

APPENDIX C

SUMMARY OF CONSULTATION

C.1 INTRODUCTION

Title 14 CFR part 150 §150.21(b) requires that each NEM must be developed and prepared in consultation with FAA regional officials, the officials of the state and of any public agencies and planning agencies whose area, or any portion of whose area, of jurisdiction is within the DNL 65 dB contour depicted on the NEM, and other federal officials having local responsibility for land uses depicted on the map. This consultation must include regular aeronautical users of the airport, including air carriers and other aircraft operators.

Accordingly, the following parties were contacted and requested to provide input as appropriate:

- Federal Aviation Administration (FAA),
 - Orlando Airports District Office (ORL ADO),
 - Southern Region Office of Airports, Planning & Programming Branch (ASO 610)
 - Air Traffic Organization, Eastern Service Center (ATO)
- Naval Air Station Key West,
- Florida Department of Transportation,
 - FDOT Aviation Office
 - District 6 Aviation Coordinator
- Florida State Clearinghouse, Office of Intergovernmental Programs, Department of Environmental Protection
- State Historic Preservation Officer, Bureau of Historic Preservation
- Bureau of Public Land Administration, Department of Environmental Protection, Division of State Lands
- City of Key West
 - City Manager
 - Planning Department
- Monroe County Administrator,
- South Florida Regional Planning Council
- Key West Art and Historical Society
- Monroe County School District Superintendent
- Monroe County Comprehensive Plan Land Authority
- EYW Airport Traffic Control Tower Manager
- Signature Flight
- Key West Seaplane Adventures
- Seaplanes in Key West

- Silver Airways
- American Airlines
- United Airlines
- Delta Airlines
- Federal Express
- Mountain Air Cargo
- Ameriflight
- Air Adventures
- Allegiant Air
- Jet Blue Airways Corporation

A copy of the letter sent to these consulted parties, as well as the distribution list, are included in this appendix.

C.2 RESPONSES TO LETTER/EMAIL TO CONSULTED PARTIES

In response to the letter to consulted parties, the following individuals responded acknowledging receipt of the letter/email.

<u>Name</u>	<u>Representing</u>
Robe Valle	Air Key West
Peter Closi	Air Adventures Key West
Dr. Julie Ann Floyd	Seaplanes in Key West
Andrea Haynes	Signature Flight
Brad Richardson	Florida Department of Environmental Protection
Chris Stahl	Florida State Clearinghouse
Isabel Cosio Carballo	South Florida Regional Planning Council
Bart Vernace	Federal Aviation Administration, Orlando Airports District Office

C.3 ONGOING COMMUNICATION WITH CONSULTED PARTIES

In response to the letter to consulted parties, the following individuals requested to be kept informed of the activities related to the NEM Update. They were placed on an e-mail distribution list and provided advance copies of the Ad-Hoc Committee Agenda Packages.

<u>Name</u>	<u>Representing</u>
Peter M. Green	Federal Aviation Administration, Orlando Airport District Office
Laura Thornbrugh	Delta Airlines, EYW Station Manager
Timothy DeBord	Delta Airlines, Regional Manager
Sarah A. Richardson	Allegiant Air, Manager, Airport Affairs
Melissa Paul-Leto	City of Key West, Planning Department

C.4 SUMMARY OF CONSULTATION WITH THE FEDERAL AVIATION ADMINISTRATION

Because of the significant impact of the COVID-19 pandemic on existing and forecast aviation activity at EYW, a lengthy coordination effort was undertaken concerning the decision about the historical 12-month period of aviation activity to be used to represent the existing condition, as well as the FAA's forecast of future aviation activity for EYW. This coordination effort culminated in a formal request (letter dated June 1, 2021) from Monroe County to the FAA to approve the proposed study years for the NEM Update. On June 21, 2021 the FAA informed Monroe County (via email) that the Terminal Area Forecast (TAF) had been removed from their website. On July 14, 2021 the FAA informed Monroe County (via email) that the FAA's 2020 Terminal Area Forecast had been re-posted on the FAA's website and was available for use in developing the Future Condition NEM. Additionally, they did not object to the County's proposal to use actual aircraft operations data for Fiscal Year 2021 to prepare the Existing Condition NEM. Copies of the letter to the FAA (dated June 1, 2021) and the FAA's email response (dated July 14, 2021) are included in this appendix.

During the June 2021 Ad Hoc Committee meeting, the Manager of the EYW Airport Traffic Control Tower (ATCT) described the Runway 09 Departure Climb Restriction. Subsequently, the FAA requested additional information in order to evaluate the need to include this procedure in the noise modeling. The Consultant prepared a letter (dated October 26, 2021) to the FAA (on behalf of Monroe County) documenting the screening analysis used to determine whether or not custom, user-defined departure profile should be incorporated into the AEDT model for development of the NEMs, since the handling of aircraft departures in the vicinity of EYW by NAS KW presents a known and unique operating condition. The FAA reviewed the letter and requested a virtual meeting to further discuss the details. A virtual meeting was held on November 18, 2021 with several representatives from the FAA and the Consultant. The decision was that standard profiles would be used to model all aircraft operations for the EYW NEM Update. Copies of the letter to the FAA (dated October 26, 2021) and the Record of Conversation of the virtual meeting (dated November 18, 2021) are included in this appendix.

During coordination with the FAA regarding clarification of eligibility for the Noise Insulation Program based on the updated NEMs, it was determined by the FAA that language in the 2015 Record of Approval for the previous NCP Update allows inclusion of eligible structures into an approved Noise Compatibility Plan (NCP), with the intent to accommodate modest changes in the size and shape of the contour over time and the incremental addition of homes or apartment units into the NCP that are newly within the contour. For example, when updated NEMs include some additional homes within the DNL 65 contour. The language does not contemplate or apply to 1) substantially different contours, 2) major modifications and updates to an existing NCP or Noise Insulation Program (NIP), 3) providing the basis for what would essentially be a new NCP, and 4) including areas and/or structures specifically excluded from consideration by the Sponsor in prior NCPs. These types of changes represent conditions that would require an update to the NCP. Since the Las Salinas Condominiums and Ocean Walk Apartments were specifically excluded in previous NCPs, an NCP Update would be required to include them.

During the December 2021 Ad Hoc Committee meeting, the Consultant presented information regarding development of the fleet mix and number of operations for the existing condition. A lengthy discussion

(approximately 15 minutes) took place regarding the use of FlightRadar24 vs OPSNET data. At issue was the large difference in the number of operations reported by OPSNET vs. FlightRadar24 (approximately 20,000 operations). Subsequently, the raw FlightRadar24 data was reanalyzed, and it was discovered that most of the “missing” operations were misidentified as overflights, when in fact they were departures or arrivals. Upon request, the Consultant prepared a letter to the FAA (dated February 17, 2021) requesting the FAA’s approval of the proposed method. A document was included with the letter describing the proposed method for developing the fleet mix and number of operations to be used for generating the Existing Condition NEM. The revised fleet mix and number of operations was presented to the Ad Hoc Committee by the Consultant during the March 7, 2022 meeting. The Ad Hoc Committee informally approved the revised results during this meeting. The Consultant revised the document on May 5, 2022 to include additional details regarding the re-analysis of the FlightRadar24 data. Copies of the letter, final attached document, and the FAA’s approval are included in this appendix.

A preliminary draft of the Noise Exposure Maps and Supporting Documentation was submitted to the FAA for review on July 5, 2022. The FAA’s comments were received on August 22, 2022. Subsequently, several of the comments were discussed with the FAA to determine a mutually acceptable resolution. The revised version of the document was made available for public review on September 19, 2022.

Coordination with the FAA regarding comments received on the preliminary draft document included a discussion regarding the appropriate year to be used for the existing condition noise contours. The FAA suggested that an analysis be conducted to determine whether or not any significant changes in the number and/or type of aircraft operations had occurred between the 12-month period used to develop the existing condition noise contours and the most recent 12-month period. This analysis was conducted, and it was determined that there had been no significant change. The Consultant prepared a letter documenting the analysis and results. A copy of the letter is included in this appendix.

C.5 SUMMARY OF CONSULTATION WITH DELTA AIRLINES

Upon request, a Regional Manager from Delta Airlines provided information regarding the use of the standing takeoff procedure (i.e., jet engine spool up prior to brake release) by various aircraft types in Delta’s fleet at Key West. This request for information was made to all airline representatives, but Delta Airlines was the only one that responded with useful information.

Upon request, a Regional Manager from Delta Airlines provided clarification regarding Delta’s use of CRJ or EMB (instead of A319) aircraft for their last arrival of the day during Eastern Standard Time.

C.6 SUMMARY OF CONSULTATION WITH THE BUREAU OF HISTORIC PRESERVATION

Upon request, a Senior Database Analyst from the Florida Department of State – Bureau of Historic Preservation provided cultural resources data for Key West, including Historical Structures Forms from the Florida Master Site File (FMSF), a Cultural Resource Roster for Key West and Stock Island and for Monroe County, GIS files for a Standard Cultural Resources Search by Township-Range-Section for a portion of Key West and Stock Island, FMSF Manuscripts of several historical/cultural resource surveys for Key West and NAS Key West.

C.7 SUMMARY OF CONSULTATION WITH THE AIRPORT TRAFFIC CONTROL TOWER

During the June 2021 Ad Hoc Committee meeting, the Manager of the EYW Airport Traffic Control Tower (ATCT) described the Runway 09 Departure Climb Restriction. Subsequent to the meeting, upon request, he provided additional information to assist in the determination of noise modeling assumptions.

Upon request, the Manager of the ATCT provided clarification regarding the counting of aircraft operations and their reporting to OPSNET.

C.8 SUMMARY OF CONSULTATION WITH THE CITY OF KEY WEST PLANNING DEPARTMENT

Upon request, a Planner from the City of Key West provided clarification of jurisdictional boundaries with respect to Monroe County, the City of Key West and the Naval Air Station.

C.9 REFERENCES

Airport Noise Compatibility Planning, 14 C.F.R. §150 (1984). <https://www.ecfr.gov/current/title-14/chapter-I/subchapter-I/part-150>

Deborah Murphy Lagos & Associates, LLC

Tuesday, October 13, 2020

[FIRST NAME] [LAST NAME], [TITLE]
[ORGANIZATION]
[STREET ADDRESS]
[CITY], [STATE] [ZIP]

RE: Key West International Airport Part 150 Noise Exposure Maps Update

Dear [SALUTATION] [LAST NAME],

In compliance with 14 CFR part 150, *Airport Noise Compatibility Planning*, the Monroe County Board of County Commissioners, as owner and operator of the Key West International Airport, is beginning work on an update to their Noise Exposure Maps (NEMs).

