



14 CFR PART 150 NOISE AND LAND USE COMPATIBILITY STUDY


Technical Committee Meeting #4
November 7, 2018



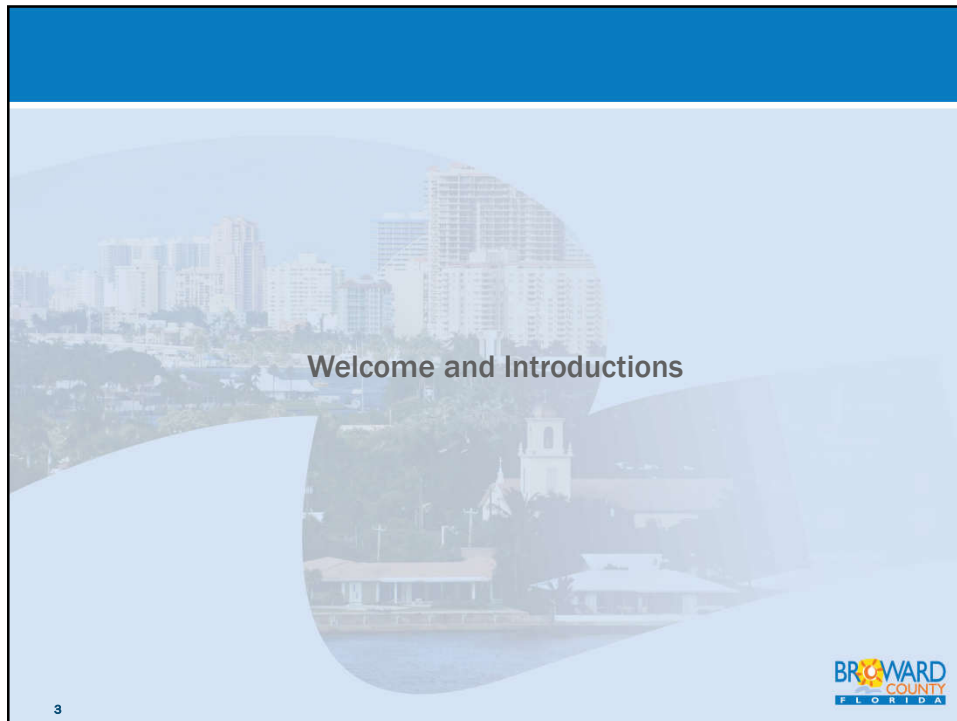
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Agenda

- Introductions
- Review of the Role of the TC Meeting Facilitator
- Review of Prior TC Meetings
- 2018 Noise Exposure Assumptions and Contours
- 2023 Noise Exposure Assumptions and Contours
- Noncompatible Land Use Analysis
- Noise Compatibility Program Overview
- Future TC Meetings
- Questions from TC Members



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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

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TC Members

- BCAD
- ANAC
- Southwest Airlines
- Delta Airlines
- JetBlue
- Spirit Airlines
- UPS
- NBAA
- Greater Fort Lauderdale Chamber of Commerce
- Greater Hollywood Chamber of Commerce
- Greater Fort Lauderdale Alliance
- 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 School Board
- FAA - Orlando Airports District Office
- Miami Air Traffic Management/TRACON
- FLL Airport Traffic Control Tower
- South Florida Flight Standards Division (FSDO)

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Role of the Meeting Facilitator

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Role of the TC Meeting Facilitator

- To ensure that the TC meetings are effective they will be facilitated by a professional meeting facilitator
- The meeting facilitator is responsible for ensuring that the TC meetings adhere to the published meeting agenda
- The meeting facilitator may extend or shorten the length of a discussion related to an agenda item at his or her sole discretion
- The meeting facilitator, or BCAD, may cancel or suspend a TC meeting due to disrespectful or disruptive behavior
- TC meetings will be open to the public, subject to space availability



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Prior Technical Committee Meetings

TC #1 – May 26, 2017

- Purpose and Objectives of the Technical Committee
- Airport Overview
- Part 150 Study Overview
- Introduction to Aircraft Noise, Modeling, and Compatibility
- Initial Data Collection
- Project Schedule

TC #2 – August 23, 2017

- Data collection process and status
- AEDT Model inputs
- Aircraft Activity Forecast
- Runway Use
- Flight Track Methodology



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Prior Technical Committee Meetings

TC #3 – March 7, 2018

- Public Workshop Summary
- Land Use Data Collection
- Aircraft Activity
- Runway Use
- Flight Track Analysis
- Modeling Assumptions



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2018 ASSUMPTIONS AND RESULTS



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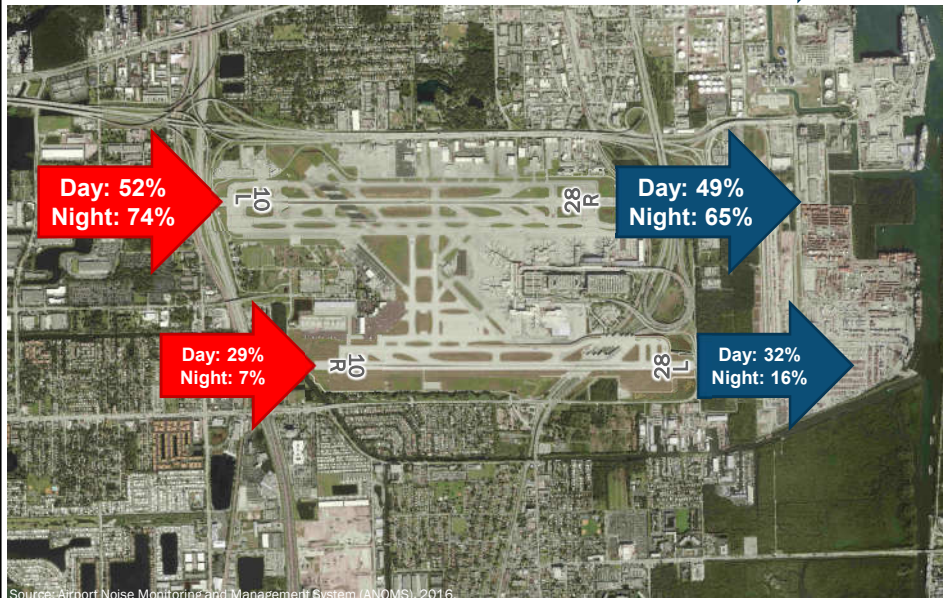
2018 Baseline Contour Assumptions

