

**J-1 Comments on the Draft EA
and FAA Responses**

**Introduction and Topical Responses
for Reference**

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Responses to Comments on the Proposed South-Central Florida Metroplex Project Draft EA – May 11, 2020

Introduction

The National Environmental Policy Act of 1969 (NEPA) [42 United States Code (U.S.C.) §4321 et seq.] requires Federal agencies to disclose to decision-makers and the interested public a clear and accurate description of the potential environmental impacts that could arise from proposed Federal actions. The Federal Aviation Administration (FAA) implements NEPA through FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* (FAA Order 1050.1).

On May 11, 2020, the FAA initially released the Final Environmental Assessment (EA) for the proposed South-Central Florida Metroplex Project for a 60-day public review and comment period. Based on request made by elected representatives and in light of the COVID-19 public health emergency, the public comment period was extended an additional 14 days. The comment period closed on July 24, 2020.

The FAA recognizes the importance and value of public input in this process. In addition to accepting comments, the FAA hosted a series of twelve (12) virtual workshops from June 3 – June 12, 2020 to give the public the opportunity to learn about the Draft EA and ask questions of FAA representatives for a better understanding of the proposed project. The virtual workshops were recorded and made available as each workshop was completed. In additional, all the workshop boards and associated information remain available at www.floridametroplexworkshops.com.

The FAA appreciates and acknowledges receipt of the thoughtful responses to its requests to comment on the Draft EA. All comments received during the May 11 through July 24, 2020 public review period have been considered in the issuance of the Final EA. Consistent with FAA Order 1050.1F, all substantive comments to the Draft EA and the FAA's responses have been included in this Appendix. Due to the number of comments received, this Appendix is being presented in three volumes. Larger comments and comments received via mail are located in Appendix J-3, the last volume of this Appendix.

The FAA reviewed and prepared responses to the 3239 comment submissions received on the Draft EA. The comment submissions are individually numbered and are followed with the commenter's name. The term, "*comment*," as used in this Appendix, refers to each submission offered by a commenter. The term, "*topic*," as used in this Appendix, refers to an individual issue and/or concern raised by a commenter. Each comment submission was reviewed to identify the topic or topics within each comment submission. Multiple topics may have been identified within a comment submitted by a single commenter. The FAA has recognized that many of the same issues were raised by multiple commenters. Accordingly, the FAA prepared topical responses that provide a

single comprehensive response to an issue and/or concern. The topical responses are numbered 1 through 50.

Topical Responses

The following topical responses were prepared to provide a single comprehensive response to issues raised in multiple comments.

1. Air Quality/Air Pollution
2. Airport Capacity
3. Alternatives to Abate Existing Air Pollution / Air Quality Issues
4. Children's Environmental Health and Safety Risk
5. Comment Period
6. Cumulative Impacts
7. Parks and Wildlife
8. Draft EA Exhibits
9. Environmental Justice
10. Existing Aircraft Noise
11. FAA Reauthorization Act of 2018
12. Frequency of Aircraft Overflights
13. Commercial Airlines Operations Costs
14. General Aviation / Visual Flight Rules
15. Google Earth Files
16. Health Impacts Associated with Inhalation of Pollutants
17. Historical and Cultural Resources
18. Increase in Aircraft Operations
19. Increased Fuel Burn and Emissions
20. Level of NEPA Review
21. NEPA and FAA Order 1050.1F
22. Noise Modelling
23. Noise Modelling Analysis
24. Notification and Coordination for Draft EA
25. Project Scope
26. Particulate Matter
27. Physical/Emotional and Mental Health
28. Public Outreach/Public Involvement
29. Projected Changes in Aircraft Noise Exposure
30. Property Values
31. Purpose and Need
32. Sleep Disturbance/Speech Interference
33. Suggestions to Change Air Traffic Patterns
34. Supplemental Noise Metrics
35. New Technology – Aircraft Engines
36. Withholding Personal Id Information

- 37. No Project Concerns Identified
- 38. Positive
- 39. FOIA
- 40. GOHOM
- 41. Belle ISLE
- 42. South Dispersed Departure
- 43. Track Consolidation/Dispersion
- 44. HYPOLUXO
- 45. CSALT/DEALZ
- 46. Changes at OPF
- 47. Part 150
- 48. LLBOW/FLL East Flow Departures 3A
- 49. DREDS
- 50. COVID-19

1. Air Quality/Air Pollution

In the United States, air quality is generally monitored and managed at the county or regional level. As discussed in Section 4.3.1 of the Final Environmental Assessment (EA), the Clean Air Act (CAA), 42 U.S.C. §7401 *et seq.* regulates emissions of pollutants into the atmosphere from both mobile (e.g., automobiles) and stationary (e.g., factories) sources. To help accomplish this task, the CAA requires the Environmental Protection Agency (EPA) to establish the National Ambient Air Quality Standards (NAAQS) for common air pollutants (referred to as “criteria pollutants”). The criteria pollutants include Carbon Monoxide (CO), Lead (Pb), Nitrogen Dioxide (NO₂), Ozone (O₃), Particulate Matter (PM)(up to both 2.5 micrometers [PM_{2.5}] and 10 micrometers [PM₁₀]), and Sulfur Dioxide (SO₂). The CAA also requires the states to submit to the EPA a list of geographical areas that do or do not conform to the NAAQS. Table 4-2 in Section 4.3.1 of the Final EA identifies those counties and regions within the General Study Area that are in either nonattainment or maintenance status. There are areas within the General Study Area that are in nonattainment for Ozone (O₃) and Carbon Monoxide (CO). Typically, significant air quality impacts would be identified if an action would result in the exceedance of one or more of the NAAQS for any time period analyzed. Section 176(c) of the Clean Air Act requires that federal actions conform to the appropriate State Implementation Plan (SIP) in order to attain the air quality goals identified in the CAA. However, a conformity determination is not required if the emissions caused by a federal action would be less than the de minimis levels established in regulations issued by EPA.

The proposed South-Central Florida Metroplex Project is presumed to conform with the SIP, following EPA regulations implementing the Clean Air Act. Air-traffic control (ATC) activities including the adoption of approach, departure, and en route procedures for aircraft operations above the mixing height specified in the applicable SIP (or 3,000 feet above ground level (AGL) in places without an established mixing height) are, by federal law, presumed to conform to the applicable SIP. 40 C.F.R. 93.153(c)(2)(xxii). In addition,

the results of FAA research on mixing heights indicate that changes in air-traffic procedures above 1,500 ft. AGL and below the mixing height would have little if any effect on emissions and ground concentrations (*FAA-AEE-00-01, September 2000, p. 5*). Such actions in the vicinity of the airport are tightly constrained by runway alignment, safety, aircraft performance, weather conditions, terrain, and vertical obstructions (*FAA Advisory Circulars No. 25-13 and No. 91-53A*). For any changes in operations below the mixing height, those activities are also presumed to conform to the applicable SIP when they are designed to enhance operational efficiency. *Federal Presumed to Conform Actions Under General Conformity*, 72 Fed. Reg. 41565, 41578 (Jul. 30, 2007).

The proposed South-Central Florida Metroplex Project is a type of action that promotes the safe, orderly, and expeditious flow of aircraft traffic including airport, approach, departure and en route air-traffic control, and therefore is presumed to conform as emissions from this type of action are below the applicable de minimis levels. FAA Order 1050.1F provides that further analysis for NEPA purposes is normally not required where emissions do not exceed the EPA's de minimis thresholds.

2. Airport Capacity

Airport capacity is defined as the number of aircraft arrivals and departures that an airport's runways are able to sustain during periods of high demand. The structure of the air traffic operations is a component of airport capacity. The structure of air traffic is characterized by the flight distribution (peak times, traffic density), by type of aircraft (dependent on the weight and geometrical dimensions) and by the distribution between arrivals and departures. These parameters generate significant traffic flow constraints. The air-traffic management methods for feeding an airport's runway system takes into account aircraft navigation equipage, wake turbulence, in-flight and ground spacing constraints; have a direct impact on the capacity. The airport capacity would remain unaffected by the proposed South-Central Florida Metroplex Project.

3. Alternatives to Abate Existing Air Pollution / Air Quality Issues

Some commenters suggested the FAA should improve existing air quality issues through the proposed South-Central Florida Metroplex Project. Commenters asked the FAA to design alternative procedures to route aircraft over unpopulated areas and abate existing air quality issues. The purpose of the proposed South-Central Florida Metroplex Project, as described in Chapter 2 of the Final Environmental Assessment (EA) is to improve the operational efficiency of aircraft arrival and departure procedures and airspace utilization in the South-Central Florida Metroplex area. The purpose is not to redesign procedures expressly for noise and air quality abatement. Furthermore, addressing *current* air quality issues in the General Study Area is beyond the scope of the proposed South-Central Florida Metroplex Project Final EA, which addresses the potential impacts of implementing the Metroplex Project.

4. Children's Environmental Health and Safety Risk

Pursuant to Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, the FAA takes appropriate and consistent action within the agency's mission to identify and assess environmental health and safety risks that may disproportionately affect children. Environmental health risks and safety risks are attributable to products or substances that a child is likely to come in contact with or ingest or other products they might use or be exposed to. Given the very small contribution from aircraft to the overall emissions in and around airports, it is highly unlikely that there would be an increase in environmental health and safety risks that could disproportionately affect children. As discussed in Section 5.2.1 of the Final Environmental Assessment, changes associated with the proposed South-Central Florida Metroplex Project would occur at or above 3,000 feet Above Ground Level (AGL). Changes in air-traffic procedures above 1,500 feet AGL and below the mixing height "would have little if any effect on emissions and ground concentrations." *Federal Presumed to Conform Actions Under General Conformity*, 72 Fed. Reg. 41565, 41578 (Jul. 30, 2007).

