



Federal Aviation
Administration

MCAC/FAA Update

Date: June 11th 2020

Presented by: FAA



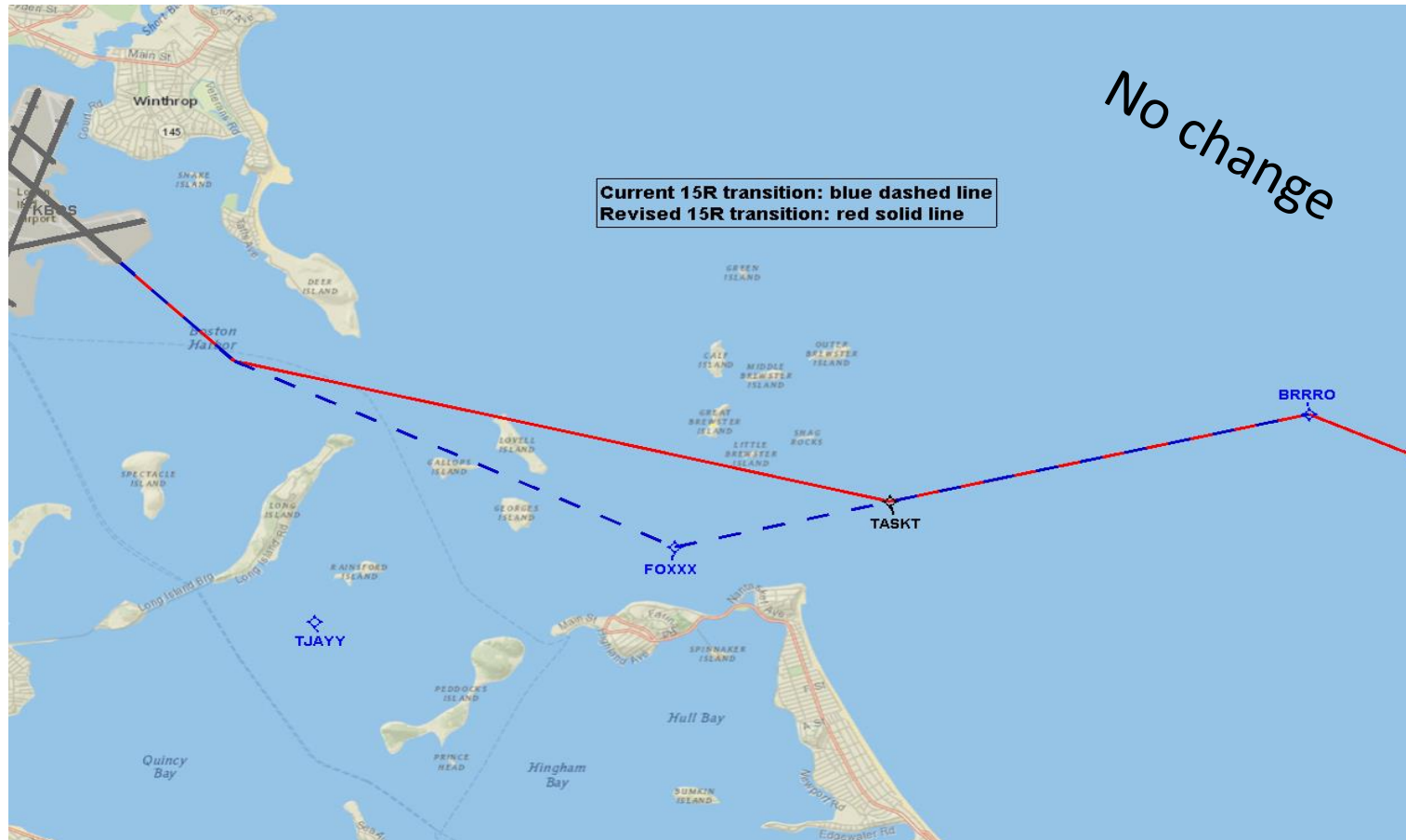
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Agenda

- **RWY 15 Departure SIDs**
 - Recap
 - Overview
 - Status Update
- **BOS RNAV (GPS) RWY 33L**
 - RNAV (GPS) Y RWY 33L & RNAV (RNP) X RWY 33L
 - Status Update
- **Block 2 Update**
- **BOS RNAV (GPS) RWY 4L EA Update**
- **Reauthorization Section 188 Report to Congress**

Recap of Jan 9th Meeting

- Due to FAA departure criteria, when one waypoint in a procedure is changed, all waypoints must be updated to current criteria.
- The subsequent slide illustrate minor adjustments to **BLZZR** departure chart required to meet criteria.



