ORAL ARGUMENT NOT YET SCHEDULED

Case No. 20-1075
Consolidated with Case No. 20-1085

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

ARAPAHOE COUNTY PUBLIC AIRPORT AUTHORITY;
CITY OF GREENWOOD VILLAGE;
THE BOARD OF COUNTY COMMISSIONERS OF GILPIN COUNTY, CO;
MOUNTAIN AVIATION, INC.;
BOARD OF COUNTY COMMISSIONERS OF ARAPAHOE COUNTY, CO; and
BOARD OF COUNTY COMMISSIONERS OF DOUGLAS COUNTY, CO

Petitioners

v.
FEDERAL AVIATION ADMINISTRATION; and

STEPHEN DICKSON, in his capacity as Administrator
of the Federal Aviation Administration,

Respondents

On appeal from the United States Department of Transportation
Federal Aviation Administration
Environmental Assessment for the Denver Metroplex Project

PETITIONERS' OPENING BRIEF

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CORPORATE DISCLOSURE STATEMENT

Petitioners, the Arapahoe County Public Airport Authority, Board of County Commissioners for Arapahoe County, Board of County Commissioners for Douglas County, City of Greenwood Village and The Board of County Commissioners For Gilpin County are governmental bodies under the laws of the State of Colorado, and are not nongovernmental corporate parties, and are therefore not required to file a corporate disclosure statement under Federal Rule of Appellate Procedure 26.1(a).

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Cases

Statutes

Regulations

Other Authorities

STATEMENT OF RELATED CASES

This case has not previously been before this Court or any other court. There are no related cases currently pending in this Court or any other Court of which counsel is aware.

GLOSSARY

AGL	Above Ground Level
AR	Administrative Record
ATC	Air Traffic Control
CEQ	Council on Environmental Equality
FAA	Federal Aviation Administration
EIS	Environmental Impact Statement
EA	Environmental Assessment
FONSI	Finding Of No Significant Impact
IFR	Instrument Flight Rules
JA	Joint Appendix
NAS	National Airspace System
NCP	Noise Compatibility Program
NEPA	National Environmental Policy Act of 1969
STAR	Standard Terminal Arrival Route
VFR	Visual Flight Rules

JURISDICTIONAL STATEMENT

A. Basis For Agency's Jurisdiction

The United States Department of Transportation, Federal Aviation Administration has jurisdiction to issue an Environmental Impact Statement or an Environmental Assessment under the National Environmental Policy Act of 1969, 42 U.S.C. § 4321, et seq. and FAA Order 1050.1F,

Under 42 U.S.C. § 4332,

> [A]ll agencies of the Federal Government shall—
>
> * * *
>
> (C) include in every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—
>
> (i) the environmental impact of the proposed action,
>
> (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
>
> (iii) alternatives to the proposed action,
>
> (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
>
> (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

> Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has the jurisdiction by law or special expertise with respect to any environmental impact involved.

42 U.S.C. § 4332.

Although it has since been superseded, at the time the EA was prepared, 40 C.F.R. § 1501.4, stated that the FAA has the power to issue an EIS or to determine that no EIS is required, in which case an EA must be prepared:

> In determining whether to prepare an environmental impact statement the Federal agency shall:
>
> (a) Determine under its procedures supplementing these regulations (described in § 1507.3) whether the proposal is one which:
>
> (1) Normally requires an environmental impact statement, or
>
> (2) Normally does not require either and an environmental impact statement or an environmental assessment (categorical exclusion).
>
> (b) If the proposed action is not covered by paragraph (a) of this section, prepare an environmental assessment (§ 1508.9). . . .
>
> (c) Based on the environmental assessment make its determination whether to prepare an environmental impact statement.
>
> . . .

> (e) Prepare a finding of no significant impact (§ 1508.13), if the agency determines on the basis of the environmental assessment not to prepare a statement.

40 C.F.R. § 1501.4. The FAA's procedures supplementing NEPA regulations are found in FAA Order 1050.1F. FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, July 16, 2015 ("Order 1050.1F").

B. Basis For The Court Of Appeals' Jurisdiction

This Court has jurisdiction over the Petitioner's appeal under 49 U.S.C. § 46110:

> [A] person disclosing a substantial interest in an order issued by the Secretary of Transportation (or the Administrator of the Transportation Security Administration with respect to security duties and powers designated to be carried out by the . . . [FAA] with respect to aviation duties and powers designated to be carried out by the Administrator of the [FAA]) in whole or in part under this part, part B, or subsection (l) or (s) [1] of section 114 may apply for review of the order by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit or in the court of appeals of the United States for the circuit in which the person resides or has its principal place of business.

49 U.S.C. § 46110(a).

C. Timeliness

Under 49 U.S.C. § 46110(a), "[t]he petition must be filed not later than 60 days after the order is issued." The FAA issued its Finding of No Significant Impact

and Record of Decision on January 24, 2020. Petitioner filed its petition in this case on March 20, 2020. Therefore, the Petition is timely.

STATEMENT OF THE ISSUES PRESENTED FOR REVIEW

1. Whether the FAA"s finding of no significant impact ("FONSI") in its Environmental Assessment arbitrary and capricious.

2. Whether the FAA's Environmental Assessment violates the National Environmental Policy Act, 42 U.S.C. § 4321 *et seq*., because it failed to consider the environmental impacts of the proposed Metroplex project.

3. Whether the FAA's FONSI is arbitrary and capricious because it arbitrarily selected only a five year period for evaluation, failed to consider airspace below 3,000 feet AGL and failed to properly analyze fuel burn and emissions data.

4. Whether the FAA's proposed changes in the overflight patterns are arbitrary and capricious because they will impact the ability to mitigate noise impacts.

5. Whether the FAA's decision is arbitrary and capricious because it failed to engage the Airport in the evaluation process and failed to utilize available data in considering the impact with respect to noise.

6. Whether the FAA's decision is an abuse of discretion or otherwise not in accordance with law because it failed to assess environmental health risks and safety risks that may disproportionately affect children.

7. Whether the FAA's finding that the Preferred Alternative will ensure the safety of aircraft and the efficient use of airspace is unwarranted by the facts and in violation of 49 U.S.C. § 40101(d)(4) and § 40103(b)(3).

8. Whether the FAA's decision to implement the Denver Metroplex project is arbitrary and capricious prior to completion of certain Congressionally mandates studies including those evaluating (1) aircraft noise exposure, (2) current level of federal noise standards, and (3) the FAA's community involvement practices.

9. Whether the FAA failed to consider Gilpin County's unique attributes in preparing the EA?

10. Whether the FAA failed to comply with Section 106 of the Historic Preservation Act?

STATEMENT OF LAW AND FACTS

A. Legal Framework

1. National Environmental Policy Act

The National Environmental Policy Act ("NEPA") requires federal agencies to identify, evaluate and disclose to the public the environmental impacts of, and alternatives to, their proposed actions. 42 U.S.C. § 4332(2)(C) and (E); 40 C.F.R. parts 1500-1508; FAA Order 1050.1F. The review process has two primary purposes: (1) it "ensures that the agency . . . will have available, and will carefully consider, detailed information" regarding environmental concerns; and (2) it "guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of [the] decision." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349-50 (1989). Consistent with those Congressionally-defined objectives, agencies must fully comply with NEPA before taking any action that could have adverse environmental consequences or limit their choice of reasonable alternatives. 40 C.F.R. § 1506.1.

In NEPA, Congress recognized that the federal government's actions may cause significant environmental effects. NEPA requires agencies "to consider every significant aspect of the environmental impact of a proposed action." *Balt. Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 97 (1983). Agencies must take a "hard look" at the environmental consequences and alternatives of a proposed action. *Id.*; 42 U.S.C. § 4332(2)(C). Environmental effects are usually evaluated in

detailed, comprehensive Environmental Impact Statements ("EISs"). *See* 42 U.S.C. § 4332(2)(C); 40 C.F.R. part 1502. Here, the FAA implemented a less robust process, known as an Environmental Assessment ("EA") which is used when the environmental impacts are less than significant or not fully known. 42 U.S.C. § 4332(2)(E); 40 C.F.R. § 1501.5. An EA might result in a finding of significant impacts, leading to the undertaking of a full EIS, or a finding of "No Significant Impacts" (a "FONSI"), and an end to the NEPA inquiry. Even in the EA, however, the FAA is required to disclose a clear, accurate description of the potential environmental impacts that could arise from the proposed federal action.

NEPA compliance is subject to multiple layers of regulations and guidance. The Council on Environmental Equality ("CEQ") has promulgated NEPA regulations which are binding on all federal agencies. See 40 C.F.R. § 1500.3. Among other things, CEQ's regulations direct each federal agency to adopt its own NEPA procedures. 40 C.F.R. § 1507.3. Accordingly, adherence to the environmental review process and substantive evaluation of any environmental impacts is further mandated by FAA Order 1050.1F, which requires that the FAA identify and evaluate both the direct impacts of an FAA project and also the cumulative impacts of that project on the environment.

(a) FAA Order 1050.1F

"The FAA's primary mission is to provide the safest, most efficient aerospace system in the world. NEPA compliance and other environmental responsibilities are integral components of that mission." FAA Order 1050.1F, Chapter 1-8.