In accordance with §150.21(b), the NEMs will be developed and prepared in consultation with states, and public agencies and planning agencies whose area, or any portion of whose area, of jurisdiction is within the DNL 65 dB contour depicted on the map, FAA regional officials, and other Federal officials having local responsibility for land uses depicted on the map. This consultation must include regular aeronautical users of the airport. This notification is sent pursuant to §150.21(b).

The airport operator must afford interested persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the draft Noise Exposure Map and descriptions of forecast aircraft operations. Progress reports will be provided to the local community and interested parties throughout the study period at the regularly scheduled Ad Hoc Committee on Noise meetings. These meetings are tentatively scheduled for the following dates in 2020 and 2021.

December 1, 2020

March 2, 2021
October 5, 2021

June 1, 2021
December 7, 2021

Note: These dates may change, and all parties will be notified of these changes.

The Ad Hoc Committee meets at 2:00 pm in the Harvey Government Center Commission Chambers, located upstairs at 1200 Truman Avenue, Key West.

If you would like to be included on the distribution list for the Ad Hoc Committee agenda packages please provide an e-mail address to deborah.murphy.lagos@gmail.com.

Deborah Murphy Lagos & Associates, LLC

[FIRST NAME] [LAST NAME], [TITLE]
[ORGANIZATION]
[STREET ADDRESS]
[CITY], [STATE] [ZIP]
Page 2

Written comments may be submitted to the County by mail or email.

Mail comments to:

Deborah Lagos
Deborah Murphy Lagos & Associates
4635 Alisa Circle NE
Saint Petersburg, FL 33703

Email comments to:

deborah.murphy.lagos@gmail.com

The *Noise Exposure Maps Report* submitted to the FAA for review must be accompanied by documentation describing the consultation accomplished under §150.21(b) and the opportunities afforded the public to review and comment during the development of the maps. One copy of all written comments received during consultation shall be included in the Report.

If you have any questions regarding the Key West International Airport's Part 150 NEM Update, please feel free to contact the undersigned at (727) 631-1553 or by e-mail at deborah.murphy.lagos@gmail.com.

Sincerely,

Deborah Lagos
Airport Noise Program Coordinator

CC: Richard Strickland, Senior Director of Airports
Erick D'Leon, Assistant Director of Airports
Beth Leto, Deputy Director, Airport Finance & Administration
Peter M. Green, Environmental Specialist, FAA ORL ADO

The Parties Consulted by the Airport Operator pursuant to 14 CFR part 150, *Airport Noise Compatibility Planning*, §150.21 (b):

FAA Officials

Bart Vernace, Manager
FAA Orlando Airports District Office
8427 South Park Circle, Suite 400
Orlando, FL 32819

Peter M. Green, Environmental Specialist
FAA Orlando Airports District Office
8427 South Park Circle, Suite 400
Orlando, FL 32819

Jackie Sweatt-Essick
Environmental Protection Program Manager
FAA Southern Region Office of Airports
1701 Columbia Ave, Suite 540
College Park, GA 30337

Natasha Durkins, Director
FAA ATO, Eastern Service Center
1701 Columbia Ave, Suite 540
College Park, GA 30337

Other Federal Officials that have local responsibility for the area within the DNL 65 dB depicted on the maps

Captain Mark Sohaney, Commanding Officer
Karen Taporco, Community Planning and Liaison Officer
Naval Air Station Key West
P.O. Box 9001
Key West, FL 33040-9001

State Officials

Greg Jones
Airspace and Land Use Manager
FDOT Aviation Office
605 Suwannee Street, Mail Station 46
Tallahassee, Florida 32399-0450

Nick Harwell
Airport Planning Manager
FDOT Aviation Office
605 Suwannee Street, Mail Station 46
Tallahassee, Florida 32399-0450

Brittany Williams-Sanders,
District Six Aviation Coordinator
Florida Department of Transportation
1000 NW 111th Avenue, Room 6105
Miami, FL 33172

Chris Stahl, Clearinghouse Coordinator
Florida State Clearinghouse
Office of Intergovernmental Programs
Florida Department of Environmental Protection
3900 Commonwealth Blvd, Mail Station 47
Tallahassee, Florida 32399

Timothy A. Parsons, Ph.D., RPA
State Historic Preservation Officer
Bureau of Historic Preservation
Florida Department of State
R.A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250

Brad Richardson, Bureau Chief
Bureau of Public Land Administration
c/o DEP, Division of State Lands
3900 Commonwealth Blvd, MS 100
Tallahassee, FL 32399

Public and Planning Agencies having jurisdiction within the DNL 65 dB

Greg Veliz, City Manager
City of Key West
1300 White Street
Key West, FL 33040

Katie Halloran, Planning Director
City of Key West Planning Department
P.O. Box 1409
Key West, FL 33040

Roman Gastesi, Jr.
Monroe County Administrator
1100 Simonton Street, Suite 205
Key West, FL 33040

Isabel Cosio Carballo, Executive Director
South Florida Regional Planning Council
Oakwood Business Center
1 Oakwood Boulevard, Suite 250
Hollywood, FL 33020

Michael Gieda, Executive Director
Key West Art and Historical Society
281 Front Street
Key West, FL 33040

Theresa Axford, Superintendent
Patricia Nicholas, Administrative Aide to Superintendent
Monroe County School District
241 Trumbo Rd
Key West, FL 33040

Charles Pattison, Executive Director
Monroe County Comprehensive Plan Land Authority
1200 Truman Avenue, Suite 207
Key West, FL 33040

Regular Aeronautical Users of the Airport

Bud Griner, Manager
Robinson Aviation, Inc. (RVA, Inc.)
KWIA Airport Traffic Control Tower
3479 South Roosevelt Boulevard
Key West, FL 33040

Eddie Cabrera, Station Manager
Andrea Haynes, Customer Service Manager
Signature Flight
3471 South Roosevelt Boulevard
Key West, FL 33040

Marcus Sessoms, President
Peter Green, Business Manager
Key West Seaplane Adventures
3471 South Roosevelt Boulevard
Key West, FL 33040

Dr. Julie Ann Floyd
Seaplanes in Key West
3471 South Roosevelt Boulevard
Key West, FL 33040

Bruce Hagemann, Area Station Manager
Silver Airways
3491 South Roosevelt Boulevard
Key West, FL 33040

Steven Catanzaro, General Manager
American Airlines
3491 South Roosevelt Boulevard
Key West, FL 33040

Christine Long, General Manager
United Airlines
3491 South Roosevelt Boulevard
Key West, FL 33040

Laura Thornbrugh, Station Manager
Delta Airlines
3491 South Roosevelt Boulevard
Key West, FL 33040

Steve Saunders, Operations Manager
Federal Express
3553 South Roosevelt Boulevard
Key West, FL 33040

Michael Bandalan, CEO
Mary Ann Armstrong, CFO
Mountain Air Cargo, Inc.
5930 Balsom Ridge Road
Denver, NC 28037

Robert Barrett, Director
Ameriflight
1515 W. 20th St.
DFW Airport, TX 75261

Peter Closi, President
Air Adventures
3471 South Roosevelt Blvd.
Key West, FL 33040

Robert Valle, Director of Operations
Air Key West
412 White Street, Unit 101
Key West, FL 33040

Sarah A. Richardson, Manager, Airport Affairs
Allegiant Air
1201 N. Town Center Drive
Las Vegas, NV 89144-6305

Nathan Dimas, Station Manager
Jet Blue Airways Corporation
3491 South Roosevelt Boulevard
Key West, FL 33040

Robert Kriedberg, Infrastructure, Properties & Development
JetBlue Airways Corporation
200 Terminal Dr
Fort Lauderdale, FL 33315



Key West International Airport

June 1, 2021

Mr. Peter M. Green, Environmental Specialist
Federal Aviation Administration
Orlando Airports District Office
8427 South Park Circle, Suite 400
Orlando, FL 32819

Re: Approval of Study Years for NEM Update

Dear Mr. Green:

At this juncture, progress toward the completion of the NEM Update has been impacted as we awaited publication of the FAA's 2021 APO Terminal Area Forecast (TAF) for EYW, as well as determination of a mutually acceptable and appropriate consecutive twelve months of aircraft operations to be used for the formulation of the NEM Existing Condition.

I am very pleased that the FAA was receptive to my suggested revisions to the Draft TAF which are reflected in the May 2021 TAF publication. It is therefore seemingly appropriate to use the aircraft operations included in this TAF as a basis for development of the Future Condition NEM, and documentation of a pattern of yearly sustainable operational growth particularly in air carrier operations.

The most recent twelve consecutive months of available historical aircraft operations (i.e., March 2020 through April 2021) does not accurately reflect the level of aircraft operations that would have taken place if not for the impact of the worldwide pandemic. This impact was felt across the United States and the world. It is only recently that aircraft operations at EYW, particularly air carrier aircraft, are beginning to rise towards pre-pandemic operational and passenger levels. This time period is the anomaly and should not be used for the development of the Existing Condition NEM. The number of operations for the month of May 2020, which historically is one of our busiest months, was severely diminished by the impacts of COVID-19. According to the ATADS Comparison Report, total

itinerant aircraft operations for May 2020 were down 70% compared to May 2019. Air carrier operations were down 78%.

Conversely, the ATADS Comparison Report evaluating October 2019 - April 2020 and October 2020 – April 2021 indicates air carrier operations are up over 24%, and total itinerant operations are up over 31%. I think it is safe to say that we all agree that air carrier operations are by far the most significant contributor to the size and shape of the noise contours.

As referenced earlier, the large increase in aircraft operations that EYW is currently experiencing is not an anomaly as borne out by the May 2021 FAA TAF. Notwithstanding the increase of 30% in total itinerant operations between FY 2020 and 2021, each successive year indicates additional incremental growth. However, air carrier operations increase at a higher rate than overall operations.

Based on the analyses above, I propose the use of FY 2021 aircraft operations for use in the development of the Existing Condition, including analyses to determine fleet mix, runway utilization, flight track utilization, and day/night split. The data source will be FlightRadar24, since they have installed an ADS-B receiver at our airport, I feel this will be the most accurate source of historical data. Additionally, I propose that we use the fleet mix information developed for the recent EA, and the aforementioned runway utilization, flight track utilization, and day/night split for the Future Condition.

