



# Welcome!

## Centennial Airport

14 CFR Part 150 Noise Exposure Map Update

Public Information Workshop



# Part 150 Overview

- Federal Aviation Administration (FAA) developed the Part 150 Program in response to the federal Aviation Safety and Noise Abatement Act of 1979 (“ASNA”)
- Codified under Title 14 of the Code of Federal Regulations (CFR) Part 150
  - Formal *citation* is “14 CFR Part 150,” informal is “Part 150”
  - Formal *title* is “Airport Noise Compatibility Planning”
- *Voluntary* FAA-defined process for airport noise studies
  - 250+ airports have participated
- *Why do airports participate?* Primary reasons include:
  - Provides access to FAA funding of some approved measures
  - Well-established, understood, accepted, and comprehensive process



# Part 150 Overview: Noise Exposure Map

- FAA “accepts” NEM as compliant with Part 150 standards
- NEM must include detailed description of
  - Airport layout, aircraft operations, and other inputs to noise model
  - Aircraft noise exposure in terms of Day-Night Average Sound Level (DNL)
  - Land uses within DNL 65+ decibel (dB) contours
  - Noise / land use compatibility statistics within DNL 65+ dB contours
- NEM must address two calendar years
  - Year of submission
  - Forecast (at least five years from year of submission)
- FAA reviews forecasts for consistency with Terminal Area Forecast (TAF)



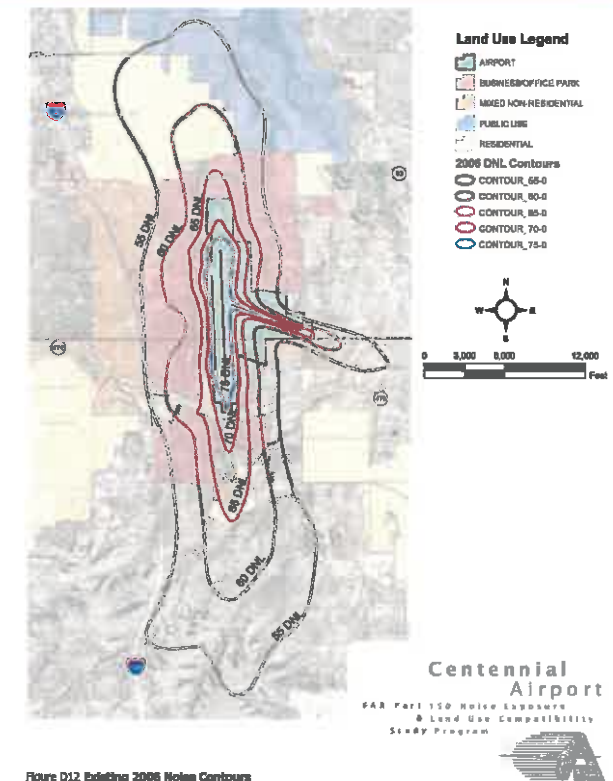
# Part 150 at Centennial Airport

- 1999: Completed original Noise Exposure Map
- 2008: Updated Noise Exposure Map and Noise Compatibility Program
  - Noise Compatibility Program Measures (FAA-approved), check indicates full implementation:
    - 010 degree departure at night
      - Updated (NextGen) procedure currently under test – RNAV
    - ✓ Elimination of preferential runway use
    - ✓ Amendment of community plans and zoning ordinances
    - ✓ Establishment of noise abatement office
    - ✓ Installation of noise monitoring system
    - ✓ Development of fly quiet program
    - Part 150 updates as needed
    - ✓ Establishment of an advisory committee



# Part 150 at Centennial Airport: Noise Exposure Map

- Major graphical components include:
  - DNL 65, 70 and 75 dB contours
  - Information detailed within the 65 dB DNL contour:
    - Generalized land use categories
    - Historic properties, schools, places of worship, health care facilities, other “discrete” sensitive uses
    - Clear identification of all noncompatible land uses
    - Jurisdiction(s) responsible for land use controls
  - Flight tracks (typically on supplemental figures)



