



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

Air Traffic Organization
Western Service Center

2200 S. 216th St.
Des Moines, WA 98198-6547

January 8, 2021

Steve Turner
State Historic Preservation Officer
Office of Archaeology and Historic Preservation
1200 Broadway
Denver, CO 80203

RE: Section 106 Consultation Proposed Assessment of Effects, Finding and Determination for the Proposed Amendments to Certain Flight Procedures from the Post Implementation Evaluation of the Denver Metroplex Project

Dear Mr. Turner:

The Federal Aviation Administration (FAA) continues to monitor and evaluate air traffic control procedures in the Denver metropolitan area. The FAA has identified ten flight procedures implemented on March 26, 2020, which require amendments to address inflight safety concerns and operational challenges with converging landing operations, and simultaneous runway operations, both for air traffic control and industry pilots. The FAA has determined the proposed amendments to the ten flight procedures are considered an undertaking subject to review under Section 106 of the National Historic Preservation Act of 1966 (NHPA)(16 U.S.C. § 470 et seq.) and its implementing regulations at 36 C.F.R. part 800. The description of the undertaking is detailed below. The undertaking is also subject to the National Environmental Policy Act (NEPA), and the FAA has initiated preparation of a documented categorical exclusion to meet its regulatory obligations.

The purpose of this letter is to initiate consultation under Section 106 of the NHPA, present the FAA's findings, and solicit comments from the Colorado State Office of Archaeology and Historic Preservation (SHPO) on this undertaking. With your agreement, the FAA would like to expedite consultation by addressing all of the steps in the Section 106 process in this letter, as provided for by 36 C.F.R. §800.3(g).

Background

The FAA implemented the Denver Metroplex Project flight procedures on March 26, 2020 after completing an Environmental Assessment under NEPA and completing Section 106 consultation. As noted in your letter of November 12, 2019, consultation with all interested parties for the

Denver Metroplex Project did not identify any historic properties or cultural resources for which aircraft noise and/or aircraft overflights would have an effect on a historic property's characteristics qualifying that property for the National Register of Historic Places (National Register). Subsequently, your office concurred with the FAA finding of "no adverse effect". With this proposed undertaking, there are similarities to the Denver Metroplex Project in the methodology for identifying historic resources, and the methodology for the determination of effects.

Proposed Undertaking

The proposed undertaking consists of runway transition amendments for nine Standard Terminal Arrival (STAR) RNAV flight procedures, and a runway transition amendment of an initial RNAV procedure segment type for the one RNAV Standard Instrument Departure (SID) flight procedure, which are intended to make modifications and adjustments to procedures, strategies, and techniques associated with air traffic management. The proposed flight procedure amendments are categorized in the following area:

Runway Transitions – Modifications were made to lateral and vertical flight paths for arrival and departure runway transitions to optimize converging and simultaneous runway operations.

The proposed flight procedures to be amended are listed by the Study Airport below:

- Denver International Airport, Denver, Colorado
 - AALLE TWO RNAV STAR
 - LAWGR TWO RNAV STAR
 - CLASH THREE RNAV STAR
 - NIIXX TWO RNAV STAR
 - TBARR TWO RNAV STAR
 - SSKII TWO RNAV STAR
 - LONGZ ONE RNAV STAR
 - FLATI TWO RNAV STAR
 - ZIMMR TWO RNAV SID

- Centennial Airport, Centennial, Colorado
 - ZOMBZ FOUR RNAV STAR

- Colorado Air and Space Port, Watkins, Colorado
 - ZOMBZ FOUR RNAV STAR

Proposed Area of Potential Effects

A noise screening and flight track analysis was conducted to identify the geographical area, where historic properties that might be present, could be affected by the introduction of visual or audible

elements from aircraft overflights. Based on the scale and nature of the undertaking, the FAA proposes to delineate an APE based on the geographical area that would be overflowed by aircraft on the proposed runway transitions. The APE boundaries are defined by radar flight tracks used for defining the noise screening flight corridors to determine the potential impact(s) from the changes in aircraft noise exposure. The proposed APE encompasses the areas previously delineated as the APE for the Denver Metroplex Project, as defined in our letter of August 13, 2019.

As depicted in **Figure 1** through **Figure 3** below, the APE is the area of the proposed undertaking as modelled in the noise screening analysis.¹ The multiple white color lines represent the proposed runway transitions flight path centerline and sublimes (or flight path dispersion) beginning at the terminus of the existing RNAV STAR routes. The centerline and sublimes represents the noise screening modelled flight corridor for the flight procedure.

Proposed Methodology for Determination of Effects

For this undertaking, no land acquisition, construction, or other ground disturbance would occur. Implementation of the proposed undertaking involves amending aircraft flight procedures, and would not include any project components that would touch or otherwise directly affect the ground surface. Therefore, potential effects are limited to effects from aircraft overflights, primarily noise and visual effects.

