U.S. Department
of Transportation
Federal Aviation Administration

April 28, 2020

Ms. Julie Langan
Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

Dear Ms. Langan:

Subject: Updated Project Submittal for the Following Project: Federal Aviation Administration (FAA) Proposal to Amend Air Traffic Procedures at Reagan National Airport - Amendment of Nine Northbound Departure Procedures, *Remove Waypoint FERGI from Six Standard Instrument Departures, Add the SCOOB Enroute Transition to Three Southbound Departure Procedures*

On February 25, 2020, the Federal Aviation Administration (FAA) submitted a project request for the amendment of nine northbound departure procedures, which you reviewed and concurred with a finding of no historic properties affected. See **Attachment A** to view a copy of your response letter. The FAA wishes to supplement its earlier consultation letter by seeking your concurrence on two additional proposed changes to procedures at DCA, which the FAA intends to make at the same time as the nine northbound departure procedures are amended.

First, the FAA is proposing to remove a waypoint named FERGI from six Standard Instrument Departure (SID) procedures, which will reduce the amount of traffic over FERGI and keep aircraft over the Potomac River longer, which is consistent with the recommendations in MWAA's Noise Compatibility Program for Ronald Reagan Washington National Airport (DCA). In addition, this proposed action was unanimously endorsed by the DCA Community Noise Working Group on September 26, 2019. As you may know, the DCA Community Noise Working Group was convened by MWAA and is comprised of representatives from communities affected by DCA aircraft noise. The Working Group makes recommendations to the FAA to address noise concerns.

Second, due to anticipated changes in the North East Corridor routes that transition traffic North and South along the east coast, a high altitude (over 18,000 feet) transition called SCOOB is required. This high altitude change is not expected to change where aircraft are flying or create any noise impacts.

For the first change to FERGI, the FAA is proposing a finding of "No Historic Properties Affected" under 36 C.F.R. 800.5. For the second change, addition of the SCOOB transition, the FAA is proposing a finding of "No Effect" on historic properties under 36 C.F.R. 800.4. Information supporting these proposed findings, including a description of the undertakings and their effects on historic properties and other information required by 36

C.F.R. 800.11 is contained within this correspondence. The FAA respectfully requests your review of the information listed in this document and seeks your concurrence with our determinations.

Project Description

In addition to the adoption of the waypoint REVGE described in the FAA's initial February 25, 2020 consultation letter, the FAA is proposing to remove the waypoint FERGI and add a new waypoint called RGIII. This proposed action will shorten the route by approximately ¼ mile and keep aircraft over the Potomac River longer in an effort to reduce air traffic over of the FERGI waypoint. This change was requested by the DCA Community Noise Working Group and would remove waypoint FERGI from SIDs HORTO, WYNGS, REBLL, CLTCH, SCRAM and JDUBB. For these procedures, the proposed change requires relocation from waypoint BEBLE, FERGI, and MELOE to BEBLE, RGIII, and MELOE. The FAA is also proposing to create a transition to connect the CONLE (connects to BWI), AMEEE (connects to DCA), and JCOBY (connects to Dulles) departure procedures with the SCOOB enroute transition to tie into existing high altitude routes (above 18,000 feet). The SCOOB transition would be added to the aforementioned three procedures which would minimize controller workload and would not be noticeable to the public. **Figures 1 and 2** show these proposed actions.

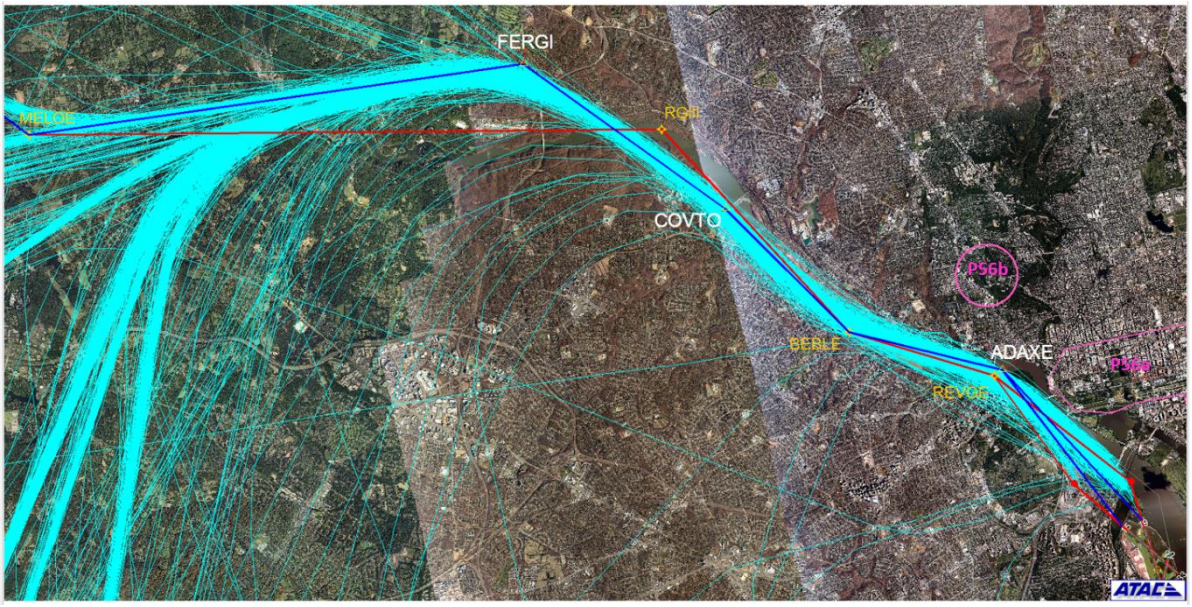

Figure 1: The blue line represents the current air traffic route and the red line represents the proposed amended route, removing waypoint FERGI and adding the new waypoint RGIII.

