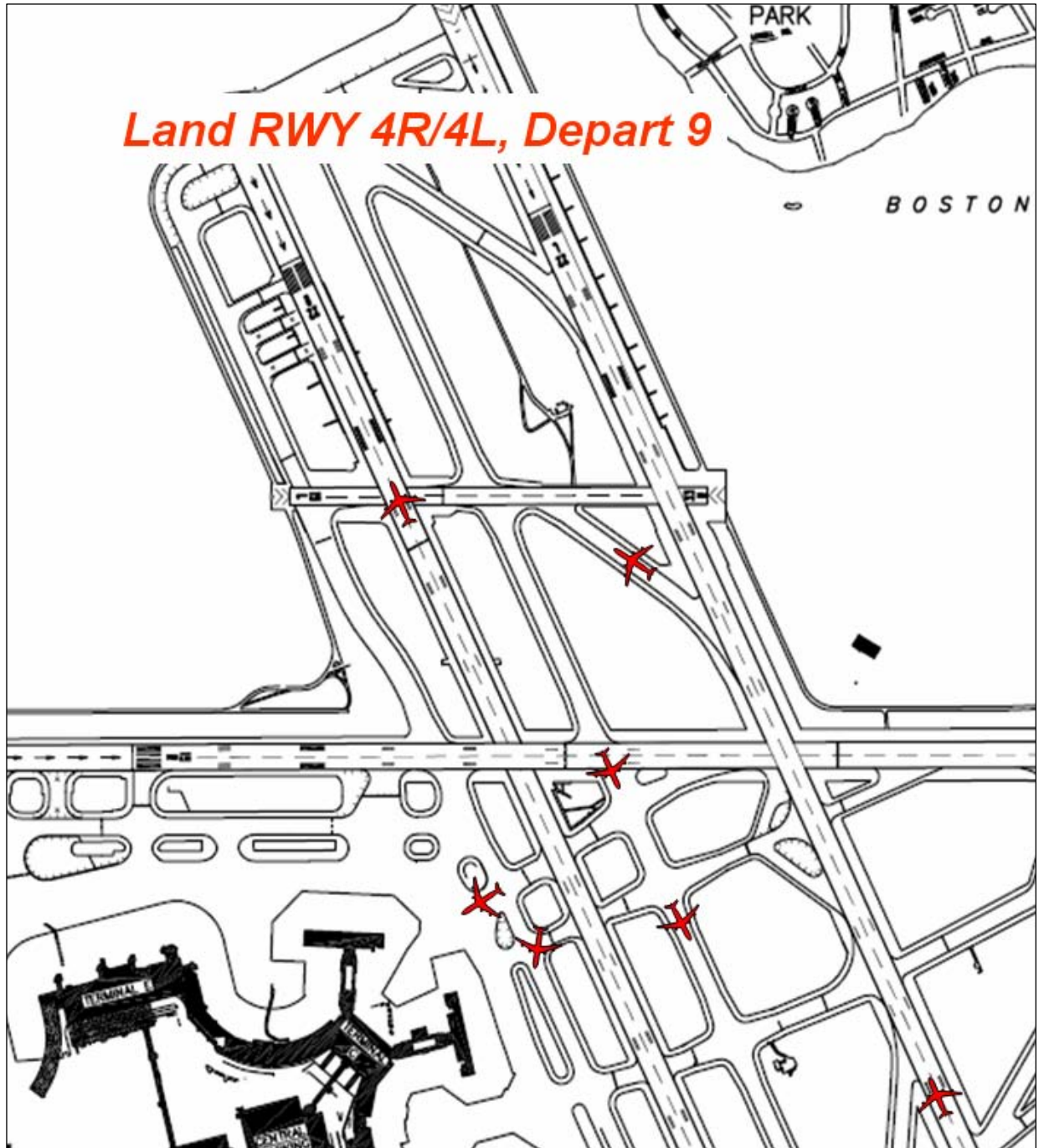
Gail Lattrell
Airport Planner