The FAA proposes to assess the effects to historic resources within the proposed APE that change the character of a property's use, or physical features within the property's setting that contribute to its historic significance; or introduce atmospheric, audible, or visual features to an area that would diminish the integrity of the property's significant historic features (including its setting, provided that the setting has been identified as a contributing factor to the property's historical significance).

Identification of Historic Properties

Section 106 regulations direct Federal agencies to make reasonable and good faith efforts to identify historic properties that are either on, or eligible for listing on, the National Register of Historic Places (National Register) (36 C.F.R. § 800.4(b)(1)). The FAA proposes identifying historic properties within the APE to which an adverse effect would change the character of the property's use, or of physical features within the property's setting that contribute to its historic significance; or introduce an atmospheric, audible, or visual feature to the area that would diminish

¹ The radar track data sampled provides a conservative representation of an average annual day of air traffic operations at an airport served by specific flight procedures. (FAA, *MITRE Guidance for Noise Screening of Air Traffic Actions*, 2012).

the integrity of the property's significant historic features (including its setting, provided that the setting has been identified as a contributing factor to the property's historical significance).

For this undertaking, the FAA will focus its efforts in identifying historic properties within the proposed APE based on two factors. The first factor would be identifying historic properties that could receive noise increases that could alter historic properties where a quiet setting is a characteristic that qualify it for the National Register. The FAA's assessment of effects considers the change in aircraft noise exposure level measured in decibels (dB). Changes in aircraft noise exposure levels are calculated at points arranged at 0.25 nautical mile intervals on an evenly spaced grid that covers the entire APE. In the event that noise changes meeting the criteria as specified by FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*,² are identified at a point on the evenly spaced grid, the area at and around the grid point would be further investigated for the presence of historic properties that are eligible for, but not currently listed in the National Register. Consistent with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, the FAA's noise screening analysis for this undertaking did not identify any "significant" or "reportable" changes in aircraft noise exposure. Accordingly, the proposed undertaking would not introduce an audible element that would diminish the integrity of the property's significant historic features, including its setting.

The second factor takes into account that some types of historic properties may be affected by overflights due to visual impacts. The FAA also considered the potential for the introduction of visual elements that could diminish the integrity of the property's historic features. The APE was compared to the location of historic flight tracks. In the event changes in aircraft flight paths introduce new overflights, the area at and around the new aircraft flight path would be further investigated for the presence of historic properties that are eligible for, but not currently listed in the National Register.

In **Figures 1** through **Figure 3**, the orange color lines depict the location of the historic flight tracks for the noise screening which used 2019 flight track data to account for the usual number of operations at the Study Airports. In **Figure 1**, the turquoise color lines depict the locations of current flight tracks from the time period of August 9, 2020 to September 5, 2020 to account for how the ZIMMR RNAV SID flight procedure has been flown since implementation. During this time frame, track data supports that there was a fair amount of demand for use of the ZIMMR RNAV SID consistently across these dates. In **Figure 2** and **Figure 3**, the turquoise color lines depict the location of current flight tracks from the time period of August 9, 2020 to September 5, 2020 to account for how the ZOMBZ RNAV STAR flight procedure has been flown since implementation. During this time frame, track data supports that there was a fair amount of demand for use of the ZOMBZ RNAV STAR consistently across these dates. There is notably fewer

² The FAA's noise guidelines for compliance with the NEPA define a significant impact as an increase of a day-night average sound level (DNL) 1.5 dB in areas exposed to aircraft noise of DNL 65 dB and higher. The FAA refers to changes in noise exposure levels as "reportable" for changes defined as a +/- 3 dB increase in the 60-65 DNL range, and +/- 5 dB increase in the 45-60 DNL range.

number of RVAV STAR flight operations for the Colorado Air and Space Port, as it is a hub for commercial space transportation, research, and development.

Figure 1: Denver International Airport Noise Screening Flight Procedure Backbones With Flight Tracks from 2019 and 2020.