5. Comment Period

The FAA is committed to involving the public in the environmental review process as required by the National Environmental Policy Act (NEPA) and FAA regulations, policies and procedures. In determining the length of the comment period, the FAA considered the type of proposed action, the potential for impacts, and community controversy. The FAA engaged in extensive public involvement for the proposed South-Central Florida Metroplex Project Draft Environmental Assessment (EA), providing many opportunities for the public to review and comment on the proposed Project. On May 11, 2020, the FAA released a Draft EA for a 60-day public review and comment period. The comment period was originally scheduled to end on July 10, 2020 but was extended for two weeks to end on July 24, 2020. The FAA previously did extensive public outreach on the project during the scoping phase in 2019. In both 2019 and 2020 the FAA provided in-person and virtual workshops for the public, met with elected officials, and reached out to traditional and digital media outlets as well as homeowners' associations. After the conclusion of the public review period for the Draft EA, the FAA reviewed all comments from the public as well as feedback from airports, agencies, and elected representatives related to proposed procedure designs. The FAA correlated all comments with the applicable proposed procedures, and analyzed whether community concerns could be addressed through minor design modifications while still meeting the purpose and need of the Project.

6. Cumulative Impacts

Several commenters requested that the FAA consider the combination of the impacts resulting from the implementation of the proposed South-Central Florida Metroplex Project with the anticipated environmental impacts of other actions unrelated to the Metroplex. The Final EA undertakes a traditional "cumulative impacts" analysis, and looks

for the potential for environmentally significant impacts resulting from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. No such impacts were found.

Reasonably foreseeable future actions refers to projects that would likely be completed before 2026 and do not include those actions that are highly speculative or indefinite. The FAA looked for present or reasonably foreseeable airport improvement projects at the Study Airports, or FAA actions relating to airspace, flight procedures, or air traffic routes that would have the potential for cumulative effects. The FAA reviewed the FAA Airport Capital Improvement Programs for the identified Study Airports that directly affect or involve runway surfaces having the potential to affect local or regional flight patterns. The Proposed Project, when considered with other past, present, and reasonably foreseeable projects, would not exceed the thresholds of significance for the resource categories analyzed in the Final Environmental Assessment. Therefore, no cumulative impacts would be anticipated.

7. Parks and Wildlife

Biological/Wildlife Impacts - The greatest potential for impacts to wildlife species would result from wildlife strikes on avian and bat species at altitudes below 3,000 feet AGL. Changes to flight paths under the Proposed Action would primarily occur at or above 3,000 feet AGL. Therefore, the Proposed Action would not result in significant impacts to avian and bat species when compared with the No Action alternative. The No Action alternative would not involve changes to air-traffic flows, land acquisition, construction, or other ground disturbance activities. Therefore, the No Action would not result in significant impacts to fish, wildlife, or plants.

To comply with NEPA requirements, the FAA has issued guidance on assessing aircraft noise in FAA Order 1050.1F. This guidance requires that aircraft noise analysis use the yearly Day-Night Average Sound Level (DNL) metric for the impact of noise at or below the DNL of 65 decibels (dB) on noise sensitive areas, including residences, historic areas, parks and schools. This is the FAA's primary metric used to establish a yearly day/night average of cumulative noise energy exposure of individuals to noise resulting from aviation activities. The noise modelling analysis evaluated noise exposure to noise sensitive areas within the General Study Area from aircraft forecasted to be operating under Instrument Flight Rules (IFR) for the No Action Alternative and the Proposed Action for the forecasted years 2021 and 2026. The noise modeling analysis indicated that the proposed South-Central Florida Metroplex Project would not result in changes to noise exposure that exceed the significant noise threshold for the forecasted years of 2021 and 2026.

However, the FAA recognizes that this standard may not be relevant to certain publically owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historic sites. As shown in Table A6.1 in Appendix I to the *South-Central Florida Metroplex*

Noise Technical Report, Appendix 6, the FAA downloaded the inventory of resources protected under Section 4(f) within the General Study Area from the readily available federal, state, and local data sources listed. As shown in Table A6.2 *Department of Transportation Act, Section 4(f) Single Point Properties and Historic and Cultural Resources Inventory and Noise Exposure Results*, 7,231 individual noise grid points representing Section 4(f) resources and historical/cultural properties are identified within the General Study Area. Additionally, Table A6.3 *Department of Transportation Act, Section 4(f) Multi-Point Properties and Historic and Cultural Resources Inventory and Noise Exposure Results*, identifies noise values modeled at 88,135 individual noise grid points representing 8,277 Section 4(f) resources and historical/cultural properties within the General Study Area. These resources include the Canaveral National Seashore, Desoto National Monument, Big Cypress National Preserve, Biscayne National Park, Everglades National Park and Dry Tortugas National Park.

Table 5-2 in the Final EA provides the criteria used to assess the changes in aircraft noise exposure attributable to the Proposed Action compared to the No Action Alternative. As shown in Table 5-2, a 3 dB increase in areas exposed to DNL 60 to 65 dB and a 5 dB increase in areas exposed to DNL 45 to 60 dB are considered reportable noise increases. In Section 5.5 of the Final EA, the noise modelling analysis shows that the Proposed Action would not substantially change the noise environment at any Section 4(f) resources identified within the General Study Area when compared with the No Action. Furthermore, any changes in aircraft traffic patterns would occur at altitudes and distances from viewers that would not substantially impair the view or setting of Section 4(f) resources.

The FAA initiated Section 4(f) consultation in September 2019 with the National Park Service, regarding potential noise impacts to national parks, national wildlife refuges, and historic sites. As a result of the Notice of Intent, the National Park Service became a cooperating agency in the development of the EA in order to collaborate to prevent or mitigate potential impacts to National Parks (NPS) in the General Study Area. The NPS has special expertise regarding the environment in and around these parks and provided data and information to the FAA that assisted in the development of the EA. Through consultation with NPS, six NPS units were identified. Under Section 4(f), constructive use of these units would only occur if noise levels were high enough to have negative consequences of a substantial nature that amount to a taking of a park or portion of a park for transportation purposes. The consulting agencies did not identify any constructive use of any resources protected under Section 4(f) of the Department of Transportation Act for which aircraft noise and/or aircraft overflights would have an effect on the resource. The aircraft noise exposure resulting from the Proposed Action procedures would not substantially change the noise environment at any Section 4(f) resource identified within the General Study Area when compared to the No Action alternative. Furthermore, any changes in aircraft traffic patterns would occur at altitudes

and distances from viewers that would not substantially impair the view or setting of Section 4(f) resources. Consequently, the FAA has determined that the Proposed Action would not result in potential impacts to Section 4(f) properties.

8. Draft EA Exhibits

There is no special knowledge of the Adobe Acrobat program needed to review Exhibits 3-7 through 3-20. Instructions on how to use the various features made available in the exhibits are presented in a page layered on the left hand side of the exhibits. The instruction page can be deselected from the list of layers that is displayed by selecting the Adobe Acrobat icon for layered pages. Second, because of the size of the General Study Area and the likelihood that a reader may only be interested in procedures serving one or two airports, the various arrival and departure procedures included in the No Action Alternative (Exhibits 3-7 through 3-13) and the Proposed Action (Exhibits 3-14 through 3-20) are grouped by the Air-traffic Control procedure type (conventional or Area Navigation), operation (arrival or departure), and airport. This allows a reader to easily focus on his or her own area of interest and turn on or off only those flight corridors they are interested in. Similarly, other map features, such as airport icons, federal and state park properties, and highways, can be turned on or off to allow the user to select and view the details he or she is interested in.

Finally, the information shown in Exhibits 3-7 through 3-20 has also been made available in the Google Earth format located at:

http://www.metroplexenvironmental.com/fl_metroplex/fl_introduction.html

9. Environmental Justice

An environmental justice analysis considers the potential for impact on minority and low-income populations of the proposed South-Central Florida Metroplex Project as compared to the No Action Alternative. In weighing whether the proposed South-Central Florida Metroplex Project raises environmental justice concerns, the FAA considers whether a proposed action may have disproportionately high and adverse human health or environmental effects on minority and low-income populations. This analysis draws on the findings of the other impact analyses for environmental resources: particularly noise, land use, and air quality. Even if these factors exist for a particular resource, there is not necessarily a significant impact requiring further environmental review. Rather, the FAA evaluates these factors in light of context and intensity to determine if there are significant impacts.