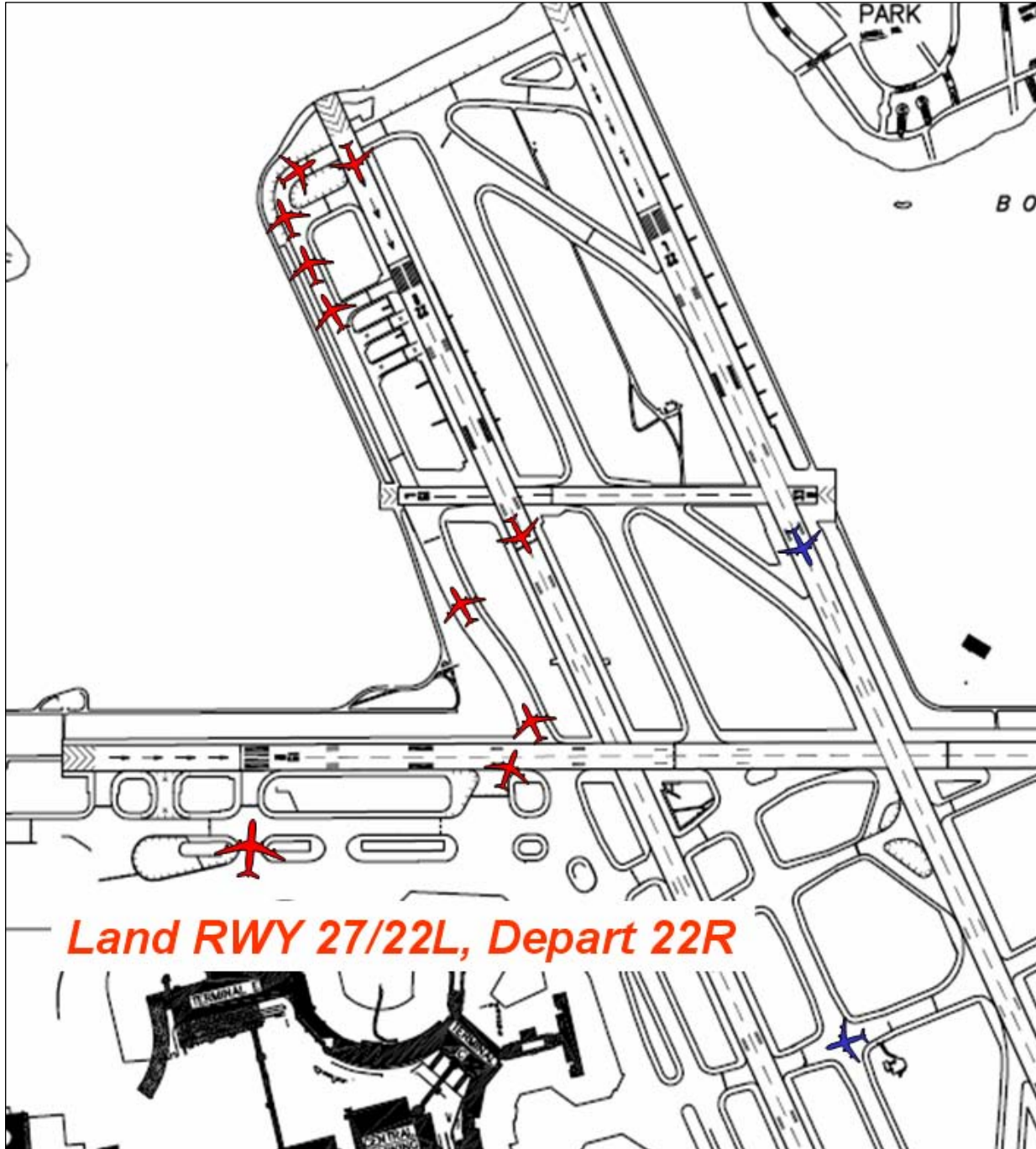
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