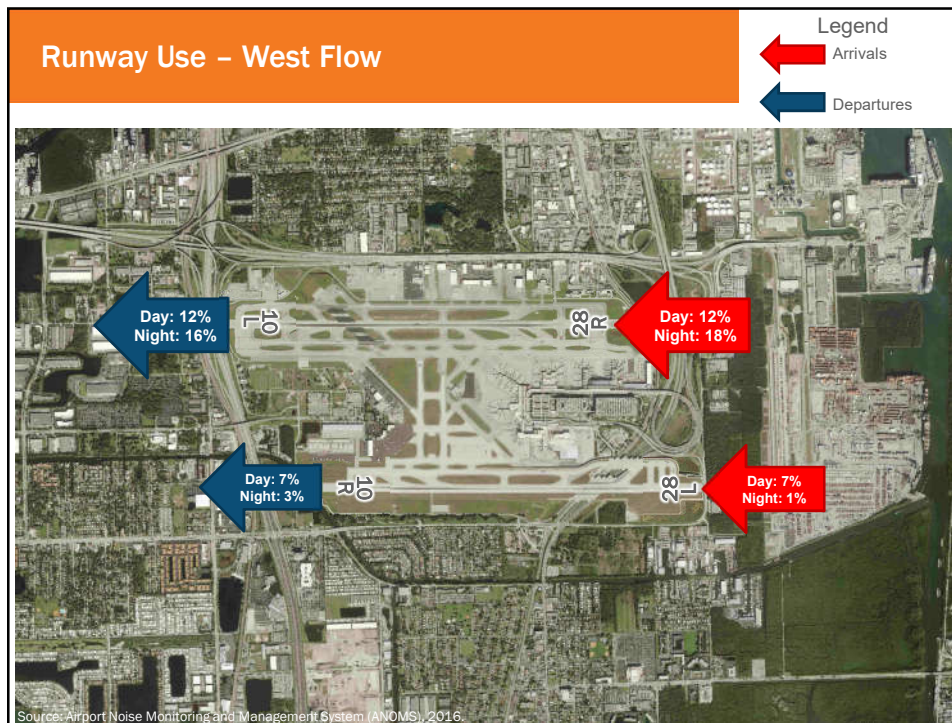
- 2018 Total Aircraft Operations: 335,000 (Master Plan Update)
- 2016 Airport Noise and Operations Monitoring System (ANOMS) data for fleet mix, runway utilization, and day / night
- 2016 ANOMS Radar data used to develop flight tracks and assign flight track utilization by aircraft category
- 10-Year Average Meteorological Data (AEDT, NOAA NCDC)
- National Elevation Dataset (NED) terrain data (USGS)

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Runway Use – East Flow





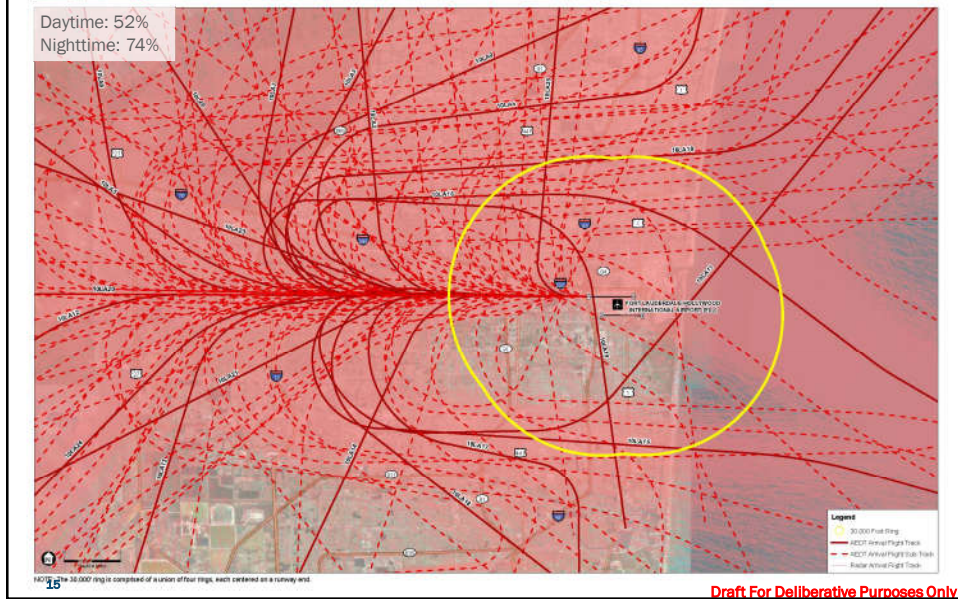
Baseline Condition Runway Use

Runway Usage

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

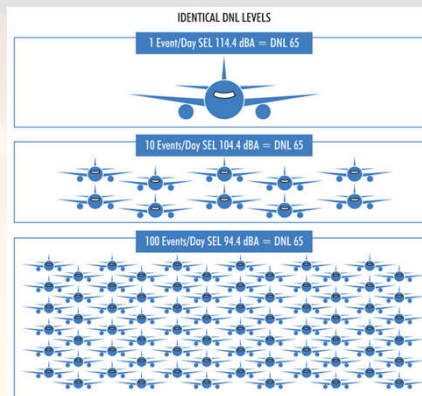
Source: Airport Noise Monitoring and Management System (ANOMS), 2016.