Understanding that the entire twelve months of data will not be available for analysis until October 2021, it is likely that the NEM documentation may not be submitted to the FAA for formal review until early 2022. As required by 14 CFR part 150, the Sponsor will verify in writing that data in the documentation are representative of the existing condition as of the date of submission, assuming this is an accurate statement at the time.

Please understand that realistically time is certainly of the essence. It is my understanding that the NEM Update must be completed (submitted and accepted) prior to requesting funding in a Grant Application for any noise mitigation based upon the updated NEMs and NCP Program Areas. Our goal and the community's expectation are to reach this milestone prior to the deadline for submitting our Grant Application for FY 2022, which is approximately June 1, 2022.

The airport and Monroe County have made a pledge to our local citizenry to continue to move forward as rapidly as possible without cessation of program services to those most affected by airport operations. The Sponsor's primary tool to respond to complaints regarding increasing aircraft operations and associated perceived increases in noise is the Noise Insulation Program (NIP). Failure to deliver on a sustainable program implementation has resounding impacts on our collective credibility to meet our obligations to our noise impacted community. As you can see, the consequences of

missing this milestone, resulting in the NIP being forced into a holding pattern, will be quite serious especially from a political and public perception perspective.

In conclusion, and for your consideration, the Sponsor is requesting the FAA to approve the use of FY 2021 historical aircraft operations for the development of the Existing Condition NEM, and the use of FY 2027 aircraft operations as specified in the May 2021 FAA TAF for development of the Future Condition NEM.

Sincerely yours,



Richard Strickland
Senior Director of Airports
Key West International Airport

XC: Bart Vernace, FAA ORL ADO
Rebecca H. Henry, FAA ORL ADO
Juan Brown, FAA ORL ADO
Krystal Ritchie, FAA ORL ADO
Pedro Blanco, FAA ORL ADO
Deborah Lagos, DML&A, Airport Noise Program Coordinator
Chris Bowker, P.E., Jacobs



Deborah Lagos <deborah.murphy.lagos@gmail.com>

FAA 2020 TAF Re-Posted and NEM Development Comments

26 messages

Green, Peter M (FAA) <peter.m.green@faa.gov>

Wed, Jul 14, 2021 at 1:41 PM

To: "strickland-richard@monroecounty-fl.gov" <strickland-richard@monroecounty-fl.gov>, Deborah Lagos <deborah.murphy.lagos@gmail.com>

Cc: "Vernace, Bart (FAA)" <Bart.Vernace@faa.gov>, "Harper, Rebecca H (FAA)" <rebecca.h.harper@faa.gov>, "Brown, Juan (FAA)" <Juan.Brown@faa.gov>, "Blanco, Pedro (FAA)" <Pedro.Blanco@faa.gov>, "Ritchey, Krystal (FAA)" <Krystal.Ritchey@faa.gov>

Good afternoon Mr. Strickland,

We want to inform you that the FAA's 2020 Terminal Area Forecast has been re-posted on the FAA's website and is available for use in developing the Future Condition NEM. Please let us know if you will be using the 2020 TAF or another forecast for the Future Conditions NEM.

Also, we offer the following comments related to the development of the NEMs and the project schedule:

- The FAA does not object to the County's proposal to use actual aircraft operations data for Fiscal Year 2021 to prepare the Existing Condition NEM.
- The County proposes to obtain FY 2021 aircraft operations data for the Existing Condition study year from a commercial vendor. When this data collection is completed, the information should be compared with data collected by the FAA for the same period to identify any notable differences that should be addressed.
- Although the County has pointed out recent and continued growth in passenger service and aircraft activity at EYW, the County proposes to use the same AEDT noise model settings and inputs from the recent EA to develop the NEMs. FAA disagrees with this approach. The AEDT model's settings, assumptions, and inputs should be reviewed and updated, as necessary, to ensure they reflect current and projected conditions for the Part 150 NEMs. The Scope of Work for the NEM Update grant states that a wide range of data (e.g., land use, zoning, aircraft operations, flight tracks, etc.) will be reviewed and updated, as needed.
- FAA points out that the County's proposal to collect aircraft operations data through September 2021 and submit the NEMs sometime in 'early 2022' delays the timeline for preparation, submittal, and approval of the NEMs. The 'aggressive' project timeline previously provided only shows the County's major tasks (on a monthly basis) and would have the NEMs submitted to FAA sometime in April 2022. We request that a more detailed schedule be prepared and that it also incorporate FAA's tasks, including the agency's NEM review and approval process. During the update, we are available to discuss and provide input on the schedule and individual tasks.

Best regards,

Peter Green

Peter M. Green, AICP

Environmental Protection Specialist

Orlando Airports District Office

Federal Aviation Administration

[8427 SouthPark Circle](#)

[Orlando, Florida 32819](#)

407-487-7296

peter.m.green@faa.gov

Deborah Lagos <deborah.murphy.lagos@gmail.com>
To: "Green, Peter M (FAA)" <peter.m.green@faa.gov>

Wed, Jul 14, 2021 at 1:50 PM

Thanks Peter!

I will coordinate with Mr. Strickland, but just between you and me....

- We are reviewing the AEDT inputs used previously and will adjust as needed, e.g., flight tracks, flight track utilization, runway utilization, etc. One thing we are reviewing at the moment is flight profiles because the ATCT Manager told us that thac are held down to 2,000' on departure to avoid conflict with NAS KW traffic. We're evaluating the potential impact of that procedure to determine if we need to propose custom departure profiles..... hopefully not.
- Can you provide FAA review time for interim submittals (e.g., Section 1, 2, 3, etc.) so I can incorporate that into the detailed schedule? What kind of time would you like me to include for the agency's NEM review and approval process (I'm assuming you mean the final review process)?

THANKS!

Deborah

Deborah Murphy Lagos & Associates, LLC

566 Running Deer Trail

Waynesville, NC 28786

727.631.1553

deborah.murphy.lagos@gmail.com

[Quoted text hidden]

Green, Peter M (FAA) <peter.m.green@faa.gov>
To: Deborah Lagos <deborah.murphy.lagos@gmail.com>

Wed, Jul 14, 2021 at 1:59 PM

[Do you have time tomorrow before 10:30 or after 1pm to talk? It would be helpful to get a better feel for the timing of the interim submittals and optimal turnaround times.](#)

Deborah Murphy Lagos & Associates, LLC

Sunday, September 26, 2021

Peter M. Green, AICP
Environmental Protection Specialist
Orlando Airports District Office
Federal Aviation Administration
8427 SouthPark Circle
Orlando, Florida 32819

RE: Key West International Airport
Fleet Mix & Operations for the Noise Exposure Maps Update

Dear Peter:

The purpose of this letter is to request approval of aircraft activity assumptions for use in the Noise Exposure Maps Update for Key West International Airport. On July 14, 2021, the FAA approved the use of the FAA's 2020 APO Terminal Area Forecast (TAF), issued in May 2021, and reposted to the FAA's website in July 2021, for developing the Future Condition NEM. It is the County's intention to use the number of aircraft operations presented in the FAA's 2020 TAF for Fiscal Year 2027 to develop the 2027 Future Condition NEM. Additionally, the FAA did not object to the County's proposal to use actual aircraft operations data for Fiscal Year 2021 to prepare the Existing Condition NEM.

The County proposes to develop aircraft operational levels for the 2021 Existing Condition from the FlightRadar24 and FAA ATADS data (obtained from the [FAA Operations & Performance Data website](#)) from October 1, 2020 through September 30, 2021. The [Operations Network \(OPSNET\)](#) is the official source of FAA air traffic operations. The FlightRadar24 operations will be adjusted by calculating a proportionality constant for each category to equate to the number of operations by category from ATADS. The County proposes to use the FlightRadar24 data to develop the fleet mix, runway utilization, flight tracks, flight track utilization, and day/night split for the Existing Condition.

The [Operational Network \(OPSNET\)](#) definition of variable defines Airport Operations as all arrivals and departures at an airport (overflights are not included). Overflights are defined as IFR and VFR operations performed by an aircraft that originates outside the towers' airspace and enters and exits the tower's or TRACON's airspace without landing. Overflights also include helicopter operations that land or depart from an airport non-movement area or from an off-airport location. These definitions were taken into account when comparing ATADS to FlightRadar24 data.

566 Running Deer Trail
Waynesville, NC 28786
P: 727.631.1553
deborah.murphy.lagos@gmail.com



Table 1 is an example of the proposed method for adjusting the existing operations. Currently available ATADS Airport Operations data for EYW (October 2020 through August 2021) were compared to the FlightRadar24 data for the same period. Proportionality constants were calculated by category and applied to the FlightRadar24 operations for each AEDT aircraft type within each category.

**TABLE 1
 Method for Adjusting FY'21 Operations**

Date	Air Carrier	Air Taxi	General Aviation and Local Civil	Military and Local Military	Total Operations
Oct-20	1,035	395	2,318	26	3,774
Nov-20	1,218	466	2,055	21	3,760
Dec-20	1,596	517	2,936	42	5,091
Jan-21	1,809	620	3,429	59	5,917
Feb-21	1,592	659	3,562	33	5,846
Mar-21	2,229	774	3,984	69	7,056
Apr-21	2,258	768	3,609	32	6,667
May-21	2,286	633	3,968	62	6,949
Jun-21	2,254	525	2,836	47	5,662
Jul-21	2,097	504	2,509	22	5,132
Aug-21	1,863	374	2,180	24	4,441
ATADS Total:	20,237	6,235	33,386	437	60,295
FR24 Total	19,487	7,211	18,867	406	45,971
Difference	750	-976	14,519	31	14,324
Proportionality Constant	103.85%	86.47%	176.95%	107.64%	131.16%
Adjusted FR24 TOTAL	20,237	6,235	33,386	437	60,295

Sources: Air Traffic Activity System (ATADS) from 10/2020 to 08/2021
 FlightRadar24 from 10/01/2020 to 08/31/2021

The fleet mix for the Existing Condition was developed from the FlightRadar24 data for October 1, 2020 through August 31, 2021 (i.e., currently available data). The fixed-wing fleet mix is shown in **Table 2**. The proportionality constants will be updated following receipt and processing of FlightRadar24 data for September 2021. The fleet mix will be recalculated using the final proportionality constants.