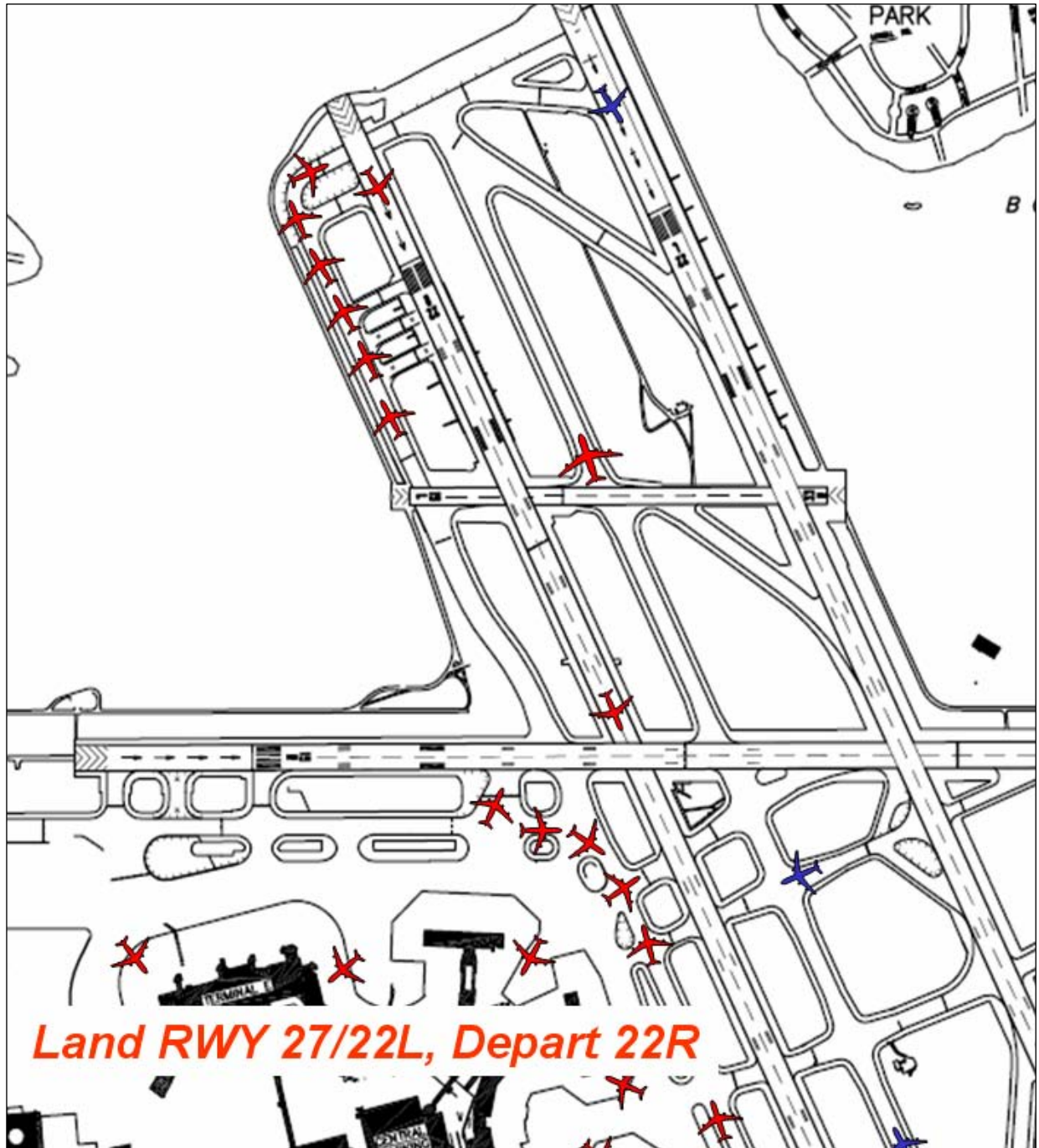
Nov 18 2005