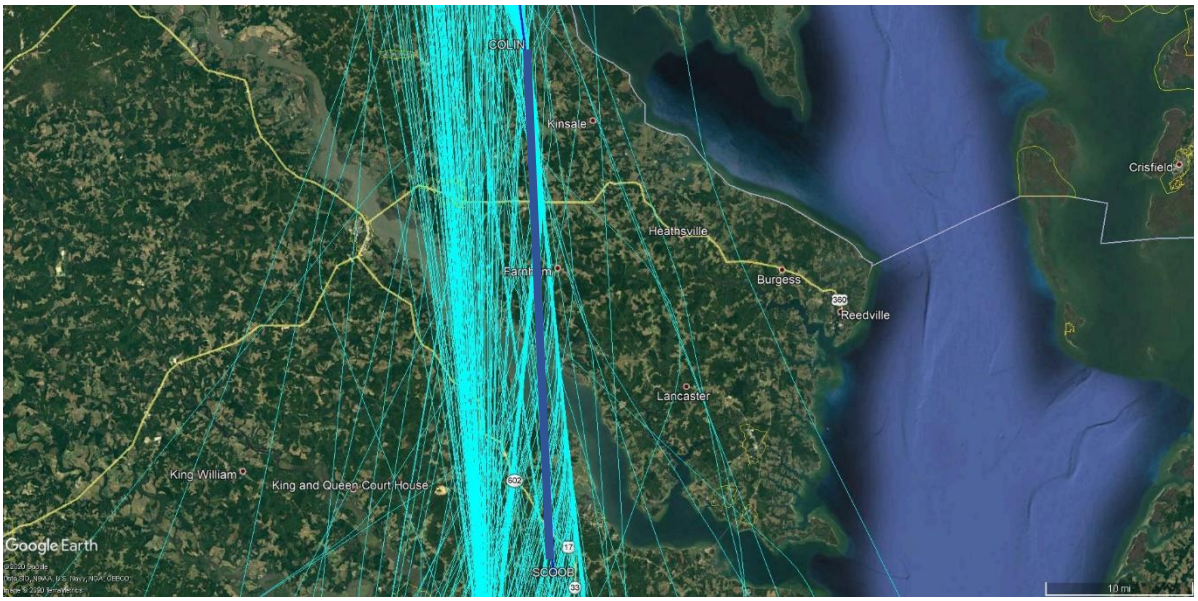

Figure 2: The blue line represents the proposed SCOOB transition. The light blue lines represent radar tracks of aircraft that are already traversing in close proximity to the proposed SCOOB transition.

FAA's Aviation Environmental Screening Tool (AEDT) was used to conduct noise screening to evaluate whether there would be noise impacts as a result of implementing the proposed amendments. The results of the modeling indicated that there would be no reportable or significant noise impacts. The reportable range is defined as a +/- 3 decibels (dB) increase in the 60-65 Day-Night Average Sound Level (DNL) range and +/-5 dB increase in the 45-60 DNL range. A significant impact by federal standards is an increase of 1.5 dB DNL in an area exposed to 65 dB DNL. **Attachment B** contains the AEDT noise screening analysis report.

Area of Potential Effects

As part of its responsibilities under Section 106, the FAA attempted to identify the Area of Potential Effects for the undertakings described above. The Section 106 regulations define the APE as "the geographical area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." 36 CFR § 800.16(d).

The Proposed Actions will not cause any physical effects. However, pursuant to 36 CFR 800.5(a)(2)(v), the FAA also considered the potential for the undertakings to introduce visual, atmospheric, or audible elements that could diminish the integrity of a historic property's significant historic features. The FAA compared the current flight tracks from aircraft at DCA to the propose changes to the air traffic procedures described above. The comparison is depicted in **Figure 1**. Based on this comparison, the FAA determined that there would be no new areas overflown by the proposed SCOOB transition, and therefore no potential to introduce new visual, atmospheric or audible elements. However, amending SIDs to eliminate FERGI and instead use RGIII is expected to introduce aircraft to areas that are not currently

overflown.[1] Such areas have been identified as part of the Area of Potential Effects depicted in Figure 4.

The FAA also considered the potential for the undertaking to have noise effects that could alter the character or use of historic properties. The FAA conducted a noise screen to determine how these undertakings would affect current aircraft noise exposure levels. This analysis indicated that the undertakings would not result in any noise increase that would be "significant" or "reportable" as defined in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*. As a result, there was no Area of Potential Effects based on potential noise increases for either of the proposed changes.

In sum, the FAA proposes an Area of Potential Effects (APE) for the area between the waypoints BEBLE-FERGI-MELOE and waypoints BEBLE-RGIII-MELOE based on the potential introduction of visual, atmospheric, or audible elements. Refer to **Figure 3** to view the proposed APE. The FAA conducted a review of the National Historic Register of Historic Places to identify resources within the APE. Based on that review, no historic properties were identified within the APE in Virginia.

