

## **APPENDIX G**

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### Correspondence and Consultation

This Appendix includes correspondence and consultation associated with the Fort Lauderdale-Hollywood International Airport Part 150 Study.

- Study Kick-off Meetings with Local Jurisdictions (Oct./Nov. 2016)
  - Cooper City, Dania Beach, Davie, Fort Lauderdale, Hollywood, Plantation, Southwest Ranches, and Weston
- ANAC Briefing (Sept. 2016)
- Study Coordination Committee (SCC) Resolution and Briefing (August 2017)



**Study Kick-off Meetings with Local Jurisdictions**  
**October 24, 2016**



# 14 CFR PART 150 NOISE AND LAND USE COMPATIBILITY STUDY

Local Jurisdiction Briefing  
October 24, 2016

## Agenda

1. Goals and Objectives
2. Study Elements
3. Years of Analysis
4. Data Collection
5. Public Website
6. Public Outreach
7. Technical Advisory Committee
8. Study Coordination Committee
9. Preliminary Schedule





## Goals and Objectives

*The 14 CFR Part 150 process is the Airport Sponsor's mechanism to improve the compatibility between the Airport and surrounding communities*

### FLL's Part 150 Efforts Span 3 Decades



## Goals and Objectives

### Analyze, Evaluate, Educate

- Determine existing and future noise conditions in the vicinity of an airport
- Identify incompatible uses
- Identify measures to improve compatibility
  - Evaluate the feasibility of possible flight procedure/land use changes
  - Submit locally-endorsed recommendations to the FAA regarding noise reduction measures
  - Approved measures may be eligible for Federal grant funding
- Educate communities on the Federal process and what can and cannot be done to address aircraft noise concerns

**Part 150 Studies Must Adhere to 14 CFR Part 150  
Guidelines to be Accepted and Approved by FAA**

## Goals and Objectives

### Key Issues

- Operational Concerns
  - Opening of New Runway
  - Change in Operation of North Runway
  - Potential Changes Related to NextGen/Metroplex
- Ongoing Residential Sound Insulation Program
- Community Education
- Expectation Management

5



## Study Elements

### Noise Exposure Map Report (NEM)

- Develop a Comprehensive Database of Current Conditions
- Noise Contour Development & Impact Analysis
- Prepare and Submit Noise Exposure Map (NEM) Report

### Noise Compatibility Program (NCP)

- Identify and Evaluate Noise Abatement Alternatives
- Identify and Evaluate Compatible Land Use Alternatives
- Identify and Evaluate Administrative Measures
- Prepare and Submit Noise Compatibility Program (NCP) Report

### Stakeholder Outreach Program

- Local Jurisdictions/Agencies
- FAA
- Public

6



### Official Noise Exposure Maps

- Base year and at future year which is at least 5 years into the future
- Basis of comparison for effectiveness of potential noise abatement measures
- Year of submittal must be consistent with base year
  - Existing Condition: 2017
  - Future Condition: 2022
- Existing Condition based on recent 12 months of operational data applied to 2017 projected activity level

## Operational Data Collection

### Model inputs (MPU Forecast, ANOMS, NCDC)

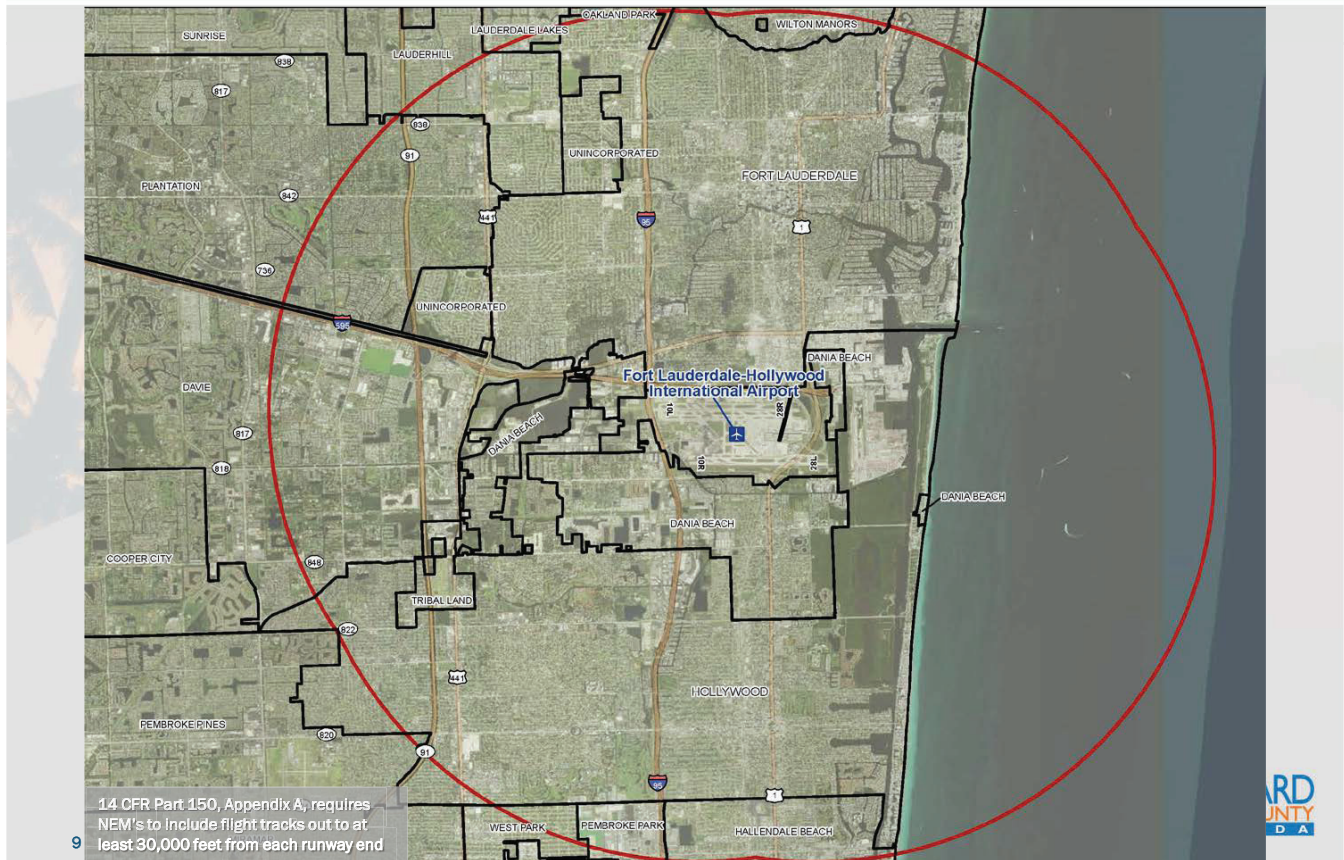
- Detailed fleet mix
- Time of day
- Runway use
- Flight track location and use
- Stage length
- Meteorological conditions



**Aviation Environmental  
Design Tool (AEDT)  
Version 2C**



## Land Use Data Collection – Minimum NEM Area



## Public Website

Project Website – [www.fllpart150.com](http://www.fllpart150.com)

### Key Elements

- Project information
- Notification of upcoming meetings
- Comment mechanism
- Links to other websites



### Public Outreach

- Initial Coordination with Nearby Jurisdictions
  - Series of meetings to present project and solicit TAC and SCC members
- Initial Kickoff Public Workshops
  - 5 informal workshops on consecutive nights
- NEM Public Workshop
  - Single large venue informal workshop
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  - Single large venue informal workshop followed by formal hearing



## Technical Advisory Committee

### Purpose and Objectives of the TAC

- Represent the interests of their organization and/or constituents
  - The TAC's role is advisory
  - Forum for experts to review study documents
- Provide informed feedback related to the noise exposure maps and noise compatibility program
- TAC members are also expected to advise their organization and/or constituents of the TAC's discussions

### Who is typically represented?

- The Airport Proprietor (Broward County)
- The Federal Aviation Administration
- Aircraft operators – airlines, cargo carriers, corporate and general aviation operators
- Community representatives
- Governmental agencies
- Local planning agencies

### 8 Full TAC Meetings

- Operational Procedure Working Group (3 meetings/3 calls)
- Land Use Technical Working Group (2 meetings/3 calls)

\* One Airport Noise Abatement Committee (ANAC) representative shall be appointed by ANAC members to represent ANAC at the Part 150 Study TAC meetings. The ANAC representative will be responsible for reporting back to the ANAC.