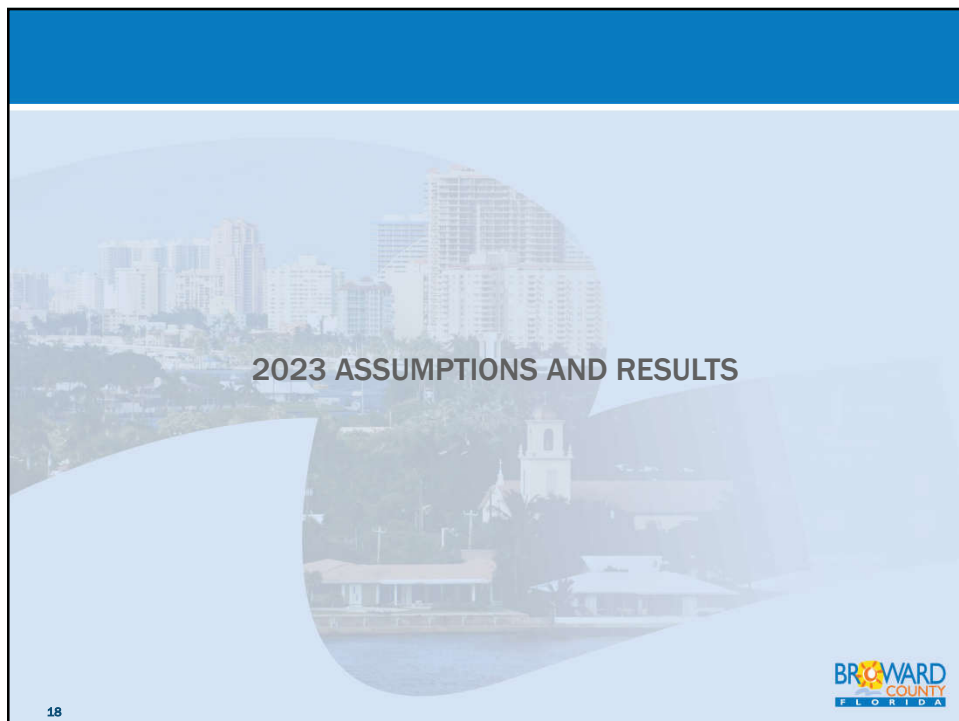
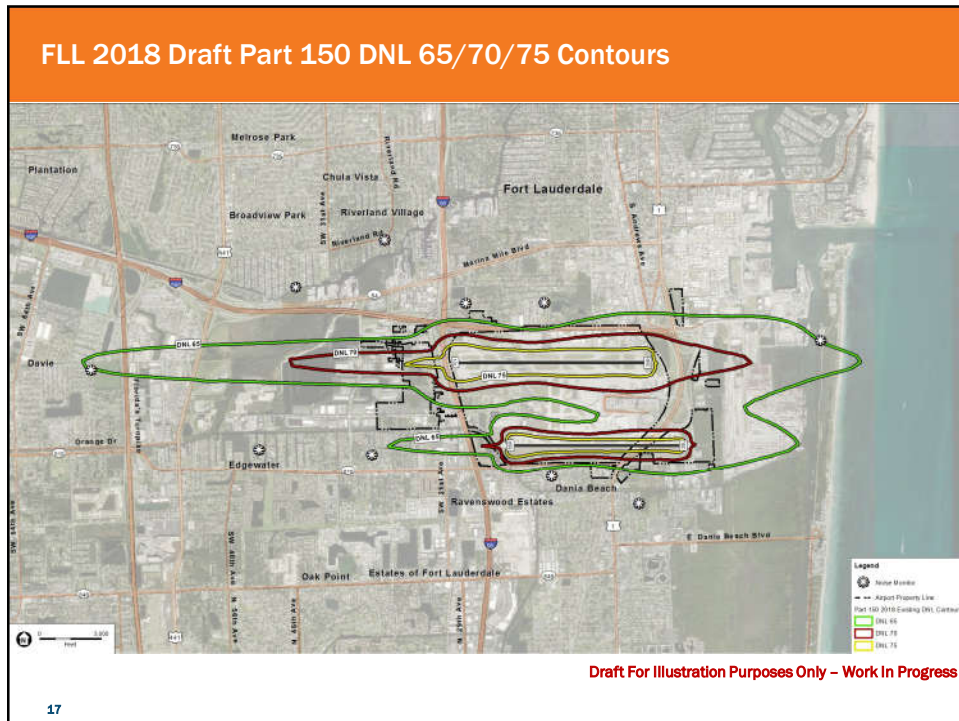
10L Arrival Flight Tracks: 55% of All Arrivals (SAMPLE)



Aircraft Noise - 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





2023 Future Condition Contour Assumptions

- 2023 Total Aircraft Operations: 364,765 (Master Plan Update)
- 2016 ANOMS Radar data used to develop flight tracks and assign flight track utilization by aircraft category and day/night utilization
- Master Plan Update used for fleet mix and operations
- Runway utilization used information from the Master Plan Update, Air Traffic Control Tower meetings, future airline/gate assignments, and internal analysis
- 10-Year Average Meteorological Data (AEDT, NOAA NCDC)
- National Elevation Dataset (NED) terrain data (USGS)