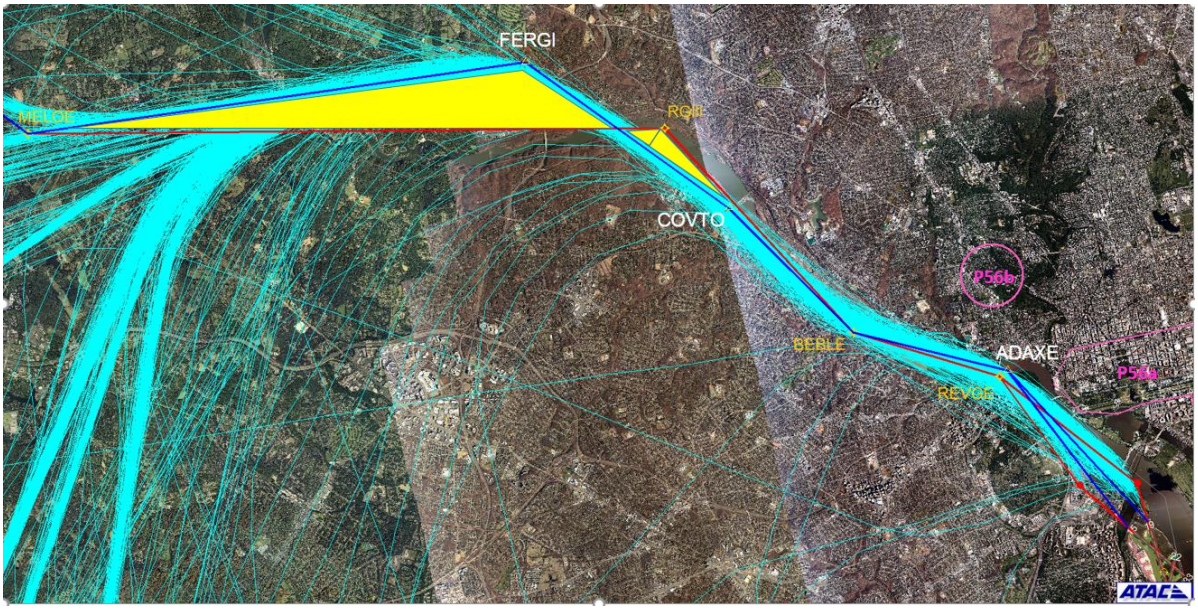

Figure 3. The APE is depicted by the yellow highlighted areas. The blue line is the current route and the red line is the proposed route. Light blue lines are radar tracks for aircraft using the current route.

Request for Concurrence

The FAA requests your review of the information listed within this document, and we seek your concurrence with a finding that the proposed implementation of the SCOOB transitions

[1] Note that while there is expected to be an introduction of aircraft overflights, a small number of aircraft currently overlfly the area. Moreover, the existing flight corridor is approximately 3,500 feet north at the furthest point of change and already exposes the area to a degree of audibe and visual impacts.

would have a determination of “No Effect” on historical or cultural properties and the removal of FERGI and replacement with RGIII would have a determination of "No Historic Properties Affected". If you desire to provide comments, concurrence, or objection to the FAA’s proposed findings, please provide them by letter or email within 30 days.

Thank you for your review of this project,

Andrew Pieroni

Andy Pieroni, Environmental Protection Specialist
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E-mail address: andrew.pieroni@faa.gov

Cc: Maryland Historical Trust, Fairfax County Heritage Conservation, Montgomery Parks

ATTACHMENTS

Attachment A: Finding of No Adverse Impact Letter Amendment of Nine DCA Aircraft Departures

COMMONWEALTH of VIRGINIA

Department of Historic Resources

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Secretary of Natural Resources

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Section 106 Consultation, Proposal to Publish Amended Air Traffic Procedures at Reagan Nat'l - Amended waypoint of 9 northbound departure procedures, Arlington County, Virginia

To: Andy Pieroni, FAA
Susan Stafford, FAA
Charles J. Gibson, FAA
Ryan Almasy, FAA

DHR File No. 2020-0196

FAA has made the determination of NO HISTORIC PROPERTIES AFFECTED.

DHR: Concurs

Adrienne Birge-Wilson, Architectural Historian — Date
Office of Review and Compliance
Virginia Department of Historic Resources

3/30/2020

Attachment B: Noise Screening Report

Noise Screening Analysis Report

For

Ronald Reagan Washington National Airport

KDCA

Washington, DC

Prepared by:

ATO, AJV-114, Environmental Policy Team

Tuesday, April 07, 2020

Summary

Noise analysis was completed to assess potential impacts resulting from proposed air traffic actions at Ronald Reagan Washington National Airport (DCA) in Washington, DC, using the Terminal Area Route Generation, Evaluation, and Traffic Simulation (TARGETS) Environmental Plug-in tool and the Aviation Environmental Design Tool (AEDT).

Historical radar track data was used to create a baseline scenario. After the baseline scenario was built, aircraft operations assigned to the proposed procedure were modeled as flying the proposed procedure, which provides the alternative scenario. Selections for track assignments were made based on historical flight paths, and RNAV capable aircraft were assigned to the procedure nearest to their historical tracks in the alternative scenario.