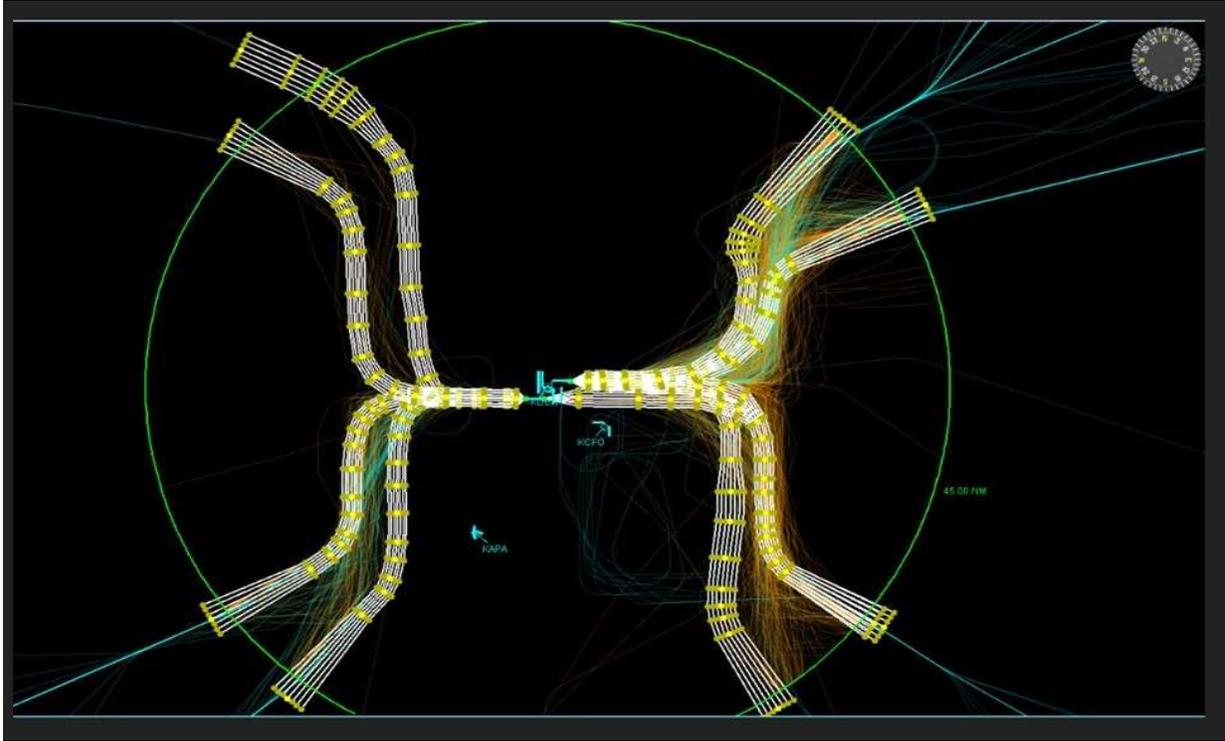
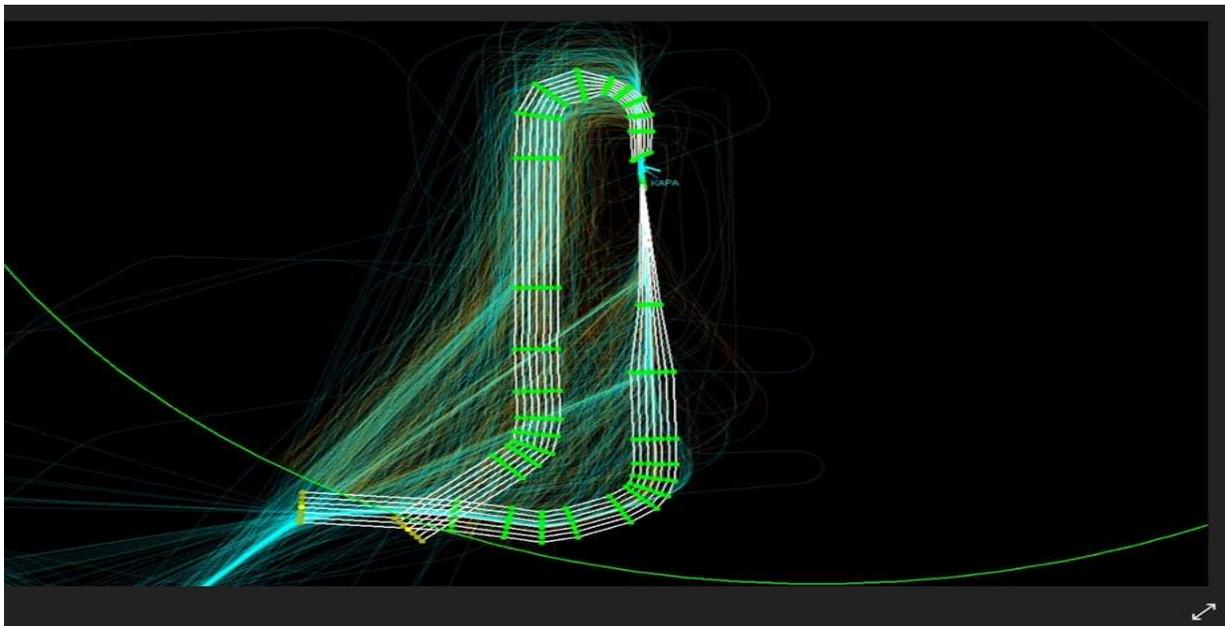
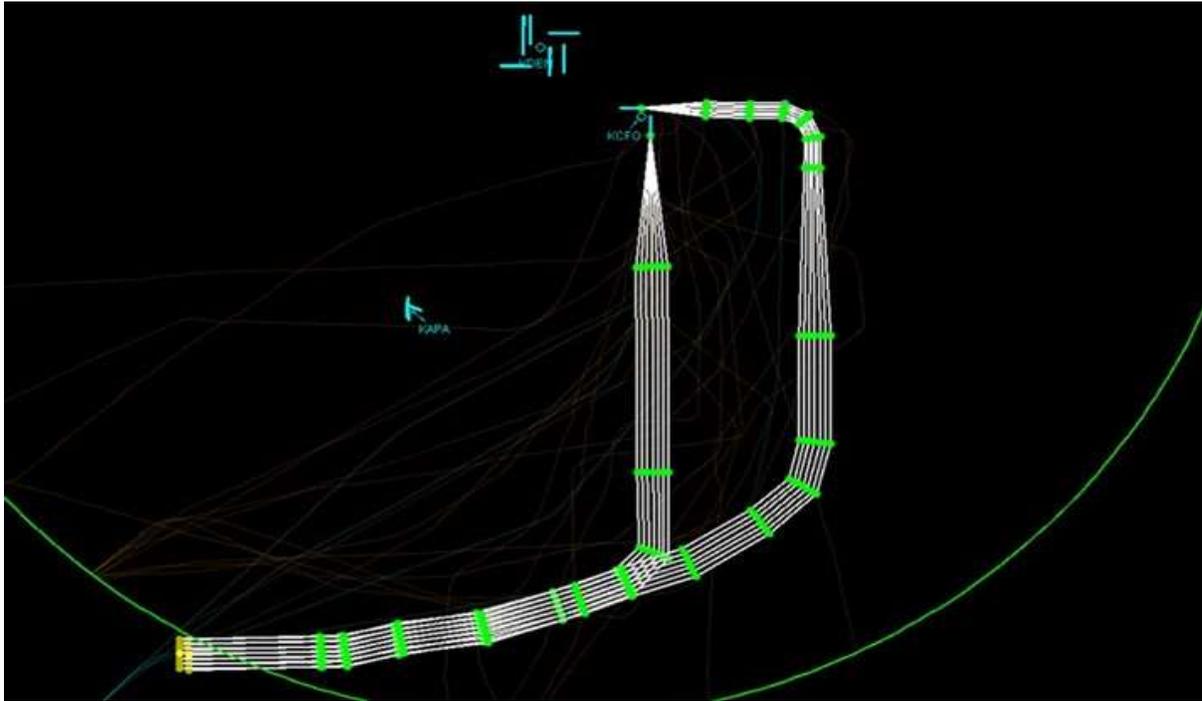