Under Order 1050.1F, a significant noise impact normally exists where "the proposed action will cause noise sensitive areas to experience an increase in noise of DNL 1.5 [decibels (dB)] or more at or above DNL 65 dB noise exposure when compared to the no action alternative for the same timeframe." *Id.* Chapter 4-3, Exhibit 4-1. The FAA, however, must give "special consideration" when evaluating the "significance of noise impacts on noise sensitive areas within national parks, national wildlife refuges and historic sites . . . . " *Id.* The FAA recognizes that the DNL 65 threshold may not sufficiently protect historic sites where "a quiet setting is a generally recognized purpose and attribute." *Id.*

2. FAA Reauthorization Act Of 2018

Congress mandated in Subtitle D of the FAA Reauthorization Act of 2018, numerous noise-related studies to be completed by the FAA. Specifically, the FAA was required to complete studies regarding (1) how the FAA will engage and improve airport and community involvement in NextGen projects; (2) the relationship between aircraft noise exposure and its effects on communities around airports; (3) day-night average sound levels; and (4) the health impacts of noise from

aircraft flights on residents. FAA Reauthorization Act of 2018, Pub. L. No. 115-254, October 5, 2018 §§ 173, 176, 187, 188, and 189. Some of the studies required with respect to effects of noise on communities and health impacts of noise have yet to be completed.

B. Factual Background

1. Airport Operations And Airspace.

Centennial Airport is owned and operated by the Arapahoe County Public Airport Authority, a political subdivision of the State of Colorado. The airport was established in May of 1968. With more than 340,000 annual take-offs and landings, Centennial Airport is the 22nd busiest of all U.S. Airports. Despite not serving commercial airlines, Centennial Airport is an international airport with 24/7 U.S. Customs services and is the second busiest general aviation and business airport in the U.S. With nearly 10,000 full and part-time employees, the airport averages $2.1 Billion in direct and indirect impact annually and the southeast metro region, of which the Airport is a significant part, is responsible for approximately 27 percent of Colorado's GDP. The airport is home to private and corporate aircraft, flight schools, defense contractors, medical flight operators, charter and fractional operators, federal, state and local law enforcement and aviation R&D, including electric and supersonic aircraft developers. Centennial Airport has four award-

winning full-service providers, and a fully staffed 24/7 Federal Aviation Administration Air Traffic Control Tower.

Centennial Airport is the only airport within the Denver Metroplex that has an FAA approved Part 150 Noise Compatibility Program ("NCP") which has been in effect since 2007. The NCP is designed to mitigate aircraft noise exposure near Centennial Airport. Since the formation of the NCP, the airport, citizens and the FAA have worked together to mitigate the noise impacts.

2. Denver Metroplex

The proposed Denver Metroplex was prepared by the FAA and is intended to be a redesign of the airspace used by aircraft to navigate in and out of the Denver metropolitan area. "The Air Traffic Control (ATC) procedures ("ATC Procedures") designed for the DEN Metroplex Project would be used by arriving and departing aircraft operating under Instrument Flight Rules (IFR) at the study area airports . . . ." [AR, 2-A-1, § 1-1, p. 1-3; JA __] A Metroplex is one element of NextGen, the FAA's program to modernize and move from ground based to satellite based navigation. [AR, 2-A-1, § 1-1, p. 1-3; JA __] ("The purpose of the Metroplex initiative is to optimize ATC procedures and airspace on a regional scale. This is accomplished by developing ATC procedures that take advantage of technological

advances in navigation"). The FAA's initial stated goals were to improve airport access, increase capacity and reduce carbon emissions.

As described by the FAA:

> The purpose of the Metroplex initiative is to optimize ATC procedures and airspace on a regional scale. This is accomplished by developing ATC procedures that take advantage of technological advances in navigation, such as RNAV, while ensuring that aircraft not equipped to use RNAV continue to have access to the National Airspace System (NAS). This approach addresses airspace congestion and other factors that reduce airspace efficiency in busy metroplex areas and accounts for key operating airports and airspace in a metroplex.

[AR, 2-A-1, § 1.1, p. 1-3; JA ___] The FAA acknowledges that one of the ATC's responsibilities is safety. [AR, 2-A-1, § 1.2.2, p. 1-4; JA ___] Efficiency, however, is continually emphasized throughout the Final EA rather than safety.

On May 6, 2016, a notice of intent to prepare an EA was drafted and distributed by the FAA. [AR, 1-B-8, p. A-3; JA ___] On April 22, 2019, a draft EA, which purports to analyze the impact of implementing Denver Metroplex compared to leaving the current flight path system in place, was released to the public by the FAA. [AR, 2-A; JA ___] The draft EA was approximately 153 pages, not including the appendices and exhibits. Beginning only seven days later, the FAA held twelve public workshops for the public to provide input on the draft EA from April 29, 2019 through May 16, 2019. On November 13, 2019, the FAA released

the Final EA. Public comments were accepted from November 18, 2019 through December 20, 2019. On January 24, 2020, the FAA released it Finding of No Significant Impact and Record of Decision. [RA, 1-A-1; JA ___]

The EA concludes that Denver Metroplex will have no significant impact when compared to the existing flight paths over a five year period (2019-2024). Specifically, the FAA concluded in the EA that the airspace redesign would (1) have no significant environmental impacts on the community, cultural and natural resources and (2) would have no significant impact on the quality of the human environment. [RA, 2-A-1, p. 5-3; JA ___]

Metroplex has become extremely controversial due to noise and pollution concerns in the cities where it has already been implemented. The FAA is well aware of these impacts but, nevertheless, forged ahead in Denver without adequately addressing any of these issues.

3. The Impacted Stakeholders

The Arapahoe County Public Airport Authority is responsible for operating Centennial Airport, one of the designated Metroplex airports as set forth above. The ACPAA has a substantial interest in managing the airport to mitigate the impact on the surrounding community and will be adversely affected by the implementation of Metroplex by the FAA.

Arapahoe, Douglas and Gilpin counties are all counties located in close proximity to Centennial Airport and Denver International Airport, both of which are designated Metroplex airports that will experience changes in flight paths. Arapahoe and Douglas counties are located within the Denver Metroplex study area. In addition, Centennial Airport is located within both Arapahoe and Douglas counties. Consequently, flights taking off from and landing at Centennial Airport fly through portions of Arapahoe and/or Douglas counties. Moreover, those areas are some of the most densely populated regions of the Metroplex project. Because those local portions of the flights are at lower elevations, they have particularly significant impacts on health, safety and welfare of the residents of Arapahoe and Douglas counties. The approved flight path changes will alter the locations, elevations and frequency of flights through Arapahoe, Douglas and Gilpin counties in ways that were never evaluated by the FAA. Gilpin County, in particular, is home to many historic districts and sites as well as significant wildlife and recreation areas.

The City of Greenwood Village is a municipality located in close proximity to Centennial Airport and Denver International Airport. The proposed changes in flight paths place numerous additional flights over the entirety of Greenwood Village in primarily residential areas.

Mountain Aviation, Inc. is an air charter company certificated under 14 C.F.R. Part 135 that operates extensively at the designated Metroplex airports and within Metroplex airspace. Mountain Aviation had a substantial interest in the safety and efficiency of the Metroplex flight procedures.

4. Participation In The Process

Each of the Petitioners has participated in the Metroplex evaluation process by submitting comments in response to the various documents released by the FAA, attending the meetings and workshops held by the FAA and by requesting consideration from the FAA related to their various concerns regarding Metroplex.

In response to the May 6, 2016 notice of intent to prepare an EA, Centennial filed comments with respect to the scope of the EA and its related concerns that the FAA fully comply with NEPA. [AR, 1-B-8, p. A-36-A-41; JA ___] On June 1, 2017, Centennial Airport filed additional comments following the Preliminary Design Comment Phase. [AR, 9-A-17; JA ___] Centennial Airport also filed comments in response to the draft EA. When the Final EA was released, Centennial Airport again submitted comments on December 18, 2019. [AR, 1-A-3, p. 382; JA ___]

Centennial Airport, in particular, has been very proactive in providing comment to the FAA and seeking to be engaged in the Metroplex process.

Centennial Airport previously requested that the FAA engage and involve Centennial Airport and, in particular, their noise office staff, to gain a better understanding of the community and the potential impacts of the Metroplex project. Centennial Airport encouraged the FAA to include all affected airport sponsors in the design, planning and schedule for implementation of the Metroplex project. Specifically, Centennial Airport suggested an inter- and intra- agency oversight team which would include representatives of the airport sponsors and local governments. The FAA, unfortunately, did not avail itself of the Airport's willingness to actively participate in the process.