TABLE 2
Fixed-Wing Aircraft Fleet Mix
01-Oct-2020 TO 31-Aug-2021

AEDT AIRCRAFT	CATEGORY	TOTAL OPS		TOTAL
		DAY	NIGHT	
737800	AC/AT JET	21	-	21
A319-131	AC/AT JET	5,529	1,018	6,547
EMB145	AC/AT JET	81	4	85
EMB170	AC/AT JET	2,825	487	3,312
EMB175	AC/AT JET	8,020	1,427	9,447
EMB190	AC/AT JET	696	130	826
CNA208	AC/AT PROP	1,606	182	1,787
DHC6	AC/AT PROP	1,826	233	2,059
DHC8	AC/AT PROP	2,089	222	2,311
DHC830	AC/AT PROP	27	3	30
SF340	AC/AT PROP	39	9	48
BEC58P	GA	2,746	333	3,079
CNA172	GA	1,803	235	2,039
CNA182	GA	660	103	763
CNA201	GA	78	11	88
CNA206	GA	163	9	172
CNA20T	GA	244	37	281
CNA441	GA	400	44	444
COMSEP	GA	3,152	370	3,521
DHC-2FLT	GA	55	5	60
DO328	GA	1,623	207	1,830
GASEPF	GA	3,463	363	3,826
GASEPV	GA	1,552	207	1,759
PA30	GA	23	4	27
PA42	GA	55	7	62
SD330	GA	154	12	166

TABLE 2 continued
Fixed-Wing Aircraft Fleet Mix
01-Oct-2020 TO 31-Aug-2021

AEDT AIRCRAFT	CATEGORY	TOTAL OPS		TOTAL
		DAY	NIGHT	
BD-700-1A10	GA JET	94	9	103
C525C	GA JET	193	25	218
CIT3	GA JET	113	14	127
CL600	GA JET	1,065	200	1,265
CNA500	GA JET	1,363	149	1,511
CNA510	GA JET	1,543	173	1,716
CNA525C	GA JET	142	30	172
CNA55B	GA JET	731	111	842
CNA560E	GA JET	520	73	593
CNA560U	GA JET	809	106	915
CNA560XL	GA JET	1,177	113	1,290
CNA680	GA JET	1,147	163	1,309
CNA750	GA JET	568	55	623
ECLIPSE500	GA JET	149	9	157
FAL900EX	GA JET	718	83	802
GIIB	GA JET	9	2	11
GIV	GA JET	356	55	411
GV	GA JET	388	55	442
IA1125	GA JET	274	42	317
LEAR35	GA JET	1,895	265	2,161
MU3001	GA JET	260	25	285
C130E	MIL	90	3	94
C17	MIL	17	-	17
F16WO	MIL	149	-	149
HUNTER	MIL	110	-	110
T-38	MIL	68	-	68
TOTAL		52,874	7,420	60,294

Sources: Air Traffic Activity System (ATADS) from 10/2020 to 08/2021
 FlightRadar24 from 10/01/2020 to 08/31/2021

The County proposed to use the fleet mix information developed for the recent EA and runway utilization, flight track utilization, and day/night split developed from historical FlightRadar24 data for the Future Condition. The FAA requested the County review documents subsequently developed by Ricondo (e.g., Draft PFC 21-19 Application, Revised Draft of the Concourse A Project Description to justify CATEX, dated June 2021), as well as any new information regarding upcoming changes in fleet mix, to validate the fleet mix developed for the EA, since conditions at EYW are changing rapidly. This letter summarizes and addresses this information and proposes a fleet mix to be used for the 2027 Future Condition NEM.

According to the Revised Draft of the Concourse A Project Description to justify CATEX, dated June 2021, the proposed Concourse A project would not result in an increase in the number of aircraft operations at EYW. The project would not result in any changes in the use of the runways at the airport or in aircraft flight tracks to and from the airport. The project would not change fleet mix.

According to the Draft PFC 21-19 Application, the Concourse A project would not increase capacity that could enable new aircraft activity or a different fleet to serve the airport.

The fleet mix for the Future Condition was developed from the Existing Condition. At this time, the airport has been advised that Delta and JetBlue, operating the A319 and EMB190 respectively, will begin operating the A220. Both will transition in advance of 2027. (The AEDT substitution for the A220 is 737700). The number of aircraft operations by category presented in the FAA’s 2020 TAF for Fiscal Year 2027 were compared to the number of operations by category in the Existing Condition. Proportionality constants were calculated by category and applied to the Existing Condition. **Table 3** shows an example of the method used to calculate the future operations. The proportionality constants will be updated following receipt and processing of FlightRadar24 data for September 2021. The fleet mix will be recalculated using the final proportionality constants.

TABLE 3
Method for Calculating Future Operations

	Air Carrier	Air Taxi & Commuter	GA	Military	Total
FY' 2027	26,124	8,414	33,433	442	68,413
Oct 2020- Aug 2021	20,237	6,235	33,386	437	60,294
Proportionality Constant	129%	135%	100%	101%	

Source: APO Terminal Area Forecast Detail Report, May 2021.

The proposed Future Condition Fixed-Wing Aircraft Fleet Mix is shown in **Table 4**.

TABLE 4
Fixed-Wing Aircraft Future Fleet Mix

AEDT AIRCRAFT	CATEGORY	TOTAL OPS		TOTAL
		DAY	NIGHT	
737800	AC/AT JET	27	-	27
737700	AC/AT JET	8,036	1,481	9,517
EMB145	AC/AT JET	105	5	110
EMB170	AC/AT JET	3,646	629	4,275
EMB175	AC/AT JET	10,353	1,842	12,195
CNA208	AC/AT PROP	2,167	245	2,412
DHC6	AC/AT PROP	2,465	314	2,778
DHC8	AC/AT PROP	2,819	300	3,119
DHC830	AC/AT PROP	37	4	40
SF340	AC/AT PROP	53	12	64
BEC58P	GA	2,750	333	3,083
CNA172	GA	1,806	236	2,041
CNA182	GA	661	103	764
CNA201	GA	78	11	89
CNA206	GA	163	9	172
CNA20T	GA	245	37	282
CNA441	GA	400	44	445
COMSEP	GA	3,156	370	3,526
DHC-2FLT	GA	55	5	60
DO328	GA	1,625	207	1,832
GASEPF	GA	3,468	363	3,831
GASEPV	GA	1,554	207	1,761
PA30	GA	23	4	27
PA42	GA	55	7	62
SD330	GA	154	12	167
BD-700-1A10	GA JET	94	9	103
C525C	GA JET	193	25	218
CIT3	GA JET	113	14	128
CL600	GA JET	1,067	200	1,267
CNA500	GA JET	1,364	149	1,513
CNA510	GA JET	1,545	174	1,719
CNA525C	GA JET	142	30	172
CNA55B	GA JET	732	112	843
CNA560E	GA JET	521	73	594
CNA560U	GA JET	810	106	916

TABLE 4 continued
Fixed-Wing Aircraft Future Fleet Mix

AEDT AIRCRAFT	CATEGORY	TOTAL OPS		TOTAL
		DAY	NIGHT	
CNA560XL	GA JET	1,178	113	1,292
CNA680	GA JET	1,148	163	1,311
CNA750	GA JET	569	55	624
ECLIPSE500	GA JET	149	9	158
FAL900EX	GA JET	719	83	803
GIIB	GA JET	9	2	11
GIV	GA JET	356	55	411
GV	GA JET	388	55	443
IA1125	GA JET	275	43	317
LEAR35	GA JET	1,898	266	2,164
MU3001	GA JET	260	25	285
C130E	MIL	91	3	95
C17	MIL	17	-	17
F16WO	MIL	150	-	150
HUNTER	MIL	111	-	111
T-38	MIL	69	-	69
TOTAL		59,870	8,543	68,413

Sources: Air Traffic Activity System (ATADS) from 10/2020 to 08/2021
 FlightRadar24 from 10/01/2020 to 08/31/2021

In conclusion, Monroe County requests that the FAA approve the methods described herein to develop the fleet mix and number of operations for use in preparing the updated Noise Exposure Maps for Key West International Airport.

In addition, since delivery of the NEM document for the FAA's formal review and determination is scheduled to occur in February 2023, the County requests approval to use FY'2028 (rather than FY'2027) for the Future Condition NEM.

Sincerely,

Deborah Lagos
 President

xc: Richard Strickland, Director of Airports

RECORD OF CONVERSATION

November 18, 2021, 3:30 PM, via Microsoft Teams

RE: EYW NEM Update - Discuss 2000-ft Hold Down Modeling

Participants:

- Peter M. Green, Environmental Protection Specialist / FAA ORL ADO
- Sean Doyle, Senior Aviation Noise Policy & Research Specialist at Federal / FAA
- Adam Scholter, Environmental Protection Specialist / FAA
- Susumu Shirayama, Environmental Protection Specialist / FAA
- Mike Alberts, Senior Aviation Specialist / RS&H
- Deborah Lagos, Project Manager, EYW NEM Update / Deborah Murphy Lagos & Associates
- Susan Staehle, Environmental Specialist / FAA
- Pedro Blanco, Lead Program Manager / FAA ORL ADO

Invited, not participating:

- Erick D'Leon, Deputy Director of Airports / EYW

Reference: Letter to Peter M. Green from Deborah Lagos dated October 26, 2021, describing proposed approach to modeling 2,000-ft hold down.

Summary of Discussion:

Sean Doyle suggested using an altitude control code rather than the method proposed in the letter. Mike Alberts described challenges/effort involved in using this method related to determination of the point (i.e., distance along the flight track) where different aircraft types and different stage lengths of each aircraft type would reach 2,000 feet AMSL. Adam Scholter suggested a method using AEDT profile data to determine the point along a given track that individual aircraft reach the 2,000 AMSL.

Mike Alberts described the general locations where aircraft reach 2,000 feet AMSL as being at the edge of the islands (e.g., Stock Island and Racoon Key) and/or over the Gulf of Mexico (e.g., between the islands of Key West and Boca Chica Key). He also indicated that approximately ten percent of aircraft operations are held down, while ninety percent follow standard departure profiles. Sean Doyle asked why this procedure was being modeled, stating that there is no obligation to use non-standard data. Peter Green indicated it was related to the Sponsor's ability to certify the accuracy of the NEMs.

Discussion ensued regarding the potential effect (or lack of effect) modeling this procedure would have on the DNL 65 dBA contour. Sean Doyle pointed out that in the context of a Part 150 Study, we are only obligated to the extent of the DNL 65 dBA contour, not beyond as would be the case in an EA or EIS that, under specific circumstances, must look at changes in DNL below 65 dBA. Also, in a Part 150 Study, we primarily are concerned with residential land uses. Deborah Lagos indicated that the flight tracks will be modeled out to the 30,000 feet as required in Part 150.