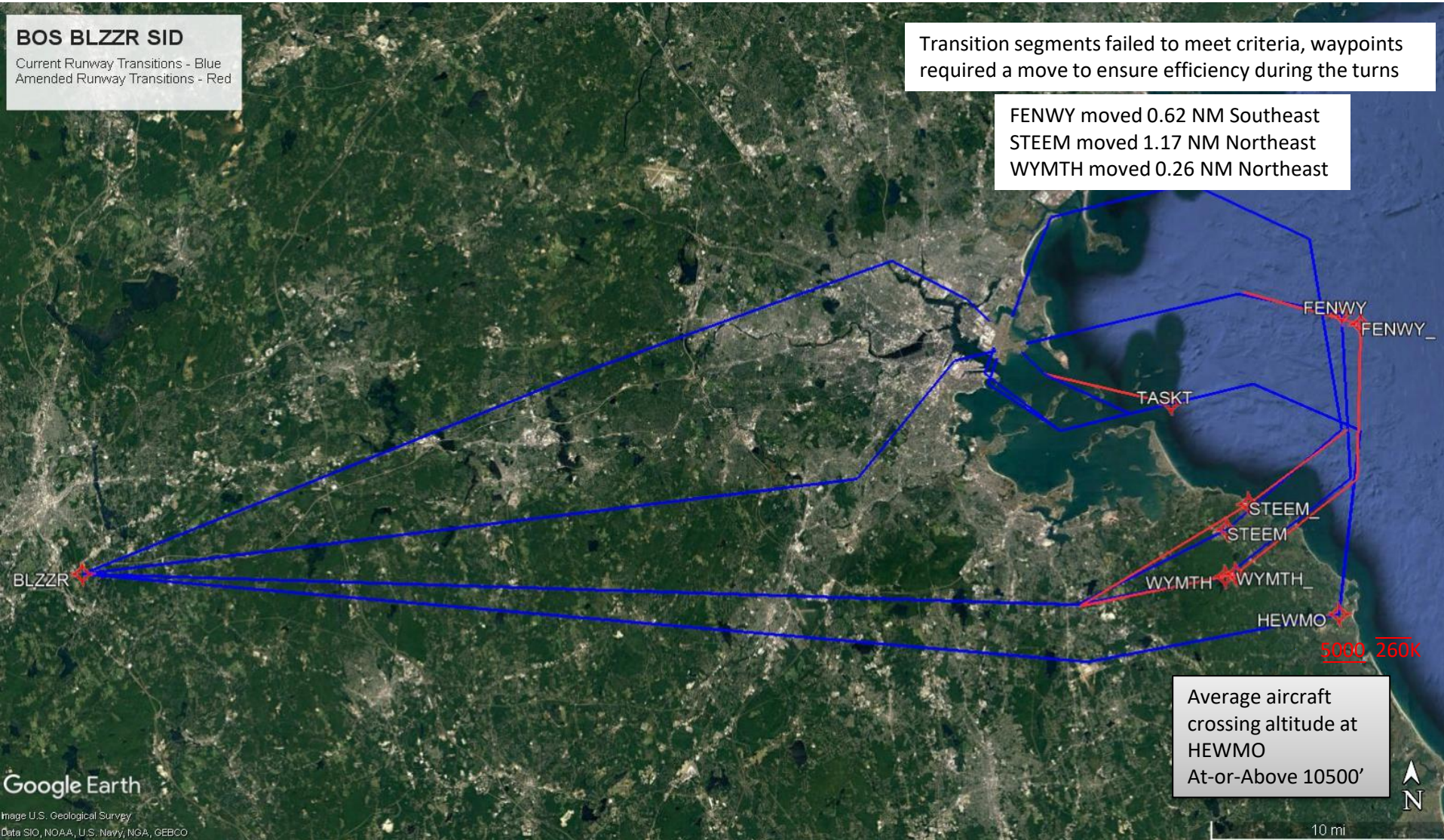
BOS BLZZR Departure Overview

BOS BLZZR SID

Current Runway Transitions - Blue
Amended Runway Transitions - Red

Transition segments failed to meet criteria, waypoints required a move to ensure efficiency during the turns