## Study Coordination Committee

### Purpose and Objectives of the Part 150 Study Coordination Committee

- Serves as a conduit for sharing of information that is developed during the Part 150 Study process
- Ensures timely and broad dissemination of information
- Established by Broward County Commission resolution on September 15, 2016
- Sunsets 30 days after the FAA issues its formal Record of Approval





## Study Coordination Committee Membership

- 9 total members
- Representatives (and alternates) of 8 political subdivisions appointed by their governing boards or councils
  - City of Fort Lauderdale
  - City of Hollywood
  - City of Dania Beach
  - Town of Davie
  - City of Plantation
  - Town of Southwest Ranches
  - City of Weston
  - City of Cooper City
- A chairperson to be appointed by the BOCC

## Schedule

### Preliminary Part 150 Schedule

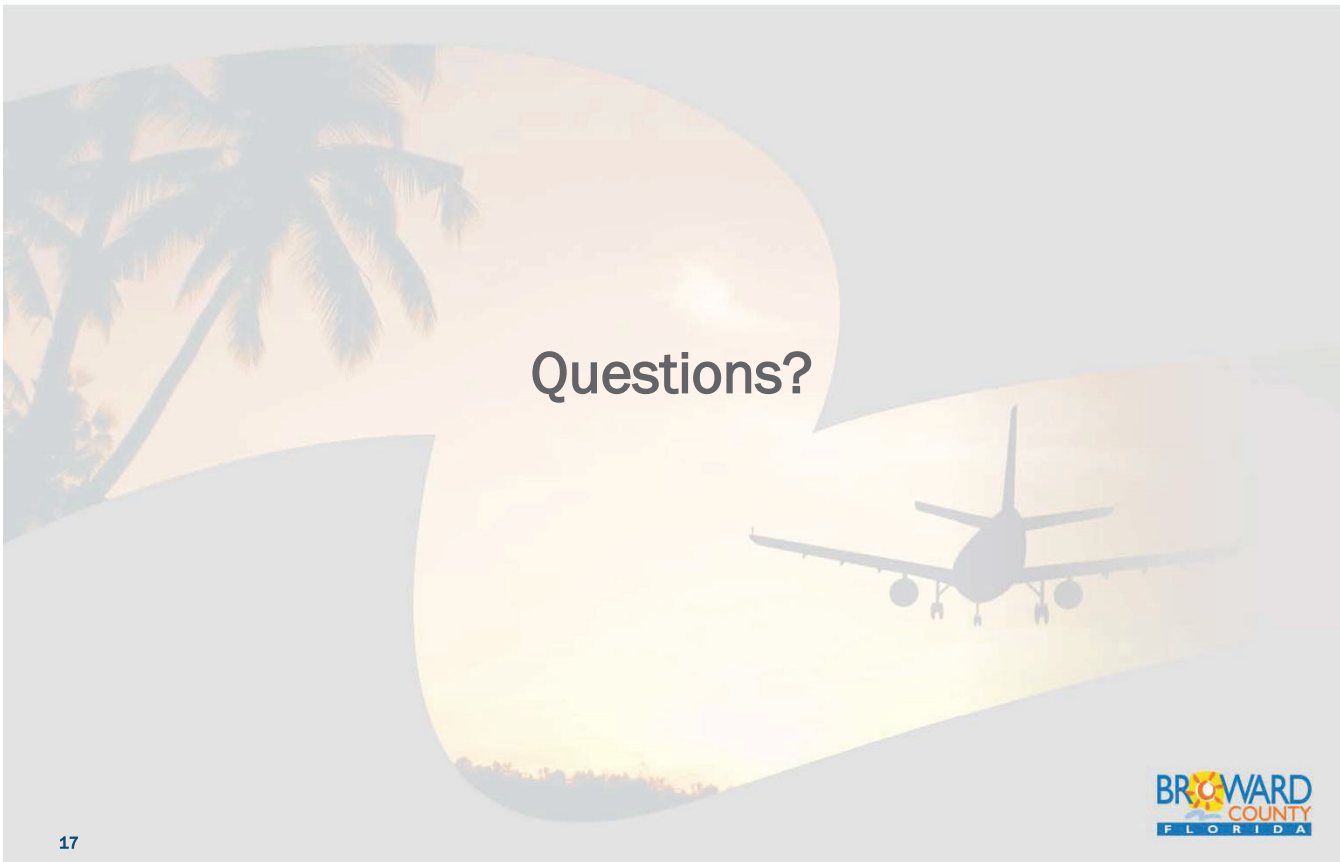
#### Noise Exposure Maps

- Data Collection Summer-Winter 2016
- Public Outreach Late 2016/Early 2017
- Noise Modeling Spring 2017
- NEM Report/FAA Acceptance Summer 2017- Spring 2018

#### Noise Compatibility Program

- Alternatives Analysis Winter 2017 -Summer 2018
- NCP Report Summer-Fall 2018
- Public Hearing Winter 2018/2019
- FAA 180 Day Review/ROA Summer-Fall 2019

## 14 CFR Part 150 Overview



Questions?

**BROWARD**  
COUNTY  
FLORIDA

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FORT LAUDERDALE-HOLLYWOOD  
INTERNATIONAL AIRPORT  
BROWARD COUNTY, FLORIDA





Broward County Aviation Department - Airport Development

Meeting: CITY of Dania Beach - PART 150 Noise Study Update

Date/Time: 10/24/2016 Location: BCAD Conf Rm 2B

Sign In Sheet - Please print clearly				
Name and Title	Company	Work Phone #	Cell Phone #	Email Address
MICHAEL TALITTO	BCAD	9-359-6103	-	mptalitto@broward.org
Winston Cannicle	BCAD	954-359-6131		wcannicle@broward.org
Michael Aronov	ESA	407-312-1274	←	marnall@esa555a.com
William Castillo	BCAD	954-359-2291		wcastill@broward.org
MARLO SOLORZO	City of Dania	954-924-6500	954-914-5416	
Anne Castro	City of Dania Beach	954-914-9496	954-914-9496	anncastro@danibeach.gov
Brad Kaine	City of Dania Beach	954-924-3774	954-410-7269	bkaine@danibeach.gov
TOM ANSBRO	CITY OF Dania Beach	954-924-6500	954-651-3070	TANSBRO@danibeach.gov
Marc LaFerrier	"	EXT 3643	954-648-1805	m.laferrier@danibeach.gov



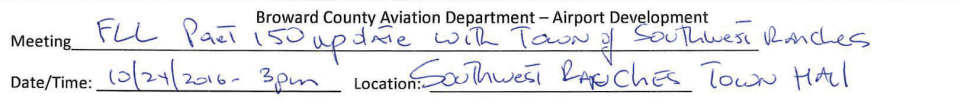
Broward County Aviation Department - Airport Development

Meeting: FLL Part 150 update with the City of Plantation

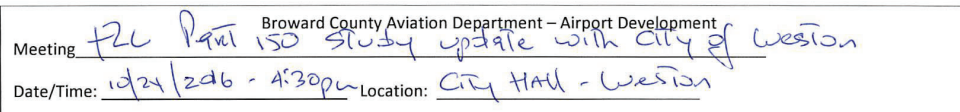
Date/Time: 1pm 10/24/2016 Location: Plantation City Hall

Sign In Sheet - Please print clearly				
Name and Title	Company	Work Phone #	Cell Phone #	Email Address
Winston B. Cannicle	BCAD	(954)359-6131		wcannicle@broward.org
Danny A. Holmes	Plantation- PZED	954-797-2222		dholmes@plantation.org
Brett Butler / City Engineer	Plantation- Eng	9-797-2281		bbutler@plantation.org
Diane Vetric Bendekovic Mayor	Plantation- Admin.	9-797-2221		dbendekovic@plantation.org
MICHAEL TALITTO	BCAD	9-359-6103		mptalitto@broward.org
William Castillo	BCAD	954-359-2291		wcastill@broward.org





FORT LAUDERDALE-HOLLYWOOD  
INTERNATIONAL AIRPORT  
BROWARD COUNTY, FLORIDA


**FORT LAUDERDALE-HOLLYWOOD  
INTERNATIONAL AIRPORT**  
BROWARD COUNTY, FLORIDA

**Study Kick-off Meetings with Local Jurisdictions**  
**November 7, 2016**



# 14 CFR PART 150 NOISE AND LAND USE COMPATIBILITY STUDY

Local Jurisdiction Briefing  
November 7, 2016

## Agenda

1. Goals and Objectives
2. Study Elements
3. Years of Analysis
4. Data Collection
5. Public Website
6. Public Outreach
7. Technical Advisory Committee
8. Study Coordination Committee
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## Goals and Objectives

*The 14 CFR Part 150 process is the Airport Sponsor's mechanism to improve the compatibility between the Airport and surrounding communities*

### FLL's Part 150 Efforts Span 3 Decades



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### Analyze, Evaluate, Educate