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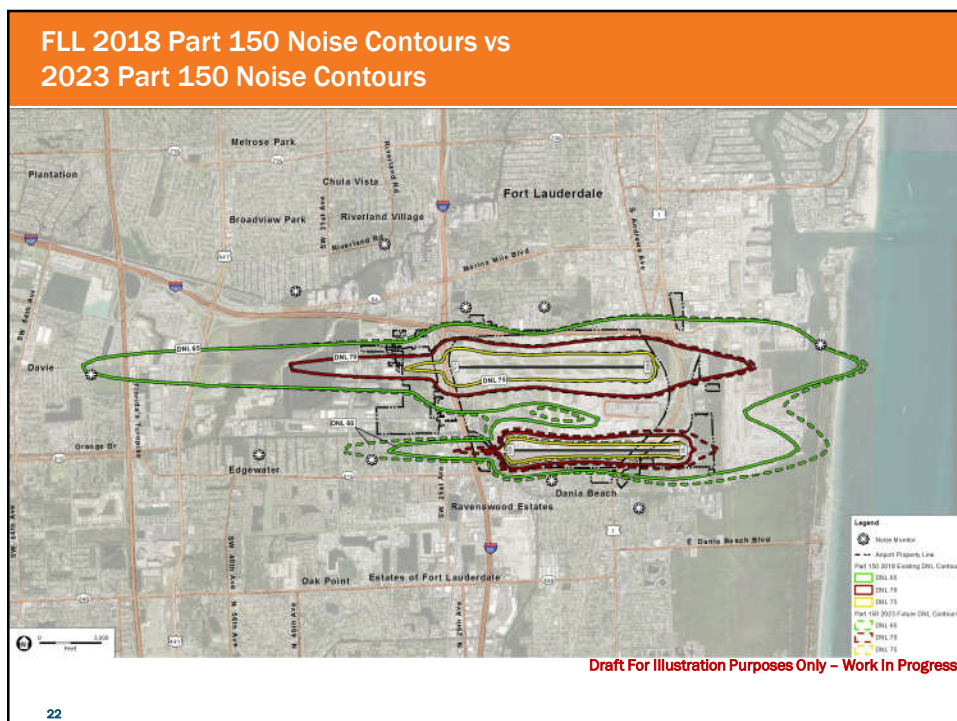
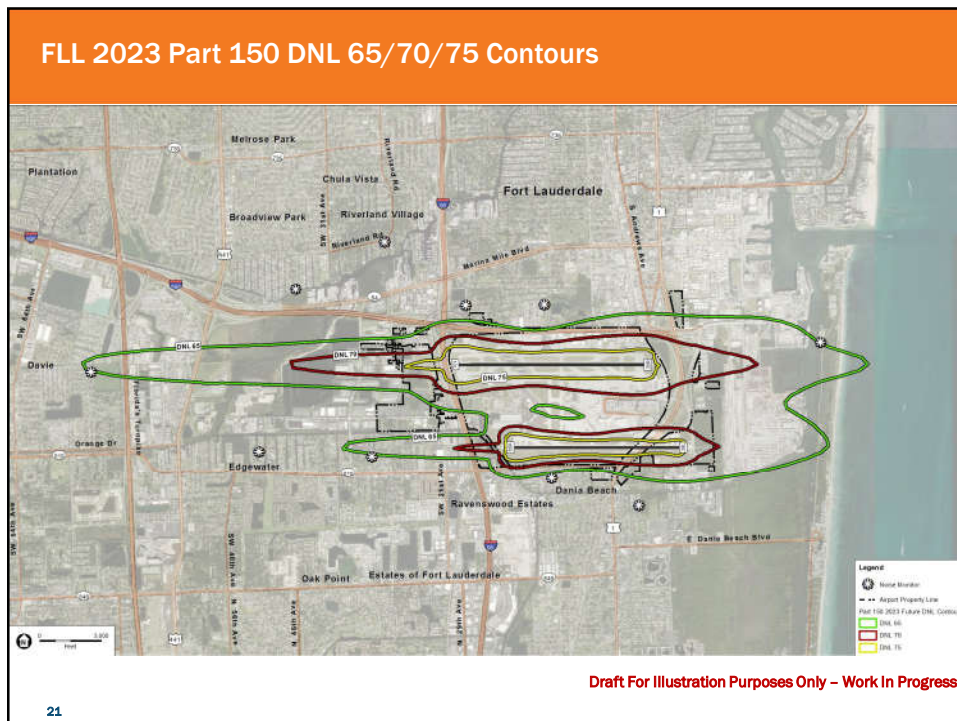
2023 Part 150 Runway Use