FENWY moved 0.62 NM Southeast
STEEM moved 1.17 NM Northeast
WYMTH moved 0.26 NM Northeast



Average aircraft
crossing altitude at
HEWMO
At-or-Above 10500'

15R Transition Status Update

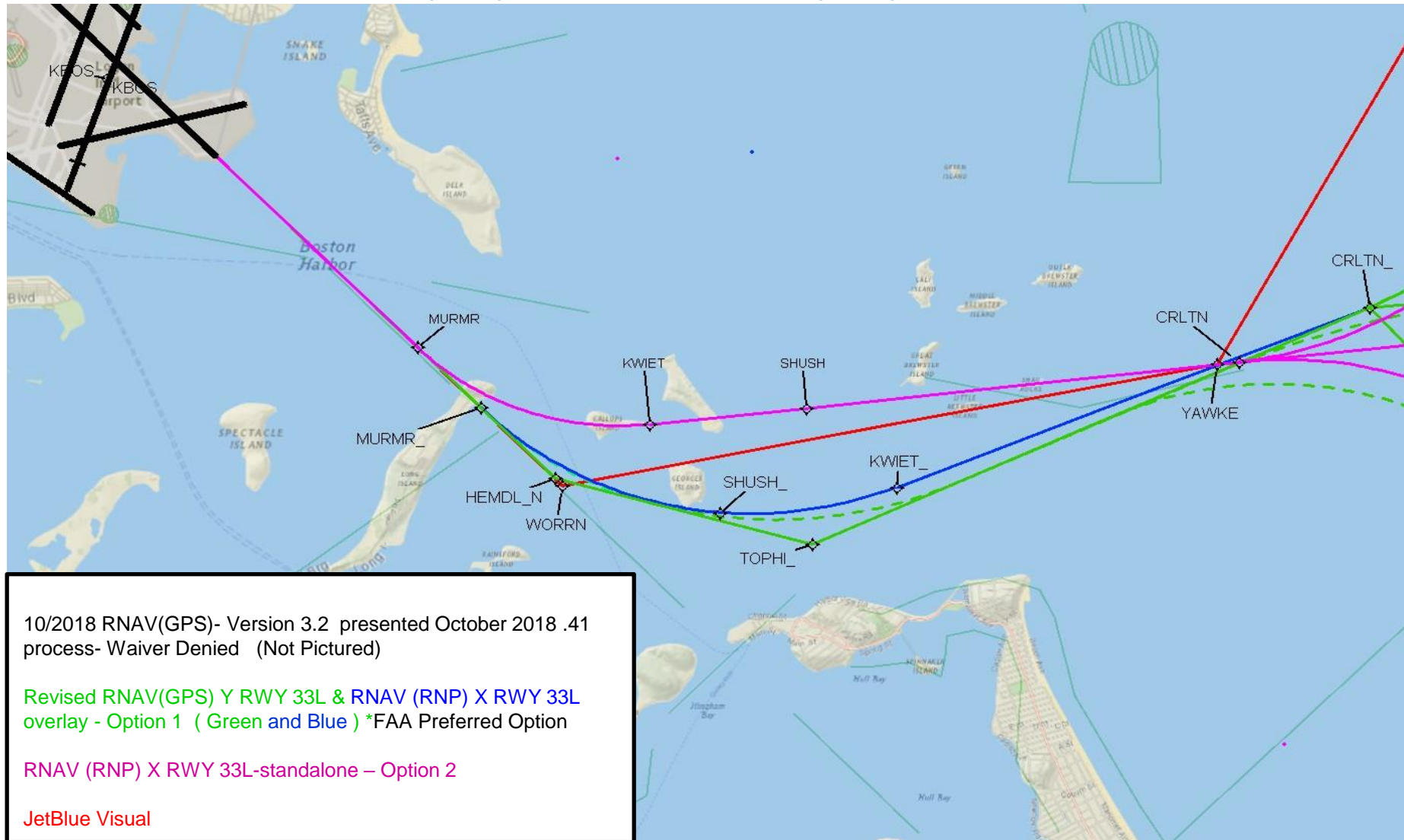
- ❑ **Block 1 Recommendation:** Modify RWY 15R Departure SIDS to move departure tracks further north away from populated areas.
- ❑ As a result of the COVID-19 public health emergency, the FAA implemented social distancing measures to ensure the health and safety of FAA employees and the general public in accordance with CDC pandemic guidelines. These measures have interrupted the scheduling and coordination of FAA instrument flight procedures (IFPs), disrupting the timing of approval, development, and implementation.
- ❑ The BOS departure procedures* notional publication date has been delayed to mid-late 2021. No exact date has been set as of today.