Likewise, the Arapahoe County Board of County Commissioners filed comments on the scope of the EA on June 6, 2016 [AR, 1-B-8, pp. A-63-A-67; JA ___] and filed comments on the final EA on December 20, 2019 [AR, 1-A-3, pp. 20-21; JA ___]. The Douglas County Board of County Commissioners filed scope comments on June 7, 2016 [AR, 1-B-8, pp. A-77-A-79; JA ___] and filed comments on the final EA on December 19, 2019. [AR, 1-A-3, pp. 258-260; JA ___]

C. Rulings Presented For Review

The final agency action under review in this case is the FAA's decision to redesign the airspace over Denver without conducting an adequate environmental

review. The FAA released its Finding of No Significant Impact and Record of Decision on January 24, 2020. [AR, 1-A-1; JA ___]

SUMMARY OF THE ARGUMENT

The FAA has not conducted a fair and thorough evaluation of the proposed Denver Metroplex. The FAA is proposing making profound changes to the airspace over Denver which will re-route long-settled flight tracks over areas which have never previously experienced such activity levels.

The FAA ignored data that was available and could have been utilized in assessing the proposed changes to the airspace above Metro Denver. Instead, it utilized the shortest time frames possible and failed to adequately consider the noise impacts under 3,000 feet AGL. The noise impacts that were evaluated were based upon artificially low flight numbers due to these limitations. The FAA further failed to consider any health or safety considerations as a result of the increased and re-located flight operations. Had all of these factors been thoroughly considered, a complete Environmental Impact Analysis would necessarily need to be undertaken.

The FAA further failed to consider the unique attributes of Gilpin County and the impact the re-design would have with respect to this historic county. With respect to Gilpin County, the FAA failed to comply with Section 106 of the Historic

Preservation Act. The FAA did not engage with Gilpin County to address its concerns, particularly with respect to noise.

Finally, the FAA implemented the Denver Metroplex ahead of receipt of all of the Congressionally mandated studies required by the FAA Reauthorization Act of 2018. By doing so, the FAA is contravening Congress' intent and its lawful directives.

ARGUMENT

A. Standing

Petitioners have standing to bring this action because the FAA's decision to implement the Metroplex adversely affects the Airport and the surrounding communities which it serves. The FAA's decision likewise affects carriers such as Mountain Aviation who must operate within the new Metroplex rules. To establish standing, Petitioners must show that (1) they have suffered "injury in fact" that is (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action; and (3) it is likely that the injury will be redressed by a favorable decision. *D&F Afonso Relaty Trust v. FAA*, 216 F.3d 1191, 1194 (D.C.Cir. 2000).

Petitioners have suffered injuries as a result of the FAA's actions. "To establish injury-in-fact in a 'procedural injury' case, petitioners must show that 'the

government act performed without the procedure in question will cause a distinct risk to a particularized interest of the plaintiff.'" *City of Dania Beach v. FAA*, 485 F.3d 1181, 1185 (D.C.Cir. 2007)(citation omitted). The FAA's implementation of the Denver Metroplex will cause noise impacts that will affect the Petitioners' particularized interests. In addition, the safety concerns regarding the new arrival and departure procedures constitute injury with respect to operators such as Mountain Aviation.

The FAA's implementation of the Denver Metroplex airspace redesign will affect the ACPAA's proprietary interest in managing the noise of its Airport. *See Di Perri v. Federal Aviation Admin.* 671 F.2d 54, 58 (1st Cir. 1982)("The FAA itself has steadfastly maintained that the local proprietor has primary responsibility for the regulation of airport noise."). The ACPAA has worked for years to promote compatible land use in the Airport Impact Area and has worked diligently with other local governments to minimize noise disruptions.

In addition, the city and county Petitioners are vested with authority to protect the health, safety and welfare of their citizens and the environment in which they live. C.R.S. § 31-15-103; C.R.S. § 29-20-104(1)(i); C.R.S. § 30-11-101(2). Thus, they are entitled to the procedural rights afforded by NEPA. Moreover, Arapahoe County and Douglas County are members of the Centennial Airport Community

Noise Roundtable, and thus are actively involved in monitoring, reducing, and mitigating noise impacts from airport operations. [AR, 2-A-2, pp. A-64-A-67; JA ___] (referencing Arapahoe County's work on Noise Roundtable); [AR, 2-A-2, pp. A-78-A-79; JA ___] (referencing Douglas County zoning regulations relating to aircraft noise). Metroplex will directly affect the efforts of Arapahoe and Douglas Counties to reduce and mitigate noise and other aircraft impacts.

There is a direct causal connection between the FAA's action and the changes in noise impacts which will occur as a result. The injuries would be redressed by a favorable ruling invalidating the FAA's decision and requiring the FAA to follow proper environmental procedures, complete the required studies and incorporate the results into its evaluation of the proposed Denver Metroplex and adequately evaluate the proposed changes to measure and minimize impacts.

B. The FAA Failed To Properly Evaluate The Proposed Airspace Redesign

1. Standard Of Review

"[T]he appropriate standard for reviewing an agency's determination that a proposed project will not have environmental impact significant enough to require an EIS is the arbitrary and capricious standard of 5 U.S.C. § 706(2)(A)." *Los Ranchos de Albuquerque v. Marsh*, 956 F.2d 970, 972 (10th Cir. 1992). That statute provides that

To the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law, interpret constitutional and statutory provisions, and determine the meaning or applicability of terms of an agency action. The reviewing court shall—

(1) compel agency action unlawfully withheld or unreasonably delayed; and

(2) hold unlawful and set aside agency action, findings, and conclusions found to be—

(A) arbitrary, capricious, an abuse of discretion, or not otherwise in accordance with law;

(B) contrary to constitutional right, power, privilege, or immunity;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;

(D) without observance of procedure required by law;
(E) unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute; or

(F) unwarranted by the facts to the extent that the facts are subject to trial de novo by the reviewing court.

In making the foregoing determinations, the court shall review the whole record or those parts of it cited by a party, and due account shall be taken of the rule of prejudicial error.

5 U.S.C. § 706. An agency's action is arbitrary and capricious if, among other things, it is "'not supported by substantial evidence' in the record as a whole." *See BFI Waste Sys. of N.Am. v. FAA*, 293 F.3d 527, 532 (D.C.Cir. 2002)(citation omitted); *see also* 49 U.S.C. 46110(c). An agency action is arbitrary and capricious if (1) the decision does not rely on the factors that Congress intended it to consider; (2) the agency failed entirely to consider an important aspect of the problem; or (3) the agency offers an explanation which runs counter to the evidence. *See Motor Vehicle Mfrs. Assn. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

The FAA is required to follow the mandates set forth by Congress. With respect to airspace, Congress has mandated that "[t]he Administrator of the Federal Aviation Administration shall develop plans and policy for the use of the navigable airspace and assign by regulation or order the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace." 49 U.S.C. § 40103(b)(1). Nothing in this mandate suggests that the FAA may prioritize efficiency over safety.

2. The FAA Has Failed To Comply With NEPA Requirements

(a) The FAA Arbitrarily Selected A 5 Year Period For Evaluation

At the time the FAA completed the EA in this matter, NEPA defined cumulative impact as "the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably

foreseeable future actions regardless of what the agency (federal or non-federal) or persons undertakes such actions." 40 C.F.R. § 1508.7 (2019). Here, the FAA only uses the period of 2019-2024 in the EA as its planning horizon even though the proposed flight paths are designed for use well into the future. NEPA's definition of cumulative impact dictates a longer period of required analysis.

The FAA, by using the minimal five year period of review, excluded the environmental impact of 39 new gates already approved and funded by the FAA at Denver International Airport. The five year review period also allowed the FAA to omit from its analysis its own Activity Forecast which predicts one percent growth per year or approximately 9,000 additional new flights per year. [Addendum A, pp. 138-140 and 141] Total aircraft operations are expected to increase from 594,522 operations to 773,855 in 2038. Therefore, using the FAA's own data and forecasting, it is anticipated that there will be an additional 180,000 flights over the next 20 years. This data was prepared by the FAA and, therefore, was readily available to it during the Denver Metroplex evaluation. As such, the FAA erred in failing to analyze the cumulative impact of the associated fuel burn, emissions and noise impacts which could cause irreparable harm.

The addition of 180,000 flight operations over the course of 20 years will clearly exceed de minimis standards and, therefore, not only violate NEPA but will

cause further air quality degradation and irreparable harm to the health and welfare of the citizens of Denver. The FAA's failure to include the increase in air traffic is contrary to both NEPA and FAA regulations which require the FAA to show the cumulative effects of the proposed action. The FAA cannot selectively choose to ignore significant data which is relevant to the analysis of the cumulative impact and should be required to complete the EA consistent with these requirements.

(b) The FAA Arbitrarily Failed To Consider Airspace Below 3,000 Feet AGL

The FAA acted arbitrarily in failing to sufficiently consider operations below 3,000 feet above ground level ("AGL") in evaluating environmental impact. [AR, 2-A-1, §§ 5.2.1 to 5.2.3 at 5-16 to 5-17 (Air Quality); JA ___; id. §§ 5.3.1 and 5.3.3 at 5-17 to 5-19 (Wildlife and Migratory Birds); see also AR, 2-A-1, §§ 5.1.2 at 5-4 to 5-6] (although the errata asserts that noise was evaluated from ground level to 18,000 feet above ground level, [AR 1-B-1, § 5.7 at pp. 24-25; JA ___], there is no indication that the FAA evaluated noise under the preferred alternative for operations outside the proposed Metroplex routes, including at elevations below 3,000 feet). Airspace below 3,000 feet AGL is where airplanes begin and end flights and where the concentration of noise is the highest, particularly during takeoff and climb, which requires a high power setting. The airspace below 3,000 feet AGL is also where noise, air quality and wildlife are most impacted. [AR, 2-A-1, §§ 5.2.2

and 5.2.3 at 5-16 and 5-17; JA ___] (presumption that flight changes above 3,000 AGL would have de minimis impact on air quality); [id. § 5.3.1 at 5-17] (greatest potential for avian and bat strikes is below 3,000 feet AGL). By failing to properly consider this area, the FAA eliminated from its analysis the phase of flight with the greatest environmental impacts, and therefore, it is not at all surprising that the EA's conclusion is a finding of no significant impact.