Although the FAA has not established a significance threshold for environmental justice in FAA Order 1050.1F, it has identified factors to consider when evaluating the context and intensity of potential environmental impacts. In addition, the DOT Order 5610.2(a) provides the following definition for the types of adverse impacts that should be considered when assessing impacts to environmental justice populations:

Adverse effects means the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to: bodily impairment, infirmity, illness, or death; air, noise, and water pollution and soil contamination; destruction or disruption of man-made or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community's economic vitality; destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion, isolation, exclusion, or separation of minority or low-income individuals within a given community or from the broader community;

The AEDT 2d modeling tool includes an Environmental Justice module whose dataset is derived from US Census Bureau, 2010-2014 American Community Survey (ACS) 5-Year Estimate. Neither the Proposed Action nor the No Action would cause any of the adverse impacts identified in the previous paragraph. No areas within the General Study Area would experience significant impacts to air quality or noise. While some areas would be exposed to reportable noise increases of DNL 5 dB within areas exposed to DNL 45 to 60 dB, these would not constitute a significant impact related to a change in DNL exposure to people, including members of minority and/or low-income populations (see Sections 5.1 and 5.8). Therefore, no disproportionately high and adverse effects to minority populations or low-income populations would occur under either the Proposed Action or the No Action.

Implementation of the proposed South-Central Florida Metroplex Project would not adversely affect air quality or land use within the General Study Area. Additionally, the results of the noise modelling analysis alternative indicate that changes in aircraft noise exposure would be below the threshold of significance when comparing the proposed South-Central Florida Metroplex Project and the No Action Alternative. As a result, there are no disproportionate impacts on minority or low-income populations from the proposed South-Central Florida Metroplex Project as compared to the No Action Alternative.

10. Existing Aircraft Noise

The South-Central Florida Metroplex Project has not been implemented and will not be implemented until after the FAA has carefully and thoroughly considered the results of the Environmental Assessment (EA). The EA, prepared in accordance with the National Environmental Policy Act and FAA Order 1050.1E, documents the potential effects to the environment that may result from implementation of the Proposed Action. Accordingly, any existing noise or air quality issues being experienced by the commenter cannot be attributed to the South-Central Florida Metroplex Project. The Proposed Action is not intended to address current noise or air quality issues associated with existing air-traffic.

The purpose of the proposed South-Central Florida Metroplex Project is to improve efficiency in the South-Central Florida Metroplex airspace. Addressing current noise issues associated with air-traffic in the General Study Area is beyond the scope of the

proposed South-Central Florida Metroplex Project. However, the potential for environmental impacts, including noise associated with the proposed South-Central Florida Metroplex Project, is assessed in the Final EA. Please refer to “Appendix E: Basics of Noise” (Pages E-1 through E-11) which is attached to this Final EA. Analysis indicates that the Proposed Action when compared to the No Action Alternative would not result in changes to noise exposure that exceed the significant noise threshold. Noise complaints related to local air-traffic are best addressed by the local airport. Please contact the local airport noise office for further information on existing noise concerns and complaints. Contact information for registering noise complaints at the five study airports can be found below.

TAMPA INTERNATIONAL AIRPORT

Noise Website: www.tampaairport.com/noise-abatement
 Text the word 'Noise' to (813) 296-8074
 Noise Office Phone: (813) 870-7843

PALM BEACH INTERNATIONAL AIRPORT

Noise Website: PBIA.org <http://www.pbia.org/contact-us/noise-comments/>
 Mailing Address:
 Palm Beach International Airport
 West Palm Beach, Florida 33406

Noise Office Phone: (561) 471-7468
 Noise Hotlines (24 Hour Recorded Lines):
 Palm Beach Int'l PBI (561) 683-7242
 Lantana Airport LNA (561) 683-0472
 North County F45 (561) 626-7361

ORLANDO INTERNATIONAL AIRPORT

Noise Website: <https://orlandoairports.net/about-us/#noise-abatement>
 Noise Complaint Portal: <https://flighttracker.casper.aero/mco/>
 Noise Hotline: (407) 825-2003
 Noise Office: (407) 825-2674

ST PETERSBURG INTERNATIONAL AIRPORT

Noise Website: <https://www.fly2pie.com/aviation-business>
 Noise Affairs Office Phone: (727) 453-7877
 Noise Affairs Office email: airportnoise@fly2pie.com.

FT LAUDERDALE INTERNATIONAL AIRPORT

FLL Noise Information Hotline - 954-359-2366

Website - FLL Noise Information -

<https://www.broward.org/Airport/Business/NoiseInformation/Pages/default.aspx>

MIAMI DADE INTERNATIONAL AIRPORT

Noise Email: Noise@miami-airport.com

Noise Hotline: 305-876-PLANE (7526)

11. FAA Reauthorization Act of 2018

When proposing new area navigation departure procedures, or amending an existing procedure that would direct traffic between the surface and 6,000 feet above ground, Section 175 of the FAA Reauthorization Act of 2018 directs the FAA Administrator to consider the feasibility of dispersal headings or other lateral track variations to address community concerns if-

- 1) The affected airport operator, in consultation with the affected community, submits a request to the Administrator for such a consideration;
- 2) The airport operator's request would not, in the judgment of the Administrator, conflict with the safe and efficient operation of the national airspace system; and
- 3) The effect of a modified departure procedure would not significantly increase noise over noise sensitive areas, as determined by the Administrator.

At this time the FAA has not received a request of the type described above from any airport operators for consideration of modifications to the departure procedures proposed for the South-Central Florida Metroplex Project. Should a Section 175 request be submitted by an airport operator in consultation with their community, the FAA Administrator will consider the request per the direction from Congress.

12. Frequency of Aircraft Overflights

In its effort to modernize the National Airspace System, the FAA is developing instrument flight procedures that use advanced performance-based navigation technologies. A primary component of these procedures is Area Navigation or "RNAV" technology. RNAV uses the satellite-based Global Positioning System for navigation to allow an RNAV-equipped aircraft to fly a more predictable and efficient route. These procedures utilize limited airspace as efficiently as possible for a congested Metroplex airspace area. More than 90 percent of U.S. scheduled air carriers are equipped to use some level of RNAV.

Section 1.2. in the Final Environmental Assessment (EA) describes the difference between RNAV and conventional routes. With performance-based navigation, the overall number of aircraft flying in close proximity to a defined path is greatly improved for both approach and departure tracks. This will mean aircraft noise exposure levels are concentrated on a smaller area, thereby exposing fewer people to aircraft noise than occurs with equivalent conventional procedures that may have more dispersed flight

tracks. In some areas, flight concentration already exists because many RNAV procedures have already been published and have been used for several years. There are also many conventional procedures with defined routes between two points, which also create a concentration of flight tracks. Table 3-1 in Chapter 3, *Alternatives*, contains a listing of already-published RNAV and conventional flight procedures. Accordingly, aircraft concentration along many routes already occurs within the General Study Area for the proposed South-Central Florida Metroplex Project.

For noise modeling purposes, our forecasts assumed that approximately 90 percent of aircraft to or from major airports on an RNAV procedure would be located within a half mile of the published route centerline. All aircraft on an RNAV procedure will be within one mile of the published route centerline. Not all aircraft are equipped to operate on an RNAV procedure; therefore, some conventional procedures will still be used in the South-Central Florida Metroplex airspace. Please see Table 3-2 in Chapter 3, *Alternatives*, for a listing of the conventional procedures that are maintained as part of the proposed South-Central Florida Metroplex Project.

To help maintain safety in the national airspace system, FAA's Air Traffic Control will continue to employ air-traffic management methods and coordination techniques as described in Section 1.2.2 of the Final EA (titled "Air Traffic Control within the NAS"). Therefore, the FAA expects that some dispersion of flight tracks will continue even for some aircraft operating on RNAV procedures. To account for this, the noise model includes flight tracks that follow a proposed RNAV flight path but are turned off the flight path at designated areas where the FAA has forecasted the likelihood of vectoring or rerouting. The noise modelling analysis accounts for anticipated levels of both concentration of flight tracks and some continued dispersion. As described in Chapter 5 of the Final EA, changes in noise exposure levels may occur as a result of flight path concentration. However, the results of the noise modelling analysis indicate that the Proposed Action for the South-Central Florida Metroplex Project would not exceed the thresholds of significance for changes in aircraft noise exposure when compared to the No Action Alternative.

13. Commercial Airlines Operations Costs

The purpose of the proposed Project is to address the problem of operational inefficiency of the existing aircraft flight procedures in the South-Central Florida Metroplex airspace. While fuel savings and/or a reduction in operating costs for commercial airlines may be secondary benefits of implementing the proposed South-Central Florida Metroplex Project, it is not a part of the purpose and need for the Project.

14. General Aviation / Visual Flight Rules

The commenter raises concerns about the impacts from general aviation and aircraft operating under Visual Flight Rules (VFR). When operating outside certain categories of controlled airspace, aircraft operating under VFR are not required to be in contact with ATC. Because these aircraft operate at the pilot's discretion and are often not required to

file flight plans, the FAA has very limited information about these operations. Consequently, there is no known source for comprehensive route, altitude, aircraft type, and frequency information for VFR operations in the General Study Area. However, even if complete information were available for VFR operations, the proposed South-Central Florida Metroplex Project would not require any changes to routing or altitudes to accommodate these operations. If they could be modeled, they would use the same flight routes and altitudes under the No Action Alternative and the Preferred Action for the South-Central Florida Metroplex Project. Their operations would not be affected by the forecast conditions in 2021 (the proposed first year of implementation) and 2026 (five years after implementation) for either the No Action Alternative or the Preferred Action for the South-Central Florida Metroplex Project. Therefore, VFR aircraft were not included in the analysis.