*Procedures being amended: BLZZR,BRUWN,CELTK,HYLND,LBSTA,PATSS,REVSS,SSOXS

- ❑ **NOTE:** FAA is still awaiting MCAC feedback via Massport providing FAA a formal request to implement the design presented to MCAC at the January 9, 2020 meeting.

BOS RNAV (GPS) RWY 33L

*RNAV (GPS) Y RWY 33L & RNAV (RNP) X RWY 33L



BOS RNAV (GPS) RWY 33L

***RNAV (GPS) Y RWY 33L & RNAV (RNP) X RWY 33L**

- ❑ **Block 1 Recommendation:** Implement an overwater RNAV (GPS) RWY 33L approach procedure and a RNP overlay to Runway 33L that follows the ground track of the jetBlue RNAV Visual Procedure.

- ❖ Revised RNAV(GPS) Y RWY 33L & RNAV (RNP) X RWY 33L - GPS and RNP overlay procedure (No Waivers Required) – **Option 1 *FAA Preferred Option**

- ❖ RNAV (RNP) X RWY 33L- standalone – **Option 2**

- ❑ **STATUS:** FAA presented two options at the January 9, 2020 MCAC meeting. The procedure(s) is on hold until the FAA receives a formal request from MCAC via Massport indicating the desired option for implementation.



Block 2 Update

- ❑ **May 15, 2020: FAA participated in RWY 33L Community Working Group Meeting. FAA ANE Regional Administrator committed to provide feedback on feasibility of preliminary concepts.**
- ❑ **May 22, 2020: MIT, Massport, Major Airline Representatives and FAA met virtually to discuss Block 2 preliminary concepts RNAV 33L and 22L/R Departures**
 - MIT presented and received real time comments and feedback from FAA and Industry on design proposals
- ❑ **FAA identified challenges on MIT's proposed designs ranging from: Air Traffic Operations (to include a possible redesign of BOS TRACON Airspace), Aircraft Performance, Safety, Design Criteria, Aircraft FMS and flyability issues.**

NEXT STEPS

- ❑ **FAA will provide written feedback on preliminary concepts by August 15, 2020.**

BOS RNAV (GPS) RWY 4L EA Update

Environmental Study Process

Consideration of a Proposed Action under the National Environmental Policy Act (NEPA)

NEPA requires that the FAA evaluate the environmental and related social and economic effects of a proposed action.

Preliminary Technical Review

FAA conducts an internal technical review before deciding to consider moving forward with an environmental review.

Preliminary Environmental Review

FAA conducts an internal environmental review to evaluate any potential environmental concerns.