Once the baseline and alternative scenarios were built, the TARGETS Environmental Plug-in Tool was used to generate noise outputs for both scenarios. In the case of DCA, there was no significant or reportable increase in noise resulting from the proposed action.

Purpose

The purpose of this report is to document the process used to analyze the noise impact of proposed air traffic actions at Ronald Reagan Washington National Airport (DCA) in Washington, DC and to present the results of that analysis. The analysis of the instrument flight procedures at DCA was performed using the Terminal Area Route Generation, Evaluation, and Traffic Simulation (TARGETS) Environmental Plug-in tool and the Aviation Environmental Design Tool (AEDT).

Figure 1 shows the airport diagram for DCA, which provides the runway layout and the airport's field elevation. Table 1 shows the procedure name, type and publication date. Figures depicting the procedure changes are shown in Appendix A.

Table 1: Proposed Procedures Modeled for DCA

Procedure Name	Procedure Type
AMEEE ONE	RNAV SID
CLTCH TWO	RNAV SID
DOCTR FIVE	RNAV SID
HORTO THREE	RNAV SID
JDUBB TWO	RNAV SID
REBLL FOUR	RNAV SID
SCRAM FOUR	RNAV SID
SOOKI FIVE	RNAV SID
WYNGS FOUR	RNAV SID

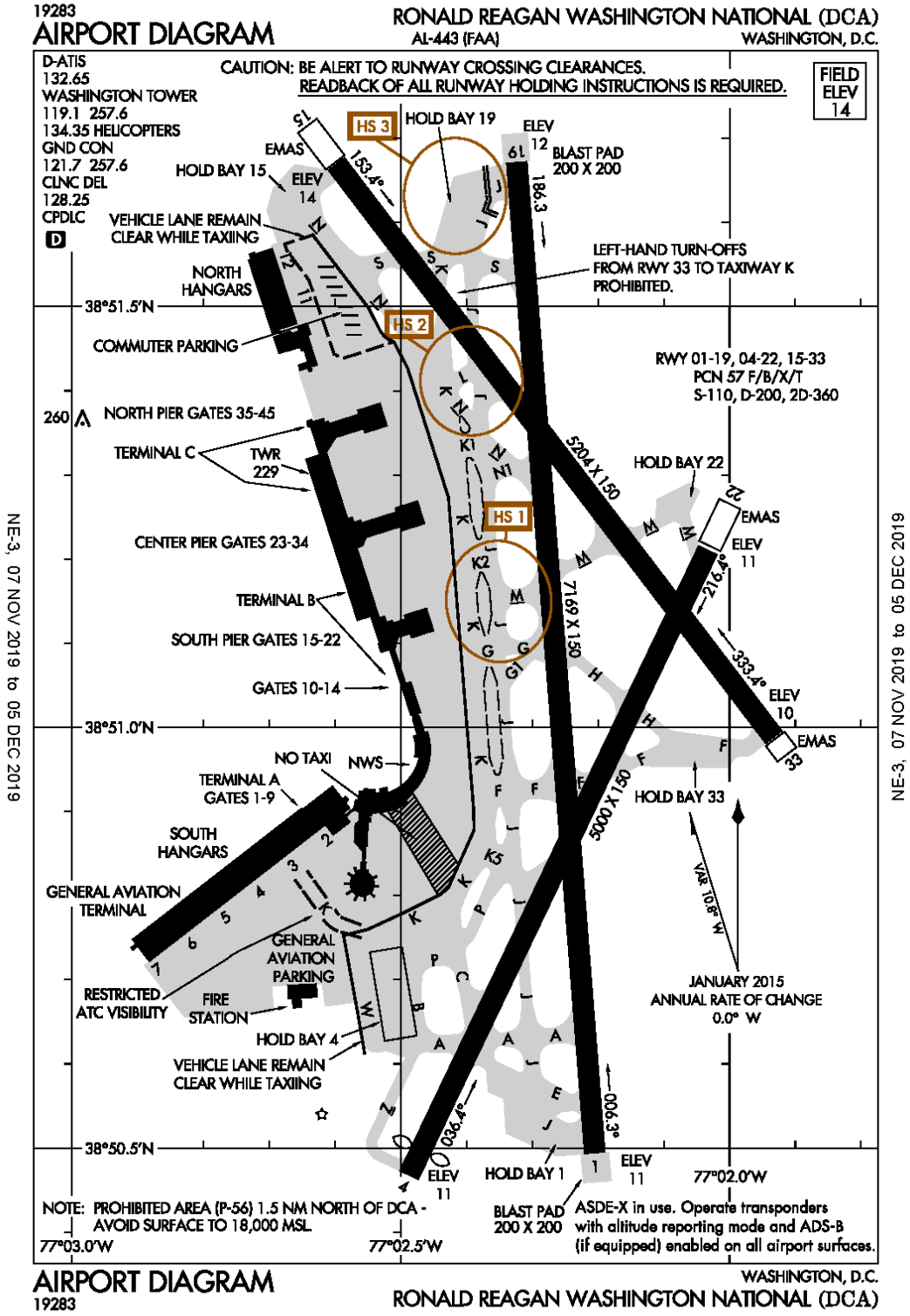


Figure 1: Airport Diagram of DCA

Methods

Noise screening was completed using the TARGETS Environmental Plug-in tool to calculate Day-Night Average Sound Levels (DNL) from existing operations (baseline) and modeled operations to replicate the proposed action (alternative). Historical radar track data for DCA was obtained from the Performance Data Analysis and Reporting System (PDARS). After concurrence of the dates to be used by the environmental specialist and air traffic facility, 60 days of random radar track data were selected for the DCA analysis representing a range of temperature and wind conditions as well as being representative of the average runway usage. A list of the tracks selected for analysis are shown in Appendix B.