15. Google Earth Files

The FAA released information on the proposed South-Central Florida Metroplex Project in Google Earth format. This information is provided to allow the public to better understand the proposed procedures and the results of the noise analysis. These files can be downloaded from the project website at http://www.metroplexenvironmental.com/fl_metroplex/fl_docs.html. The information provided in Google Earth format includes the following:

- The flight corridors for the No Action Alternative and the Proposed Action depicted in the exhibits in Chapter 3 of the Final Environmental Assessment (EA)
- The AEDT model flight tracks used to complete the noise analysis prepared for the Final EA and to develop the flight corridors depicted in exhibits in Chapter 3 of the Final EA
- The procedure route designs including waypoints
- The results of the noise analysis for each grid point modeled under each scenario [i.e., Existing Conditions, No Action Alternative (2021 and 2026), and Proposed Action (2021 and 2026)]. As discussed in Section 5.1.2, three groups of points were modeled: 2010 Census block centroids, grid points at 0.5-nautical mile intervals located on a uniform grid that covers the entire General Study Area, and unique points representing Section 4(f) resources and historic sites listed on the National Register of Historic Places.

Because of the size of the data presented, the files that present the flight corridors, flight tracks, and procedure routes are broken up by area: Northeast, Northwest, Southeast, Southwest Quadrants. More information on the noise analysis process, including development of the AEDT model flight tracks can be found in the South-Central Florida Metroplex Noise Technical Report, available at:

http://www.metroplexenvironmental.com/fl_metroplex/fl_docs.html.

The Google Earth application can be downloaded from <https://www.google.com/earth/>. Information on how to use Google Earth, including tutorials, is provided at

<https://www.google.com/earth/learn/>. Please note that due to file size and depending the internet connection speed, the files may take some time to download into Google Earth.

16. Health Impacts Associated with Inhalation of Pollutants

As discussed in Section 5.2.1 of the Final Environmental Assessment, changes associated with the proposed South-Central Florida Metroplex Project would occur at or above 3,000 feet above ground level (AGL). Changes in air-traffic procedures 1,500 feet AGL and below the mixing height “would have little if any effect on emissions and ground concentrations.” *Federal Presumed to Conform Actions Under General Conformity*, 72 Fed. Reg. 41565, 41578 (Jul. 30, 2007). Accordingly, it is highly unlikely that there would be health impacts associated with inhalation of pollutants as a result of the proposed South-Central Florida Metroplex Project.

17. Historical and Cultural Resources

The commenter is concerned about impacts to historic homes and cultural resources. The Proposed Action procedures were designed wherever possible to remain within the existing historical flight tracks. The anticipated impact of implementing the Proposed Action on historic properties is described in Section 5.6 of the EA. The Proposed Action will cause no adverse effects to historic resources, for purposes of the National Historic Preservation Act, when compared to the No Action Alternative.

Section 106 of the National Historic Preservation Act (NHPA) of 1966 requires federal agencies to consider the effects of their undertakings on properties listed or eligible for listing in the National Register of Historic Places. To comply with NEPA requirements, the FAA has issued guidance on assessing aircraft noise in FAA Order 1050.1F. This guidance requires that aircraft noise analysis use the yearly Day-Night Average Sound Level (DNL) metric; the FAA’s primary metric used to establish a yearly day/night average of cumulative noise energy exposure of individuals to noise resulting from aviation activities. The noise modelling analysis evaluated noise exposure to noise sensitive areas within the General Study Area from aircraft forecasted to be operating under Instrument Flight Rules (IFR) for the No Action Alternative and the Proposed Action Alternative for the forecasted years 2021 and 2026. The noise modeling analysis indicated that the proposed South Central Florida Metroplex project would not result in changes to noise exposure that exceed the significant noise threshold for NEPA purposes in the forecasted years, nor would either alternative cause any visual impacts at historic properties requiring further action.

18. Increase in Aircraft Operations

The South-Central Florida Metroplex Project is not intended, and is not expected, to increase the number of aircraft operations in the Study Area. The FAA does not have the authority to direct or influence commercial service providers to provide commercial air carrier services at a particular airport or to require them to shift services from one airport to another. Additionally, the FAA and Airport Sponsors do not dictate what aircraft use an

airport or what aircraft are assigned to commercial air carrier routes if the proposed aircraft could safely operate at the proposed airport in compliance with all applicable statutes. Public use airports cannot deny access to an aircraft operator if they can safely operate at that facility.

19. Increased Fuel Burn and Emissions

The commenter raised a concern regarding aircraft emissions. As described in Section 5.2.3 of the Final Environmental Assessment, the proposed South-Central Florida Metroplex Project will slightly increase fuel burn (by 0.46 percent in 2021 and 0.43 percent in 2026) when compared to the No Action Alternative. While increased fuel burn corresponds with an increase in emissions, operational changes that could result in an increase in fuel burn would occur higher than 3,000 feet. De minimis increases at that altitude are presumed to conform to all applicable State Implementation Plans. 40 C.F.R. § 93.153(c)(2)(xxii); *Federal Presumed to Conform Actions Under General Conformity*, 72 Fed. Reg. 41565, 41578 (Jul. 30, 2007).

20. Level of NEPA Review

The FAA's primary mission is to provide the safest, most efficient aerospace system in the world. National Environmental Policy Act (NEPA) compliance and other environmental responsibilities are integral components of that mission. The FAA is responsible for complying with the procedures and policies of NEPA and other environmental laws, regulations, and orders applicable to FAA actions. Under NEPA, the Federal Agencies are required to disclose to decision-makers and the interested public a clear and accurate description of any potential environmental impacts from proposed major Federal actions that could "significantly affect the human environment." 42 U.S.C. § 4332(C). If any such impacts are expected, the FAA must consider and disclose the potential impacts of a proposed action and its alternatives on the quality of the human environment before deciding whether to proceed.

Once the FAA determines that NEPA applies to a proposed action, it needs to decide on the appropriate level of review. The three levels of NEPA review are Categorical Exclusion (CATEX), Environmental Assessment (EA), and Environmental Impact Statement (EIS). The FAA designed the South-Central Florida Metroplex Project to avoid "significantly affect[ing] the human environment," and therefore did not anticipate the need to prepare an Environmental Impact Statement. To confirm whether this was correct, the FAA has prepared an Environmental Assessment. An EA is a concise public document that briefly provides sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). It is not intended to be an exhaustive discussion of every conceivable detail of a proposed agency action. The purpose of an EA is to determine whether a proposed action has the potential to significantly affect the human environment, which would trigger additional requirements under NEPA.

The FAA evaluated the Proposed Action and the No Action Alternative in the EA, considering the environmental resource categories identified in FAA Order 1050.1F and using, where available, the corresponding impact thresholds that signify significance for NEPA purposes. The results of the analysis indicate that the Proposed Action would not exceed the thresholds of significance for any of the resource impact categories analyzed. The Final EA presents sufficient evidence and analysis in determining that preparation of a FONSI is appropriate and that no EIS is required in accordance with NEPA.

21. NEPA and FAA Order 1050.1F

Congress has directed federal agencies in the National Environmental Policy Act to consider environmental factors in their planning and decision-making processes and to encourage public involvement in decisions that “significantly” affect the quality of the human environment. Federal agencies are required to disclose to decision-makers and the interested public a clear and accurate description of any potential environmental impacts from proposed major Federal actions that could “significantly” affect the human environment. 42 U.S.C. § 4332(C). If any such impacts are expected, the FAA must consider and disclose the potential impacts of a proposed action and reasonable alternatives on the quality of the human environment before deciding whether to proceed. The Proposed Action for this Environmental Assessment (EA) is the proposed South-Central Florida Metroplex Project. The Federal Aviation Administration (FAA) has established a process to ensure compliance with the provisions of NEPA through FAA Order 1050.1F, Environmental Impacts: Policies and Procedures (FAA Order 1050.1F). The Draft EA and the Final EA were prepared in accordance with FAA Order 1050.1F and meet the required elements of the National Environmental Policy Act.

22. Noise Modelling

The Final Environmental Assessment compares the anticipated aircraft noise impacts of the Proposed Action to the No Action Alternative, using the Aviation Environmental Design Tool (AEDT) version 2d, which is the FAA’s required noise model. The FAA uses AEDT to model noise for flight track changes over large areas. The AEDT 2d modelling tool provides detailed modelling to evaluate the effects of high-altitude airspace changes from the ground level up to 18,000 feet Above Ground Level. The AEDT 2d model utilizes an extensive database of aircraft performance and sound levels that includes information on variations in sound attributed to different types of aircraft and aircraft engines, aircraft speed, climb and descent thrust, and the altitude along a route. Detailed terrain data was inputted into the AEDT 2d model, which accounts for the elevation of each grid point or population centroid when calculating the distance between the grid point and the aircraft. The aircraft noise analysis prepared for the South-Central Florida Metroplex Project Final EA was conducted in compliance with FAA Order 1050.1F.

Due to the need to generate detailed noise results over large areas, noise modeling is the only practical way to accurately and reliably determine geospatial noise effects in the

surrounding community when analyzing proposals related to aviation noise. The many challenges and limitations to using noise measurements for evaluating airport vicinity noise are summarized below:

- Non-aircraft sound can have a large influence on noise monitoring data, which can be difficult to separate from aircraft noise during data post-processing.
- Long-term (e.g., year-long) noise monitoring requires regular maintenance and calibration of the individual noise monitors on a continuous, year-round basis, which has considerable costs.
- To ensure the same accuracy and fidelity of data generated by noise models, an extremely large number of noise monitoring locations is required. (e.g. tens of thousands of noise monitors, collecting year-round data in the vicinity of an airport would be needed to match the fidelity and accuracy of noise modeling).
- Noise monitoring data is not capable of analyzing “what if” scenarios or proposed future action airport and air space scenarios.