Gail Lathrell	FAA	781 238 7615
Brian Dunser	WFAA/FAA	776
Mike Kenney	KBE	727 778 3766
Christopher Menge	HMMH	281-229-0707
Tom Dussault	BOSTON TOWER	603-594-5505
Bob D'Amico	BTD	617-635-3076
Tom Hardaway	efB	617 569 1818
Harvey Maibor	Winthrop	617-846-9085
Arthur Flavin	Winthrop	617-846-5069
Bettina M. Peranti	FAA-Boston Tower	617-567-6622
John Silva	FAA, AIRPORTS DIVISION	781-238-7602
GARY HURWAGRE	FAA BOSTON TWR	617 561-5756









Gail Lattrell/ANE/FAA
11/28/2005 03:16 PM

To rhh118@comcast.net
cc Gary.hufnagle@FAA.GOV
bcc
Subject taxiway study

Good Afternoon Ron-

Just wanted to get a note out to you to let you know that the minutes of our meeting will be out to you by mid week in draft form for your review, and also to let you know that FAA will be meeting internally this week, on Tuesday to discuss some of the operational taxiway procedures that may be evaluated for environmental benefit.

While this is an internal operational meeting, I will include a summary of that meeting in the package that goes out to you this week. Thank you for attending last weeks meeting. I hope you had a peaceful and enjoyable holiday.

Gail Lattrell



U.S. Department
of Transportation
**Federal Aviation
Administration**

New England Region

12 New England Executive Park
Burlington, Massachusetts 01803

December 21, 2005

This document contains minutes of the Logan Airport Taxiway Reevaluation Meeting held on November 18, 2005. The document also includes notes from the technical study team's follow-up meeting and comments from Michael Kenney.

Final Logan Airport Centerfield/Taxiway November Study Minutes

Date: November 18, 2005

Location: Logan International Airport, Air Traffic Control Tower

Attendance: Gail Lattrell, Gary Hufnagle, Toni Dusseault, Bettina Peronti, John Silva, Christopher Menge, Mike Kenney, Bob D'Amico, Harvey Maibor, Ron Hardaway, Art Flavin, Brian Dumser.

The meeting agenda was 1) to provide an update to community members on the Phase II study scope and the operational characteristics of the Centerfield taxiway, and 2) to hear community members' environmental and other concerns to assist in developing alternative operational procedures that may have environmental benefits. The meeting started at approximately 10:00 AM.

Introductory Comments and Discussion

Ron Hardaway mentioned that the community representatives have had discussions among themselves, and they agreed that they are not pleased with the process of the study, and that they would like the meeting minutes to reflect that they are meeting "under protest." He stated that they have received little feedback or response to suggestions that they have made. He pointed out that all of the suggestions they had made during Phase I had been dismissed. Art Flavin further asked if the taxiway study adheres to all of the requirements of the Secretary of Environmental Affairs. He stated that these included single-engine taxi procedures, consulting with DEP and EPA, and building a baseline of pollution data.

Brian Dumser, a new member of the committee, is the Chair of the Environmental subcommittee of the Airport Hazards Committee of Winthrop. Mr. Dumser stated that he is also a certified industrial hygienist. He supported the comments above of Ron

Federal Aviation Administration, New England Region
Logan Airport Taxiway Reevaluation Meeting held November 18, 2005

Page 2

Hardaway and Art Flavin, and also those of Harvey Maibor stating that the citizens have significant concerns.

Gail Lattrell stated that she would pass on the community members' comments to the appropriate responsible parties. She said however, that she would not have answers for the members on the points and concerns because the study at hand does not directly address those issues. This study did not build a baseline of pollution data, but rather, it is "...assessing potential beneficial operational procedures that would preserve or improve the operational and environmental benefits of the taxiway as shown in the EIS."