Based upon this discussion, it was suggested we use the standard profiles (1) because the any effect of the custom profiles would be over the water, which doesn't affect any people, and (2) only a small percentage of aircraft operations would be modeled with custom profiles.

Peter Green expressed remaining concern because this is a known situation, and just because the effect is technically over the water, the public may feel like the process wasn't thorough. However, he would feel comfortable if this was thoroughly documented in a Technical Appendix that explained how the situation was analyzed and why it was ultimately determined to use standard instead of custom profiles.

Conclusion: Standard profiles will be used to model all aircraft operations for the EYW NEM Update. A Technical Appendix will be prepared which thoroughly describes the screening analysis performed to support this decision.

Prepared by: Deborah Lagos

Deborah Murphy Lagos & Associates, LLC

Thursday, February 17, 2022

Peter M. Green, AICP
Environmental Protection Specialist
Orlando Airports District Office
Federal Aviation Administration
8427 SouthPark Circle
Orlando, Florida 32819

RE: Key West International Airport
Final Operations for the Existing Condition NEM

Dear Peter:

Pursuant to 14 CFR §150.21(b), which requires that interested persons be afforded adequate opportunity to submit their views, data, and comments during the development of the map, information regarding the development of aircraft operations data was presented during the regular meeting of Monroe County's Ad Hoc Committee on Noise on December 7, 2021. You received a copy of the agenda package containing the PowerPoint presentation and attended this meeting via Zoom.

As you are aware, following the presentation of this information, a lengthy discussion (approximately 15 minutes) took place regarding the use of FlightRadar24 vs OPSNET data. At issue was the large difference in the number of operations reported by OPSNET vs. FlightRadar24 (approximately 20,000 operations).

Subsequently, the raw FlightRadar24 data was reanalyzed, and it was discovered that most of the "missing" operations were misidentified as overflights, when in fact they were departures or arrivals.

The attached document describes the proposed method for developing the fleet mix and number of operations to be used for generating the Existing Condition NEM.

Your approval of this document is requested, so that development of the Existing Condition NEM can proceed.

Sincerely,



Deborah Lagos
President

xc: Richard Strickland, Director of Airports

566 Running Deer Trail
Waynesville, NC 28786
P: 727.631.1553
deborah.murphy.lagos@gmail.com

PREPARED BY: Deborah Lagos, Deborah Murphy Lagos & Associates
PREPARED FOR: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO
DATE: PREPARED: February 17, 2022
DATE AMENDED: May 5, 2022

Method for Developing Fleet Mix and Number of Operations **For the Existing Condition NEM at EYW**

1.0 Data Sources

Historical aircraft operations data were obtained from Flightradar24 (FR24), FAA's Operations Network (OPSNET) and Traffic Flow Management System (TFMS), and EYW Landing Reports for the period October 1, 2020 through September 30, 2021. The source of the detailed aircraft operations data used in this analysis was Flightradar24, TFMS, and EYW Landing Reports, because OPSNET only provides total operations by aircraft category.

1.1 FlightRadar24

The primary technology that Flightradar24 (FR24) uses to receive flight information is called automatic dependent surveillance-broadcast (ADS-B). The ground-based ADS-B receivers collect data from any aircraft in their local area that are equipped with an ADS-B transponder and feed this data to the internet in real time. The aircraft-based transponders use the GPS and other flight data input to transmit signals containing aircraft registration, position, altitude, velocity and other flight data. For security and privacy reasons information about some aircraft is limited or blocked. This includes most military aircraft and certain high-profile aircraft, like Air Force One.

FR24 has a network of approximately 23,000 ADS-B receivers around the world that receive flight information from aircraft transponders and send this information to their servers. ADS-B signals are high frequency (1090 MHz) and must be received in line of sight. As such the coverage from each receiver is about 150-250 miles in all directions depending on the specific installation location. The farther away from the receiver an aircraft is flying, the higher it must fly to be covered by the receiver.

The most reliable content is supplied directly from the aircraft's transponder. This includes *Aircraft_id* and *Callsign* as well as the position and movement fields *Latitude*, *Longitude*, *Heading*, *Altitude*, *Speed* etc. Note that aircraft without an ADS-B transponder do not transmit a longitude/latitude position report. To calculate the position of these aircraft FR24 uses a technique called Multilateration (MLAT). MLAT is only possible when the aircraft is flying within direct range of at least four ADS-B ground receivers.

The FAA published Federal Regulation 14 CFR 91.225 and 14 CFR 91.227 in May 2010. The final rule dictates that effective January 1, 2020, aircraft operating in airspace defined in §91.225 are required to have an Automatic Dependent Surveillance – Broadcast (ADS-B) system that includes a certified position source capable of meeting requirements defined in §91.227. These regulations set a minimum performance standard for both the ADS-B transmitter and the position sources integrated with the ADS-B equipment.

PREPARED BY: Deborah Lagos, Deborah Murphy Lagos & Associates
PREPARED FOR: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO
DATE PREPARED: February 17, 2022
DATE AMENDED: May 5, 2022

1.2 OPSNET

The Operations Network (OPSNET) is the official source of FAA National Airspace System (NAS) air traffic operations data. The data is reported to OPSNET by the Airport Traffic Control Tower (ATCT) and can be viewed on the FAA Operations & Performance Data Web site.

The OPSNET separates operations into Itinerant and Local. Itinerant operations are separated into four categories: Air Carrier, Air Taxi, General Aviation, and Military. Local operations are separated into two categories: Civil and Military. OPSNET only provides total operations by aircraft category. Definitions of these categories are as follows:

- Air Carrier. (AC) Aircraft with seating capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds, carrying passengers or cargo for hire or compensation. This includes US and foreign-flagged carriers.
- Air Taxi. (AT) Aircraft designed to have a maximum seating capacity of 60 seats or less or a maximum payload capacity of 18,000 pounds or less, carrying passengers or cargo for hire or compensation.
- Civil. Operations by all classes of private and commercial takeoffs and landings at FAA and Federal Contract Tower (FCT) facilities.
- General Aviation. (GA) Takeoffs and landings of all civil aircraft, except for air carriers or air taxis.
- Itinerant. Operations performed by an aircraft, either IFR or VFR, that land at an airport arriving from outside the airport area or depart from an airport and leave the airport area.
- Local. Operations performed by an aircraft that remain in the local traffic pattern, execute simulated instrument approaches or low passes at the airport, and operations to or from the same airport within a designated practice area within a 20-miles radius of the tower.
- Military. (MIL) Operations by all classes of military takeoffs and landings at FAA and FCT facilities.

Following consultation with Air Traffic Manager at EYW Airport Traffic Control Tower, it has been confirmed that OPSNET "Airport Operations" are just the aircraft that land and takeoff from Key West International Airport and the OPSNET "Tower Operations" contain the military overflights that fly through EYW airspace.

1.3 TFMS

Traffic Flow Management System (TFMS) Counts (TFMSC) include aircraft that fly under Instrument Flight Rules (IFR) and are captured by the FAA's enroute computers. TFMSC groups flights into three user groups: Commercial, General Aviation, and Military. These three groups were chosen because of the slightly different user classes used by TFMS and OPSNET. Most VFR (Visual Flight Rules) and some non-enroute IFR traffic are excluded. TFMSC source data are created when pilots file flight plans and/or when flights are detected by the NAS, usually via RADAR. The flight counts reported in TFMSC are derived from flight records assembled by the FAA NAS Data Warehouse by threading the many TFMS messages

PREPARED BY: Deborah Lagos, Deborah Murphy Lagos & Associates
PREPARED FOR: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO
DATE PREPARED: February 17,
DATE AMENDED: May 5, 2022

together. These flight records may be incomplete records when one end is missing, or when only planned components are available. Due to limited radar coverage and incomplete messaging, TFMS may exclude certain flights that do not enter the enroute airspace and other low-altitude flights.

1.4 EYW Landing Reports

Key West International Airport tracks aircraft landings for passenger and cargo airlines for the purpose of collecting landing fees and statistical data. The airlines submit monthly reports to the airport that detail the number of each aircraft type that landed at the airport during the month. Landing Fees are collected from: Delta Airlines (including Endeavor, Republic, Express Jet), American Airlines (including American Eagle, Republic, and Envoy), Allegiant Air, United Airlines (including United Express, Republic, and Express Jet), JetBlue Airways, Silver Airways, Ameriflight, Mountain Air Cargo, and Martinaire Aviation.

2.0 Existing Condition Fleet Mix

Fleet mix for the 2021 Existing Condition were developed from the FR24 for the period October 1, 2020 through September 30, 2021. EYW Landing Reports for the same period were reviewed as a supplementary source. The fixed-wing fleet mix was divided into five categories: AC/AT JET, AC/AT PROP, GA JET, GA PROP, and MIL. In this categorization, the term "Jet" includes aircraft with turbojet or turbofan engines. The term "Prop" includes aircraft where the main source of thrust is a propeller. Helicopter operations were included in a separate category, HELO. These categories were selected primarily for flight track development and utilization.

Aircraft occasionally must perform a go-around or missed approach at EYW. Generally, if a pilot determines by the time the aircraft is at the decision height (for a precision approach) or missed approach point (for a non-precision approach), that the runway or its environment is not in sight, or that a safe landing cannot be accomplished for any reason, the landing approach must be discontinued (a "go-around") and the missed approach procedure must be immediately initiated. It is also common for pilots to practice a missed approach as part of initial or recurrent instrument training. For this analysis, go-arounds and missed approaches are being counted as a departure and an arrival (i.e., two operations).

2.1 Air Carrier / Air Taxi Jet

Regularly scheduled air carrier / air taxi jet (AC/AT JET) passenger aircraft operations at KWIA include Airbus A319, Embraer EMB-145, EMB-170, EMB-175 and EMB-190 aircraft. Current AC/AT JET operators include Delta Airlines, American Airlines, American Eagle, Allegiant Air, United Express, and JetBlue Airways.

The top destinations for AC/AT JET aircraft flights from KWIA include Atlanta (ATL), Miami (MIA), Charlotte (CLT), Chicago (ORD), Newark (EWR), Washington DC (IAD), and Dallas (DFW).

During the Ad-Hoc Committee meeting on March 7, 2022, there was a discussion regarding Delta's use of a CRJ (instead of an A319), during Eastern Standard Time, for their last arrival of the day. Subsequently it

PREPARED BY: Deborah Lagos, Deborah Murphy Lagos & Associates
PREPARED FOR: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO
DATE: PREPARED: February 17, 2022
DATE AMENDED: May 5, 2022

was determined via consultation with Delta Airlines that this did not occur between October 1, 2020 and September 30, 2021.