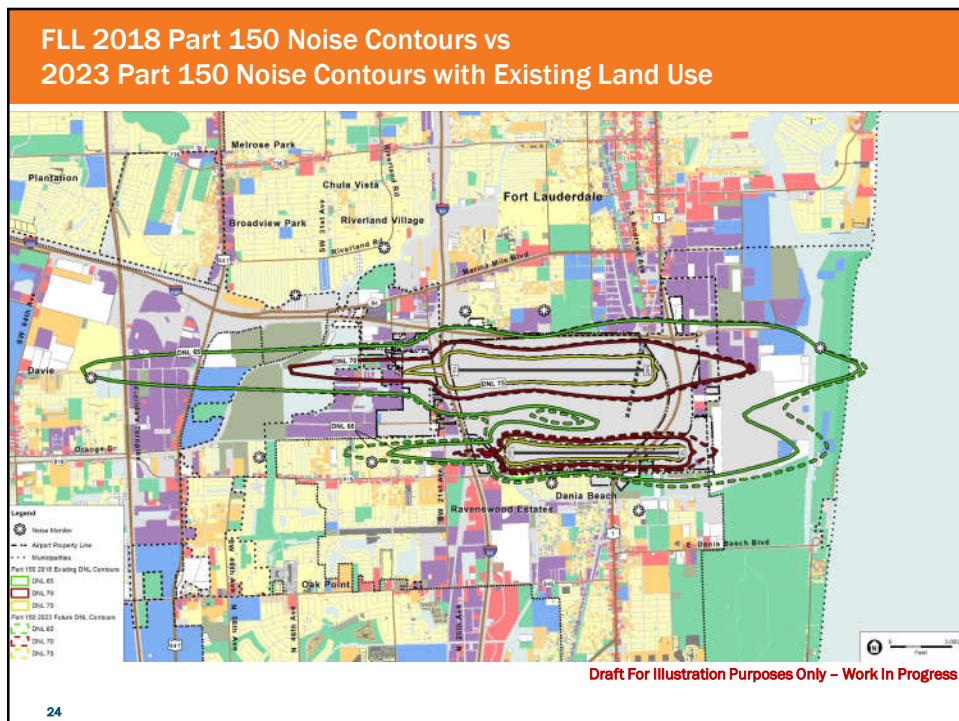
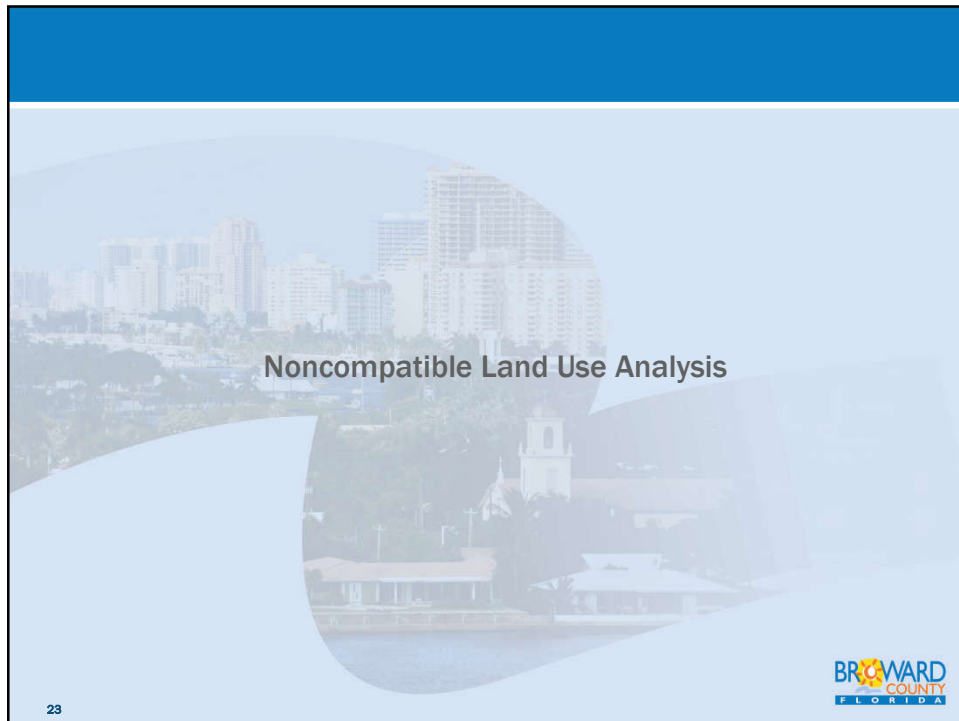
Runway Usage