John Silva pointed out that MEPA's Section 61 findings apply to the State and Massport, but not to FAA. The Record of Decision (ROD) gives FAA commitments, but there is no obligation for the FAA to implement anything in Section 61. FAA is required to monitor the mitigation commitments of the ROD.

Ron Hardaway expressed concern that he and the other community representatives have not been able to influence communication or commitments on behalf of their communities through the study process.

Art Flavin stated that their concern is safety, air quality and noise, but he acknowledged that Secretary Durand directed the State to conduct the studies, not FAA.

John Silva suggested that the community members could communicate with the MEPA office if they believe that Massport is not implementing the Section 61 findings.

Bob D'Amico asked if the FAA was responsible for implementing and monitoring the single-engine taxi (SET) policy.

Gary Hufnagle stated that they were not.

John Silva said that Massport has had a policy on SET for years, and at one time had an operating letter with the airlines whereby they would conduct SET whenever feasible. While Massport has no authority to enforce such an agreement, at one time there was compliance by airlines.

Ron Hardaway asked if he could request information on the status of that policy, and John suggested he contact Massport for that information.

Bob D'Amico asked if Massport should be present at this meeting.

John Silva stated that the purpose of the meeting is only to discuss the taxiway operations, noise and air quality studies that the FAA is performing.

Gail Lattrell said that FAA would share minutes of the meeting with Massport.

John Silva pointed out that the MEPA office and Massport jointly determined environmental mitigation measures, which became a directive that stated what Massport must do.

Federal Aviation Administration, New England Region
Logan Airport Taxiway Reevaluation Meeting held November 18, 2005

Page 3

Mike Kenney offered that Massport and the FAA are working at a national level on monitoring aircraft air quality emissions, and are providing health scientists with such data. He also said that the FAA is actively conducting research on the health effects of aircraft emissions.

Gary Hufnagle reinforced that the purpose of this meeting is to discuss the FAA's process on potential operational actions that may have environmental benefits. These will be investigated through modeling of operations expected in the year 2010.

Art Flavin quoted Page 24 of the ROD which states that "FAA will conduct [a study]... 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." He then asked if the FAA would change operating procedures if they were killing people with pollution.

Bettina Peronti responded that the FAA would definitely change operating procedures if they were in violation of environmental rules or regulations.

Mr. Flavin stated that everything in Action 12 [presented in the Phase I report] is true, but it rejects any air quality monitoring improvements.

Mike Kenney suggested that modeling has been conducted for this study, and it is a reasonable approximation to monitoring.

Brian Dumser pointed out that particulates are not addressed. He suggested that Secretary Durand directed in 1999 that modeling and monitoring be carried out. He stated that effective modeling cannot be performed today because no generation figures for particulates are available. He expressed concern that nothing had been done in five years.

John Silva stated that air quality studies have been done. He also pointed out that what we're studying is what the situation will be in 2010 [when the Centerfield Taxiway construction may be completed], and only modeling, not monitoring, can address future conditions. He further stated that the National Environmental Policy Act requires a comparison of the future conditions with the proposed improvements to the future conditions in the same year without the improvements. Mr. Silva also stated that relative to particulates, there are no Federal EPA standards for particulates in the 2.5 micron range.

Bob D'Amico asked if community members should address Massport with questions about pollution monitoring.

John Silva confirmed that Massport is responsible for all monitoring, and confirmed that FAA has no authority or expertise on monitoring of air quality around airports.

Brian Dumser expressed concern that the difficulty is that there isn't sufficient information to determine how severe the current health effects are.

Federal Aviation Administration, New England Region
Logan Airport Taxiway Reevaluation Meeting held November 18, 2005

Page 4

Bob D'Amico also asked if Massport was the responsible party to ask about single-engine taxi policy.