Internal Review and choice of appropriate level of NEPA review

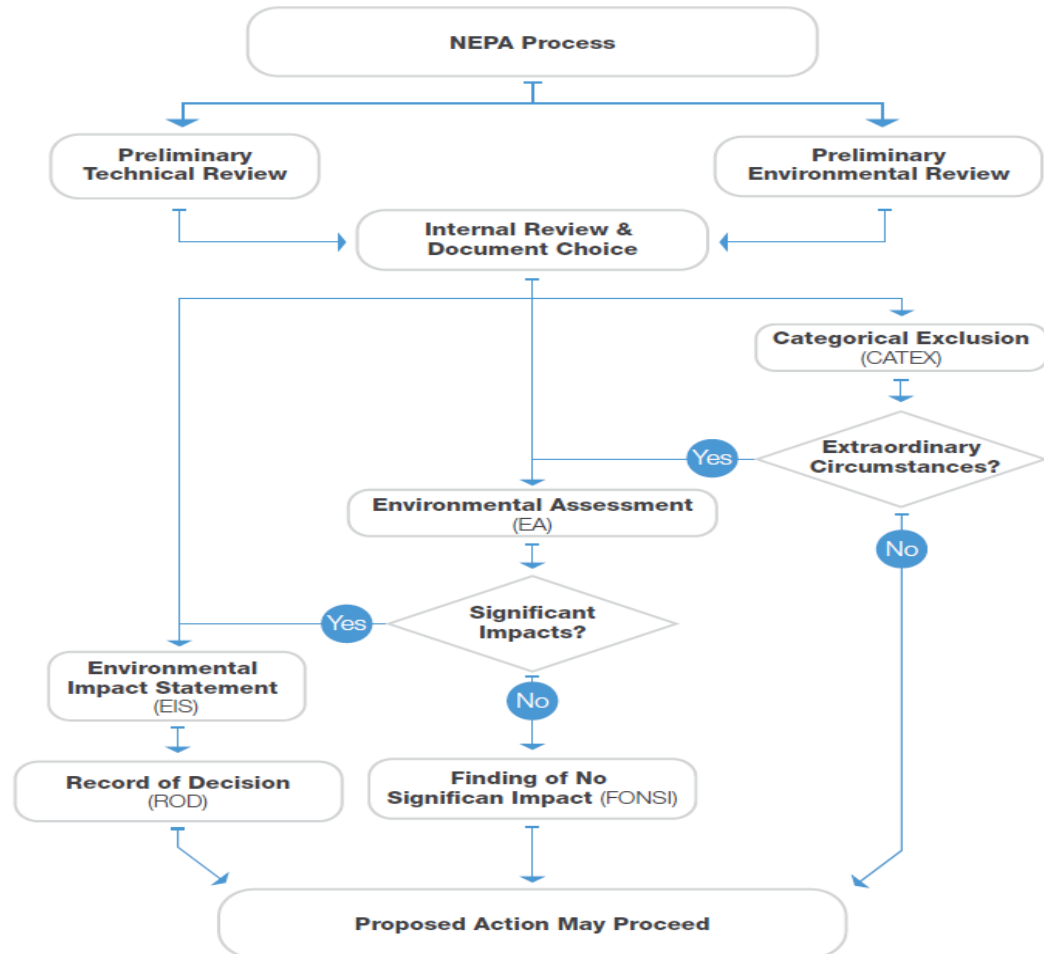
Internal analysis such as the noise screening reports as well as input from the public are used to assist the FAA in determining the appropriate level of NEPA review to conduct.

Extraordinary Circumstances

Paragraph 5-2 of FAA Order 1050.1F identifies the range of factors which define Extraordinary Circumstances.

Significant Impacts

The FAA uses thresholds that serve as specific indicators of significant impact for some environmental impact categories. FAA proposed actions that would result in impacts at or above these thresholds require the preparation of an EIS, unless impacts can be reduced below threshold levels.



BOS RNAV (GPS) RWY 4L EA Update

- ☐ The Environmental Assessment (EA) was launched in October 2019 and is being performed by an independent contractor - Rovolus.
- ☐ The draft EA public workshops between Sept/Oct 2020 *.
- ☐ Draft EA 30-day public comment period Sept/Oct 2020 *.
- ☐ FAA to provide EA decision Early 2021 *.

* Dates listed above are tentative.



Q&A





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MCAC/FAA Update Reauthorization Section 188 Report to Congress

Date: June 11th 2020

Presented by: FAA



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FAA Reauthorization act of 2018

Section 188 Report to Congress

Congress directed an evaluation of alternative metrics in Senate Appropriations Report 116-109 (pg. 42) for fiscal year 2019 and the FAA Reauthorization Act of 2018 (Pub. L. 115-254) requested the FAA to provide this report in response to:

- **Sec. 188: Study regarding day-night average sound levels. Within 1 year the Administrator shall evaluate alternative metrics to current average day-night level standard, such as use of actual noise sampling to address community airplane noise concerns.**

While not directed to include in a report, the information contained in this document also fulfills the FAA's response to:

- **Sec. 173: Alternative airplane noise metric evaluation. Within 1 year complete the ongoing evaluation of alternative metrics to the current Day Night Level (DNL) 65 standard.**