- Determine existing and future noise conditions in the vicinity of an airport
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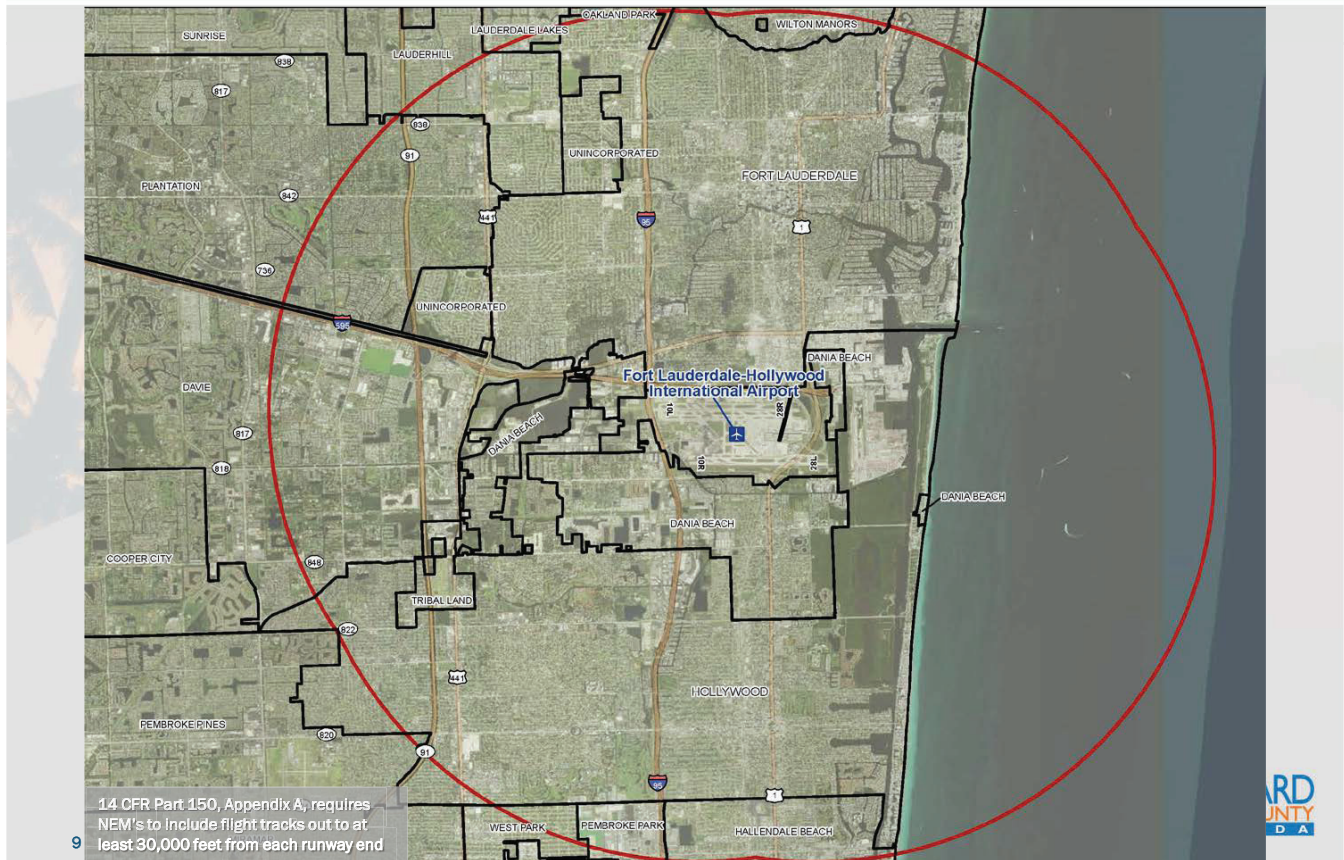
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**Aviation Environmental  
Design Tool (AEDT)  
Version 2C**



## Land Use Data Collection – Minimum NEM Area



## Public Website

Project Website – [www.fllpart150.com](http://www.fllpart150.com)

### Key Elements

- Project information
- Notification of upcoming meetings
- Comment mechanism
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## Questions?



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Broward County Aviation Department – Airport Development  
 Meeting FLL Part 150 update w/ city of Fort Lauderdale  
 Date/Time: 11/1/2016 - 8am Location: City of Fort Lauderdale - City Hall

Sign In Sheet – Please print clearly

Name and Title	Company	Work Phone #	Cell Phone #	Email Address
Winston Cannicle	Aviation - P/D	954-359-6181		wcannicle@broward.org
MICHAEL ARNOLD	ESA	407-312-1294		marvold@esaassoc.com
Diana Alarcon	CFTL	(9) 828-3793	(9) 557-7463	dalarcon@fortlauderdale.gov
JULIE LEONARD	FORTLAUD	828-7999	9701-3041	JLEONARD@FORTLAUDERDALE.GOV
Chris Lagreca	FTL	(9) 828-5758	(9) 952-5889	clagreca@fortlauderdale.gov
Lee Feldman	CFL	954-828-5959		lfeldman@fortlauderdale.gov
Rufus A. James	CFL	9-828-4968		rjames@fortlauderdale.gov
Ramsey C. Rogers	CFTL	9-828-5028		vrogers@fortlauderdale.gov





Broward County Aviation Department - Airport Development  
Meeting FLL Part 150 update w/ City of Cooper City  
Date/Time: 11/7/2016 - 10 am Location: City of Cooper City - City Hall

Sign In Sheet - Please print clearly

Name and Title	Company	Work Phone #	Cell Phone #	Email Address
Winston Cannicle	BCAD P/A	954-359-6131		wcannicle@broward.org
Greg Ross	Mayor, Cooper City	954-434-4300 <sup>x260</sup>		Mayor.Ross@CooperCityFL.org
Bruce Loucks	City Mgr, Cooper City	954-434-4300		Bloucks@CooperCityFL.org



Broward County Aviation Department - Airport Development  
Meeting FLL Part 150 study update w/ Town of Davie  
Date/Time: 11/7/2016 - 2pm Location: Town of Davie - Town Hall

Sign In Sheet - Please print clearly

Name and Title	Company	Work Phone #	Cell Phone #	Email Address
Winston Cannicle	BCAD P/A	954-359-6131		wcannicle@broward.org
Mitch Taylor Intergov. Affairs Manager	Davie	954-797-1190		mtaylor@davie-fl.gov
Phillip Holst	Davie	954-797-1041		pholst@davie-fl.gov
Richard Lemack	Davie	954-797-1034		Rlemack@davie-fl.gov
Mayor JUDY PAUL	T of DAVIE	954-797-1030		jpaul@davie-fl.gov



**ANAC Briefing**  
**September 19, 2016**



# 14 CFR PART 150 NOISE AND LAND USE COMPATIBILITY STUDY

ANAC Briefing  
September 19, 2016

## Agenda

1. Goals and Objectives
2. Study Elements
3. Years of Analysis
4. Master Plan Forecast
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## Goals and Objectives

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4



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- Existing Condition based on recent 12 months of operational data applied to 2017 projected activity level

## Master Plan Forecast

### Baseline Operational Assumptions Used in Study

- Establish future operations and fleet mix
- Ensure consistency between studies
- Forecast approval is a critical path item

## Data Collection - Operational

### Model inputs (MPU Forecast, ANOMS, NCDC)

- Detailed fleet mix
- Time of day
- Runway use
- Flight track location and use
- Stage length
- Meteorological conditions