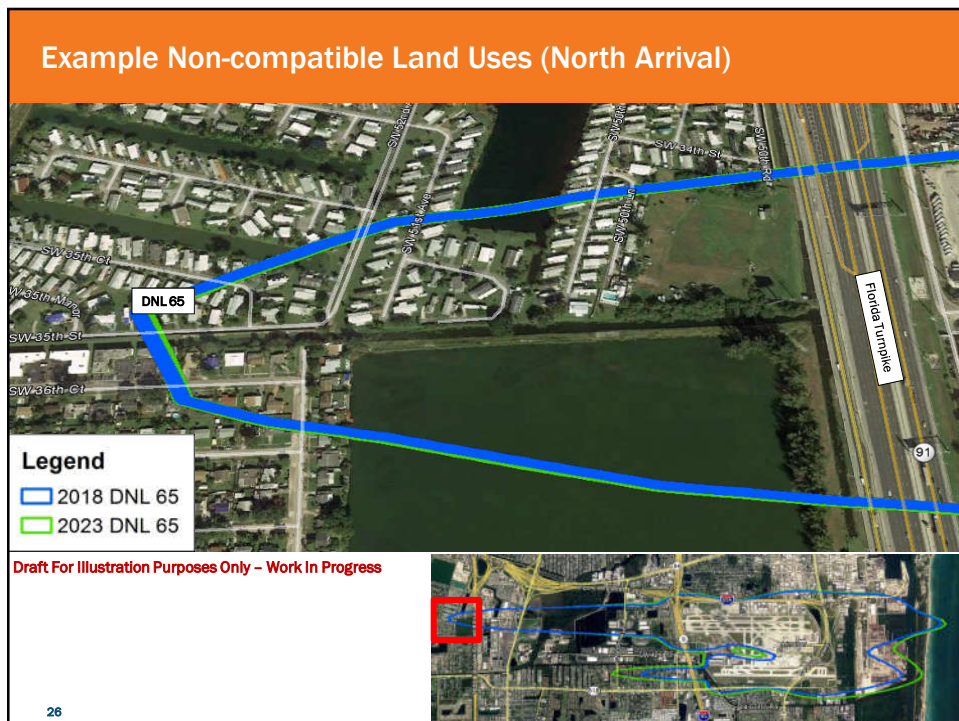
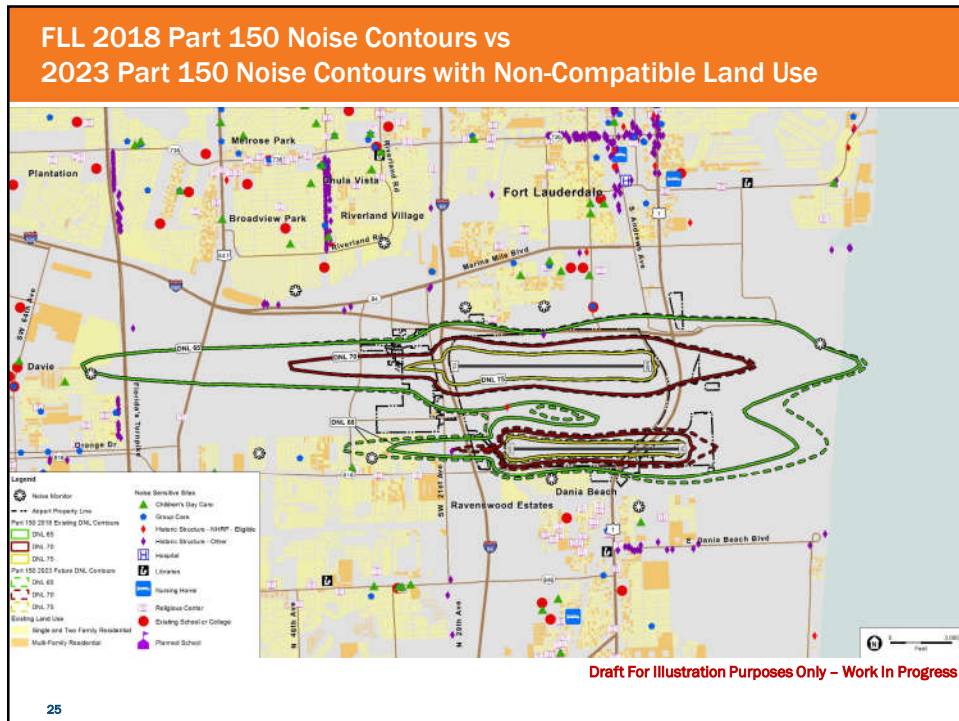
Operation Type	Runway	Day	Night	Grand Total
Arrivals	North Runway			
	10L	49%	66%	52%
	28R	12%	12%	13%
	Total	62%	84%	65%
	South Runway			
	10R	31%	15%	29%
	28L	7%	1%	6%
	Total	38%	16%	35%
Departures	North Runway			
	10L	44%	59%	46%
	28R	14%	18%	14%
	Total	58%	77%	60%
	South Runway			
	10R	37%	21%	35%
	28L	5%	3%	5%
	Total	42%	23%	40%

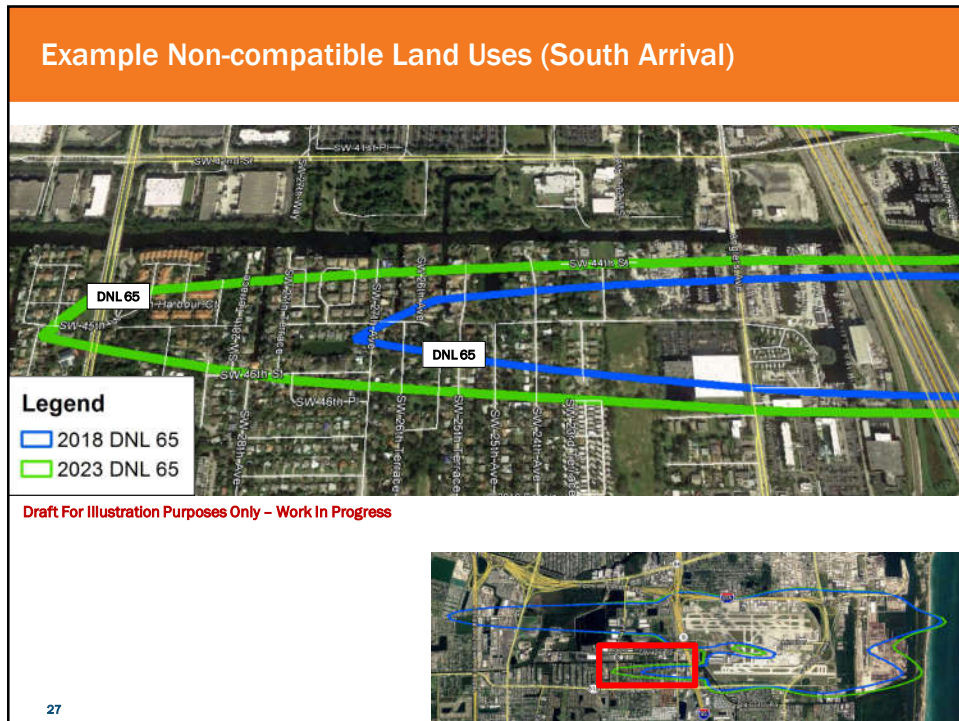
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2018 and 2023 Summary of Noise Sensitive Uses

Noise Sensitive Sites Exposed to DNL 65 and Higher				
Noise Level ¹	Total Area (Acres)	Housing Units ²	Population ²	Historic Resources
2018				
DNL 65-70	2,276.00	203	430	3
DNL 70-75	710.1	0	0	0
DNL 75+	459.6	0	0	0
Total	3,445.70	203	430	3
2023				
DNL 65-70	2,579.00	492	1,073	3
DNL 70-75	805.7	0	0	0
DNL 75+	503.3	0	0	0
Total	3,888.00	492	1,073	3

SOURCES:

¹ Noise contours from Environmental Science Associates (ESA)

² Housing units and population estimates derived from 2010 Census block-level data.