The FAA claims that it did model noise below associated with the Preferred Alternative below 3,000 feet AGL. [AR, 1-B-1, pp. 24-25; JA ___] However, scrutiny of the FAA's Noise Technical Report reveals fundamental flaws that undermine its analysis. The FAA utilized AEDT modeling software that has the capability to include specified altitude control codes on modeled flight trajectories. [AR, 1-B-10, pp. 3-27; JA ___] However, the FAA only applied altitude control codes above 3,000 feet AGL and used default climb/descent profile date at or below 3000 feet. *Id*. The FAA cites FAA Notice 7210.360 for this modeling procedure, but that Notice has been cancelled. The FAA offers no explanation as to why it utilized a cancelled notice in justifying its excluding altitude control codes at or below 3000 feet.

FAA Order 7210.360 is inapplicable to the FAA's action and it should not have relied on it in conducting its modeling. The FAA issued Order 7210.360 in

1990, which predates AEDT's 2012 release. *See Guidance for Noise Screening of Air Traffic Actions Rev.2*, Koffia A. Amefia (2012), p. 2-1. [AR, 8-A-33, p. 2-1; JA ___] Moreover, the title of the Notice, "Noise Screening Procedures for Certain Air Traffic Actions Above 3,000 Feet AGL," evidences the fact it is inapplicable noise screening at or below 3,000 feet AGL. Applying modeling standards from an inapplicable and cancelled 1990 FAA notice to current software to determine how to analyze altitudes at or below 3000 feet AGL was arbitrary. In failing to use altitude control codes at or below 3,000 feet AGL the FAA failed to properly consider noise created by aircraft flying at those altitudes on the new arrival and departure procedures.

(c) Noise

The FAA failed to consider important noise impacts resulting from Metroplex, including failing to evaluate impacts from local operational changes resulting from Metroplex, failing to account for growth in Denver International Airport Traffic, and failing to acknowledge Centennial Airport's noise mitigation program.

The proposed Denver Metroplex and, particularly, the proposed replacement of the PUFFR route with the BRNKO Standard Terminal Arrival Route (STAR) for traffic inbound to Centennial Airport would radically change overflight patterns in the greater Denver metro area and irreparably harm the citizens living underneath

the newly proposed route due to the increased noise associated with the proposed changes. [AR, 1-B-8, p. 207;JA ___] Noise modeling depended upon radar flight tracks from the period of 2016 to 2017. [AR, 1-B-10, § 2.2 at p. 2-2; id. § 3.2.9 at 3-28; JA ___] This established the "current" and "No Action" conditions for noise modeling. However, the Noise Technical Report contains no confirmation that any determination was made as to the local routing between the Metroplex routes, including BRNKO, and the airports. [AR, 1-B-10, § 5.3, pp. 5-2 to 5-3; JA ___] Even if there was some determination of those routes, there is no explanation of what the modeled local routes were or how they were assessed. The BRNKO route, which transitions 60 miles from the replaced PINNR transition, would require a very different local route. Because local routes are the lower elevation portions of the flights and occur over densely populated areas, those are the locations of greatest concern for noise. Yet, the EA contains no assessment of Metroplex's impacts on those local operations.

The consideration the FAA did give to noise concerns in the EA is insufficient because it is based upon artificially low flight numbers. As set forth above, the FAA failed to account for the planned growth at Denver International Airport in analyzing the effect of noise resulting from the proposed flight plan changes.

Every five years, the FAA requires and funds preparation of Noise Exposure Maps for Centennial Airport which includes the 65dB DNL threshold, as well as higher and lower noise thresholds. The Noise Exposure Maps permit five-year annual comparisons of the noise thresholds. The Preferred Alternative would render those comparisons useless as the underlying assumptions are altered.

Even without the inaccurate flight data, however, the FAA's analysis of the impact of noise is still seriously flawed. The FAA's analysis is based upon population centroids and the noise within a centroid is calculated by the FAA against the noise after the implementation of the Preferred Alternative. The FAA's analysis assumes that people are indoors with the windows and doors closed and then averages the noise during the day and the night, including averaging it across populations within the centroid. Thus, the FAA is not analyzing noise specifically from the flights but noise averaged over time even when there is no flight activity overhead.

The accepted federal threshold for noise is 65dB DNL. FAA Order 1050.1F requires that changes greater than 5dB DNL in noise exposure between 45dB DNL and 65dB DNL should be considered for airspace action. FAA Order 1050.1F, Appendix B, Chapters B-1.4 and B-1.5. Noise is measured logarithmically meaning a 10dB increase in noise doubles the noise experience. A lower ambient noise level

will increase noise awareness and, therefore, a nighttime penalty is considered at 10dB DNL. Quieter ambient areas, however, should be given equal or greater deference to nighttime penalties. Numerous areas overflown by the Preferred Alternative BRNKO route are quieter ambient areas and higher density areas. The FAA standard is insufficient for preventing irreparable harm to the citizens underneath the new proposed flight paths.

The FAA does not directly address the aircraft noise because "the general Study Area is beyond the scope of the proposed Metroplex Project Draft and Final EA". [AR, 1-B-11, p. 108; JA ___]. In addition, the FAA suggests that "[n]oise complaints related to local air traffic are best addressed by the local airport". [AR, 1-B-11, p. 110; JA ___] A large percentage of aircraft using Centennial Airport, however, is itinerant and the noise complaints come from areas well beyond the 65 dNL threshold established by the FAA. Instead of addressing the noise issues, the FAA merely transfers the responsibility of fielding the complaints it knows will result from the implementation of Metroplex to the local airports such as Centennial.

Noise at the levels that the FAA has determined will have "no significant impact" have been deemed by outside studies to be a serious health hazard. Aviation noise causes and increases heart disease, anxiety and depression, and according to the United States Environmental Protection Agency, Office of Air and Radiation,

noise can pose a serious threat to a child's physical and psychological health, including learning and behavior. Repeated exposure to noise during critical periods of development may affect a child's acquisition of speech, language and language-related skills, such as reading and listening, and inability to concentrate in a noisy environment can affect a child's capacity to learn. EPA's Office of Children's Health Protection, *Noise and Its Effects On Children*, EPA-410-F-09-99, November 2009. [Addendum A, p. 42]

An agency's decision not to prepare an EIS is considered unreasonable if substantial questions are raised regarding whether the proposed action may have a significant impact upon the human environment, of if the agency fails to "supply a convincing statement of reasons why potential effects are significant." *Save the Yaak Comm. V. Block*, 840 F.2d 714, 717 (9th Cir. 1988)(quoting *The Steamboaters v. FERC*, 759 F.2d 1382, 1393 (9th Cir. 1985); *Seattle Cmty. Council Fed'n v. F.A.A.*, 961 F.2d 829, 832 (9th Cir. 1992).

Exhibit 4-1 of FAA Order 1050.1F lists the FAA's significance threshholds and factors to consider for each relevant environmental impact category. While "Children's Health and Safety Risks" is listed as a category, the FAA has not established a significance threshold for Children's Environmental Health and Safety Risks when it comes to noise. Despite having no threshold, or level at which the

impact of noise is acceptable for children, the FAA is still obligated to consider the extent to which the action would have the potential to lead to a disproportionate health or safety risk to children. It did not do this. Rather, it applied its own arbitrary threshold of 65 dBs and use of DNA that averages noise over a 24-hour period, and treated children the same as adults. Children are not the same as adults.

Despite the FAA Order requiring it to consider whether proposed actions "would have the potential to lead to a disproportionate health or safety risk to children," the FAA did not identify which of the nearly 4 million persons residing within the FAA-defined study area were children, let alone how many schools ("noise sensitive areas") were located within the existing and proposed flight paths, thus ignoring completely how many children were potentially impacted by the Preferred Alternative.

Where an agency decides it need not prepare an EIS, "it must supply a convincing statement of reasons to explain why a project's impacts are insignificant." *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir.1998). The FAA's responses to comments regarding noise impacts on children from Metroplex are nothing more than repetition of the mantra that because there are no "products or substances that a child would be likely to come in contact with, ingest, use or be exposed to . . ." and there are no environmental health risks and

safety risks to children from Metroplex. [AR, 2-A-1, pp. 4-5; JA ___] The FAA should not be permitted to ignore the possibility of serious health and safety risks to children from exposure to airplane noise. The FAA should instead be required to include additional analysis of the cumulative impact of noise on children in the EA prior to making a decision to implement the "Preferred Alternative" for the Denver Metroplex project.