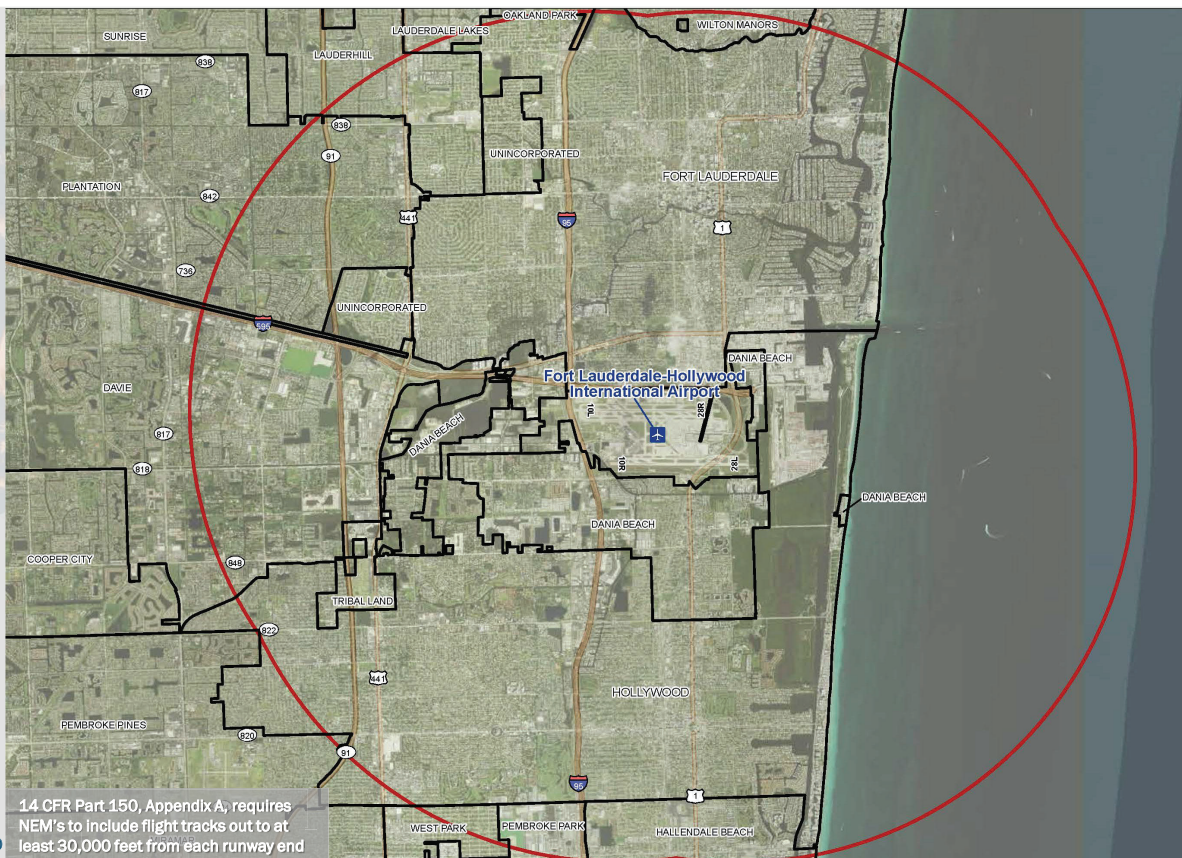


**Aviation Environmental  
Design Tool (AEDT)  
Version 2C**



9

## Data Collection – Minimum NEM Area



14 CFR Part 150, Appendix A, requires NEM's to include flight tracks out to at least 30,000 feet from each runway end

10





Project Website – [www.fllpart150.com](http://www.fllpart150.com)

Consistent with BCAD Standards

### Key Elements

- Project information
- Notification of upcoming meetings
- Comment mechanism
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## Public Outreach

### Public Outreach

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14

### Preliminary Part 150 Schedule

#### Noise Exposure Maps

- Data Collection
- Public Outreach
- Noise Modeling
- NEM Report/FAA Acceptance

Summer-Winter 2016

Fall 2016

Spring 2017

Summer 2017- Spring 2018

#### Noise Compatibility Program

- Alternatives Analysis
- NCP Report
- Public Hearing
- FAA 180 Day Review/ROA

Winter 2017 -Summer 2018

Summer-Fall 2018

Winter 2018/2019

Summer-Fall 2019

15

## 14 CFR Part 150 Overview

Questions?

16

**Study Coordination Committee Resolution**  
**September 2016**



Broward County Commission Regular Meeting

8.

Meeting Date: 09/15/2016

Director's Name: Mark Gale

Department: Aviation

Division: Planning

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Information

Requested Action

MOTION TO ADOPT Resolution No. 2016-391 establishing a Federal Aviation Regulation Part 150 Noise Compatibility Study Coordination Committee, the title of which is as follows:

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF BROWARD COUNTY, FLORIDA, ESTABLISHING A FEDERAL AVIATION REGULATION PART 150 STUDY COORDINATION COMMITTEE TO FACILITATE DISSEMINATION OF INFORMATION FROM THE PART 150 NOISE COMPATIBILITY STUDY PROCESS; PROVIDING FOR APPOINTMENT OF COMMITTEE MEMBERS; PROVIDING FOR MEETINGS; PROVIDING A SUNSET PROVISION, AND PROVIDING FOR SEVERABILITY AND AN EFFECTIVE DATE.

**ACTION: (T-10:31 AM) Approved.**

**VOTE: 8-0. Commission District 3 is open.**

Why Action is Necessary

Broward County Board of County Commissioners' (Board) approval is required to adopt a Resolution.

What Action Accomplishes

Provides for a Federal Aviation Regulation (FAR) Part 150 Noise Compatibility Study Coordination Committee for Broward County's Fort Lauderdale-Hollywood International Airport.

Is this Action Goal Related

Previous Action Taken

None.

Summary Explanation/Background

THE AVIATION DEPARTMENT RECOMMENDS APPROVAL OF THE ABOVE MOTION.

This proposed Resolution will enact a FAR Part 150 Noise Compatibility Study (Part 150 Study) Coordination Committee. A Part 150 Study Coordination Committee will provide a centralized process to facilitate dissemination and sharing of information that is developed during the Part 150 Study to local communities.

The Committee will consist of nine members; a Chair appointed by the Board, and a representative and alternate representative from each of the following political subdivisions: Cities of Fort Lauderdale, Hollywood, Dania Beach, Plantation, Weston and Cooper City, and Towns of Davie and Southwest Ranches. Each of the individual governing boards or councils of the above political subdivisions shall appoint residents of their political subdivisions to serve in the capacity of representative and alternate representative for the duration of the Committee.

This item has been reviewed and approved as to form by the Office of the County Attorney.

Source of Additional Information

Mark E. Gale, A.A.E., CEO/Director of Aviation, (954) 359-6199

Alexander J. Williams, Jr., Assistant County Attorney, (954) 359-7201

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Fiscal Impact

Fiscal Impact/Cost Summary:

There is no fiscal impact associated with this action.

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Attachments

Exhibit 1 - Resolution

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RESOLUTION NO. 2016-

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF BROWARD COUNTY, FLORIDA, ESTABLISHING A FEDERAL AVIATION REGULATION PART 150 STUDY COORDINATION COMMITTEE TO FACILITATE DISSEMINATION OF INFORMATION FROM THE PART 150 NOISE COMPATIBILITY STUDY PROCESS; PROVIDING FOR APPOINTMENT OF COMMITTEE MEMBERS; PROVIDING FOR MEETINGS; PROVIDING A SUNSET PROVISION, AND PROVIDING FOR SEVERABILITY AND AN EFFECTIVE DATE.

WHEREAS, Broward County ("County") owns and operates Fort Lauderdale-Hollywood International Airport ("Airport"); and

WHEREAS, the day-to-day maintenance and operation of the Airport has been delegated to the Broward County Aviation Department ("Aviation Department"); and

WHEREAS, on April 12, 2016, the Board of County Commissioners of Broward County, Florida ("Board") approved the award of an agreement ("Agreement") to Environmental Science Associates Corporation ("Consultant") for "FAR Part 150 Noise Compatibility Planning Consulting Services"; and

WHEREAS, the Agreement provides for consultant services to assist the Aviation Department in conducting a Part 150 Noise Compatibility Study for the Airport ("Part 150 Study"); and

WHEREAS, FAR Part 150 is the primary Federal regulation guiding and controlling planning for aviation noise compatibility on and around airports.

1 WHEREAS, the Part 150 Study will analyze existing and future Airport noise  
2 exposures, identify appropriate land uses surrounding the Airport, and recommend  
3 noise compatibility planning and programs consistent with Federal Aviation  
4 Administration (FAA) requirements and the Board's policy directives; and  
5

6 WHEREAS, the Board desires to establish a Part 150 Study Coordination  
7 Committee in order to provide a centralized process to facilitate dissemination and  
8 sharing of information that is developed during the Part 150 Study, NOW,  
9 THEREFORE,  
10

11 BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF  
12 BROWARD COUNTY, FLORIDA:  
13

14 Section 1. PART 150 STUDY COORDINATION COMMITTEE.

15 (a) Creation and Purpose of Committee. There is hereby created a  
16 committee to be known as the "Part 150 Study Coordination Committee" ("Committee").  
17 The Committee's purpose is to facilitate dissemination and sharing of information that is  
18 developed during the Part 150 Study process on a timely basis to the political  
19 subdivisions of the respective Committee members.

20 (b) Committee Meetings. The Aviation Department will brief and provide  
21 information to the Committee members regarding the progress of the Part 150 Study.  
22 Each Committee member will be expected to brief and distribute the received  
23 information to the governing body of such Committee member's political subdivision.  
24

1 (c) Public Meetings. Separate from any Committee meetings, there will be  
2 Part 150 Study meetings for public attendance, outreach briefings, and other public  
3 comment meetings throughout the progress of the Part 150 Study. The Committee  
4 members will be advised of such scheduled meetings, information that is disseminated,  
5 and progress of the Part 150 Study so the Committee members may inform their  
6 respective political subdivisions of same on a timely basis.