Bettina Peronti confirmed that Massport would be the best contact.

Bob D'Amico asked why the hold short line on Taxiway November was removed. Massport removed the non-standard hold line after discussions with FAA's Runway Safety Office and FAA Airports Inspectors emphasized the importance of standard markings on the airfield to minimize pilot confusion in aircraft movement areas.

Presentation on Operations associated with the Centerfield Taxiway

Gary Hufnagle gave a brief progress report on the study, stating that the operational modeling of the base case for the Centerfield taxiway in the year 2010 was nearly complete. He stated that alternative operational procedures would be considered and developed after the present meeting. He said that the noise and air quality analyses are ongoing.

Mr. Hufnagle then gave a Powerpoint presentation on the expected aircraft operations that would be affected and benefited by the proposed Centerfield taxiway.

Arrivals on Runways 4L and 4R were discussed first. Gary showed how aircraft would be able to land continuously on both runways, with the arrivals on 4R using the Centerfield taxiway to return immediately to the gate areas, without having to hold and wait for clearance to cross Runway 4L to get to Taxiway November. He said this improves the efficiency of operations, and will reduce aircraft hold time at the northern end of the airport. He said even widebody aircraft will have sufficient clearance to land on either runway while others taxi on the Centerfield Taxiway.

Bob D'Amico asked if many jets were landing on 4L, and Gary responded that more regional jets were using that runway now. Gary pointed out that they do not depart jets on 4L, or land jets on 22R.

Bob asked if the Centerfield taxiway is necessary, given there are not many arrivals on 4L, which suggests crossing that runway should present much delay. Gary replied that it should make a significant difference.

Mr. Hufnagle then presented information on the operational use of the Centerfield taxiway for departures. One of the main features is that heavy aircraft that would need to depart on 22L will not have to wait in the Taxiway November queue, but will be able to taxi to the runway end on the Centerfield taxiway. He said that this would reduce the amount of time such aircraft are holding at the northern end of the airport.

Ron Hardaway asked if they do not currently taxi heavy aircraft up Runway 4L instead of Taxiway November.

Both Gary Hufnagle and Bettina Peronti stated that this is not normally done.

Bob D'Amico stated that he feared that pilots would request to use 22L for departure to avoid the queue and wait on Taxiway November, even though they may not need the

Federal Aviation Administration, New England Region
Logan Airport Taxiway Reevaluation Meeting held November 18, 2005

Page 5

extra length of the runway. This would increase queuing on the Centerfield taxiway, closer to Winthrop.

Bettina Peronti said that this strategy would not necessarily be successful, since 22L is often used for arrivals while 22R is being used for departures, and the controllers must construct a "hole" in the stream of arriving aircraft to allow for a departure on the same runway.

Follow-up, Study Progress and Late Discussion

Gail Lattrell stated that the team was having an internal meeting on November 29 to discuss the study and any operational procedures that may be evaluated for environmental benefits.

Ron Hardaway asked to be permitted to attend the meeting, but that he wouldn't speak.

Gail said that the meeting was internal to the study team only, and it would not be possible to include community members. However she said that she would share the conclusions of the meeting with the community representatives.

Art Flavin said that one of his primary concerns was that the additional taxiway provided an opportunity for an even greater number of queued aircraft at the north end of the airport, thereby increasing the number of total minutes of aircraft idling and the associated air emissions and noise. "If you double the number of planes, you double the number of minutes stated that the Centerfield taxiway will be increasing operational efficiency, so therefore the number of minutes should be reduced.

Art Flavin stated further that the ground controllers cannot be told not to "load up" both taxiways with queued aircraft, and he asked that a limit should be imposed on the maximum number of aircraft that can be queued on both November and Centerfield taxiways.