Centennial Airport is the only airport in the Denver Metroplex area to have an FAA funded and approved part 150 Noise Compatibility Program ("NCP"). The NCP is not mentioned once in the Final EA even though the FAA has funded the program. The Centennial Airport Part 150 study commenced in 1998 and the NCP was approved by the FAA in 2012. The purpose of the NCP is to ensure air commerce can flourish while still ensuring a quality of life for the citizens. Specifically, the NCP examines ways to mitigate noise and overflight concerns. More than twenty years of work on the NCP is at risk of being upended by the implementation of the Denver Metroplex without consideration of the NCP.

The FAA never contacted Centennial Airport, nor did the FAA make use of its own data and information to evaluate the impact of the proposed Metroplex on Centennial Airport's Noise Compatibility Program. The NCP has been twenty years in the making and the implementation of Metroplex would upend all of the work the

Airport and the Centennial Airport Community Noise Roundtable have accomplished in noise mitigation. The FAA stated in the EA that no Visual Flight Rules data exists even though Centennial Airport has the equipment and associated data, which was funded by the FAA itself. [AR, 2-A-1, pp. 4-17; AR, 1-B-11, p.101; JA ____]

Here, the FAA merely concludes that it is difficult to ascertain the increased noise impact from general aviation that communities may experience and, therefore, they exclude noise as a consideration. The FAA is required to consider the cumulative impact of noise on the impacted communities and, therefore, the FAA must perform additional analysis to be included in the EA.

(d) Safety

"Any proposed change to an ATC procedure to resolve a problem must not compromise safety, and if possible must enhance safety." [AR, 2-A-1, § 2.1.1, pp. 2-24; JA ___] The FAA adopted new approach procedures without fully evaluating the safety issues associated with lower elevation patterns closer to the mountains. The FAA determined that the existing PUFFR route should be replaced with BRNKO and PINNR RNAV STARs.

In the EA, the FAA falsely claims that it collaborated with the Colorado Aviation Business Association ("CABA") and the National Business Aviation

Association to develop these new approaches ("NBAA"). [AR, 1-B-13, p. 122; JA ___] The FAA developed these new approaches at the inception of the Metroplex planning and has never made any effort to modify them despite opposition from both CABA and NBAA. CABA submitted a letter to the FAA detailing its opposition to the new arrival procedures. [AR, 1-A-3; JA ___; Addendum A, p. 103]

The PUFFR arrival procedure currently takes aircraft coming in from the north and east over and above Denver International Airport without interfering with other traffic. The proposed BRNKO arrival procedure takes airplanes destined for Centennial Airport some 50 miles further north before aircraft are vectored westward along the foothills of the Rocky Mountains where downdrafts, wind shear and volatile wind conditions make it both uncomfortable due to turbulence as well as dangerous due to strong downdraft coming from the mountains. CABA specifically noted that the new arrival procedures are "[p]otentially unsafe for airframe structures and uncomfortable for passengers." [Addendum A, p. 103] The new procedures are closer to the mountains which trap air masses and create dangerous inversion layers resulting in turbulence.

The BRNKO arrival does not enhance safety, but rather decreases it by subjecting faster flying turbine aircraft to a busy corridor of small aircraft flying under visual flight rules (VFR). The FAA failed to consider this safety issue in the

Preferred Alternative. CABA specifically raised this concern stating that "the two new arrivals put the aircraft inside the VFR flyway at lower altitudes, subjecting high speed turbine traffic to a higher probability of collision with multitudes of slower piston aircraft outside positively controlled airspace." [Addendum A, p. 103]. The FAA has already noted that the current PUFFR route meets existing safety criteria. [AR, 2-A-1, § 2.1.1, pp. 2-24; JA ___]

The BRNKO arrival requires aircraft to descent to 9000 feet mean sea level (MSL) at a waypoint near Longmont, Colorado, a community well north of the Denver metropolitan area and Centennial Airport. The procedure requires aircraft to stay at 9000 feet as they make their way 25 miles south before they are vectored to join the final approach course. [AR, 5-B-32, p.4; JA ___] This requires the aircraft to stay at less than 4,000 feet AGL through airspace near three airports with significant small, piston aircraft activity, including flight training: Vance Brand (Longmont), Erie Municipal, and Rocky Mountain Metropolitan Airport. Significantly, the BRKNO is the northeast arrival, yet requires aircraft to fly to the northwest of the Denver area. But that impact was not evaluated. The previous northeast arrival, the PUFFR, did not require aircraft to fly west of the metropolitan area or fly at low altitudes in high VFR traffic areas for long distances. The FAA failed to consider the safety implications of the new procedure which requires fast

moving turbine aircraft to fly at relatively low altitude with significant VFR traffic originating from three local general aviation airports present.

The FAA admits that it did not consider VFR traffic in its analysis. [AR, 1-B-11, p.110; JA ___] The FAA recognizes that in certain airspace, VFR aircraft are not required to communicate with air traffic control and operate at the pilot's discretion rather than flying specific procedures, but relies on the lack of modeling data to support the Preferred Alternative. *Id.* The FAA's failure to consider VFR traffic was arbitrary in light of both public commentary and complete failure to address the issue regardless of whether it could be modeled.

Controllers frequently handle dynamic weather conditions that require controllers to de-conflict traffic and allow for pilots to avoid adverse weather conditions. Pilot requests for deviations from assigned headings and radar vectors are common during adverse weather conditions. Controllers safely handle these situations which are far more complex and demanding that the potential traffic conflicts the FAA indicates it is alleviating with the implementation of the new BRNKO procedure. Further, the BRNKO procedure actually creates potential traffic conflict with aircraft not under positive ATC control in a busy flight training and aviation corridor. Numerous comments and objections were made specifically due

to the safety concerns regarding, in particular, the new BRNKO procedure, all of which was ignored by the FAA.

The FAA touts the efficiency of the new procedures as furthering its goal of addressing operations efficiency concerns related to air traffic control and pilot workload complexities. The proposed BRNKO procedure does not effectuate these stated goals. The procedure will not increase pilot operational efficiency as it is less direct than the existing PUFFR procedure and holds the aircraft lower over a longer period near rising terrain.

The proposed BRNKO and PINNR approaches have significant safety issues associated with them and, therefore, it is unclear why the FAA is pushing for the change. The FAA should consider alternative arrival procedures or take no action with respect to the PUFFR route.

(e) Fuel Burn and Emissions Analysis

The FAA failed to analyze fuel burn and emissions data for the longer flight phases contemplated by aircraft. The EA should have calculated the fuel burn and corresponding increases in emissions since the proposed flight plan changes are not time critical or urgent safety matters. The FAA acknowledges that the existing system is safe. [AR, 2-A-1, § 2.1.1, pp. 2-24; JA ___] ("Although the ATC procedures are less efficient, they meet current FAA safety criteria").

It should be noted that the limited fuel burn analysis which the FAA did complete is not accurate. CABA noted in its letter that the new approaches into Centennial Airport add 20 to 50 miles to the route. [Addendum A, p. 103] In addition, the new approaches are at lower altitudes which restricts the maximum speed to 200 knots and, therefore, increases flight time and fuel burn. The EA states in Table 5-8 that fuel consumption increased only 1.83 percent from the "No Action" to the "Preferred Alternative" in 2019 and increased only 1.85 percent from the "No Action" to the "Preferred Alternative" in 2024. [AR, 2-A-1, Table 5-8, pp. 5-27; JA ___] The proper calculation, however, indicates that from the "No Action" in 2019 to the "Preferred Action" in 2024, the increase is 15.29 percent, nearly double what the FAA states in the EA.

As set forth above, the FAA itself forecast an additional 180,000 flights at Denver International Airport by 2038. [Addendum A, p. 138] As such, it is inconceivable that the FAA can reliably state in the EA that fuel consumption and carbon emissions will decrease without consideration of the anticipated increase in the number of flights over time. Reducing fuel consumption and carbon emissions while simultaneously increasing capacity is a mutually exclusive exercise given the requirement to examine cumulative impacts pursuant to NEPA.

During the preparation of this EA, NEPA defined cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions." 40 C.F.R. § 1508.7 (2019). The FAA's own data suggests a continuous growth rate for aviation in the Denver metro area of at least one percent per annum. It is, therefore, incumbent on the FAA to show not only a reduction in fuel consumption and carbon emissions as a direct result of the Metroplex but also what the overall increase in fuel consumption and carbon emissions will be as a result of the overall increases in anticipated air traffic. Here, the FAA's EA analysis fails with respect to fuel consumption because it looks solely at incremental reductions and not the cumulative impact required by NEPA.

The FAA further fails to conduct a complete analysis because it fails to identify the increases in burn and fuel emissions generated by aircraft using the BRNKO rather than the PUFFR procedure. While the FAA evaluated fuel and carbon emissions output by commercial airlines and touted that such aircraft would save fuel and reduce emissions, the FAA failed to evaluate the increase in fuel consumption and emissions that will result from aircraft using the new BRNKO procedure having to fly an additional 50-plus miles, adding some 10-15 minutes to

a flight and burning as much as 500 additional pounds of jet fuel. The FAA claims it did not have the financial resources to conduct this analysis but that does not excuse its obligation to fully comply with NEPA.