7 (d) Membership. The Committee will consist of nine (9) members. The chair  
8 of the Committee shall be appointed by the Board of County Commissioners. The  
9 remainder of the Committee will be made up of a representative and an alternate  
10 representative from each of the following political subdivisions:

- 11 (1) City of Fort Lauderdale
- 12 (2) City of Hollywood
- 13 (3) City of Dania Beach
- 14 (4) Town of Davie
- 15 (5) City of Plantation
- 16 (6) Town of Southwest Ranches
- 17 (7) City of Weston
- 18 (8) City of Cooper City

19 Each of the individual governing boards or councils of the above political subdivisions  
20 shall appoint residents of their political subdivisions to serve in the capacity of  
21 representative and alternate representative for the duration of the Committee. All  
22 appointments shall be "at will," and vacancies shall be filled in the same manner as the  
23 initial appointments.



1 (e) Removal of Members. By a majority vote, the Committee may request the  
2 appointing political subdivision to remove a member of the Committee who misses more  
3 than two (2) consecutive meetings or events without notifying the Committee.

4 (f) Organizational Issues. At any time after the initial meeting of the  
5 Committee, the Committee may adopt rules of procedure deemed necessary for the  
6 conduct of its business.

7 (g) Expenses and Staff Support. Members of the Committee shall serve  
8 without compensation. The Director of the Aviation Department may, on a discretionary  
9 basis, provide staffing to assist the Committee in the conduct of its business.

10 (h) Meetings. The Committee shall meet as needed.  
11

12 Section 2. SUNSET PROVISION.

13 The Committee shall sunset and shall cease to exist thirty (30) days after the  
14 conclusion of the FAA's 180-day review of the Airport's Noise Compatibility Program  
15 generated by the Part 150 Study process.  
16

17 Section 3. SEVERABILITY.

18 If any portion of this Resolution is determined by any Court to be invalid, the  
19 invalid portion shall be stricken, and such striking shall not affect the validity of the  
20 remainder of this Resolution. If any Court determines that this Resolution, or any  
21 portion hereof, cannot be legally applied to any individual(s), group(s), entity(ies),  
22 property(ies), or circumstance(s), such determination shall not affect the applicability  
23 hereof to any other individual, group, entity, property, or circumstance.  
24

1       Section 4.   EFFECTIVE DATE.

2       This Resolution shall become effective upon adoption.

3  
4       ADOPTED this \_\_\_\_ day of \_\_\_\_\_, 2016.

5  
6  
7       Approved as to form and legal sufficiency:  
8       Joni Armstrong Coffey, County Attorney

9       By /s/ Alexander J. Williams 09/02/16  
10       Alexander J. Williams       (date)  
11       Assistant County Attorney

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22   AJW/ch  
23   09/02/16  
24   150 Comm. Reso  
   16-008.00  
   #16-071.07

**Study Coordination Committee Briefing**  
**August 23, 2017**



# 14 CFR PART 150 NOISE AND LAND USE COMPATIBILITY STUDY

Study Coordination Committee  
Meeting #1  
August 23, 2017

## Presentation Outline

- Part 150 Study Overview
- Introduction to Aircraft Noise, Modeling, and Compatibility
- Airport Overview
- Public Outreach
- Technical Committee
- Frequently Asked Questions
- Project Schedule
- Questions from the SCC





# Part 150 Study Overview



## 14 CFR Part 150 Overview

- Interim Rule on Federal Aviation Regulations (FAR) Part 150, *Airport Noise Compatibility Planning* issued in 1981 and finalized in 1985, later recodified as Title 14 Code of Federal Regulations (CFR) Part 150
- Issued in response to provisions contained in the *Aviation Safety and Noise Abatement Act of 1979*
- Establishes the methodology to be followed when preparing aircraft noise exposure maps and developing airport/airport environs land use compatibility programs
- Part 150 studies are voluntary, but...
- Part 150 studies must adhere to 14 CFR Part 150 guidelines to be considered and accepted and approved by FAA



## Part 150 Study Overview

*The 14 CFR Part 150 process is the Airport Sponsor's mechanism to improve the compatibility between the Airport and surrounding communities*

### FLL's Part 150 Efforts Span 3 Decades



## Part 150 Study Overview

### Key Issues

- Operational Concerns
  - Opening of New Runway
  - Change in Operation of North Runway
  - Potential Changes Related to NextGen/Metroplex
- Ongoing Residential Sound Insulation Program
- Community Education
- Expectation Management

## Part 150 Study Overview

### Regulatory Framework

- **Federal law** sets aircraft noise standards, prescribes operating rules, establishes the compatibility planning process, and limits airport proprietor's ability to restrict aircraft operations.
- **State law** sets forth compatibility planning guidelines and noise standards but aircraft are exempt.
- **Local noise ordinances** set noise standards and provide for compatible land use planning but aircraft are exempt.

### Who Can Regulate Airport Noise?

- **Federal Aviation Administration:** (1) Controls aircraft while in flight; (2) Responsible for controlling noise at its source (i.e., aircraft engines); (3) Certifies aircraft and pilots.
- **Airport Proprietors/BCAD:** (1) Very limited authority to adopt local restrictions; (2) Responsible for capital improvement projects and infrastructure.
- **Local Governments and States:** (1) Promote compatible land use through zoning; (2) Require real estate disclosure; (3) Mandate sound-insulating building materials.

**FEDERAL LAW PREEMPTS STATE AND LOCAL REGULATIONS**



## Part 150 Study Overview

### Analyze, Evaluate, Educate

- Determine existing and future noise conditions in the vicinity of an airport
- Identify incompatible uses
- Identify measures to improve compatibility
  - Evaluate the feasibility of possible flight procedure/land use changes
  - Submit locally-endorsed recommendations to the FAA regarding noise reduction measures
  - Approved measures may be eligible for Federal grant funding
- Educate communities on the Federal process and what can and cannot be done to address aircraft noise concerns

**Part 150 Studies Must Adhere to 14 CFR Part 150  
Guidelines to be Accepted and Approved by FAA**



## Part 150 Study Overview

### Noise Exposure Map Report (NEM)

- Develop a comprehensive database of current conditions
- Noise contour development and impact analysis
- Prepare and submit Noise Exposure Map (NEM) Report

### Noise Compatibility Program (NCP)

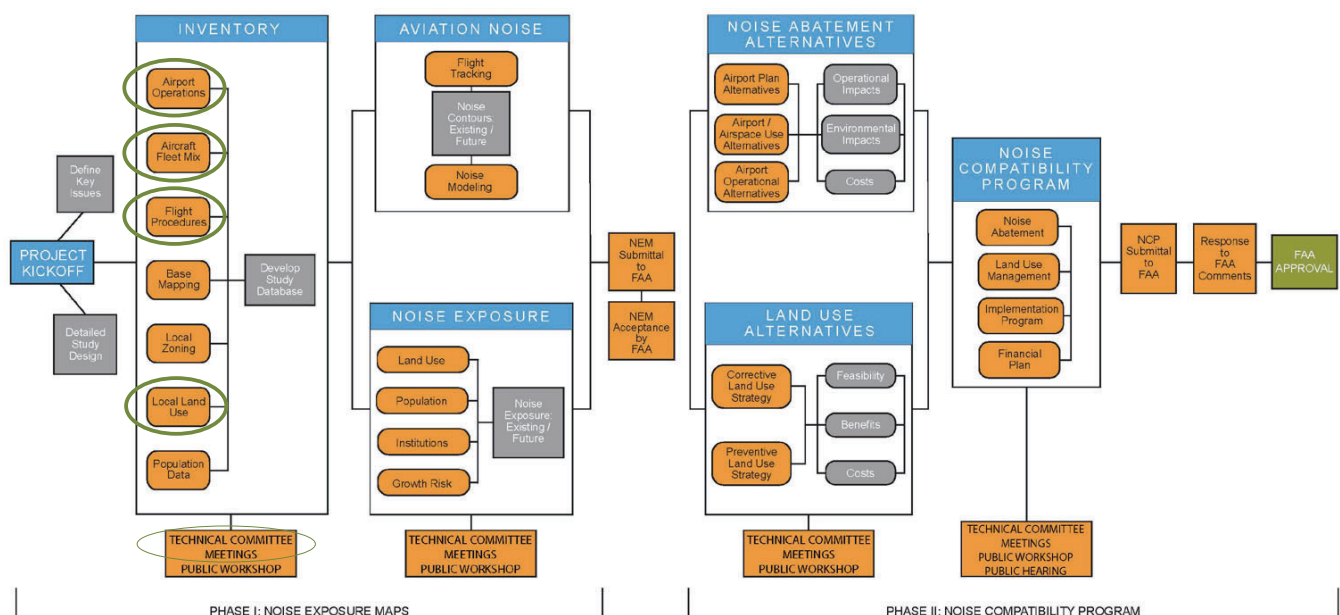
- Identify and evaluate noise abatement alternatives
- Identify and evaluate compatible land use alternatives
- Identify and evaluate administrative measures
- Prepare and submit Noise Compatibility Program (NCP) Report