Figure 2: Centennial Airport Noise Screening Flight Procedure Backbones With Flight Tracks from 2019 and 2020.



**Figure 3: Colorado Air and Space Port Noise Screening Flight Procedure Backbones
With Flight Tracks from 2019 and 2020.**



The FAA compared the proposed amended flight procedures with current flight tracks, as shown in **Figures 1, 2 and 3** above, and determined that there would be no new areas overflowed. Accordingly, the proposed undertaking would not introduce a visual element that would diminish the integrity of the property's significant historic features, including its setting.

Determination of Effects

As a result of careful consideration of the potential effects of the proposed undertaking, the FAA proposes a finding of "no historic properties affected". The FAA has determined that the proposed undertaking would not have the potential to introduce audible or visual elements that could diminish the integrity of an historic property. The proposed undertaking would not introduce a change in aircraft noise exposure, nor introduce flight tracks changing any existing impacts on historic properties and cultural resources, if any such properties are present.

Public Involvement

The FAA shall seek and consider the views of the public in a manner that reflects the nature and complexity of the proposed undertaking and its effects on historic properties. Based upon the APE and the assessment of effects, the FAA intends to provide the public with the information of the undertaking and its effect, and solicit their response by placing a notice in local newspapers for the areas associated with the geographic location of the Study Airports.

Request for Concurrence

The FAA requests your review of the information contained in this document and seeks your comments within 30 days. Pursuant to 36 C.F.R. § 800.4(a)(1) and (2), and § 800.4(d)(1), the FAA seeks your concurrence with the finding of “no historic properties affected” for this undertaking. The FAA recognizes the Coronavirus Disease 2019 public health emergency may affect the consultation timeframe. If you have comments or questions about this undertaking, please contact: Marina Landis at (206) 231-2238, or marina.landis@faa.gov.

Sincerely,

B. G. Chew
Acting Group Manager
Operations Support Group
Air Traffic Organization Western Service Center