Use of individual noise event measurements for the South-Central Florida Metroplex EA is therefore not appropriate for assessing environmental impacts when complying with the National Environmental Policy Act and other applicable federal environmental statutes.

23. Noise Modelling Analysis

Many details of the FAA’s compliance with the National Environmental Policy Act are set forth in FAA Order 1050.1F. This Order requires that aircraft noise analysis for NEPA purposes use the yearly Day-Night Average Sound Level (DNL) metric that is required by federal regulation for other aviation-related noise analyses. 14 C.F.R. Part 150. DNL is the FAA’s primary noise metric, and is used to establish a yearly day/night average of cumulative noise energy exposure of individuals to noise resulting from aviation activities. The noise analysis in the South-Central Florida Metroplex Project Final Environmental Assessment evaluated noise exposure to noise sensitive areas within the General Study Area from aircraft forecasted to be operating under Instrument Flight Rules (IFR). IFR-filed aircraft activity was forecasted for the years 2021 and 2026 and used to model conditions under both the No Action Alternative and the Proposed Action.

The FAA’s Order 1050.1F defines a “significant” impact for NEPA purposes as an increase of DNL 1.5 decibel (dB) in areas exposed to aircraft noise of DNL 65 and higher. Using these criteria, the noise analysis results indicate that the Proposed Action when compared to the No Action Alternative would not result in a DNL 1.5 dB or higher increase in sensitive areas exposed to DNL 65 dB or higher.

The compatibility of noise-sensitive land uses is evaluated through comparison with the compatibility guidelines provided in 14 CFR Part 150, Appendix A, table 1. The guidelines focus on areas exposed to noise levels of DNL 65 dB and greater. However, the FAA recognizes that this standard may not be relevant to certain noise sensitive areas. As shown in the EA, Table 5-2: Criteria for Determining Impact of Changes to Aircraft Noise,

a 3 dB increase in areas exposed to DNL 60 to 65 dB and a 5 dB increase in areas exposed to DNL 45 to 60 dB are considered reportable noise increases. The FAA prepared the noise modelling analysis of the proposed flight procedures to account for the reportable noise criteria. Experience has indicated that DNL increases 5 dB or more at cumulative levels well below DNL 65 dB could be disturbing to people and become a source of public concern. The FAA therefore discloses any such impacts even though they do not trigger additional legal obligations to the agency under NEPA.

24. Notification and Coordination for Draft EA

The Federal Aviation Administration recognizes the importance and value of public input in the environmental review process, and seeks it pursuant to the National Environmental Policy (NEPA) and FAA regulations, policies, and procedures. The views and input of communities are important to the FAA as the Agency takes the next steps to advance the National Airspace System. On July 25, 2019, the FAA distributed a Notice of Intent to Prepare and Environmental Assessment letter to 590 federal, state, regional, and local officials as well as to agencies and tribes. FAA subsequently sent a Clarification Letter to ensure recipients understood the timing of any revisions to the project scope. On July 28, 2019 a legal notice in English and Spanish was published in the *South Florida Sun Sentinel*, the *Tampa Bay Times*, the *Orlando Sentinel*, the *Fort Meyers News-Press*, the *Miami Herald*, and *El Nuevo Herald* newspapers.

Contemporaneously with publication of the Draft Environmental Assessment on May 11, 2020, public workshops were publicized on the FAA Community Involvement website, the South-Central Florida Metroplex website, and through social media and local press releases. The FAA sent the Draft Environmental Assessment electronically to 117 libraries across the General Study Area upon public release. Throughout all the public engagement efforts, airports, elected officials were advised of the activities and encouraged to inform their constituents of the project. Additional outreach was conducted with government agencies and Native American Tribes. Appendix A of the EA provides a full description of all public outreach/engagement activities of the South-Central Florida Metroplex project.

As previously noted, the FAA values public input during the environmental review process, and engaged in more community outreach than was required by federal environmental statutes to ensure that the FAA was well informed by public input. Requests for individual airport authorities to provide better notification to the community about upcoming changes and to provide for public input are best directed to those airport authorities. The Federal Aviation Administration does not own or operate any of the airports in the South-Central Florida Metroplex Study Area. Similarly, concerns about communications from elected officials to constituent communities about upcoming agency actions are best directed to those individual elected officials.

25. Project Scope

The comment includes a request for changes that fall outside the scope of the purpose and need for the proposed South-Central Florida Metroplex Project. The purpose of the proposed Project is to address the problem of operational inefficiency of the existing aircraft flight procedures in the South-Central Florida Metroplex airspace. Chapter 2 of the Final Environmental Assessment presents the problem being addressed and describes what the FAA is trying to achieve with the proposed South-Central Florida Metroplex Project. Consequently, the requests would not meet the purpose and need proposed South-Central Florida Metroplex Project.

26. Particulate Matter

In General, Particulate Matter consists of a mixture of solid particles and liquid droplets found in the air. While most particles form in the atmosphere as a result of complex reactions of pollutants emitted from power plants, industries and automobiles, some solid particles are also emitted as by-products of combustion. The national ambient air quality standard regulates the mass of particles less than 2.5 micrometers in diameter (1 micrometer = 1/1,000 millimeter).

Like all combustion sources, aircraft engines also produce black carbon non-volatile particles that are solid at the point of engine exhaust. These particles are present at high temperatures at the engine exhaust and they do not change as they mix and dilute in the exhaust plume behind an aircraft. Compared to traditional diesel engines, non-volatile particles emitted by gas turbine engines are typically smaller in size. Their diameter ranges roughly from 15 nanometers (nm) to 60nm (0.06 micrometers; 1nm = 1/1,000,000 of a millimeter), and are too small to be seen with the human eye. Some gaseous emissions in the engine exhaust react chemically with ambient chemical constituents in the atmosphere to produce secondary particulate matter.¹ Both non-volatile particles and secondary particulate matter contribute to the total ambient PM_{2.5} levels.

Aviation's contribution to the ambient concentrations of PM_{2.5} remains small compared to from other source sectors such as road transport and power generation. A recent study showed that aircraft contributed to 0.2% to the PM_{2.5} concentrations in the Northern Hemisphere.² Another study assessed air -quality impacts from the top 66 airports accounting for more than 80% of the total fuel burn in the U.S..³ Results from this study showed that aviation's contribution to PM_{2.5} concentrations at each of these individual airports remained well below 0.2% of the total PM_{2.5} contribution from all sectors. A 2020 study concluded that aviation landing take-off emissions contributed to 0.3% of total air quality impacts within the United States in 2018.⁴

¹ ICAO Environmental Report 2013 Page 83 (<https://www.icao.int/environmental-protection/Pages/EnvReport13.aspx>)

² Vennam et al. (2017) <https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1002/2017JD026598>

³ Penn et al. (2017) <http://dx.doi.org/10.1016/j.envres.2017.04.031>

⁴ Dedoussi et al. (2020) <https://doi.org/10.1038/s41586-020-1983-8>

In light of these research results, it is highly unlikely that aircraft operations are the source for particle deposits observed by the commenters. The vast majority of the deposited particles that are visible to the human eye are likely to be much larger in size than those emitted by aircraft engines. More importantly, given the very small contribution from aircraft to the overall emissions in and around airports, the proposed South-Central Florida Metroplex is highly unlikely to contribute to adverse local air quality impacts. Much of the observed PM_{2.5} particles including soot emissions come from road transportation and other source sectors as has been demonstrated by multiple studies. The proposed South-Central Florida Metroplex Project is not expected to lead to adverse air quality impacts.

27. Physical/Emotional and Mental Health

The FAA implements NEPA through FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* (FAA Order 1050.1). The Final Environmental Assessment (EA) for the proposed South-Central Florida Metroplex Project considered the potential effects on the environmental resource categories identified in FAA Order 1050.1F. As discussed in Chapter 5, the proposed South-Central Florida Metroplex Project would not result in significant impacts for the resource categories analyzed in the Final EA.

The FAA does however recognize the interest in gaining further understanding of any potential health impacts from aviation activity and has assembled a portfolio of research activities through academic partnerships as part of the ASCENT – Aviation Sustainability Center. This research includes work with the Pennsylvania School of Medicine on a National Sleep Study and the Boston University School of Public Health on research to better understand the relationship between aircraft noise exposure and cardio vascular health. (<https://ascent.aero/project/noise-impact-health-research/>). Review of that study is ongoing.

28. Public Outreach/Public Involvement

The Federal Aviation Administration recognizes the importance and value of public input in the environmental review process, and seeks it pursuant to the National Environmental Policy (NEPA) and FAA regulations, policies, and procedures. The views and input of communities are important to the FAA as the Agency takes the next steps to advance the National Airspace System. The FAA engaged individual communities in public workshops in April and May 2019, to gather public input on the project before it began the Environmental Assessment. Attendees viewed the proposed procedures and engaged with air-traffic control and environmental experts. The agency accepted public comments at each workshop and through an online link which was available for 30 days from the date of the last meeting in each city.