### Stakeholder Outreach Program

- Local Jurisdictions/Agencies
- FAA
- Public



## Part 150 Study Overview – General Study Process



#### Other Milestones:

- BCAD Initiation of a Study Coordination Committee in Fall 2016
- FAA Approval of the FLL Part 150 Study Forecast on April 10, 2017
- Website launched on May 3, 2017



# Noise, Modeling and Compatibility



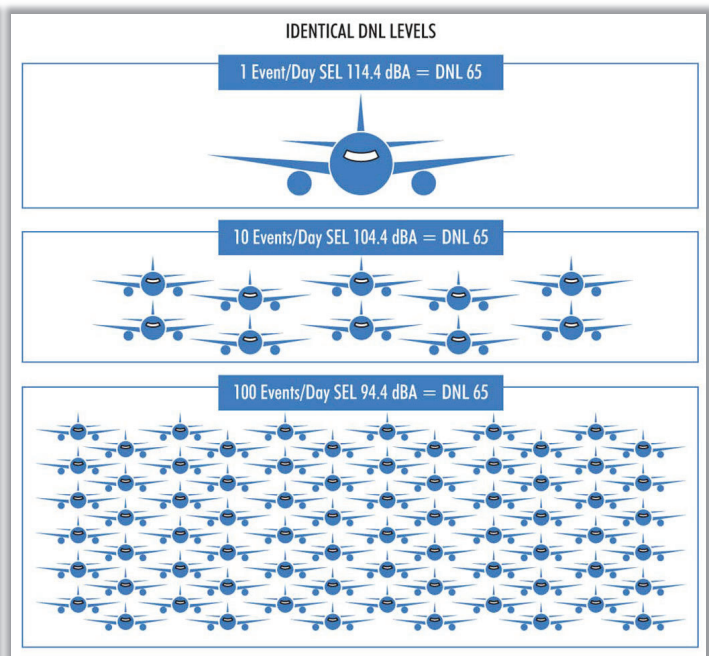
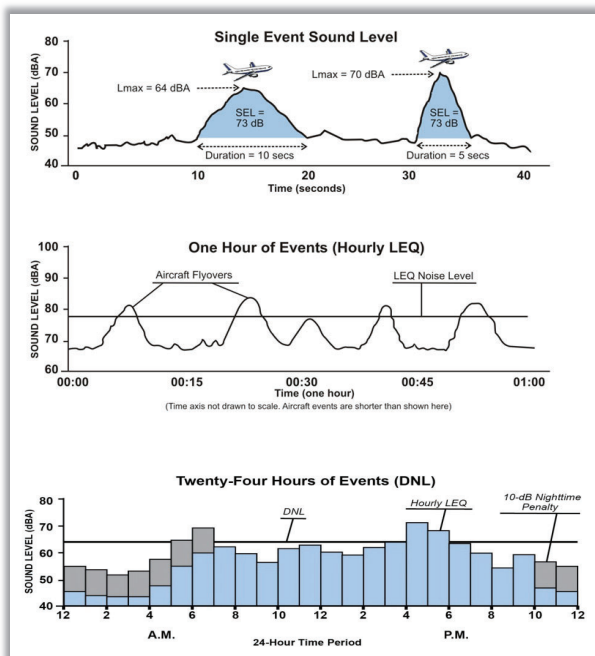
## Introduction to Aircraft Noise - DNL

### Day-Night Average Sound Level (DNL)

- 24-hour time weighted energy average noise level based on A-weighted decibels (dBA)
- Noise occurring between 10 p.m. to 7 a.m. is penalized by 10 dB to account for the higher sensitivity to noise during nighttime hours and for the expected further decrease in background levels that typically occur in the nighttime
- FAA requires the use of DNL for airport noise assessments
- Average Annual Day aircraft noise exposure is calculated over a broad area and then depicted using contour lines of equal noise levels



# Introduction to Aircraft Noise - DNL



## Part 150 Study Overview – Modeling

### Noise Modeling

- Aircraft noise modeling allows:
  - Calculation of noise exposure at any point
  - Depicting annual average aircraft noise exposure
  - Predicting future aircraft noise exposure
  - Assessing changes in noise impacts resulting from runway configuration changes or new runways
  - Assessing changes in fleet mix and/or number of operations
  - Evaluating operational procedures
- Aviation Environmental Design Tool (AEDT) replaced the Integrated Noise Model (INM) when it was released in 2015. The current version, AEDT 2C, will be used for the FLL Part 150 Study.

## Part 150 Study Overview – Modeling

### Model Inputs

- The Amount of Noise Exposure is determined by:
  - Aircraft types
  - Stage length
  - Number of average annual day operations
  - Nighttime weighting (1 nighttime operation = 10 daytime operations)
- The Noise Exposure Distribution is determined by:
  - Runway configuration and use
  - Flight track locations
  - Flight track use
- Other Factors
  - Meteorological Conditions
  - Terrain



**Aviation Environmental  
Design Tool (AEDT)  
Version 2C**



## Part 150 Study Overview – Land Use Compatibility

### Land Uses

- Existing and Future Land Use
- Land parcel data
- Zoning
- Jurisdictional boundaries and neighborhoods

### Noise Sensitive Uses

- Residential
- Places of worship
- Schools, colleges and universities
- Libraries/cultural institutions
- Hospitals and residential healthcare facilities
- Daycare and assisted living facilities
- Historic properties



## Part 150 Study Overview - Land Use Compatibility

### Land Use Compatibility

- Table 1 in Appendix A of 14 CFR Part 150 provides noise and land use compatibility guidelines
- Deems levels below 65 dB DNL to be compatible with all land uses
- Allows for the adoption of appropriate local land use standards for land use compatibility planning purposes

*The 14 CFR Part 150 process is the Airport Sponsor's mechanism to improve the compatibility between the Airport and surrounding communities*

Land Use	Yearly Day-Night Noise Level (DNL) in decibels					
	Below 65	65-70	70-75	75-80	80-85	Over 85
<b>Residential</b>						
Residential, other than mobile homes and transient lodgings	Y	N(1)	N(1)	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N(1)	N(1)	N(1)	N	N
<b>Public Use</b>						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums and concert halls	Y	25	30	N	N	N
Governmental services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
<b>Commercial Use</b>						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail building materials, hardware and farm equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail trade-general	Y	Y	25	30	N	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N
<b>Manufacturing and Production</b>						
Manufacturing-general	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming and breeding	Y	Y(6)	Y(7)	N	N	N
Mining and fishing resource production and extraction	Y	Y	Y	Y	Y	Y
<b>Recreational</b>						
Outdoor sports arenas and spectator sports	Y	Y(5)	Y(5)	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts and camps	Y	Y	Y	N	N	N
Golf courses, riding stables and water recreation	Y	Y	25	30	N	N

Numbers in parentheses refer to notes.

\*The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

**Key to Table 1**

SLUCM	Standard Land Use Coding Manual.
Y(Yes)	Land Use and related structures compatible without restrictions.
N(No)	Land Use and related structures are not compatible and should be prohibited.
NLR	Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30 or 35	Land Use and related structures generally compatible: measures to achieve NLR of 25, 30 or 35 dB must be incorporated into design and construction of structure.

**Notes**

(1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB to 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10 or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.	(3) Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
(2) Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.	(4) Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
(5) Land use compatible provided that special sound reinforcement systems are installed.	(6) Residential buildings require an NLR of 25.
(6) Residential buildings require an NLR of 25.	(7) Residential buildings require an NLR of 30.
(7) Residential buildings require an NLR of 30.	(8) Residential buildings not permitted.