³ Public school data from Broward County Public Schools; private schools from Florida Geographic Data Library (FGDL).

⁴ All other noise sensitive site data from Florida Geographic Data Library (FGDL).

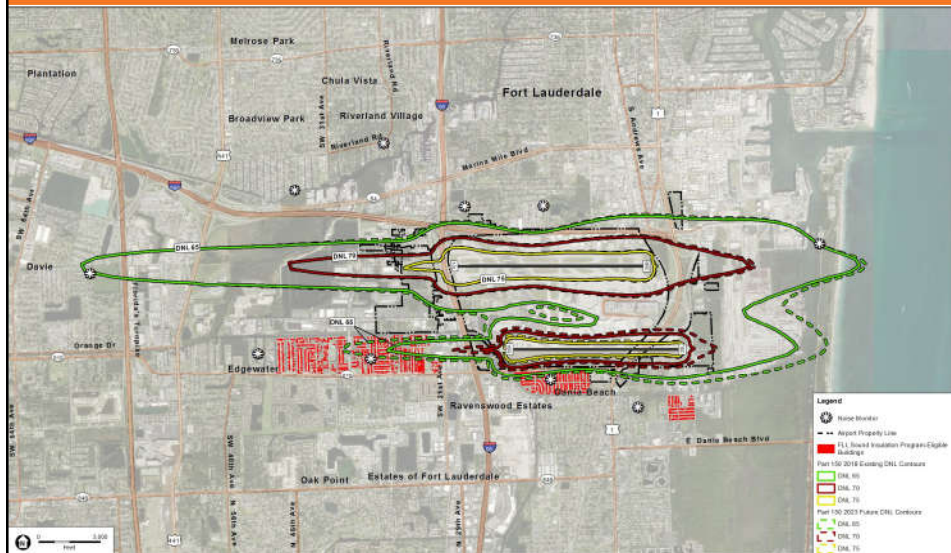
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No Other Noise Sensitive Sites within DNL 65:

- Schools
- Hospitals
- Religious Facilities
- Day Cares
- Nursing Homes/ Group Care
- Libraries

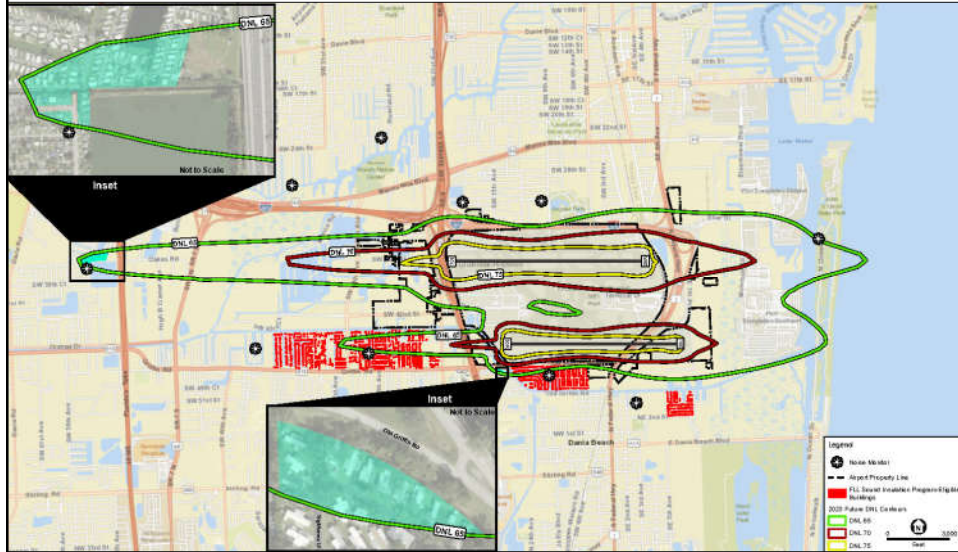


FLL 2018 & 2023 Part 150 Noise Contours with Sound Insulation Program



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FLL 2018 & 2023 Part 150 Noise Contours with Sound Insulation Program



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2018 and 2023 Non-Mitigated Residential Land Uses

HOUSING UNITS NOT IN CURRENT FLL SOUND INSULATION PROGRAM ¹		
Noise Level ²	Housing Units Outside SIP ³	Housing Units within SIP ¹
2018		
DNL 65-70	89	114
DNL 70+	0	0
TOTAL:	89	114
2023		
DNL 65-70	105	387
DNL 70+	0	0
TOTAL:	105	387

SOURCES:

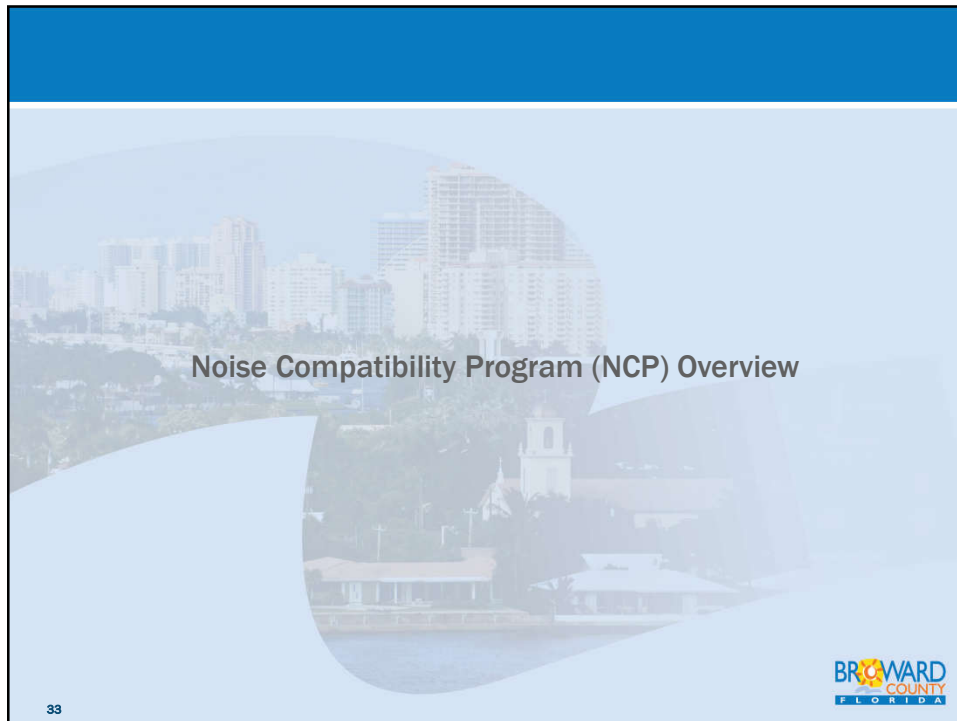
¹ FLL Sound Insulation Program housing unit data from Broward County Aviation Department