After preparing Project designs that accounted for those comments, the FAA analyzed all potential environmental impacts of the Project. The FAA published a Draft Environmental Assessment on May 11, 2020 and opened a 74-day comment period. From June 3 – June 12, 2020, the FAA held a series of 12 virtual workshops to give the public the

opportunity to learn about the Draft EA and ask questions of environmental and air-traffic control specialists. These workshops were recorded and both the recordings and associated information remain available at www.floridametroplexworkshops.com. These workshops exceed NEPA requirements, as they are not mandated as part of the review process for an Environmental Assessment. The public workshops were publicized on the FAA Community Involvement website, the South-Central Florida Metroplex website, through social media and local press releases. The Draft Environmental Assessment was sent electronically to 117 libraries across the general upon public release. Although the FAA was later told that some of the libraries were not able to provide the electronic version of the Draft Environmental Assessment, the FAA is not certain as to what may have occurred with accessing these documents at certain libraries. Most reported no problems. Throughout all the public engagement efforts, we advised airport authorities and elected officials and encouraged them to inform their constituents of the project. Additional outreach was conducted with government agencies and Native American Tribes. Appendix A of the EA provides a full description of all public outreach/engagement activities of the South-Central Florida Metroplex project.

Air-traffic procedures are designed by groups of subject-matter experts and stakeholders, and input from airport authorities is an important aspect of that process. But the ultimate decision whether to adopt the proposed action evaluated in the Environmental Assessment is made at the discretion of the Federal Aviation Administration, which has been given exclusive sovereignty over the national airspace by Congress. 49 U.S.C. § 40103(a)(1).

As previously noted, the FAA values public input during the environmental review process, and engaged in more community outreach than was required by federal environmental statutes to ensure that the FAA was well informed by public input. Requests for individual airport authorities to provide better notification to the community about upcoming changes and to provide for public input are best directed to those airport authorities. The Federal Aviation Administration does not own or operate any of the airports in the South-Central Florida Metroplex Study Area. Similarly, concerns about communications from elected officials to constituent communities about upcoming agency actions are best directed to those individual elected officials.

29. Projected Changes in Aircraft Noise Exposure

The comments raise concerns pertaining to possible changes in aircraft noise exposure. Aircraft noise is often the most noticeable environmental effect associated with any aviation project. The Federal Aviation Administration's (FAA's) Environmental Assessment (EA) analyzes the potential noise impacts of the proposed South-Central Florida Project. The purpose of an EA is to determine whether a proposed action has the potential to significantly affect the human environment. With respect to aircraft noise, "significant" effects are defined by clear, objective criteria established by specific amounts of noise increase in areas experiencing specific DNL levels of aircraft noise. The noise analysis in the EA for the Project was conducted in accordance with FAA Order 1050.1F,

and is discussed in Section 5.1.3, Potential Impacts – 2021 and 2026, of the Final EA. The results indicate that the Proposed Action would not result in any “significant” increase in aircraft noise exposure (i.e., an increase in the Yearly Day-Night Average Noise Level [DNL] of 1.5 decibels [dB] or more that results in a noise exposure level of DNL 65 dB or more). Additionally, the results of the noise modelling analysis indicate that no population would be exposed to reportable noise increase of DNL +3dB or more within areas between DNL 60 dB and 65 dB.

30. Property Values

The proposed South-Central Florida Metroplex Project changes air traffic control routing for airborne aircraft only; it does not involve land acquisition, physical disturbance, or construction activities. The determination of whether a proposed action may have a significant environmental impact under the National Environmental Policy Act (NEPA) is made by considering the relevant environmental impact categories and comparing those impacts to the FAA’s thresholds of significance, where available, as outlined in FAA Order 1050.1F. The assessment of property values is not an environmental impact category identified in FAA Order 1050.1F. Because the Project will cause no significant aircraft noise impacts affecting the compatibility of land uses, the proposed South-Central Florida Metroplex Project is compatible with existing and planned land uses, and the applicable regulations and policies of federal, state, and local agencies.

A limited number of studies have attempted to measure the impact of aircraft noise on property values. Specific studies of the impact of noise at the Study Airports on real property values have not been conducted and are not required. Studies conducted at other national airports have concluded that airport noise only has a slight impact on property values within the Day Night Average Sound Level 65 decibels or greater noise contour around airports. Additionally, comparison of older studies to more recent studies indicates that the impact was greater in the 1960s, when jet aircraft first entered the fleet. This decrease presumably is the result of stabilization of real estate markets following an initial adjustment to noisier jets, and of noise reduction in more modern Stage 3 or better aircraft.

31. Purpose and Need

The purpose of the Metroplex initiative is to address the inefficiencies of existing air-traffic control procedures and airspace utilization on a regional scale. This is accomplished by developing air-traffic control procedures that take advantage of technological advances in navigation, such as Area Navigation (RNAV) and Required Navigation Performance procedures, while ensuring that aircraft not equipped to use RNAV flight procedures continue to have access to the National Airspace System. The overall intent is to be as operationally efficient as possible when using the limited airspace available for congested Metroplex areas.

Many of the existing air-traffic procedures in the South-Central Florida airspace are inefficient, and lack proper lateral and vertical segregation from other traffic flows that are

needed to ensure that conflicts are avoided. Because this segregation is not automatic when flying current procedures, additional communication between pilots and controllers is required, which increases the complexity of airspace operations. When procedures are not designed to automatically avoid conflicts, some arrival and departure flight paths intersect, and controllers must direct pilots to level off or vector from the procedure to maintain adequate vertical and lateral separation between aircraft. The proposed South-Central Florida Metroplex Project addresses these problems, using newer air-traffic management strategies and methods that have evolved to address these issues nationwide. This problem is due to the use of RNAV-based ATC procedures techniques and strategies in place for nearly 20 years in the South-Central Florida Metroplex airspace.

These more recently refined procedures, strategies, and techniques associated with air traffic management also take advantage of modern RNAV capabilities. The proposed South-Central Florida Metroplex Project would optimize procedures serving the Study Airports by taking advantage of the benefits of performance-based navigation. Implementing RNAV procedures will improve the efficiency of the airspace in the South-Central Florida Metroplex, while maintaining or enhancing safety, in accordance with FAA's mandate under federal law. For additional information, please see Chapter 2 of the Final Environmental Assessment.

32. Sleep Disturbance/Speech Interference

Associations between aircraft noise and disruption to normal activity are key components in the establishment of FAA's residential noise impact thresholds defined in FAA Order 1050.1F. Use of DNL 65dB (including the 10dB nighttime penalty) as the threshold for significant noise exposure is designed to account for both sleep disturbance and speech interference, among other factors. As discussed in Chapter 5 of the EA, the noise modeling analysis indicated that the proposed South-Central Florida Metroplex would not result in changes to noise exposure that exceed the significant noise threshold for the forecasted years of 2021 and 2026.

The FAA does however recognize the interest in gaining further understanding of any potential impacts from aviation activity. Through a partnership with the University Of Pennsylvania School Of Medicine, the FAA completed a National Sleep Study to advance the understanding of physiological effects of aircraft noise on sleep. (<https://ascent.aero/project/noise-exposure-response-sleep-disturbance/>). Review of that study is ongoing.

33. Suggestions to Change Air Traffic Patterns

The FAA received numerous comments suggesting that proposed designs of air-traffic procedures be changed in unspecified ways, in an apparent attempt to move noise from aircraft operations away from the commenters' respective locations. When commenters proposed specific suggestions, the FAA reviewed the proposal and responded. The South Florida Metroplex Project takes the airspace overlying the Study Area as an entirety,

considers interactions between arrivals and departures to/from numerous airports along with overflights and design criteria. These interactions have a direct effect on available flight corridors and must also be, wherever possible, compared with historical flight track data to avoid movement of air traffic over areas previously unaffected. In addition, designs must also accommodate differing runway configurations based on winds and weather. Any suggestion to move a procedure, waypoint or to amend an altitude contained in a procedure must be weighed against these considerations. The designs reviewed in the Final EA are compatible with other proposed air-traffic routes and airspace sector designs, and provide the best overall design of the Study Area airspace that the FAA can provide, considering all applicable design constraints.

34. Supplemental Noise Metrics

Noise is often the predominant aviation environmental concern of the public. The commenter requested the FAA use supplemental noise metrics to characterize specific noise effects of the proposed South-Central Florida Metroplex Project. The Federal Interagency Committee on Noise (FICON) report, "Federal Agency Review of Selected Airport Noise Analysis Issue," dated August 1992, concluded that the DNL is the recommended metric and should continue to be used as the primary metric for aircraft noise exposure. At the direction of Congress, the FAA recently revisited this question and evaluated multiple alternative noise metrics. That report concludes the DNL remains the best option for measuring impacts of aircraft exposure in 2020. Federal Aviation Administration, *Report to Congress, FAA Reauthorization Act of 2018 (Pub. L. 115-254) Section 188 and Sec 173* (April 14, 2020). There is no single supplemental methodology that is preferable in all situations and these metrics often do not reflect the magnitude, duration, or frequency of the noise events under study. Such supplemental noise analysis is not, by itself, a measure of adverse aircraft noise or significant aircraft noise impact. Because of the diversity of situations, the variety of supplemental metrics available, and the limitations of individual supplemental metrics, the use of supplemental metrics to analyze noise remains at the discretion of individual agencies. The FAA has extensive experience applying DNL in a broad variety of settings nationwide over many decades and has recently concluded that it remains the best single metric available.