The FAA's conclusion that the proposed action would result in a "slight increase" in aircraft fuel burned cannot stand. [AR, 2-A-1, § 5.2.3, p. 5-17; JA ___] The efficiency of the proposed action would not decrease aviation fuel use overall as originally touted as one of the benefits of Metroplex. Instead, the data shows that the decreased fuel consumption experienced by the large commercial airlines will be more than offset by increased fuel consumption experienced by general aviation. As such, the FAA must modify and reconsider the cumulative impact of an overall increase in fuel consumption in the EA.

(f) Air Quality

NEPA requires that the FAA consider whether the proposed action is known or expected to cause significant adverse air quality effects. 40 C.F.R. § 6.204(b)(6). The Denver metro area is defined as a non-attainment area by the EPA, meaning the state of the air quality is considered severe.

As set forth above, the fuel consumption and carbon emissions reductions presented in the EA are illogical and incomplete. There cannot be a reduction in fuel consumption and carbon emissions while simultaneously increasing capacity. The

FAA's analysis appears based upon a current year reduction in fuel consumption and carbon emissions only, but ignores the cumulative increase in the future.

The Denver Metroplex is designed to increase capacity over time which necessarily means that more aircraft will be using the redesigned airspace. The FAA 2018-2038 Aerospace Forecast shows that traffic at Denver International Airport is expected to increase by at least one percent per year. [Addendum A, p. 103] Total aircraft operations are expected to increase from 594,522 operations to 773,855 in 2038. [Addendum A, p. 141] As such, it is inconceivable that the FAA can reliably state that air quality will not substantially decrease over this twenty year time period. The FAA must look not only at the incremental increase over the next five years but also the cumulative impact as required by NEPA over the next twenty years based upon the FAA's own forecast data. *See* 40 C.F.R. 1508.7 (2019).

The EA relies upon a twenty year old study to conclude that neither ozone nor carbon monoxide have any impact below 3,000 feet. [AR, 2-A-1, § 4.3.1, p. 4-6; JA ___] There is significant controversy regarding the continued accuracy of this study, however, due to the fact that Denver is already identified as a non-attainment area for these two reported pollutants. In addition, neither this study nor the EA address the impact of particulates generated by aircraft emissions.

The Partnership for Air Transportation Noise and Emissions (PARTNER) was initiated by the FAA and its main objective is to evaluate how aviation emissions contribute to local and regional air quality. The FAA has thus far concluded that "fine particulate matter dominates the health risks from aviation emissions" and that "health risks of aviation emission in the future are strongly influences by changing background concentrations and population growth as well as changing emissions." One study cited by the FAA experts states that "[a]ir pollutant emissions from aircraft have been subjected to less rigorous control than road traffic emissions, and the rapid growth of global aviation is a matter of concern in relation to human exposures to pollutants, and consequent effects upon health." In another study cited by the FAA, experts found a twelve fold increase in mortality from ischemic heart disease, stroke, COPD, and lung cancer due to aviation sector emissions by 2050.

THE FAA excluded the consideration of the cumulative impacts on air quality in the EA. NEPA does not permit the FAA to pick and choose which pollutants it incudes in its analysis. Here, the FAA's EA must be remanded for further consideration because it excluded the pollutant which the FAA itself has concluded has the greatest risk of adverse health impacts.

3. There Was No Meaningful Community Involvement

The FAA contends that changes were made to the preliminary Metroplex designs as a result of the "extensive Community input and engagement." [AR, -A-1, p. 6; JA ___] The FAA, however, did not encourage or truly permit community involvement in the Metroplex design process. In fact, the FAA actively avoided meaningful discussions or input from the public. In addition, despite the requirement that EA documents be concise and prepared with a level of analysis sufficient to understand the purpose and need for the proposed action, the FAA produced an extremely technical EA which hampers the public's ability to provide any meaningful input. *See* FAA Order 1050.1F, Chapter 3-1.2.

This occurred again with respect to the public workshops the FAA held following the release of the draft EA. The EA is required to be in plain language and is supposed to be available for public review at least thirty days before the public meeting. The EA became available for public review on April 22, 2019 and the first workshop was scheduled just one week later. In addition, the FAA required that all public comment be submitted no later than June 6, 2019, only 45 days from the issuance of the EA. The short time frame for public comment is further compounded by the complexity of the language, maps, appendices and exhibits contained in the

EA. The EA took two years to prepare but the public was only given a brief amount of time to review, analyze and comment on the findings.

4. The FAA Failed To Consider Gilpin County

Gilpin County is adversely affected and impacted by the Denver Metroplex Project and related flight paths over and adjacent to Gilpin County. Five of the seven RNAV SID flight paths at issue in the Denver Metroplex (COORZ, ZIMMR, CONNR, NORTH, POWDR, and ROCK) cross and impact Gilpin County in some fashion. [AR, 7-A; JA ___] The COORZ and ZIMMR are of greatest effect and impact due to the extent and location of flights and flight paths. [AR, 5-C-25; 5-C-7; JA ___]. Despite the effects and impacts, the FAA did not consult with Gilpin County on the Denver Metroplex.

Gilpin County is a historic and rural Colorado county located in the Front Range of the Rocky Mountains directly west of Denver, Colorado. It is the second smallest Colorado county but what it lacks in size it makes up in history. Gilpin County predates Colorado statehood and is home to a plethora of historic districts and sites. Much of Gilpin County also includes the Arapahoe and Roosevelt National Forests, the James Peak Wilderness, Golden Gate Canyon State Park, and Ralston Creek State Wildlife Area. Gilpin County, its residents, businesses, and visitors rely

on Gilpin County's historic, natural, wildlife, and recreation resources and the quiet setting and character necessary for their enjoyment.

The FAA failed to undertake analysis and consultation with Gilpin County including the Board of County Commissioners and its Historic Preservation Advisory Committee (collectively "Gilpin County") required under Section 106 of the National Historic Preservation Act, and failed to meaningfully involve Gilpin County citizens on the FAA's environmental assessment. No meetings were held in Gilpin County and the FAA declined requests to meet with the Gilpin County prior to finalizing the EA and FONSI. The FAA also failed to adequately consider and address Gilpin County's noise and other concerns with the Denver Metroplex Project and its effects and impacts on Gilpin County. [AR, 1-A-2, pp. 202 and 363; JA ___

(a) The FAA Failed To Comply With Section 106 Of The Historic Preservation Act

The FAA did not implement the requirements of Section 106 of the Historic Preservation Act, 54 U.S.C. § 300101, e*t seq.* and 36 C.F.R. 800 *et* seq. with regard to Gilpin County. The Gilpin County Board of County Commissioners and Gilpin County Historic Preservation Advisory Commission submitted detailed comments to the FAA on December 20, 2019 renewing requests for consultation under Section 106 of the National Historic Preservation Act as both are entitled to consulting party

status under Section 106 as local governments. 36 C.F.R. §§ 800 and 800.2. These certified local governments are the best source of information under Section 106.

Gilpin County is home to numerous individual historic properties and districts whose setting is dependent on the area's peace and quiet and beauty, ranging from early 20th century vacation and recreational cabins and developments, to mining ghost towns and mountain ranches. While some of these have been identified in cultural resource surveys and have been listed on the National Register of Historic Places or as National Historic Landmarks, there are many more that have yet to be identified. The changes to flight paths proposed in the Denver Metroplex adversely effect Gilpin County's historic resources. Gilpin County requested a thorough review of the effects and impacts of the proposal on Gilpin County's historic resources per Section 106.

This request included the following: a review of all National Register listed and eligible properties; soliciting comments from the County's Historic Preservation Advisory Commission as to what other not-yet-identified historic resources may be effected; an accurate study of the impact of noise and visual intrusions using metrics recommended by the National Park Service; inclusion of metrics that take into account the ambient noise and quiet setting and character of Gilpin County and its historical sits, terrain and topography of Gilpin County; studies showing the impacts

of alternative routes; and provision for adequate time for Gilpin County to review and comments on these findings. The FAA declined, ignoring Section 106 required review.

(b) The FAA's Methodology, Evaluation And Conclusions Are Flawed[1]

Gilpin County identified several flaws in the FAA's implementation of Section 106. The Colorado SHPO, in at least two letters from 2019, requested that the FAA contact local governments with historic preservation commissions. Gilpin County was on that list. [AR, 1-B-2, pp. 129-134, 173-175;JA ___] Yet the FAA chose to consult with only three government jurisdictions, when this project clearly impacts a much larger area. FAA's failure to include Gilpin County in the Area of Potential Effect results Gilpin County's historic resources not being considered. Since the FAA did not take into account any historic properties in Gilpin County, it is clearly impossible to for the FAA to meet Section 106 requirements and "determine if historic properties are affected."

FAA's use of the NEPA method for contacting the public for *historic and cultural resources*, although technically allowable, is not a good faith effort to

[1] Categories of Section 106 discussed below are taken from the FAA's Section 106 Handbook: *How To Assess The FAA Actions On Historic Properties Under Section 106 of the National Historic Preservation Act, June 2015.*

address impacts, provide consultation and public information on these resources. This was pointed out by SHPO. [AR, 1-B-2, pp. 129-134 and 173-175] Those with knowledge and concern about the impact on historic resources would not expect to look in environmental assessment reports. Gilpin County requested additional time to review the DEN Metroplex project, once the FAA had conducted a more thorough analysis that includes Gilpin County's historic resources. The FAA declined.