2.2 Air Carrier / Air Taxi Prop

Air carrier / air taxi prop (AC/AT PROP) passenger and cargo aircraft operations at KWIA include ATR42, ATR72, Beech King Air, Cessna 208, De Havilland Canada Dash 8, De Havilland Twin Otter, Fairchild Swearingen SA26-AT Merlin, Saab 340, and Shorts 330. Current AC/AT PROP operators include, but are not limited to, Silver Airways, Ameriflight, and Mountain Air Cargo.

The top destinations for AC/AT PROP aircraft flights from KWIA include Tampa (TPA), Orlando (MCO and ORL), Ft. Lauderdale (FLL and FXE), Miami (MIA, OPF, and TMB), Boca Raton (BCT), Fort Myers (FMT), Naples (APF), Palm Beach (PBI), and Kissimmee (ISM).

2.3 General Aviation Jet

General aviation jet (GA JET) aircraft operations consist of private- and corporate-owned based and itinerant turbojet aircraft. Common GA JET aircraft operations at KWIA include Bombardier Challenger, Cessna Citation, Dassault Falcon, Gulfstream, and Learjet.

2.4 General Aviation Prop

General aviation prop (GA PROP) aircraft operations consist of private- and corporate-owned based and itinerant aircraft, including lightweight single- and multi-engine (piston), and turboprop aircraft. Common GA PROP aircraft operations at KWIA include Beech, Cessna, Cirrus, Mooney, Partenavia, and Piper.

2.5 Helicopters

Helicopter (HELO) aircraft operations consist of local government-, private- and corporate-owned based and itinerant rotorcraft, in which lift and thrust are supplied by horizontally spinning rotors, which allows the aircraft to take off and land vertically, to hover, and to fly forward, backward and laterally. Helicopters do not takeoff or land on the airport's runways, but rather from the nonmovement area of the Fixed Base Operator. Common HELO aircraft operations at KWIA include Aérospatiale, Eurocopter, Bell, Hughes, Robinson, and Sikorsky.

2.6 Military

Military (MIL) aircraft operations consist of fixed-wing or rotary-wing aircraft that are operated by any armed service or the federal government. Military aircraft can be either combat or non-combat. Common fixed-wing MIL aircraft operations at KWIA include Beechcraft C-12 Huron, Boeing 737, Boeing P8 Poseidon, EADS CASA HC-144 Ocean Sentry, Cessna Citation UH35A, Lockheed-Martin C130 Hercules, and Northrop T-38 Falcon. Common MIL helicopter operations at KWIA include Bell TH-57 Sea Ranger, Eurocopter UH-72A Lakota, Hughes MH-6 Little Bird, Sikorsky UH-60 Blackhawk, Sikorsky SH-60 Seahawk, and Sikorsky CH-53 Sea Stallion.

PREPARED BY: Deborah Lagos, Deborah Murphy Lagos & Associates
PREPARED FOR: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO
DATE: PREPARED: February 17, 2022
DATE AMENDED: May 5, 2022

Military aircraft occasionally conduct low approaches to the runway at EYW, without touching down at the airport. These are often training flights to practice landing approach to just above the runway. The military made the decision decades ago that it is safer to not perform touch and go landings in high performance jet aircraft, because every landing decreases the useful life of the tires, wheels and brakes, and actual touch and go landings introduce risks to the flight operation, including running off the end of the runway before getting airborne again. The US Navy is the only service to practice touch and go landings regularly (not necessarily at KWIA). This is because Navy pilots need to practice touching down in a very small touchdown zone when operating from aircraft carriers. For this analysis, low approaches are being counted as a departure and an arrival (i.e., two operations).

3.0 FlightRadar24 Data Processing

FR24 extracted Historic Flight Positions Data for EYW for the period October 1, 2020 through September 30, 2021. The dataset was filtered to only include an approximate 10-mile radius around EYW. However, strictly speaking this has been applied as a quadrilateral so there are some additional positions at each of its four corners (north-east, north-west, south-east, south-west). Owing to this boundary box approach to filtering positions around EYW limited flights in cruise (at approximately 40,000ft) were present.

In order to make sure that all potential flights associated with EYW were included in the dataset, including those from small aircraft that may not be broadcasting ADS-B, the dataset was configured based on the specified region rather than just flights were confirmed as having their origin or destination as EYW. This is because the position, altitude and speed of smaller aircraft that transmit Mode-S (i.e., those without an ADS-B transponder) can only be detected when in line of sight with four ADS-B ground receivers simultaneously, and therefore may not be possible at low altitudes. Without this very low altitude detection, these flights may not have been matched to EYW. The first detection of an aircraft may be once it has reached a few thousand feet altitude. By including these in the dataset however, it was ensured they were considered rather than them being excluded altogether.

The data consists of one "positions.csv" file for every aircraft operation and one "flights.csv" file containing all aircraft operations for a single day. The "flights.csv" file lists all the individual flights contained within the dataset, separated by day (defined as midnight through midnight in Universal Coordinated Time (UTC)). The "positions.csv" file contains the full set of flight position data available for each individual flight listed in the flights file. The two files are linked via the flight_id. While the Historic Flight Data is aggregated from multiple sources, the most reliable content is supplied directly from the aircraft's Mode-S or ADS-B transponder.

The "flights.csv" data file includes (but is not limited to) aircraft registration, aircraft equipment type, callsign, commercial flight number, scheduled departure airport, and scheduled arrival airport. The "positions.csv" data file includes (but is not limited to) time of position, altitude, heading, latitude, and longitude. For the period October 1, 2020 through September 30, 2021 there were 366 "positions.csv" files and 60,825 "flights.csv" files.

PREPARED BY: Deborah Lagos, Deborah Murphy Lagos & Associates
 PREPARED FOR: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO
 DATE: PREPARED: February 17, 2022
 DATE AMENDED: May 5, 2022

To efficiently process FR24’s Historic Flight Positions Data, Microsoft Excel was utilized to program macros in Excel VBA. Macros were developed to convert UTC to local time (taking into consideration the dates for Eastern Standard Time vs. Eastern Daylight Savings Time), determine if the flight operation occurred during daytime (local time between 07:00 and 21:59) or nighttime (local time between 22:00 and 06:59 the next day), runway used, whether each flight operation was a departure, arrival, helicopter, touch-and-go, or overflight, etc. Lookup tables were built to identify AEDT aircraft type, aircraft category and stage length. A separate macro was developed to produce .KML files to display the flight tracks in Google Earth.

The initial processing of the Historic Flight Positions Data was completed in November 2021, and the results were presented to the Ad-Hoc Committee at their December 7, 2021 meeting. During this meeting, there was a discussion regarding the discrepancy between the number of flight operations identified from FR24 vs. OPSNET. Subsequently, the algorithms developed to process the FR24 Historic Flight Positions Data were reviewed and refined, and the Historic Flight Positions Data was reprocessed. This resulted in a much better correlation between the number of operations between FR24 and OPSNET. The revised results were presented to the Ad-Hoc Committee at their March 1, 2022 meeting, and the committee was satisfied with these results. The following sections reflect these revised results.

4.0 Existing Condition Number of Operations

Since the OPSNET represents FAA’s official count of air traffic operations data, it was determined that the number of operations by category should match the OPSNET for modeling purposes. Aircraft operational levels for the 2021 Existing Condition were based on the FAA’s OPSNET for the period October 1, 2020 through September 30, 2021. FR24 and EYW Landing Reports for the same period were reviewed as a supplementary sources. A summary of the three data sources is shown in [Table 1](#).

**TABLE 1
 AIRCRAFT OPERATIONS BY CATEGORY
 OCTOBER 1, 2020 – SEPTEMBER 30, 2021**

SOURCE	AIR CARRIER	AIR TAXI	GENERAL AVIATION	MILITARY	TOTAL
OPSNET	21,563	6,593	35,533	439	64,128
FLIGHT RADAR 24	19,742	6,370	33,230	406	59,748
EYW LANDING REPORTS	19,456	3,142	NA	NA	NA

Sources: OPSNET, 2021, FlightRadar24, 2022, EYW Landing Reports, 2021.
 Prepared by: Deborah Murphy Lagos & Associates

PREPARED BY: Deborah Lagos, Deborah Murphy Lagos & Associates
 PREPARED FOR: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO
 DATE: PREPARED: February 17, 2022
 DATE AMENDED: May 5, 2022

5.0 Existing Condition Fleet Mix and Number of Operations

Fleet mix defines the various types of aircraft and allows development of very specific input data, such as engine type, title 14 CFR part 36 Noise Stage Certification, gross weight, and departure stage length.

The Aviation Environmental Design Tool (AEDT) is a software system that is designed to model aviation related operations in space and time to compute noise, emissions, and fuel consumption. The AEDT is currently the FAA's standard tool for producing noise contours and analyzing noise levels at sensitive sites. The AEDT aircraft database contains actual noise and performance data for numerous types of aircraft. Although the AEDT aircraft database provides a large selection of aircraft to model, it does not contain every known aircraft. For this reason, the FAA has developed an official aircraft substitution list which allows the modeler to substitute similar aircraft when necessary for modeling purposes. These substitutions represent a very close estimate of the noise produced by the actual aircraft. Notable substitutions are shown in [Table 2](#).