The results of the noise modelling analysis indicate that the proposed South-Central Florida Metroplex Project would not exceed the thresholds of significance for changes in aircraft noise exposure. These thresholds are expressed in terms of DNL levels that have been established to account for known impacts on the quality of the human environment (by, for example, adding weight to aircraft noise occurring at certain hours of the night). Values generated by the use of alternative noise metrics are not readily comparable to DNL values. Based on the results of the noise modelling analysis, and the fact that the proposed flight procedures are refinements to existing Area Navigation flight procedures and air-traffic management strategies, the FAA has determined that the use of supplemental noise metrics would not meaningfully inform its decision in assessing the impacts from the proposed Project.

35. New Technology – Aircraft Engines

The FAA is committed to reducing aircraft noise through a “balanced approach” through the reduction of noise at its source (i.e., the aircraft); improved land use planning around airports; and, a wider use of aircraft operating procedures and restrictions that abate noise. FAA’s Office of Environment and Energy Research and Development provides scientific understanding, development of new technologies, fuel and operations and analyses to support achieving the Next Generation Air Transportation System (NextGen), and its goals of environmental protection that allow for sustained growth. For more information on the ongoing studies, visit www.faa.gov/about/office_org/headquarters_offices/apl/research/

36. Withholding Personal Id Information

Commenters were made aware of the following statement with their comment submission - "Before including your address, phone number, email address, or other personal identifying information in your comment, be advised that your entire comment – including your personal identifying information- may be mad publicly available at any time. You may include in your comment a request to withhold your personal identifying information, however we cannot guarantee that we will be able to do so".

37. No Project Concerns Identified

The Federal Aviation Administration (FAA) would like to thank you for your comment about the South-Central Florida Metroplex Project.

38. Positive

The FAA received many positive comments in support of the Metroplex. Some of those comments spoke favorably of an anticipated decrease in aircraft noise at particular locations. The Federal Aviation Administration (FAA) would like to thank you for your comment about the South-Central Florida Metroplex Project. The South-Central Florida Metroplex Project was designed to improve the safety and operational efficiency of the regional airspace. The new and amended air-traffic procedures proposed in the Metroplex Project were not designed or proposed to provide noise relief to any particular area. Please see the description of the Purpose and Need of the Project found and Chapter 2 of the Environmental Assessment for further information.

39. FOIA

Due to the content of your feedback, we are unable to provide a full response in a timely manner. Instead, we request that you submit your comment via the Freedom of Information Act (FOIA). The FOIA is a law that gives you the right to access information from the federal government. Under the FOIA, agencies must disclose any requested information unless that information is protected from public disclosure. To learn more about the FAA’s FOIA policies, practices, and to access the document library, please click here <https://www.faa.gov/foia/>. To bypass the section referenced above and immediately

be taken to the submission page, please click here https://www.faa.gov/foia/foia_request/. Due to the Coronavirus pandemic, the FOIA team is working remotely and cannot process any requests mailed or faxed to the office.

40. GOHOM

The FAA has coordinated designs with the Airport Noise Abatement Committee (ANAC) and the Greater Orlando Aviation Authority (GOAA) to discuss proposed designs for the project, including MCO north departures. Proposals to shift the GOHOM (original name YANTI) waypoint south over the Orange County Landfill and move the MEIGS waypoint south over the OUC Stanton Energy Center were examined and both waypoints were moved slightly. Based on interactions with other procedures and requirements to remain within design criteria, all of the changes requested by ANAC and/or GOAA could not be accomplished. The waypoints GOHOM and MEIGS are flyby waypoints (not flyover). It is expected that the flight tracks associated with the proposed designs will be closer to the Orange County Landfill and further south of the depicted TARGETS lines in the Draft EA, because of aircraft performance associated with flyby waypoints.

41. Belle ISLE

The FAA received numerous comments concerning the proposed designs for departures to the north from MCO that are assigned the proposed EPCOT, FATHE, FSHUN, JEEMY and LEWRD SIDS. Comments suggested that the proposed designs did not meet conditions set forth in noise abatement procedures. However, the noise agreement referred to only exists informally. As the Greater Orlando Aviation Authority (GOAA) has explained to the FAA, the noise abatement procedure is intended to keep northbound departures to the east of Conway Road. The proposed procedures accomplish this goal, although the proposal will route aircraft to the north rather than north/northeast. Standard Operating Procedures for the MCO air-traffic facility provide radar screen references that aircraft should be routed over to keep departures east of Conway Road. Proposed north-flow departure procedures from MCO were designed to allow simultaneous departures from MCO Runways 35 L/R and 36 L/R. This design will maintain current throughput and provide for future increased operational efficiencies. The proposed final designs also better avoid conflicts between the MCO north departures and ORL operations, and allow the use of climb via procedures. The use of climb via procedures is expected to reduce vectoring northwest of the airport, west of Conway Road, by providing vertical and lateral guidance to separate these operations from arrival traffic and ORL operations. Current procedures only allow the use of simultaneous departures during times when visual separation can be applied. Without proposed PBN procedures, additional coordination between controllers will not allow the use of simultaneous departures in instrument flight conditions and/or when visual separation cannot be applied.

The proposed final designs do not change arrival traffic landing to the south at MCO. Aircraft must be on a stable, straight-in approach and the final flight path cannot be altered.

Some suggestions were made to amend operating procedures to allow alternate assignment of RNAV off-the-ground and visual separation through radar vectors based on weather conditions. The increased complexity caused by alternating operating procedures for both controllers and flight crews would severely impact safety.

42. South Dispersed Departure

Departures to the south from MCO required no changes, and therefore will continue to operate using radar vectors, with commensurately wider dispersion of flight tracks.

43. Track Consolidation/Dispersion

In its effort to modernize the National Airspace System (NAS), the Federal Aviation Administration (FAA) is developing instrument flight procedures that use advanced Performance Based Navigation (PBN) technologies. A primary component of PBN is Area Navigation or RNAV. RNAV uses the Global Positioning System satellite-based navigation to allow an RNAV equipped aircraft to fly a more predictable and efficient route. RNAV procedures eliminate random path generation, and as such, this allows for more effective utilizing limited airspace for congested Metroplex airspace areas. More than 90 percent of U.S. scheduled air carriers are equipped to use some level of RNAV.

Because RNAV procedures are flown using some automated technology, a greater number of aircraft are expected to fly closer to the centerline of the published procedures when compared to “conventional” air-traffic procedures. This concentration of aircraft towards the center of the procedure is fully accounted for in the detailed noise models employed during the environmental assessment process to determine potential noise impacts. However, not every aircraft flies precisely along the centerline of an RNAV procedure. To help maintain safety in the NAS, FAA Air Traffic Control (ATC) will continue to employ air traffic management methods and coordination techniques as described in *Section 1.2.2 Air Traffic Control within the National Airspace System*, of the Environmental Assessment (EA). Therefore, the FAA expects that some dispersion of flight tracks will continue even for some aircraft operating on RNAV procedures. The noise modelling analysis accounts for both concentration and expected continuation of some dispersion. The noise modelling was conducted in accordance with *FAA Order 1050.1F, Environmental Impacts: Policies and Procedures*. Additional modelling information may be found in *Section 5.1.2: Noise Modeling Methodology* of the EA, and in Appendix I.

44. HYPOLUXO

The comment references existing traffic and suggests changes to traffic patterns. Arrival flows from the east into Palm Beach International (PBI) were redesigned as part of the South-Central Florida Metroplex Project, with an RNAV arrival routed north of Lantana. Airspace constraints and the proximity of the downwind path in relation to the airport location limit the available options.

45. CSALT/DEALZ

The FAA received numerous comments concerning the location of the CSALT waypoint and objections to perceived changes to eastbound departure procedures from MIA. The proposed locations of the waypoints were identified after considering safety, interactions with other air-traffic procedures, and input from Miami Dade Aviation Department (MDAD) recommending RNAV procedures off-the-ground. Many comments mistakenly stated that the existing departure procedures (HEDLY and WINCO SIDS) route aircraft over the Atlantic Ocean before turns to the north and northwest are accomplished. See, e.g., Figure 1 (inaccurately depicting what some commenters believe to be current flight tracks). While operations departing to the east from MIA for European destinations are routed over the existing PADUS departure and fly east over the ocean, not all MIA east departures do so. Existing departure procedures for Runways 08 L/R and 09 require no turns to the north prior to 5 miles from the airport or below 4,000 feet. Aircraft routed to north and northwest destinations are regularly advised before departure that they will be assigned radar vectors to join the existing HEDLY and WINCO SIDS, very soon after they have reached the distance and altitude that permit them to make that turn. These departures are rarely allowed to proceed east over the ocean before turns to the north are issued. The decision by the controller to issue a turn north is dependent on traffic situations, workload and aircraft performance. Commenters may be confused by the location of the waypoint SENOY, which is depicted as part of the current departure procedure in practice, aircraft are regularly vectored to the north before routing over this waypoint. Commenters are also likely over-estimating the change in aircraft noise that would be experienced at Biscayne Bay and points north if aircraft were regularly routed over the ocean to the east as suggested. Because those departure routes cross under a stream of arrival traffic descending to 8,000 feet from over the ocean, those departures cannot climb above 7,000 feet above ground level until after they have cleared that arrival stream. Thus a longer trip to the east before turning back over land would not actually result in the aircraft being higher (and therefore quieter) due to this altitude restriction.