The methodology of establishing the Area of Potential Effect ("APE") appears to be flawed in several ways, and the metrics to determine it is not defined. It appears to be based on noise impact, which in turn is based in DNL measurements. Furthermore, the FAA erroneously believes this is an *indirect* impact. Audible and visual effects are considered direct effects, as per the memo from the Advisory Council on Historic Preservation. Based on the proposed action that greatly increases the number of flights over Gilpin County, the APE is incorrect, as Gilpin County is clearly impacted by the proposed Preferred Alternative.

The report also incorrectly looks at *only* those properties already listed on the National Register of Historic Places, *NOT* properties that are or may be eligible. 36 C.F.R. § 800.16 (l)(1). This is a very significant oversight. Furthermore, in reviewing the extensive list of historic resources provided by the FAA (a list that appears to be designed to obfuscate information), there are both listed and eligible

properties in Gilpin County that are not included. Gilpin County's historic resources should be included in this list, both NRHP and NHL listed properties, as well as inventoried properties not yet listed.

The FAA acknowledges its noise analysis is deficient. [AR, 1-A-2, p. 203; JA ___] The FAA states: "The noise modeling analysis indicated that the proposed Denver Metroplex project would not result in changes to noise exposure that exceed the significant noise threshold for the forecasted years of 2019 and 2024. **However, the FAA recognizes that this standard may not be relevant to historical and cultural resources**." (Emphasis added). Other metrics and analysis are needed to effectively analyze the noise impacts in areas where the quiet setting or low or very low ambient noise level is the baseline like Gilpin County. *Grand Canyon Trust v. FAA,* 290 F.3d 339, 345-47 (D.C. Cir. 2002) (remanding for further proceedings when an agency, analyzing noise impacts on a national park "identified [by the Park Service] as among the nine national parks of 'highest priority,' " considered those impacts "in a vacuum" without sensitivity to the park's "natural quiet"); *Cf. National Parks Conservation Assoc. v. Semonite*, 916 P.3d 1075 (D.C. Cir. 2019). The FAA Reauthorization Act of 2018 requires the FAA integrate or use alternative metrics suitable to address noise in other situations including in quiet or low ambient noise level areas. The FAA's stated policy is to encourage the use of alternative metrics.

In a letter from June 7, 2016, the National Park Service (NPS) provided the FAA with valuable information on the impact of sounds on historic and cultural resources. [AR, 1-B-2, pp. 312-319] Most significantly, the NPS uses different standards/metrics than those used by other agencies to determine if there is an effect or impact. As the NPS is the only federal agency that is qualified to assess effects *on historic resources,* the FAA's definition of "significant impact" is not relevant. According to the FAA, places that experience a current level of noise must be subjected to a higher number of DNLs before it considers that a "significant" impact. These metrics are furthermore established for cities and communities. A comparatively smaller noise increase in rural and natural areas, that depend upon quiet and solitude as part of the setting, results in a more substantive effect than the FAA's metric. Furthermore, the mountainous terrain and topography need to be taken into account when reviewing the impact in Gilpin County, where noise reverberates and is amplified. Furthermore, a recent prior 2b version of the AEDT model noted the unique and extreme atmospheric conditions of Denver and Colorado as problematic for the model and needed to be addressed. It is unclear in the FAAs information whether this has been addressed.

Gilpin County recommended the FAA use the methodologies and metrics described in the NPS letter from June 6, 2016 to Marina Landis, FAA to determine

the effect of noise on the historic properties in Gilpin County. [AR, 1-B-2, pp. 312-19] As pointed out in that letter, the DNL metric alone is not adequate to capture other characteristics of noise exposure. The NPS provided additional guidance for characteristics to review in the acoustical analysis including the following supplemental metrics: (1) Sound exposure level (SEL); (2) Maximum sound level (L max); (3) Equivalent sound level (L eq); (4) Time above (TA); (5) Number above (e,g number of events per day above natural ambient); (6) Time audible (with respect to natural ambient). Thus, in order to effectively evaluate the impact of noise on our historic resources, we request that alternative methodologies be used to determine the effect of the increased air traffic in the quiet soundscapes of Gilpin County. Gilpin County requested that this analysis include a comparison with existing conditions and other alternatives in order to provide comment on the alternatives. The FAA declined to do so.

Also, the FAA only reviewed effects on properties when "setting" was used in the integrity discussion of properties listed on the NRHP. Many of these nominations are quite old, and inadequately discuss the importance of setting. Instead, these properties should be reviewed by the more stringent standards used by the NPS today, where setting is more commonly discussed in the eligibility of properties. In Gilpin County, setting is a key aspect of eligibility for our historic

properties, particularly for our historic vacation and recreational resources, our ghost towns, and our historic ranches. Furthermore, by focusing only on *listed* properties, instead of including eligible properties, the importance of setting in non-surveyed historic resources was not evaluated at all. A historic preservation professional, meeting requirements in 36 C.F.R. § 61, should review Gilpin County's listed and eligible resources to determine the importance of setting.[2]

The method of assessing **visual** impacts was also flawed. The FAA only counted this as an impact if there were new areas that had not been overflown in the past. It then determined that if an area had seen even a single flight in the past, there was "no potential to introduce new visual elements." Clearly, this assessment is woefully inadequate to address a significant increase of air traffic, which in turn impacts the scenic views in the setting of our historic resources.

The information required by Section 106 is not presented in a manner that is consistent with the standards set forth by 36 C.F.R. § 800.11(e). The information for historic resources should include: (1) a description of the undertaking, specifying the Federal involvement, and its area of potential effects, include photographs, maps and drawings; (2) a description of the steps taken to identify historic properties; (3) a

[2] As noted by the Colorado SHPO, Google Maps street view is *not* an appropriate method to evaluate resources in our county, as the vast majority is not covered. This review will require both site visits and archival research.

description of the affected historic properties, including information on the characteristics that qualify them for the National Register (*not just NRHP* listed properties); (4) a description of the undertaking's effects on historic properties; (5) an explanation of why the criteria of adverse effect were found applicable, or inapplicable, including any conditions of future actions to avoid, minimize or mitigate adverse effects; (6) the study should also include relevant comparisons of alternatives and how historical assets are affected.

Due to the flawed analysis and metrics used to determine effects, the APE, the incomplete list of historic resources, and the report's unclear presentation of its findings, it is difficult to provide a full and adequate response to this massive project as it specifically relates to Gilpin County. One example where a quiet setting, chosen for its natural scenic beauty and solitude, is home to a nationally significant historic resource is Lincoln Hills

Lincoln Hills was the preeminent historic African American resort of the segregation era in the Rocky Mountain West. It was a welcoming destination for vacationers with limited options for travel and leisure due to discrimination. In the early 20th century, African Americans were forced to create their own opportunities for safe travel and leisure due to segregation. The Lincoln Hills Development Company (LHDC) was form in 1922 by two African American entrepreneurs to

provide a safe haven for travelers. The LHDC promoted the development as being "nestled within the grandeur of the everlasting hills, bathed in perpetual sunshine and fragrant with the odors of wild flowers and the health giving pine forests. . ."

Within the Lincoln Hills resort community, Winks Lodge (NRHP listed, and currently being reviewed as a National Historic Landmark) was a major destination in the Rocky Mountain West, and cabin lots within the development attracted African American owners from across the country. Lincoln Hills also contains three buildings in Camp Nizhoni, the first dedicated camp for African American girls in Colorado and one of the earliest in the nation.

Lincoln Hills flourished because of the outdoor opportunities it offered in the Rocky Mountain West. The mountain experience includes the peaceful, *quiet* setting with an emphasis on the beautiful natural environment. Increased noise and visual impacts will be a clear and adverse effect on the setting of Lincoln Hills, and would negatively impact its eligibility for historic designation.

If Gilpin County had received adequate notification of the public process, it would have informed the FAA of these significant historic resources and the potential adverse effects. The implementation should not occur until a corrected response by the FAA under the requirements of Section 106 can be prepared. Gilpin County's historic resources should be adequately reported, and the effect of the

proposal should be adequately evaluated by metrics that are relevant to historic properties. Gilpin County should then be provided time to prepare a response to the corrected report, under a "consulting party" status to ensure proper notification.

(c) The Relocation Of The ZIMMR Flight Path

The original ZIMMR RNAV SID (ZIMMR) flight path proposed by the FAA was farther north of Gilpin County in Boulder County than what is proposed in the FONSI. The FONSI indicates that ZIMMR was moved south at the request of a member of the public in Boulder County. [AR, 1-A-1, p. 7] No other reason or information is provided on this change. The new proposed ZIMMR crosses into Gilpin County at the County's northwest boundary and continues in the County for approximately 2.55 miles before exiting and traveling west by northwest within 0.5 miles to 2.9 miles of the County line. In the event of changes in atmospheric or convective conditions, additional flights utilizing ZIMMR could shift further south into Gilpin County. Additionally, southern departing flights from DIA destined for ZIMMR may be vectored across Gilpin as much as 9 miles before exiting Gilpin County to meet the ZIMMR flight path. Additionally, the FAA's ZIMMR change increases flights in and near Gilpin County further impacting Gilpin County's historic sites in violation of Section 106 of the Historic Preservation Act by decreasing the quiet setting and character of Gilpin County.