Gary stated that loading up both taxiways would not be advantageous operationally. He explained how controllers decide when to release aircraft from the gate areas to proceed to the taxiways based on the demand and existing queue lengths. He pointed out that long queues are an operational disadvantage, because they limit the controllers' options if something changes about the departure status of an aircraft in the queue.

Ron Hardaway acknowledged that Gary had made his points clear, but that he was still unhappy about the project.

Gail stated that she would plan to get the meeting minutes out to community members soon.

Ron Hardaway asked for a written response to his request to attend the internal meeting.

Bob D'Amico asked about becoming involved in the runway use monitoring agreement (PRAS). It was agreed that he should contact Jim Hunt, of the Boston Environmental Services Department.

The meeting adjourned at approximately 12:00 noon.

Follow up to the Taxiway Study Meeting on November 18, 2005

Notes on the November 29 Taxiway Technical Team Progress

This section documents the results and actions that came about during the meeting held on November 29, 2005 among the Logan Centerfield Taxiway study team. Present at the meeting were Gail Lattrell of FAA, Ralph Nicosia-Rusin of FAA, Gary Hufnagle of FAA, Flavio Leo of Massport, Christopher Menge, Doug Barrett and Brad Nicholas (by telephone) of HMMH, and Chris Oswald and Jorge Rodriguez of Leigh Fisher Associates.

One purpose of the meeting was to review and discuss taxi operations modeling for the north end of the airport utilizing the Centerfield Taxiway when runways 22L and 22R are being used for departures. Another purpose was to discuss the community concerns raised at the November 18, 2005 meeting and to determine if potential beneficial operational procedures could be identified that would preserve or improve the operational and environmental benefits of the Centerfield Taxiway as shown in the EIS. Those procedures would be evaluated during the study's Phase II taxi operations modeling.

Leigh Fisher Associates and Gary Hufnagle have developed a taxiway use modeling approach for the north end of the airport which is considered to be the "base case." This modeling approach not only maximizes operational efficiency by design, but produces minimal change to taxi operations that would be experienced by the surrounding community.

An alternative to the "base case" was identified for study that would target a concern expressed at the November 18, 2005 meeting, over the potential for both November and the Centerfield Taxiways being "loaded up" with queued aircraft waiting to depart runways 22L and 22R. This alternative, now called the "Balanced" alternative, would have aircraft queued on both taxiways nearly equally, rather than all aircraft bound for departure on 22R queued on taxiway November, as in the Base case. This "Balanced" alternative is seen as a way to "bookend" the potential environmental impacts of alternative queuing scenarios as well as directly addressing a noted community concern. The taxiway study team believes that by studying these two modeling approaches, the full range of potential noise and air quality impacts will be addressed.

The project schedule was discussed at the end of the meeting. Operational modeling is expected to be completed by mid-December. The noise and air quality modeling should be completed by mid-January, and the draft report for internal review is expected to be completed by the middle of February 2006.

Additional notes/follow-up from KB Environmental Sciences' Mike Kenney, QEP, CHMM, CIH

"Emissions of particulate matter (PM) were addressed as part of the Logan EIR for all airport sources (i.e. aircraft, ground support equipment (GSE), motor vehicles and stationary sources). Although somewhat limited, aircraft PM were based on the best available information and data that were available at the time. This included PM emission

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factors for many, but not all, of the aircraft at Logan. Presently, the FAA, NASA and others are conducting tests to measure PM from aircraft engines and the initial results are expected to be published over the next year or two.

It may also be instructive to note that the EIR reported on air quality monitoring data collected by the Department of Environmental Protection (DEP) in East Boston. These data revealed that there were no violations of the National Ambient Air Quality Standards (NAAQS) for PM in this area. An extensive air monitoring program is now underway in the vicinity of T.F. Green Airport (PVD) located in nearby Warwick, Rhode Island. Conducted by the RI Department of Environmental Management, this study is designed to evaluate PM levels in the vicinity of PVD and should be helpful in the further evaluation of conditions near other airports, including Logan.”