After the removal of overflights, incomplete track segments, and other unusable tracks, 24,743 tracks were used for the analysis. The altitude of the historical tracks was considered and a range ring was set to contain the area where most of the tracks reached above 10,000 feet Above Field Elevation (AFE). This established the study area and the tracks outside of the study area were removed from the analysis. In the case of DCA, the study area is a circle with a radius of 40 nautical miles (nm) centered over the airport.

The randomly selected dates are presumed to represent average traffic counts and traffic flows through various seasons and peak travel times for DCA. There were no significant runway outages or significant conditions that would otherwise result in abnormal traffic counts or traffic flows. In order to calculate the Average Annual Day (AAD) impacts, traffic counts for average daily departures and arrivals used for annualization in this analysis were obtained through the FAA's AFS Data Analytics Runway Usage Module.

Historical radar track data was used to create a baseline noise exposure, which provides lateral path definition, aircraft fleet mix, departure/arrival stream proportions for each runway, and day/night traffic ratios. The alternative scenario was built by taking aircraft operations and assigning them to the proposed procedure instead of their historical tracks. RNAV capable aircraft were assigned to the procedure based on their historical tracks, proximity to other procedures, and any additional usage information from the Environmental Specialist. In the case of DCA, all operations departing from runways 01 and 03 were assigned to a proposed procedure.

The analysis does not take into account terrain. All calculations were made in reference to the airport's field elevation. The altitude controls were based on AEDT standard aircraft profiles. With respect to lateral distribution, a 0.5 nm dispersion for RNAV procedures was used and a 0.3 nm dispersion for RNP procedures was used based standard methods for noise screening. For tracks near the runway where dispersion is normally less than 0.3 nm, dispersion was based on historical track data.

Once the baseline and alternative scenarios were built, the TARGETS Environmental Plug-in Tool was used to generate noise outputs for both scenarios. The Environmental Plug-in Tool uses the Aviation Environmental Design Tool to calculate noise. The noise output files from AEDT for both the baseline and alternative noise exposures consist of a series of equally spaced grid points, each showing the DNL value. The noise grid (receptor set) is a square grid extending 30 nm in each direction of the airport with grid points (receptors) spaced 0.25 nm apart. The noise results of the baseline and alternative scenarios were then compared to test for potential noise impacts.

The noise impact is a comparison between the baseline and the alternative noise exposure that depicts reportable and significant noise changes at all affected locations per the criteria indicated in FAA Order 1050.1F and Chapter 32 of FAA Order 7400.2K. The reportable and significant noise increases and decreases (if any) are then depicted on an aerial map.

Results

1. Noise Exposure

The baseline and alternative noise exposure is shown in Figure 3-1 and Figure 3-2, which depicts the levels and locations of the noise produced by the historical radar track data for arrivals and departures.