² Noise contours from Environmental Science Associates (ESA)

³ Housing units derived from 2010 Census block-level data.

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Required Elements of an NCP

- The NCP explores operational, land use, and administrative measures to minimize aircraft noise exposure
- The FAA reviews entire NCP for completeness
 - Technical, policy, effectiveness review
- The NCP Report must include a provision for revising the NCP if made necessary by a revision of the Noise Exposure Map
- FAA has 180 days to review the NCP
- During its review, the FAA will respond as follows for each measure:
 - Approved
 - Disapproved
 - Approved or disapproved in part
 - No action (only relevant for NCP measures involving flight procedures)

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Major NCP Strategy Options

Noise Abatement

- Noise abatement flight tracks
- Preferential runway use
- Arrival/departure procedures
- Airport layout modifications
- Run-up enclosures
- Use restrictions*
- Other actions proposed by stakeholders

Land Use

- Remedial Mitigation
 - Land acquisition
 - Sound insulation
 - Avigation easements
- Preventative Mitigation
 - Land use controls
 - Zoning
 - Building codes
 - Comprehensive plans
 - Real estate disclosures
- Other actions proposed by stakeholders

Programmatic

- Implementation tools
- Promotion, education, signage, etc.
- Monitoring
- Reporting
- NEM update
- NCP revision
- Other actions proposed by stakeholders

* Subject to further notice, review, and approval requirements in 14 CFR Part 161

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Distinction Between Noise Abatement and Noise Mitigation

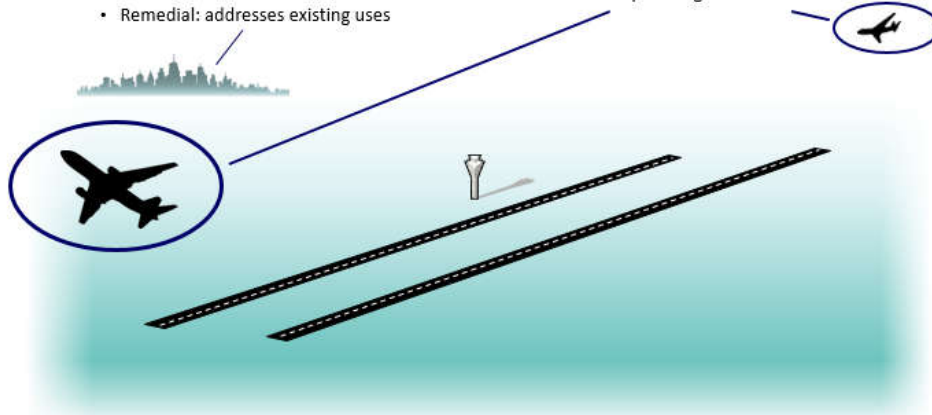
Noise Mitigation

Addresses non-compatible land uses

- Preventative: addresses future uses
- Remedial: addresses existing uses

Noise Abatement

Reduces noise exposure by moving the source



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Review of NCP Measures

All NCP Measures Must Consider:

- Reduction of existing incompatible land use and prevention / reduction of future incompatible land use
 - The FAA will not approve NCP measures that do not reduce exposure to noise of DNL 65 and higher
- Safety and efficiency
- Consistency with the powers and duties of the FAA
- Avoidance of unjust discrimination against certain aircraft types
- Interstate commerce
 - Measures cannot impose an undue burden on interstate commerce (requires balancing of interests)
- The ability to meet both local needs and national air transportation system needs

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Importance of TC Involvement During the NCP Phase

- TC members represent the interests of their organization and/or constituents
- TC involvement in the NCP phase is key for a successful NCP
 - Identify potential NCP measures
 - Provide subject matter expertise
 - Advise organization and/or constituents of NCP discussions
 - Solicit feedback from organization and/or constituents
- 14 CFR Part 150 requires consultation with the following stakeholders, and most are members of the TC:
 - FAA regional officials
 - Officials of the state and of any public agencies and planning agencies that have any area of jurisdiction within the DNL 65
 - Other Federal officials having local responsibility of land uses in an NEM
 - Aircraft operators using the airport
 - General Public

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Future TC Meetings

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Future Meetings

Technical Committee

- TC Meeting #5 (Tentative) January 2019

Public Workshop

- NEM Report Public Workshop January 2019

TC and Public Workshop materials will be available on the project website following each meeting
www.flpart150.com

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Next Steps

- Study Coordination Committee Meeting (11-7-18)
- Publish Draft NEM Report
- NEM Public Workshop (January 2019)
- Incorporate NEM Comments and Submit to FAA for Acceptance
- Solicit Alternatives to be Evaluated in Noise Compatibility Program (NCP)

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Questions from TC Members



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