**TABLE 2
 NOTABLE AEDT AIRCRAFT SUBSTITUTIONS**

AEDT AC TYPE	CATEGORY	AC TYPE	DESCRIPTION
DHC8	AC/AT PROP	AT46	ATR 42-600
		C27J	C27J - Alenia C-27J Spartan
		CVLP	Convair CV 240 - CV 440
		DH8A	DH8A - Bombardier DHC8-100
DHC830	AC/AT PROP	AT76	ATR 72-600
		CVLT	Convair CV-580
		DH8B	DH8B - Bombardier DHC8-200
		DH8C	DH8C - Dash 8/DHC8-300
		DH8D	Bombardier de Havilland Dash 8 Q400
CNA208	AC/AT PROP	C208	C208 - Cessna 208 Caravan
		EPIC	EPIC - Dynasty
		KODI	KODI - Quest Kodiak
		P750	P750 - PAL P-750 XSTOL
		PA11	Piper PA-11 Cub Special
		PA12	Piper PA-12 Super Cruiser
		PC12	PC12 - Pilatus PC-12
		TBM7	TBM7 - Socata TBM-7
		TBM9	TBM9 - Socata TBM
TEX2	TEX2 - Raytheon Texan 2		
CNA510	GA JET	C510	C510 - Cessna Citation Mustang
		E50P	E50P - Embraer Phenom 100
		E545	E545 - Embraer EMB-545 Legacy 450
		E55P	E55P - Embraer Phenom 300
		SF50	SF50 - Cirrus Vision SF50

PREPARED BY: Deborah Lagos, Deborah Murphy Lagos & Associates
 PREPARED FOR: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO
 DATE: PREPARED: February 17, 2022
 DATE AMENDED: May 5, 2022

TABLE 2 (CONTINUED)
NOTABLE AEDT AIRCRAFT SUBSTITUTIONS

AEDT AC TYPE	CATEGORY	AC TYPE	DESCRIPTION
DHC6	AC/AT PROP	AC80	AC80 - Aero Commander Turbo 680
		AC90	AC90 - Gulfstream Commander
		ACAM	Lockwood Air Cam
		AN28	AN28 - Antonov An-28
		B350	B350 - Beech Super King Air 350
		BE10	BE10 - Beech King Air 100 A/B
		BE20	BE20 - Beech 200 Super King
		BE30	BE30 - Raytheon 300 Super King Air
		BE38	BE38 - Raytheon Super King Air
		BE9	BE9 - Beechcraft C99 Airliner; Beech Aircraft
		BE90	BE90 - Beech King Air 90
		BE95	Beech 95 Travel Air
		BE99	BE99 - Beech Airliner 99
		BE9L	BE9L - Beech King Air 90
		BE9T	BE9T - Beech F90 King Air
		C2	Grumman C-2 Greyhound
		DHC2	de Havilland Canada DHC-2 Beaver
		DHC3	de Havilland Canada DHC-3 Otter
		DHC6	DHC6 - DeHavilland Twin Otter
		E110	Embraer EMB-110 Bandeirante
		JS31	British Aerospace Jetstream 31
		M28	M28 - PZL M-28 Skytruck
		MU2	MU2 - Mitsubishi Marquise/Solitaire
MU20	MU20 - Marquise/Solitaire		
P180	P180 - Piaggio P-180 Avanti		
SW2	SW2 - Fairchild Swearingen SA26-AT Merlin IIB		
SW3	SW3 - Fairchild Swearingen SA-226T/TB Merlin 3		
SW4	SW4 - Swearingen Merlin 4/4A Metro2		
CNA55B	GA JET	BE4W	BE40 - Raytheon/Beech Beechjet 400/T-1
		C550	C550 - Cessna Citation II/Bravo
		C551	C551 - Cessna Citation II/SP
		C55B	C55B - Cessna Citation Bravo
		PC24	PC24 - Pilatus PC-24
CNA680	GA JET	C680	C680 - Cessna Citation Sovereign
		C68A	C68A - Cessna Citation Latitude
		C700	Cessna 700 Citation Longitude
		HDJT	HDJT - HONDA HA-420 HondaJet

PREPARED BY: Deborah Lagos, Deborah Murphy Lagos & Associates
 PREPARED FOR: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO
 DATE PREPARED: February 17, 2022
 DATE AMENDED: May 5, 2022

TABLE 2 (CONTINUED)
NOTABLE AEDT AIRCRAFT SUBSTITUTIONS

AEDT AC TYPE	CATEGORY	AC TYPE	DESCRIPTION
CNA750	GA JET	C750	C750 - Cessna Citation X
		CN7	C750 - Cessna Citation X
		F2TH	F2TH - Dassault Falcon 2000
		FA20	FA20 - Dassault Falcon/Mystère 20
		GLF2	GLF2 - Gulfstream II/G200
		HA4T	HA4T - Hawker 4000
		J328	Fairchild Dornier 328JET
FAL900EX	GA JET	DA50	DA50 - Mystere Falcon 50 Dassault
		F900	F900 - Dassault Falcon 900
		FA50	FA50 - Dassault Falcon/Mystère 50
		FA7X	FA7X - Dassault Falcon F7X
		FA8X	FA8X - Dassault Falcon 8X
IA1125	GA JET	ASTR	ASTR - IAI Astra 1125
		G150	G150 - Gulfstream G150
		G280	G280 - Gulfstream G280
		GALX	GALX - IAI 1126 Galaxy/Gulfstream G200
		WW24	WW24 - IAI 1124 Westwind
LEAR35	GA JET	FA10	FA10 - Dassault Falcon/Mystère 10
		H25A	H25A - BAe HS 125-1/2/3/400/600
		H25B	H25B - BAe HS 125/700-800/Hawker 800
		H25C	H25C - BAe/Raytheon HS 125-1000/Hawker 1000
		LJ31	LJ31 - Bombardier Learjet 31/A/B
		LJ35	LJ35 - Bombardier Learjet 35
		LJ40	LJ40 - Learjet 40; Gates Learjet
		LJ45	LJ45 - Bombardier Learjet 45
		LJ55	LJ55 - Bombardier Learjet 55
		LJ60	LJ60 - Bombardier Learjet 60
		LJ70	LJ70 - Learjet 70
		LJ75	LJ75 - Learjet 75
SBR1	SBR1 - North American Rockwell Sabre 40/60		

Sources: AEDT Fleet 3c.xlsx, 2021, AEDT3crrGA Lookup List1.xlsx, 2021

Prepared by: Deborah Murphy Lagos & Associates

To develop the proposed number of operations by aircraft type for the Fleet Mix, the percentage of operations for each aircraft in each category was calculated from the FR24 data, as shown in [Table 3](#).

PREPARED BY: Deborah Lagos, Deborah Murphy Lagos & Associates
 PREPARED FOR: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO
 DATE: PREPARED: February 17, 2022
 DATE AMENDED: May 5, 2022

DRAFT DOCUMENT
 SUBJECT TO REVISION

TABLE 3
PERCENTAGE BY AIRCRAFT TYPE WITHIN EACH AIRCRAFT CATEGORY
OCTOBER 1, 2020 – SEPTEMBER 30, 2021

AEDT AC TYPE	AC/AT JET	%OF CATEGORY	AC/AT PROP	% OF CATEGORY	GENERAL AVIATION						MILITARY				GRAND TOTAL
					GA JET	% OF CATEGORY	GA PROP	% OF CATEGORY	GA HELO	% OF CATEGORY	MIL (EYW)	% OF CATEGORY	MIL HELO (EYW)	% OF CATEGORY	
EMB175	8,838	44.78%													8,838
A319-131	6,628	33.58%													6,628
EMB170	3,113	15.77%													3,113
EMB190	839	4.25%													839
737700	218	1.10%													218
EMB145	94	0.48%													94
CRJ9-ER	6	0.03%													6
DHC8			2,990	46.96%			1	0.00%				2	0.51%		2,993
DHC6			1,755	27.56%			870	2.62%			36	9.09%			2,661
CNA208			1,254	19.70%			1,165	3.51%							2,419
SD330			195	3.06%											195
SF340			137	2.15%							31	7.83%			168
DHC830			36	0.57%			10	0.03%							46
LEAR35					1,331	4.01%					1	0.3%			1,332
CNA510					1,228	3.70%									1,228
CNA500					886	2.67%									886
CNA560XL					856	2.58%									856
CNA680					820	2.47%									820
CL600					688	2.07%									688
CNA560U					545	1.64%									545
CNA55B					470	1.42%									470
FAL900EX					470	1.42%									470
CNA750					405	1.22%									405
CNA560E					389	1.17%									389
GV					264	0.80%					2	0.51%			266
GIV					238	0.72%									238
IA1125					185	0.56%									185
MU3001					171	0.51%									171

PREPARED BY: Deborah Lagos, Deborah Murphy Lagos & Associates
 PREPARED FOR: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO
 DATE PREPARED: February 17, 2022
 DATE AMENDED: May 5, 2022

DRAFT DOCUMENT
 SUBJECT TO REVISION

TABLE 3 (CONTINUED)
PERCENTAGE BY AIRCRAFT TYPE WITHIN EACH AIRCRAFT CATEGORY
OCTOBER 1, 2020 – SEPTEMBER 30, 2021

AEDT AC TYPE	AC/AT JET	% of Category	AC/AT PROP	% of Category	GA JET	% of Category	GA PROP	% of Category	GA HELO	% of Category	MIL (EYW)	% of Category	MIL HELO (EYW)	% of Category	Grand Total
ECLIPSE500					154	0.46%									154
C525C					121	0.36%									121
CIT3					96	0.29%									96
CNA525C					95	0.29%									95
BD-700-1A10					72	0.22%									72
GIIB					10	0.03%									10
LEAR25					2	0.01%									2
GASEPV							7,487	22.55%			14	3.54%			7,501
CNA182							6,261	18.86%							6,261
BEC58P							2,418	7.28%							2,418
PA30							1,165	3.51%							1,165
CNA441							292	0.88%							292
DHC-2FLT							223	0.67%							223
CNA206							124	0.37%							124
PA42							105	0.32%							105
GASEPF							102	0.31%							102
DO328							25	0.08%							25
DC3							4	0.01%			1	0.25%			5
S76									1,649	4.97%					1,649
R44									1,372	4.13%					1,372
SA355F									174	0.52%					174
B206									133	0.40%					133
EC130									107	0.32%					107
MD600N									13	0.04%					13
B212									3	0.01%			1	0.25%	4
A109									3	0.01%					3
B429									2	0.01%					2

PREPARED BY: Deborah Lagos, Deborah Murphy Lagos & Associates
 PREPARED FOR: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO
 DATE PREPARED: February 17, 2022
 DATE AMENDED: May 5, 2022

DRAFT DOCUMENT
 SUBJECT TO REVISION

TABLE 3 (CONT'D)
PERCENTAGE BY AIRCRAFT TYPE WITHIN EACH CATEGORY
OCTOBER 1, 2020 – SEPTEMBER 30, 2021

AEDT AC TYPE	AC/AT JET	% of Category	AC/AT PROP	% of Category	GA JET	% of Category	GA PROP	% of Category	GA HELO	% of Category	MIL (EYW)	% of Category	MIL HELO (EYW)	% of Category	Grand Total
C130E											104	26.26%			104
T-38A											63	15.91%			63
F5E											24	6.06%			24
C17											17	4.29%			17
C560											12	3.03%			12
F15E20											6	1.52%			6
F18AF											2	0.51%			2
KC135R											2	0.51%			2
S70													50	12.63%	50
S65													28	7.07%	28
Grand Total	19,736	100.0%	6,367	100%	9,496	28.6%	20,252	60.99%	3,456	10.41%	317	80.1%	79	19.95%	59,703

Source: FlightRadar24, 2022.