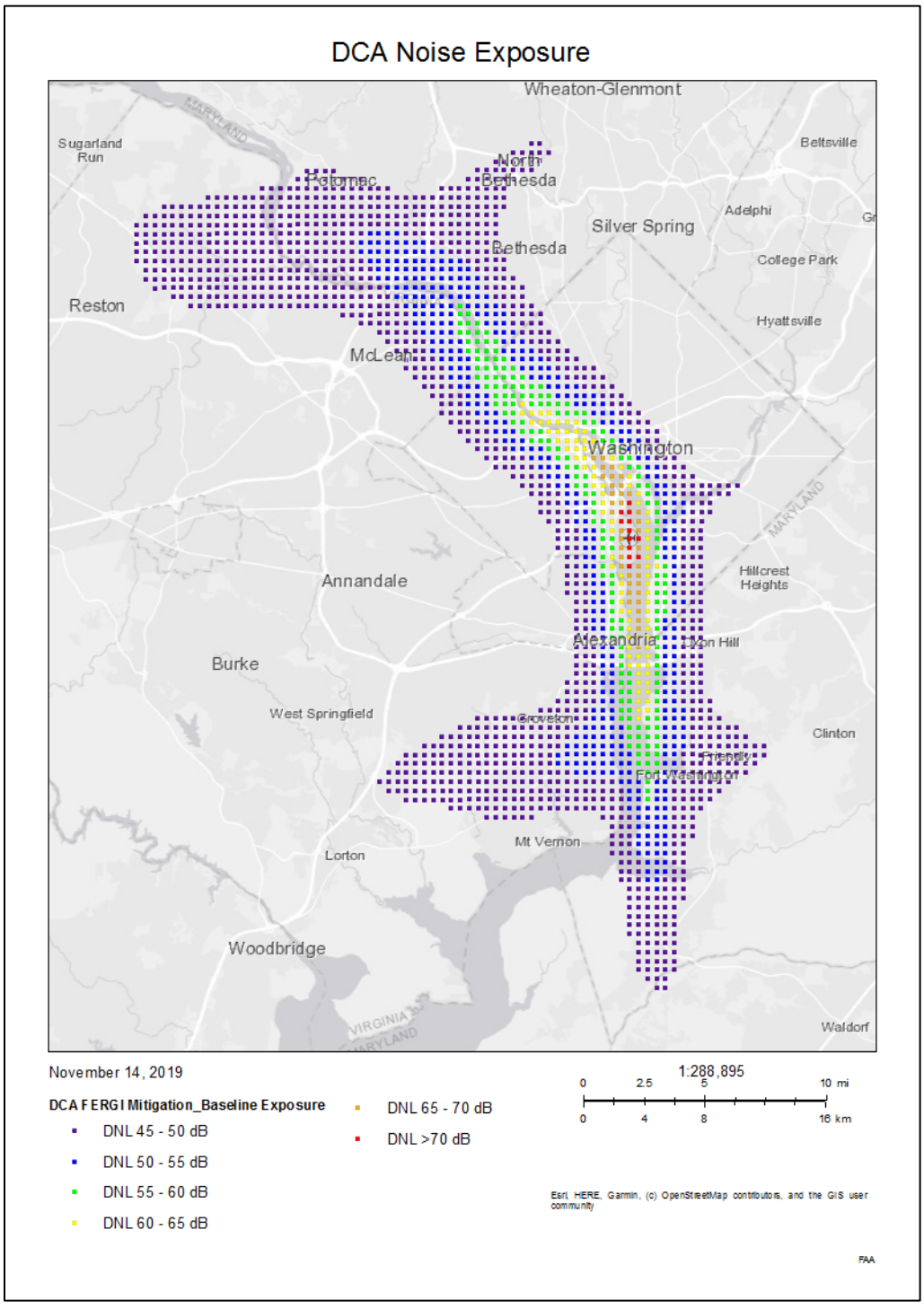


Figure 3-1: Baseline Noise Exposure in TARGETS

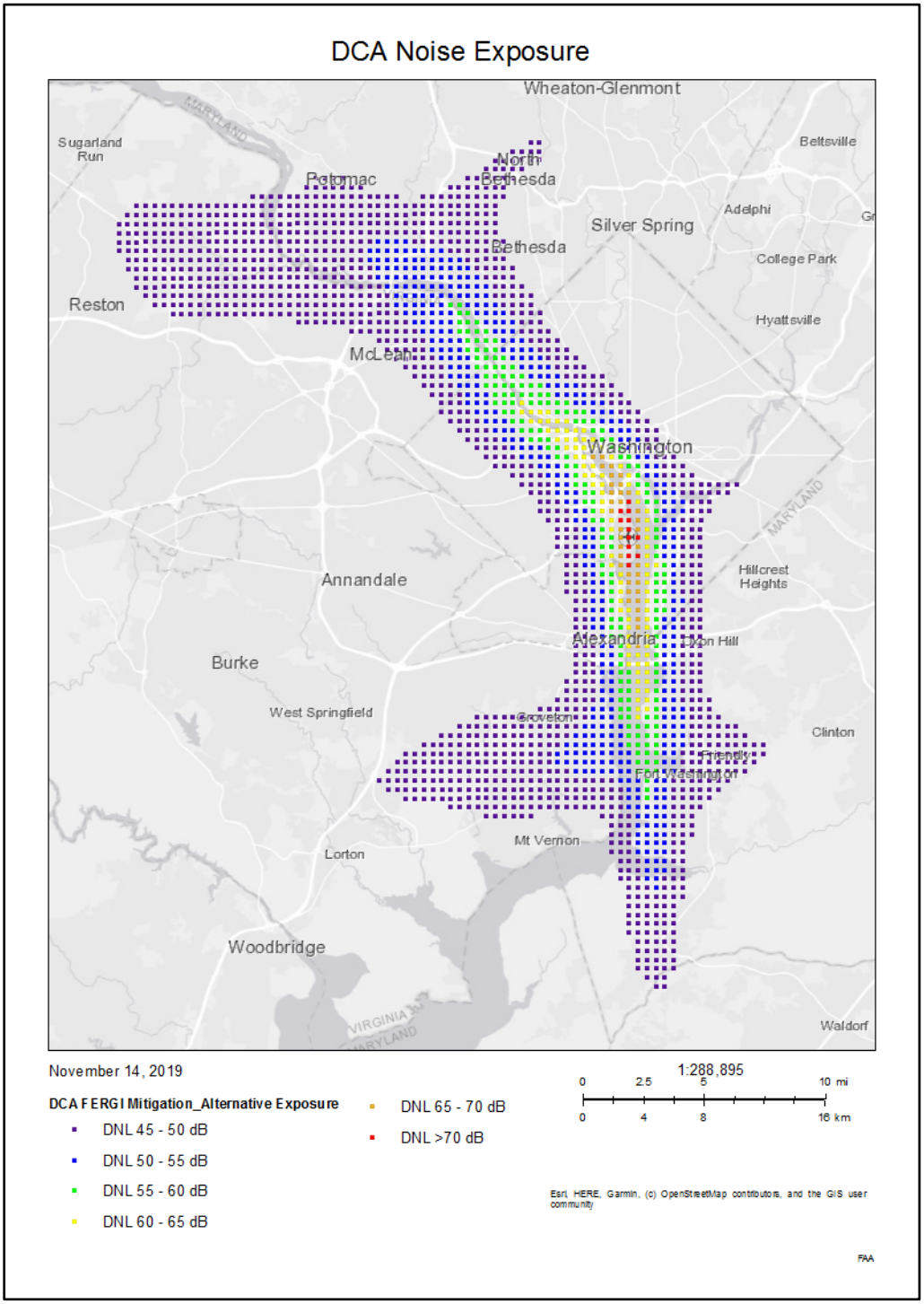


Figure 3-2: Alternative Noise Exposure for the Proposed Procedures in TARGETS

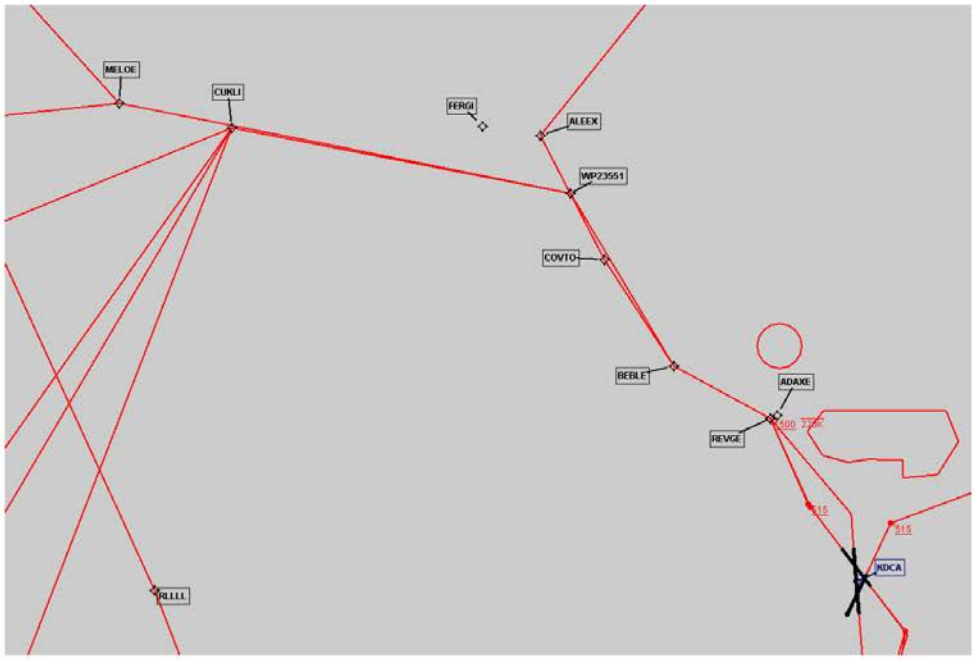
2. Noise Impacts

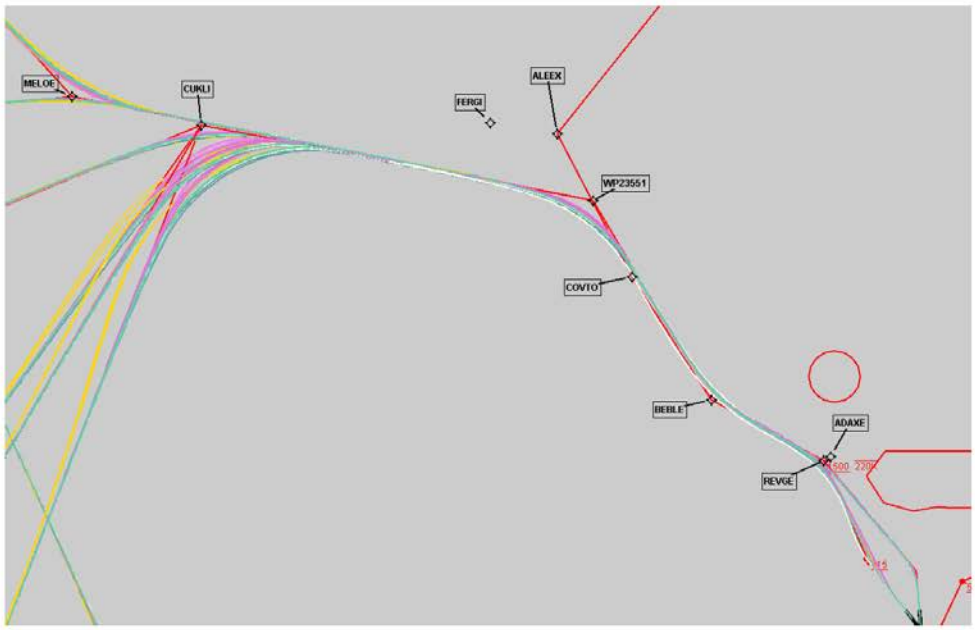
A comparison of the baseline and alternative scenarios by the TARGETS Environmental plug-in determines the noise impacts of the proposed action. Significance of noise impacts is defined by FAA Order 1050.1F[1] which establishes the threshold for significant increases in noise exposure. Where the proposed action results in a noise impact, TARGETS graphically displays a noise impact layer that indicates the locations of reportable and significant changes. When applicable, these impacts are shown overlaying a map view of the area surrounding the airport. In the case of DCA, there was **no significant increase in noise resulting from the proposed action.**

[1] According to Exhibit 4-1 of FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, a noise impact is significant if *"The action would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe."*