The SENOY and CSALT waypoints are located .56 nautical miles (3,402 feet) away from each other. The purpose of the proposed AARPS, BNGOS, GLADZ, TWSTR and VACAY SIDS is to establish modern air-traffic procedures that mimic currently used (radar vector) procedures.

Several additional comments were received concerning “long standing Noise Abatement procedures already in place at Miami International Airport, east bound aircraft turn to the North around Biscayne Boulevard and not in the middle of Biscayne Bay”. The noise abatement procedures in place at the airport ask that flights not turn north until they are five nautical miles from the runway and have climbed to at least 4,000 feet. The proposed departure procedure is consistent with these noise abatement procedures. The CSALT waypoint is located 5.17 miles west of MIA. Turns prior to this point would lead to procedures routing aircraft outside of historical tracks.

An examination of the Project will reveal interactions between arrivals and departures that require design intervention to more efficiently avoid conflicts between the two airport flows (inbound and outbound). Movement of departures farther east (over the ocean) would create a head-on traffic conflict with aircraft arriving into MIA on the proposed CSTAL and DORAL arrival procedures. Departing farther to the east would also increase interactions with other airport traffic flows (arrivals and departures) and limit the ability of MIA departure aircraft to benefit from more unrestricted climbs.

Once the Metroplex procedures are implemented, the currently existing vectors and resulting dispersion of departure traffic should only occur during weather events. The proposed procedures will provide more repeatable and predictable routings, at higher altitudes as they cross over land. Some communities should also benefit from proposed arrival procedures which allow reduced power descents over populated areas.

Alternate paths, including those suggested by comments, were reviewed and evaluated. These alternative designs would have a negative impact on safety and National Airspace System (NAS) efficiency. The Project is not intended or designed to increase the number of aircraft operations, but requires efficiently handling current and forecasted demand which is determined locally on an airport-by-airport basis.



Figure 1

46. Changes at OPF

No changes to flight paths into and out of Miami-Opa Locka Executive Airport are proposed as a result of the South-Central Florida Metroplex Project.

47. Part 150

The federal regulations found at 14 CFR Part 150 establish a voluntary program that airports may undertake to seek a balance between their operational needs and the noise impacts their operations have on surrounding neighborhoods. This process provides the framework for Airport Noise Compatibility Planning. An airport sponsor can conduct a Part 150 Study that identifies neighboring areas affected by aircraft noise and proposes measures to mitigate the noise. Preparing a Part 150 Study is a voluntary act by an airport sponsor, and participants may then apply for federal grants to help fund noise mitigation projects. A Part 150 Study and the South-Central Florida Metroplex are two separate processes. Airport operators conduct Part 150 studies to determine current and future (five years) noise exposure around the airport and develop mitigation measures. The Metroplex is an FAA initiative to develop new, more operationally efficient air-traffic procedures.

The Broward County Aviation Department (BCAD), which operates the Fort Lauderdale-Hollywood International Airport (FLL), identified several proposed noise mitigation measures in the 2008 Environmental Impact Statement (EIS) for the expansion of Runway 9R/27L. The EIS noise mitigation program is ongoing. The FAA noted in its Record of Decision on the EIS that Broward County may recommend certain noise abatement measures as part of an update to the airport's Part 150 Noise Compatibility Program (NCP). BCAD prepared a Part 150 Study for FLL in 1994. The airport began an update in 2007, but suspended it during the preparation of the EIS for Runway 10R/8L. BCAD prepared Draft Noise Exposure Maps and conducted a Public Workshop on January 16, 2019. BCAD is addressing public comments and expects to submit the NEMs to the FAA in 2020. It also has begun work on the NCP, which it expects to complete in 2020. Several factors can affect the timeline for a study including the complexity of airport operations and the amount of local coordination necessary. Specific information on the Fort Lauderdale-Hollywood International Airport's Part 150 program can be found at <http://www.fllpart150.com/>

48. LLBOW/FLL East Flow Departures 3A

The FAA received numerous comments concerning the proposed designs for the AARPS, BNGOS, GLADZ, TWSTR and VACAY SIDS. Some suggestions were made to extend the runway centerline past the shoreline before turning north. The decision by the controller to issue a turn north is dependent on traffic situations, workload and aircraft performance.

The proposed design was a result of safety considerations and input from the Broward County Aviation Department (BCAD), which advised utilizing RNAV procedures off-the-

ground to avoid conflicts with other procedures. Existing departure procedures utilize radar vectors (typically 070 or 090 degrees) issued by controllers for departures from FLL that are routed to the north and east. The development of the proposed AARPS, BNGOS, GLADZ, TWSTR and VACAY SIDS establishes modern air-traffic procedures that mimic existing departures and remain within historical flight tracks. The new procedures take advantage of criteria for departures from parallel runways that permit aircraft headings to diverge within the first two miles from the end of the runway. The new procedures will allow aircraft to travel farther to the east before turns must be accomplished.

The FAA reviewed multiple suggestions from community residents and a specific suggestion from the City of Fort Lauderdale all suggesting the extension of the runway heading portion of the procedure. After reviewing the proposed procedure, the FAA concluded that it could delay the turn to LLBOW by .61 nautical miles farther east compared to the original proposal, for those aircraft departing from FLL Runway 10L. Because the FLL Runway 10R is further to the south, no design changes were made. Absent weather and traffic, aircraft are expected to remain on the procedure.

49. DREDS

The FAA received numerous comments concerning the location of the DREDS waypoint on the proposed AARPS, BNGOS, TWSTR and VACAY SIDS. The proposed locations of the waypoints were identified as a result of safety considerations and input from the Broward County Aviation Department (BCAD), which advised containing departures south of I-595 and utilizing RNAV procedures off-the-ground to avoid conflicts with other procedures. Existing departure procedures utilize radar vectors (typically to a 290-degree heading) issued by controllers for departures from FLL that are routed to the north. The proposed AARPS, BNGOS, TWSTR and VACAY SIDS establish modern air-traffic procedures for existing departures and remain within historical tracks.

Several comments suggested moving DREDS further west. Alternatives suggested by public comments also included using the SEAZZ or NOVAE waypoints. These alternatives would not meet the purpose and need of the South-Central Florida Metroplex Project. The new procedures are designed in part to use more modern criteria that require less divergence between departure tracks, when certain conditions are met. To utilize the reduced divergence requirement, aircraft on parallel runways must begin to diverge (meaning they don't share the same flight track) within two miles of the end of the runway. For example, the BNGOS SID turns twelve degrees right as compared to the GLADZ SID, which routes straight ahead. This design will allow back-to-back departures from a single runway or simultaneous operations from parallel runways. The use of the SEAZZ or NOVAE waypoints instead of DREDS would not allow use of the reduced divergence criteria, reducing throughput at FLL by up to 50%. The use of SEAZZ or NOVAE would also delay the ability for departure aircraft to climb sooner, due to interactions with arrivals from the west routed via the downwind approach to FLL.

The FAA reviewed multiple suggestions from community residents and a specific suggestion from the City of Fort Lauderdale all suggesting moving DREDS approximately .67 nautical miles (4,070 feet) northwest. A review of the procedure was conducted, and the FAA concluded that it could relocate the DREDS waypoint 1,497 feet west while still remaining within design criteria and allowing back to back departures or simultaneous parallel operations. The amended proposal will utilize the FLL Runways 28 L/R runway heading for 1.52 miles, then route aircraft on a track of 286 degrees to the relocated DREDS waypoint. This change will keep departures within historical tracks, while providing substantial compliance with the Fort Lauderdale request. The existing vectors and resulting dispersion of departure traffic should only occur during weather events, providing more repeatable and predictable routings. Absent weather and traffic, aircraft are expected to remain on the procedure. Further movement of the DREDS waypoint would require movement of departures over several areas previously unaffected, and is not being considered.

Other alternate paths were also reviewed and evaluated. These alternative designs would have a negative impact on safety and National Airspace System (NAS) efficiency. The Project is not intended or designed to increase the number of aircraft operations, but requires efficiently handling current and forecasted demand which is determined locally on an airport-by-airport basis.

50. COVID-19

While the Federal Aviation Administration (FAA) typically provides for some in-person public participation during the NEPA process for projects that require an environmental assessment, there is no specific legal requirement that public participation take the form of in-person meetings. Some aspects of the typical public-engagement process are inconsistent with the need during this extraordinary time to minimize in-person interactions. Insofar as such gatherings were not viable in light of the COVID-19 public health emergency, reasonable efforts were made to allow a similar level of public involvement through virtual workshops. The virtual workshops enabled individuals to participate via Internet and/or telephone connection. The FAA was mindful that not everyone has Internet access, so a contact number was provided for such instances. The virtual workshops were advertised and streamed through a variety of social media sites, as well as YouTube and the FAA's website designed particularly for this project. A review of the public workshops after the fact concluded that the number of online impressions made by these events dramatically exceeded the number of in-person participants typically present at workshops like these. Furthermore, the virtual workshop format permitted workshops to be held at different times of day (like early afternoon) to accommodate different schedules. A full recording of each workshop presentation was made available online (and remains there) for the review of any interested member of the public that was unable to attend in real-time. The FAA feels confident that these alternative arrangements, made necessary by the COVID-19 pandemic, provided a worthy substitute for public-engagement processes previously employed by the agency.