## Airport Overview



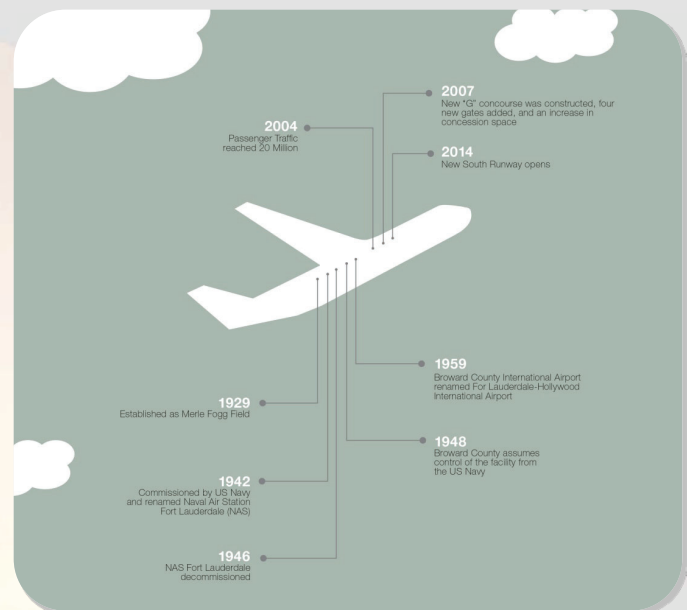


## FLL Overview



## FLL Overview

- FLL is 21st in the U.S. in total passenger traffic and 13th in domestic origin and destination passengers
- Each day an average of 80,000 travelers pass through FLL
- The new South Runway opened in September 2014
- Nonstop flights to over 100 U.S. and international cities
- 139,920 total jobs (direct, indirect, and induced)



# Data Collection - 2016 Operational Information

## Annual Aircraft Operations

Date	Air Carrier	Air Taxi	General Aviation	Military	Total
January 2016	19,945	2,849	3,377	39	26,210
February 2016	19,026	2,711	3,188	49	24,974
March 2016	21,120	3,343	3,948	55	28,466
April 2016	18,871	3,203	3,334	52	25,460
May 2016	17,807	3,031	2,884	106	23,828
June 2016	17,461	2,704	2,672	47	22,884
July 2016	17,853	2,818	2,781	42	23,494
August 2016	17,382	2,586	2,551	73	22,592
September 2016	15,224	2,203	2,267	55	19,749
October 2016	15,498	2,182	2,622	45	20,347
November 2016	18,378	2,599	3,450	50	24,477
December 2016	21,455	2,832	3,437	34	27,758
<b>Total</b>	<b>220,020</b>	<b>33,061</b>	<b>36,511</b>	<b>647</b>	<b>290,239</b>

Source: FAA Air Traffic Activity Data System (ATADS), 2016.

## Aircraft Activity Forecast

### FAA Forecast Approval:

- FAA approved use of Master Plan Update (MPU) Accelerated Baseline Forecast for the FLL 14 CFR Part 150 Study

Fiscal Year	FAA TAF	MPU Accelerated Baseline Forecasts
2017	304,590	329,300
2018	311,559	335,000
2023	343,194	364,765

Sources: FAA, Terminal Area Forecasts, 2017, Ricondo & Associates, Inc., 2016



U.S. Department  
of Transportation  
Federal Aviation  
Administration

**ORLANDO AIRPORTS DISTRICT OFFICE**  
5950 Hazeltine National Drive  
Suite 400  
Orlando, FL 32822  
Phone: (407) 812-6331 Fax: (407) 812-6978

April 10, 2017

Mr. William Castillo  
Airport Planning Manager  
Broward County Aviation Department  
2200 SW 45<sup>th</sup> Street, Suite 101  
Dania Beach, Florida 33312

Dear Mr. Castillo:

RE: Fort Lauderdale-Hollywood International Airport, Fort Lauderdale, FL  
Approval of Forecast for use in the 14 CFR Part 150 Study

This letter responds to your request for approval to use the Accelerated Baseline Forecasts for the purposes of the 14 Code of Federal Regulations (CFR) Part 150 Study for the Fort Lauderdale-Hollywood International Airport (FLL).

On January 13, 2017, the Federal Aviation Administration (FAA) approved the Baseline Forecast for FLL and accepted the Accelerated Baseline Forecast prepared in the Master Plan Update for sensitivity purposes and for the purpose of establishing facility requirements.

The FAA notes that the Accelerated Baseline Forecast varies less than 10 percent in the 5 year period and 15 percent in the 10 year period from the FAA's 2016 Terminal Area Forecast (TAF) published in January, 2017.

The FAA has determined that the Accelerated Baseline Forecast is consistent with the FAA's most recent TAF for FLL, and therefore, we approve the use of the Accelerated Baseline Forecast for the ongoing FLL Part 150 Study.

If you have any questions, please feel free to contact me at (407) 812-6331, ext. 130.