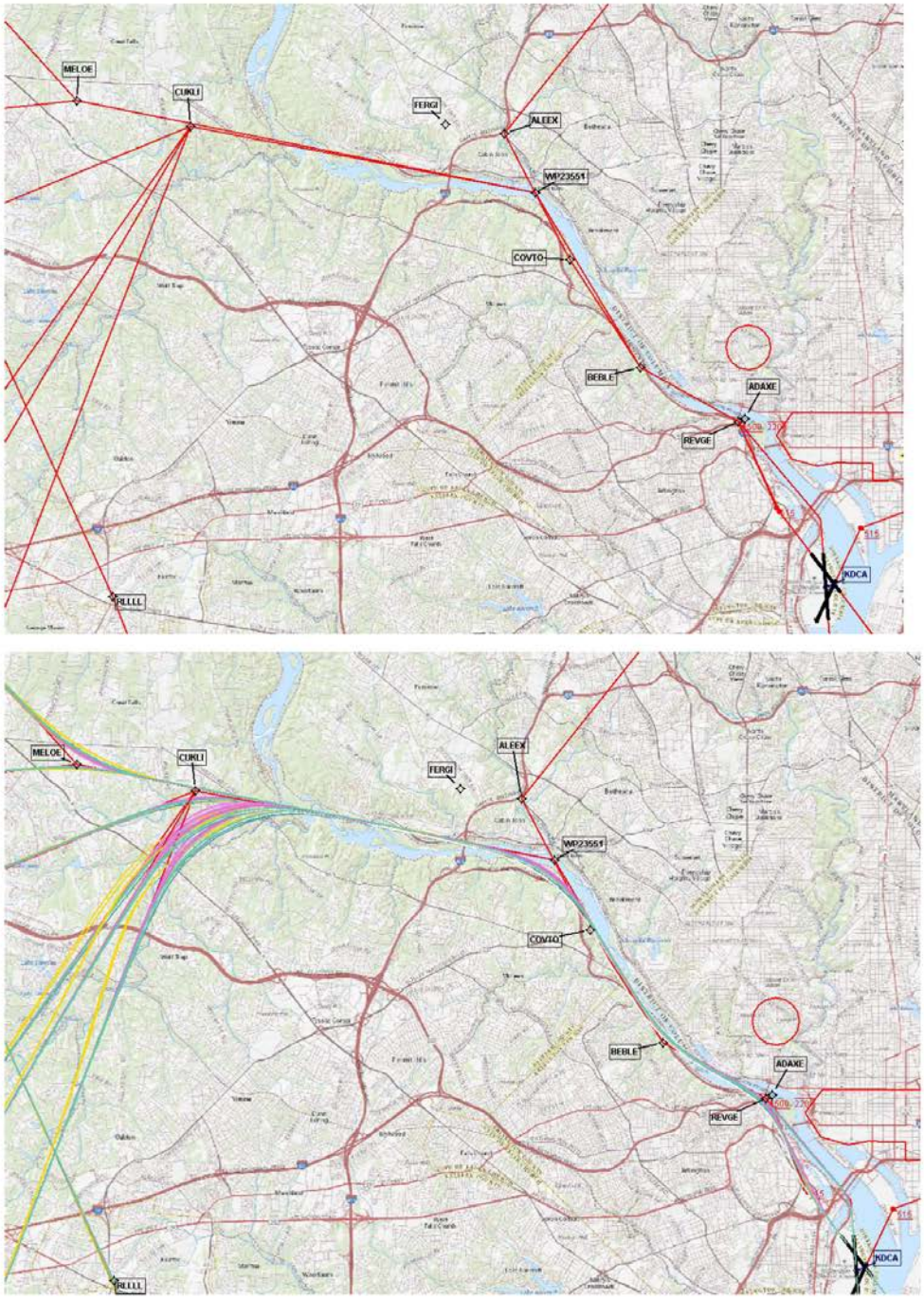
Appendix A Proposed Changes to DCA SIDS

DCA SIDS - ALTERNATIVE ROUTE FROM BEBLE TO CUKLI/MELOE





DCA SIDS - ALTERNATIVE ROUTE FROM BEBLE TO CUKLI/MELOE



Appendix B Random Tracks Used for Analysis

1	7/9/2018
2	7/21/2018
3	7/23/2018
4	7/24/2018
5	7/26/2018
6	8/1/2018
7	8/5/2018
8	8/18/2018
9	8/20/2018
10	8/27/2018
11	8/29/2018
12	8/30/2018
13	9/1/2018
14	9/9/2018
15	9/11/2018
16	9/19/2018
17	10/8/2018
18	10/9/2018
19	10/14/2018
20	10/16/2018
21	10/17/2018
22	10/19/2018
23	10/21/2018
24	10/31/2018
25	11/7/2018
26	11/12/2018
27	12/1/2018
28	12/4/2018
29	12/7/2018
30	12/11/2018

31	12/12/2018
32	12/13/2018
33	12/18/2018
34	12/23/2018
35	12/27/2018
36	12/31/2018
37	1/3/2019
38	1/28/2019
39	1/30/2019
40	2/4/2019
41	2/5/2019
42	2/6/2019
43	2/8/2019
44	2/15/2019
45	2/18/2019
46	2/25/2019
47	3/9/2019
48	3/12/2019
49	3/20/2019
50	3/26/2019
51	3/27/2019
52	3/28/2019
53	4/25/2019
54	4/26/2019
55	4/27/2019
56	5/1/2019
57	5/3/2019
58	5/6/2019
59	5/23/2019
60	5/28/2019