The FAA's change in ZIMMR is arbitrary and capricious, without evidence in the record, and contrary to the law. No information in provided in the FONSI explaining any basis for the change other than the preference of a Boulder County citizen. The FAA did not consult Gilpin County despite its impact on Gilpin County. The FAA recognizes in its policies that outreach to and input from affected communities should be considered when a move in a flight path benefiting one community can increase noise and impacts on the receiving community. No outreach and information has been provided for this change.

5. The FAA Should Not Implement Metroplex Until All Of The Congressionally Mandated Studies Are Completed

The FAA implemented Metroplex in March 2020. Congress, however, mandated several studies which could directly impact the NEPA environmental analysis and which were to be completed by March 2020. Specifically, the FAA was required to complete studies regarding (1) how the FAA will engage and improve airport and community involvement in NextGen projects; (2) the relationship between aircraft noise exposure and its effects on communities around airports; (3) day-night average sound levels; and (4) the health impacts of noise from aircraft flights on residents. FAA Reauthorization Act of 2018, Pub. L. No. 115-254, October 5, 2018 §§ 173, 176, 187, 188, and 189. Since the implementation of Metroplex is not time sensitive, Centennial Airport requested that the FAA wait for

the mandated studies before finalizing the EA. The FAA merely responded that Congress did not place a moratorium on the Metroplex implementation. [AR, 1-B-11, p. 100; JA ___] Congress, however, likewise did not prohibit the FAA from waiting for the information generated by the studies before finalizing the various Metroplex projects.

None of these studies were completed at the time the Final EA was issued. Several of them are still not completed. As such, the FAA should not have implemented Metroplex until the studies were completed and incorporated into the environmental analysis.

Sections 187/189 - Aircraft Noise Exposure/Study On Potential Health And Economic Impacts Of Overflight Noise

Congress directed the FAA to determine whether the current 65 dB DNL noise standard established by the FAA in the 1990s remains an acceptable and valid noise threshold. FAA Reauthorization Act of 2018, Pub. L. No. 115-254, October 5, 2018 §§ 187 and 189. Congress directed this study because, subsequent to the establishment of the 65 dB DNL noise threshold, studies have determined that 12.3 percent of residents exposed to 65 dB DNL or greater would experience high annoyance including sleep disturbance, inability to hold a conversation or being able to listen to the radio or TV.

Likewise, the FAA is required to commission a study on the health impacts of noise from aircraft flights on residents. The study is required to: (1) include an examination of the incremental health impacts attributable to noise exposure that result from aircraft flights, including sleep disturbance and high blood pressure; (2) consider the incremental health impacts on residents living partly or wholly underneath flight paths most frequently used by aircraft flying at an altitude lower than 10,000 feet, including during takeoff and landing; (3) include an assessment of the relationship between a perceived increase in aircraft noise (i.e., an change in flight paths that increases the visibility of an aircraft from a certain location) and an actual increase in aircraft noise; and (4) consider the economic harm or benefit to businesses located underneath flight paths. *Id.*

These studies may result in modifications to the current 65dB DNL threshold for noise. A change to the bottom line noise threshold could have a significant impact on the EA related to the Denver Metroplex. Based on the fact that the study was due to be completed prior to the final implementation of the Metroplex, it was irresponsible to completely redesign the Denver airspace based upon guidelines which may no longer be applicable once this study is completed. Because the noise threshold is inherently related to the health and safety of the public, the study should

be completed and fully considered in the EA analysis related to the Metroplex project.

Sections 173/188 - Alternative Airplane Noise Metric Evaluation Study/Study Regarding Day-Night Average Sound Levels

Sections 173 and 188 are focused on the same question - whether or not the 65dB DNL remains an acceptable federal noise standard. FAA Reauthorization Act of 2018, Pub. L. No. 115-254, October 5, 2018 §§ 173 and 188. Congress mandated that the FAA evaluate alternative metrics to the current average day-night level standard, such as the use of actual noise sampling and other methods to address community noise concerns. FAA Reauthorization Act of 2018, §§ 173 and 188. This study was not completed until after the issuance of the EA and FONSI and, therefore, the FAA did not rely upon any of the guidance contained therein.

Although the FAA determined that the 65dB DNL should remain the standard, it did note that the use of "other supplemental metrics as a communication tool" is encouraged. FAA Reauthorization Act of 2018, *Noise Metric Report*, p. 11. [Addendum A, p. 104] Specifically, the FAA noted that "a noise monitoring program is often a useful tool to inform the airport and neighbors about current aircraft activity and corresponding noise levels in the community." *Id.*, p. 17. Although Centennial Airport has an existing NCP, the FAA did not engage with the Airport or utilize any of this data despite its availability. This data should have been

utilized because, as noted by the FAA, supplemental metrics "may be used to support further disclosure and aid in the public understanding of community noise exposure." *Id.*, p. 18.

Section 176 - Community Involvement In FAA NextGen Projects Located In Metroplexes

The FAA was required to complete a review of the FAA's community involvement practices for NextGen projects located in metroplexes. FAA Reauthorization Act of 2018, Pub. L. No. 115-254, October 5, 2018 § 176. FAA Reauthorization Act of 2016, Section 176(b). It is imperative that the community be informed and educated prior to the implementation of NextGen and Metroplex projects. Environmental concerns, health and safety issues and other related issues should be identified and addressed prior to implementation of the airspace redesign. By mandating this study, Congress recognized that the FAA has not sufficiently addressed the need for broad citizen participation.

The Metroplex studies and final decision making was completed in January 2020. The community involvement study was not completed until July 1, 2020 and, therefore, its recommendations were not incorporated into the community outreach efforts for the Denver Metroplex. In the study, the FAA stated that it "is committed to giving meaningful consideration to community concerns when making aviation decisions that affect these localities and their residents." FAA Reauthorization Act

of 2018, Section 176(b), *Report on Community Involvement in FAA NextGen Projects Located In Metroplexes*, p. 1 ("Community Involvement Report"). [Addendum A, p. 124]

The Denver Metroplex public workshops were too close in time to the release of the EA, were lacking in substance and failed to meet the intended community involvement aspect of the proposal all contrary to the changes outlined in the FAA Report. The FAA represented to Congress in the Community Involvement Report that it would "[c]onsult with and seek buy-in/support from all airport operators affected by the project at the outset and continually during the project." Community Involvement Report, p. 5. [Addendum A, p. 124] The Airport and the existing Noise Roundtable sought to interact in a meaningful way with the FAA regarding the Metroplex project and were rebuffed. The Community Involvement Report also noted that the FAA would "[c]learly define and communicate the purpose and mission of this project." Community Involvement Report, p. 5. Further, the FAA committed to working with local elected and/or appointed officials to determine "the type of outreach to the public." This Petition includes three counties because the FAA was deficient in interacting with the public in a meaningful way and further failed to work with the local officials to address concerns in advance of implementation. Utilizing the principles set forth in the Community Involvement

Report to create improved community involvement would only benefit the proposed Denver Metroplex project and should be required.

In the EA, the FAA states that the "Preferred Alternative" is needed due to the "inefficiency of the existing aircraft flight air traffic control procedures in the DEN Metroplex." The FAA focuses primarily on the fact that the proposed changes would be more efficient and less of a workload on air traffic controllers. [AR, 2-A-1, § 2.1, p. 2-23; JA ___] ("RNAV ATC procedures can reduce the need for controllers to employ vectoring and speed adjustments, thus reducing controller and pilot workload"); [AR, 2-A-1, § 2.2, p. 2-40; JA ___] ("The FAA expects that the frequency of the controller/pilot communication would decrease, reducing both controller and pilot workload. Improvements from RNAV ATC procedures would reduce the need for vectoring and level flight segments, resulting in more predictable traffic flows.").

CONCLUSION

Petitioners respectfully requests that this Court vacate and remand the FAA's decision to implement the Denver Metroplex. Vacatur of the FAA's action is appropriate. *See New York v. Nuclear Regulatory Comm'n*, 681 F.3d 471, 473 (D.C. Cir. 2012)(vacating NRC's rulemaking because of deficient NEPA environmental review). Under the APA, a reviewing court shall set aside agency action, findings,

or conclusions found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law" or "without observance of procedure required by law." 5 U.S.C. § 706.2. In addition, the FAA can safely and efficiently use the current airspace design and procedures which currently remain in place.

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Signed this 23rd day of November 2020.

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CERTIFICATE OF SERVICE

I hereby certify that on this 23rd day of November, 2020, I electronically filed this Petitioners' Opening Brief with the Clerk of the Court for the United States Court of Appeals for the D.C. Circuit by using the appellate CM/ECF system

All participants in these consolidated proceedings are registered CM/ECF users and service will be accomplished by the appellate CM/ECF system.

/s/ Kimberly Bruetsch