Prepared by: Deborah Murphy Lagos & Associates

This percentage by aircraft type was then applied to the total number of operations by category from the OPSNET data. An example of this calculation is shown below.

From Table 1: OPSNET Air Carrier # of Operations = 21,563

From Table 3: EMB175 % of Category = 44.78%

See Table 4: EMB 175 Adjusted Number of Operations = 21,563 x 44.78% = 9,656

The final proposed fleet mix and number of operations is shown in [Table 4](#).

PREPARED BY: Deborah Lagos, Deborah Murphy Lagos & Associates
 PREPARED FOR: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO
 DATE PREPARED: February 17, 2022
 DATE AMENDED: May 5, 2022

TABLE 4
PROPOSED FLEET MIX AND NUMBER OF OPERATIONS
OCTOBER 1, 2020 – SEPTEMBER 30, 2021

AEDT AC TYPE	AC/AT JET	AC/AT PROP	GENERAL AVIATION			MILITARY		Grand Total
			GA JET	GA PROP	GA HELO	MIL	MIL HELICO	
EMB175	9,656	0	0	0	0	0	0	9,656
A319-131	7,242	0	0	0	0	0	0	7,242
EMB170	3,401	0	0	0	0	0	0	3,401
EMB190	917	0	0	0	0	0	0	917
737700	238	0	0	0	0	0	0	238
EMB145	103	0	0	0	0	0	0	103
CRJ9-ER	7	0	0	0	0	0	0	7
DHC8	0	3,096	0	1	0	2	0	3,099
DHC6	0	1,817	0	931	0	40	0	2,788
CNA208	0	1,299	0	1,247	0	0	0	2,545
SD330	0	202	0	0	0	0	0	202
SF340	0	142	0	0	0	34	0	176
DHC830	0	37	0	11	0	0	0	48
LEAR35	0	0	1,424	0	0	1	0	1,425
CNA510	0	0	1,314	0	0	0	0	1,314
CNA500	0	0	948	0	0	0	0	948
CNA560XL	0	0	916	0	0	0	0	916
CNA680	0	0	877	0	0	0	0	877
CL600	0	0	736	0	0	0	0	736
CNA560U	0	0	583	0	0	0	0	583
CNA55B	0	0	503	0	0	0	0	503
FAL900EX	0	0	503	0	0	0	0	503
CNA750	0	0	433	0	0	0	0	433
CNA560E	0	0	416	0	0	0	0	416
GV	0	0	282	0	0	2	0	285
GIV	0	0	255	0	0	0	0	255
IA1125	0	0	198	0	0	0	0	198
MU3001	0	0	183	0	0	0	0	183
ECLIPSE500	0	0	165	0	0	0	0	165
C525C	0	0	129	0	0	0	0	129
CIT3	0	0	103	0	0	0	0	103
CNA525C	0	0	102	0	0	0	0	102
BD-700-1A10	0	0	77	0	0	0	0	77
GIIB	0	0	11	0	0	0	0	11
LEAR25	0	0	2	0	0	0	0	2

PREPARED BY: Deborah Lagos, Deborah Murphy Lagos & Associates
 PREPARED FOR: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO
 DATE: PREPARED: February 17, 2022
 DATE AMENDED: May 5, 2022

TABLE 4 (CONT'D)
PROPOSED FLEET MIX AND NUMBER OF OPERATIONS
OCTOBER 1, 2020 – SEPTEMBER 30, 2021

AEDT AC TYPE	AC/AT JET	AC/AT PROP	GENERAL AVIATION			MILITARY		Grand Total
			GA JET	GA PROP	GA HELO	MIL	MIL HELO	
GASEPV	0	0	0	7,986	0	15	0	8,001
CNA182	0	0	0	6,699	0	0	0	6,699
BEC58P	0	0	0	2,587	0	0	0	2,587
PA30	0	0	0	1,247	0	0	0	1,247
CNA441	0	0	0	312	0	0	0	312
DHC-2FLT	0	0	0	239	0	0	0	239
CNA206	0	0	0	133	0	0	0	133
PA42	0	0	0	112	0	0	0	112
GASEPF	0	0	0	135	0	0	0	135
DO328	0	0	0	27	0	0	0	27
DC3	0	0	0	4	0	1	0	5
1900D	0	0	0	4	0	0	0	4
S76	0	0	0	0	1,764	0	0	1,764
R44	0	0	0	0	1,468	0	0	1,468
SA355F	0	0	0	0	186	0	0	186
B206	0	0	0	0	142	0	0	142
EC130	0	0	0	0	114	0	0	114
MD600N	0	0	0	0	14	0	0	14
B212	0	0	0	0	3	0	1	4
A109	0	0	0	0	3	0	0	3
B429	0	0	0	0	2	0	0	2
C130E	0	0	0	0	0	115	0	115
T-38A	0	0	0	0	0	70	0	70
F5E	0	0	0	0	0	27	0	27
C17	0	0	0	0	0	19	0	19
C560	0	0	0	0	0	13	0	13
F15E20	0	0	0	0	0	7	0	7
F18AF	0	0	0	0	0	2	0	2
KC135R	0	0	0	0	0	2	0	2
S70	0	0	0	0	0	0	55	55
S65	0	0	0	0	0	0	31	31
Grand Total	21,563	6,593	10,161	21,674	3,698	351	88	64,128

Sources: OPSNET, 2021, FlightRadar24, 2022.
 Prepared by: Deborah Murphy Lagos & Associates

Deborah Murphy Lagos & Associates, LLC

Monday, August 29, 2022

Peter M. Green, AICP
Environmental Protection Specialist
Orlando Airports District Office
Federal Aviation Administration
8427 SouthPark Circle
Orlando, Florida 32819

RE: Key West International Airport Noise Exposure Maps Update
Comparison of Aircraft Operations Data
FFY 2021 to Most Recent 12 Months

Dear Peter:

The assumptions and activity levels used to develop the Existing Condition NEM are based on data from October 1, 2020, through September 30, 2021. Since this data is not for a timeframe representing the year of submission, an analysis of data generated for the most recent twelve months (August 1, 2021, through July 31, 2022) was prepared. The purpose of this analysis is to confirm that there has been no change in operation at the airport that would create any substantial new noncompatible uses or significantly reduce noise over noncompatible uses.

The attached document describes the analysis that was undertaken.

Your approval of this document is requested, so that Draft NEM Update document can be made available for public review.

Sincerely,



Deborah Lagos
President

xc: Richard Strickland, Director of Airports

Comparison of Aircraft Operations Data FFY 2021 vs Most Recent 12 Months

Historical aircraft operations data were obtained from FAA’s Operations Network (OPSNET) for the period August 1, 2021, through July 31, 2022. These data were compared to the data previously obtained from the same source used for development of the Existing Condition NEM. **Table 1** shows a comparison of the number of operations obtained from the FAA’s OPSNET.

TABLE 1
COMPARISON OF NUMBER OF OPERATIONS

FAA’s OPSNET	Itinerant					Local			Total Operations
Time Period	Air Carrier	Air Taxi	GA	Military	Total	Civil	Military	Total	
Oct. 2020 through Sept. 2021	21,563	6,593	33,164	356	61,676	2,369	83	2,452	64,128
Aug. 2021 through July 2022	19,757	6,827	33,202	411	60,197	1,225	13	1,238	61,435
Difference	-1,806	234	38	55	-1,479	-1,144	- 70	-1,214	-2,693
Percentage Difference	-8.38%	3.55%	0.11%	15.45%	-2.40%	-48.29%	-84.34%	-49.51%	-4.20%

Source: FAA’s OPSNET, 2021 and 2022

Prepared by: Deborah Murphy Lagos & Associates, 2022

Prepared by: Deborah Lagos, Deborah Murphy Lagos & Associates

Prepared for: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO

Date Prepared: Friday, August 26, 2022

Historical commercial fleet mix data were obtained from EYW Landing Reports for the period August 1, 2021, through July 31, 2022. These data were compared to the data previously obtained from the same source used for development of the Existing Condition NEM.

Table 2 shows a comparison of the number of operations obtained from the FAA’s OPSNET.

**TABLE 2
COMPARISON OF FLEET MIX**

EYW Landing Reports	Actual AC	A220-300	A319	ATR42	ATR76	CRJ700	EMB145	EMB170	EMB175	EMB190	SF340	Total
Time Period	AEDT AC	737700	A319-131	DHC8	DHC830	CRJ9-ER	EMB145	EMB170	EMB175	EMB190	SF340	
Oct. 2020 through Sept. 2021		0	3,241	1,480	22	0	46	1,267	4,759	415	69	11,299
Aug. 2021 through July 2022		55	4,175	1,506	18	153	0	1,273	2,555	444	3	10,182
Difference		55	934	26	-4	153	-46	6	-2,204	29	-66	-1,117
Percentage Difference		100.00%	28.82%	1.76%	-18.18%	100.00%	100.00%	0.47%	-46.31%	6.99%	-95.65%	-9.89%

Source: EYW Landing Reports, 2021 and 2022

Prepared by: Deborah Murphy Lagos & Associates, 2022

A comparison of the data shown in **Table 2** was conducted using the FAA’s **Area Equivalent Method (AEM) Version 2c SP2**. The result indicated a 13.8% reduction. The AEM calculates changes in noise using the algorithms found in Airport Environmental Design Tool (AEDT) 2c SP2. AEM is a mathematical procedure that provides an estimated change in noise contour area for an airport given the types of aircraft and the number of operations for each aircraft. The AEM is used to develop insight into the potential increase or decrease of noise resulting from a change in aircraft operations. A 17% change in cumulative noise contour area translates into a one-decibel change in the airport noise. The purpose of the AEM is to show change in airport DNL noise contour area relative to a change in aircraft mix and number of operations. It is to be used when the analysis can assume similar runway and flight track utilization

Comparison of Aircraft Operations Data for the EYW Noise Exposure Maps Update

Prepared by: Deborah Lagos, Deborah Murphy Lagos & Associates

Prepared for: Peter M. Green, AICP, Environmental Protection Specialist, FAA ORL ADO

Date Prepared: Friday, August 26, 2022

between the base case and the alternative. if the screening process shows less than a 17 percent change, it may be concluded that there are no substantial changes within the DNL 65 dB contour.