<https://www.faa.gov/about/reauthorization/>

Section 188 Report Purpose and Goals

The FAA's goal in responding to the request made under Section 188 of the 2018 Reauthorization is to present:

- An overview of community noise exposure, including the history and use of DNL
- An overview and balanced discussion of applicable noise metrics and their use in appropriate situations
- A discussion explaining why no single noise metric can cover all situations
- A discussion explaining the difference between measurement and modeling
- The role of supplemental noise metrics, and how their use in applicable situations is encouraged to better inform the public

While DNL is used to assess community noise exposure through requirements under the National Environmental Policy Act (NEPA) and other related noise programs like 14 CFR Part 150, other supplemental noise metrics are encouraged to further disclosure and aid in the public understanding of community noise impacts

- Supplemental noise metrics are being assessed through research efforts including Number-Above

https://www.faa.gov/about/plans_reports/congress/media/Day-Night_Average_Sound_Levels_COMPLETED_report_w_letters.pdf

Community Noise Metric Requirements

As directed by Congress through the Aviation Safety and Noise Abatement Act of 1979 and defined under 49 U.S. Code §47502, the FAA has:

- 1) Established a single system of measuring noise, for which there is a highly reliable relationship between projected noise exposure and surveyed reactions of people to noise, to be uniformly applied in measuring the noise at airports and the areas surrounding such airports;*
- 2) Established a single system for determining the exposure of individuals to noise which results from the operations of an airport and which includes, but is not limited to, noise intensity, duration, frequency, and time of occurrence; and*
- 3) Identified land uses which are normally compatible with various exposures of individuals to noise.*



DNL Background

- DNL is used as the FAA's environmental decision-making for community noise as it considers the magnitude, duration, and frequency of the noise events under study
- DNL is based on the equivalent sound level (LEQ) metric which considers the acoustic energy over a period of time, to take account of the cumulative effect of multiple noise events.
- DNL considers the duration of events through their cumulative acoustic contribution
- DNL is based on a day/night weighted equivalent sound level (LEQ) average over a 24-hour period where a 10dB weighting is added to night time flights occurring between 10pm and 7am
- Additional information on the definition of noise metrics and the fundamentals of noise and sound at: www.faa.gov/go/aviationnoise



Supplemental Metrics

In specific situations, additional information focused on a more targeted type of noise exposure may require the use of supplemental noise metrics

- Supplemental noise metrics can provide complementary information to DNL to further highlight potential changes in noise exposure to communities
- FAA research programs including through ASCENT are exploring the use of supplemental metrics for informing flight procedure development and community outreach

Use of supplemental metrics ,while not sufficient to inform an environmental decision by themselves, are encouraged and fully supported by FAA's existing noise policies and supported by the agency's noise modeling tools

Noise Metrics Summary

No single noise metric can cover all situations, however DNL provides the most comprehensive way to consider the range of factors influencing exposure to aircraft noise

- DNL metric is widely used to assess the cumulative noise impacts on communities
- The 1992 Federal Interagency Committee on Noise (FICON) and 2018 Federal Interagency Committee on Aviation Noise (FICAN) reports both concluded that DNL is the recommended metric and should continue to be used as the primary metric for aircraft noise exposure

Use of supplemental noise metrics is both encouraged and supported

- FAA research efforts including through ASCENT are exploring ways in which supplemental noise metrics can be put to greater use



Noise Metrics Summary

	Noise Level	Time of Day	Number of Events
L_{eq}	✓		✓
DNL	✓	✓	✓
$L_{Aeq, 16hr}$	✓	✓	✓
L_{den}	✓	✓	✓
CNEL	✓	✓	✓
SEL and CSEL	✓		
L_{max}	✓		
PSF ^a	✓		
NA ^b	✓		✓
TA ^c	✓		
Time Audible ^d	✓		

^a PSF, or pounds per square foot, is functionally a measure of “noise level” instead of decibels. PSF is typically used as a measure of the peak overpressure of a sonic boom.

^b NA is the number of noise events above a certain noise level threshold.

^c TA is the time of noise events exceeding a certain noise level threshold.

^d Time Audible is the amount of time noise events exceed ambient sound levels. This could be interpreted as taking into account the number of noise events.

Q&A