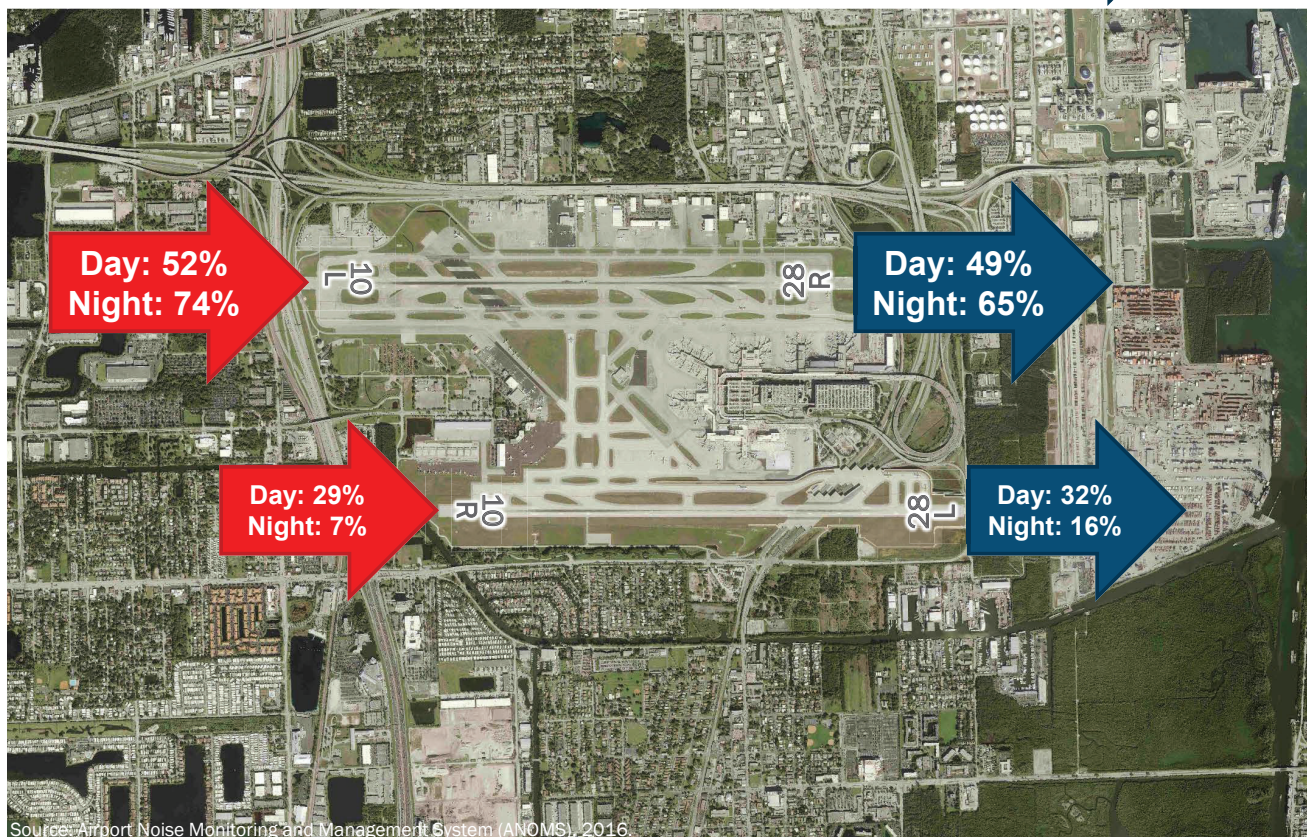
Sincerely,

Allan M. Nagy  
FAA Orlando ADO Environmental Program Specialist

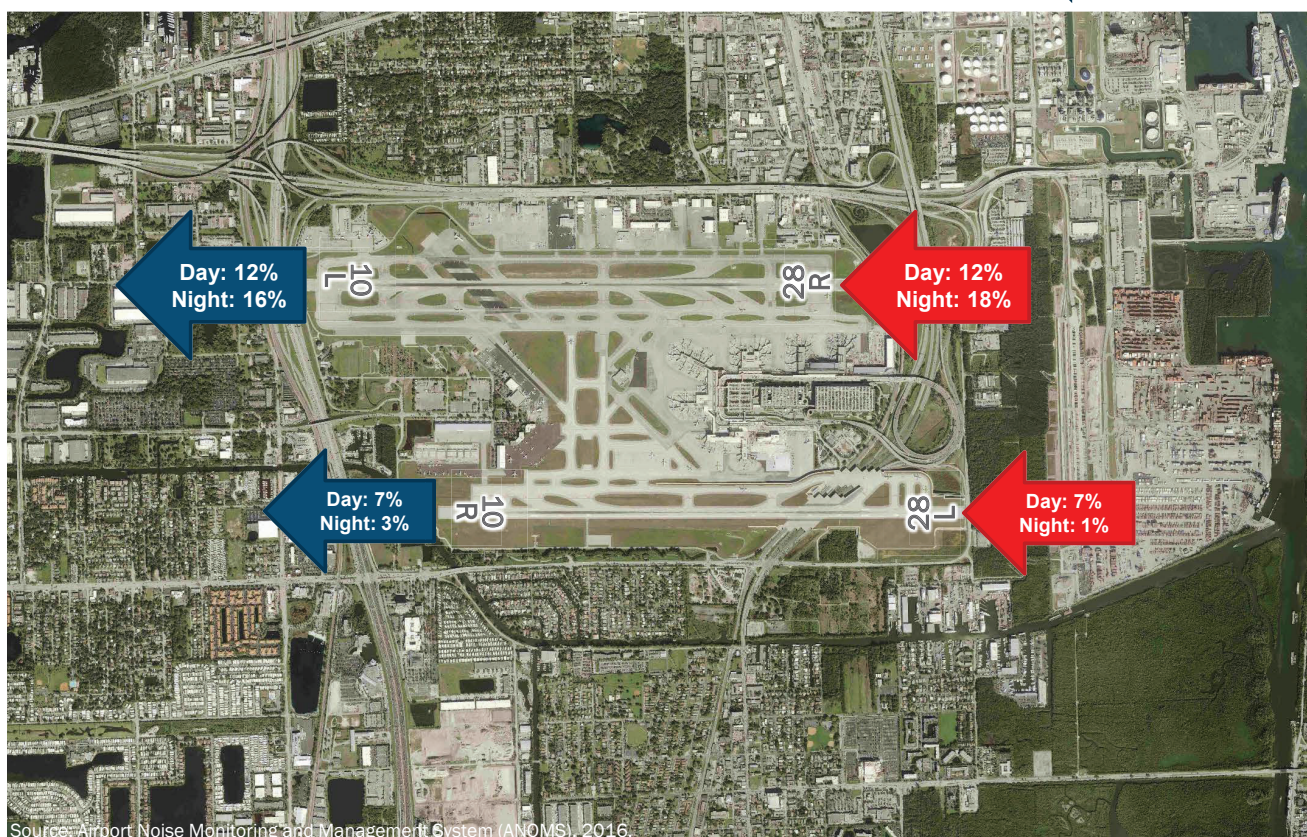
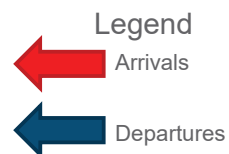




## Runway Use – East Flow



## Runway Use – West Flow





## Runway Use

### Daytime and Nighttime Operations

Operation Type	Day	Night	Grand Total
Arrivals	84%	16%	100%
Departures	90%	10%	100%
<b>Grand Total</b>	<b>87%</b>	<b>13%</b>	<b>100%</b>

Source: Airport Noise Monitoring and Management System (ANOMS), 2016.

### Runway Usage

Operation Type	Runway	Day	Night	Grand Total
Arrivals	North Runway			
	10L	52%	74%	55%
	28R	12%	18%	13%
	<b>Total</b>	<b>64%</b>	<b>92%</b>	<b>68%</b>
	South Runway			
	10R	29%	7%	26%
	28L	7%	1%	6%
	<b>Total</b>	<b>36%</b>	<b>8%</b>	<b>32%</b>
Departures	North Runway			
	10L	49%	65%	51%
	28R	12%	16%	13%
	<b>Total</b>	<b>61%</b>	<b>81%</b>	<b>64%</b>
	South Runway			
	10R	32%	16%	30%
	28L	7%	3%	6%
	<b>Total</b>	<b>39%</b>	<b>19%</b>	<b>36%</b>

## Public Outreach

### Public Outreach

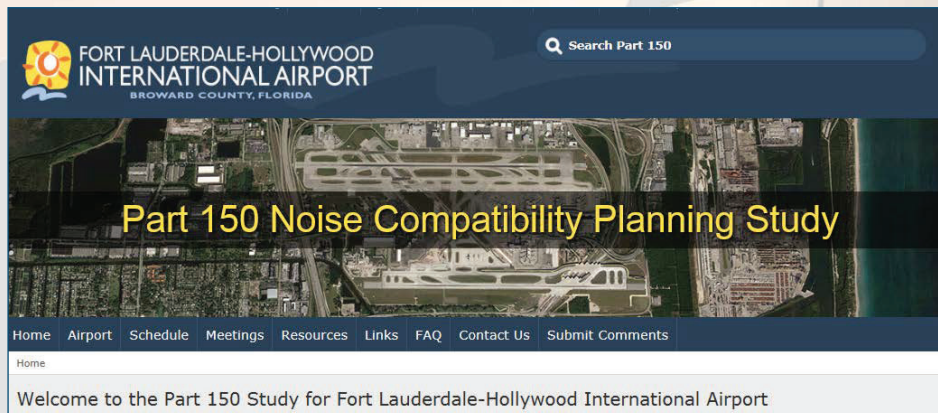
- Initial Coordination with Nearby Jurisdictions
  - 8 meetings to present project and solicit TC members
- Initial Kickoff Public Workshops
  - 5 informal workshops over 4-5 consecutive days
- NEM Public Workshop
  - Single large venue informal workshop
- Newsletter (6)
- NCP Public Workshop/Hearing
  - Single large venue informal workshop followed by formal hearing



### Study Website

#### Project Website – [www.fllpart150.com](http://www.fllpart150.com)

- Project information
- Notification of upcoming meetings
- Comment mechanism
- Links to other websites





# Technical Committee



## TC Members

- BCAD
- ANAC
- Southwest Airlines
- Delta Airlines
- JetBlue
- Spirit Airlines
- FedEx\*
- UPS
- NBAA
- Greater Fort Lauderdale Chamber of Commerce
- Greater Hollywood Chamber of Commerce
- Greater Dania Beach Chamber of Commerce
- Greater Fort Lauderdale Alliance Economic Development Agency
- Broward Workshop
- City of Dania Beach
- City of Fort Lauderdale
- City of Hollywood
- Town of Davie
- City of Plantation
- City of Cooper City
- Town of Southwest Ranches
- City of Weston
- Broward County Planning and Development Management Division\*
- Broward County School Board
- FAA - Orlando Airports District Office
- Miami Air Traffic Management/TRACON
- FLL Airport Traffic Control Tower
- South Florida Flight Standards Division (FSDO)

\*Participation in the Technical Committee not yet confirmed.



## Purpose and Objectives of the TC

- TC members represent the interests of their organization and/or constituents
- The TC's role is to support the FLL Part 150 Study
  - Review study assumptions
  - Provide technical feedback within the context of the Part 150 Study (noise exposure maps and noise compatibility program)
  - TC members are encouraged to express their opinions and expected to respect the range of opinions expressed by their fellow TC members
- TC members are also expected to advise their organization and/or constituents of the TC's discussions
- BCAD will respect and consider the TC's technical input, but retains responsibility for, and decision making authority on, the FLL Part 150 Study
- TC meetings will be open to the public, subject to space availability



## Frequently Asked Questions



### Frequently Asked Questions

- Will the study “fix” all the noise issues around the airport?
  - No, overflights of residential areas are unavoidable and sensitivity to noise varies by person
- What type of noise monitoring will be conducted as part of the study?
  - None, all analysis is modeling based which allows consistency, prediction of noise levels where there are no monitors and evaluation of future conditions
- Will the Study address concerns about safety, soot, or other concerns related to aircraft operation?
  - The Part 150 process focusses exclusively on noise and land use compatibility

Additional Frequently Asked Questions are available on  
[www.flpart150.com/faq](http://www.flpart150.com/faq)



### Project Schedule



## Preliminary Study Schedule

### Noise Exposure Maps

- Data Collection
- Public Outreach
- Noise Modeling
- NEM Report/FAA Acceptance

Summer 2016-Winter 2017

Fall 2017

Fall-Winter 2017

Summer-Winter 2018

### Noise Compatibility Program

- Alternatives Analysis
- NCP Report
- Public Hearing
- FAA 180 Day Review/ROA

Summer-Winter 2018

Spring-Summer 2019

Summer 2019

Winter 2019-Summer 2020



## Future Meetings

### Technical Committee

- TC Meeting #3 (Tentative)
- TC Meeting #4 (Tentative)

November 2017

January/February 2018

### Public Workshops

- Overview of Part 150 Process

TBD

TC and Public Workshop materials will be available on the project website immediately following each meeting  
[www.fllpart150.com](http://www.fllpart150.com)



# Questions from SCC Representatives