# Part 150 at Centennial Airport: 2016 Schedule

Noise Exposure Map Update Milestone	Anticipated Date
Project initiation	September 2015
Data Collection and Project Kickoff Meetings	September 2015 thru February 2016
Public Information Workshop – Introduce Project	February 3, 2016
FAA Approvals (forecasts, non-standard modeling if required)	February 2016
Preliminary draft aircraft noise exposure contours for evaluations	Spring 2016
Draft Noise Exposure Map report	Spring/Summer 2016
Public Information Workshop – Present Noise Exposure Map	Summer 2016
Submit Noise Exposure Map to FAA for Acceptance	Fall 2016



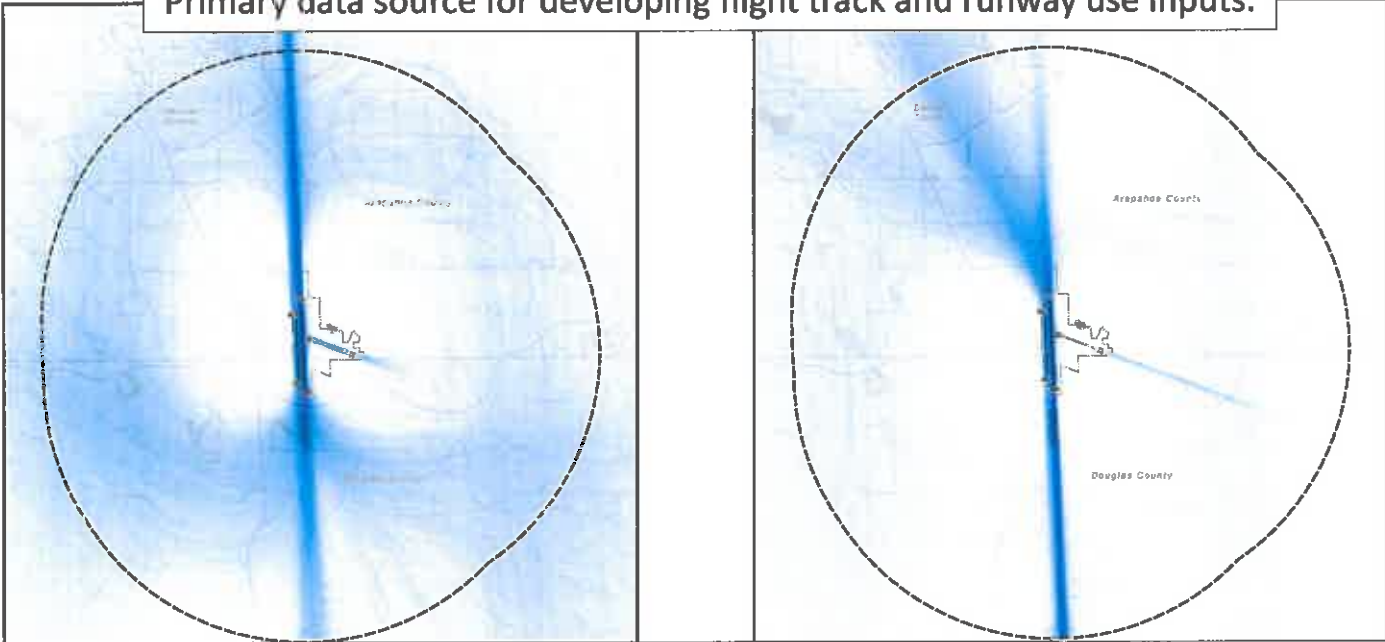
# Noise Modeling: Required Model Inputs

- We must use FAA-approved model
  - FAA's Integrated Noise Model, Version 7.0d (INM 7.0d) was the most current when the study was initiated
- Required inputs
  - Airport layout
  - Annual average meteorological data
  - Terrain
  - Aircraft operations for 2016 and 2021 - *FAA approves*
  - "User-defined modelling inputs" APA-specific - *FAA approves*
  - Runway utilization rates by aircraft categories
  - Flight track geometry and use by aircraft categories
  - Maintenance runup locations and operations



# Noise Modeling: Flight Tracks (Jet Density Plots)

Primary data source for developing flight track and runway use inputs.



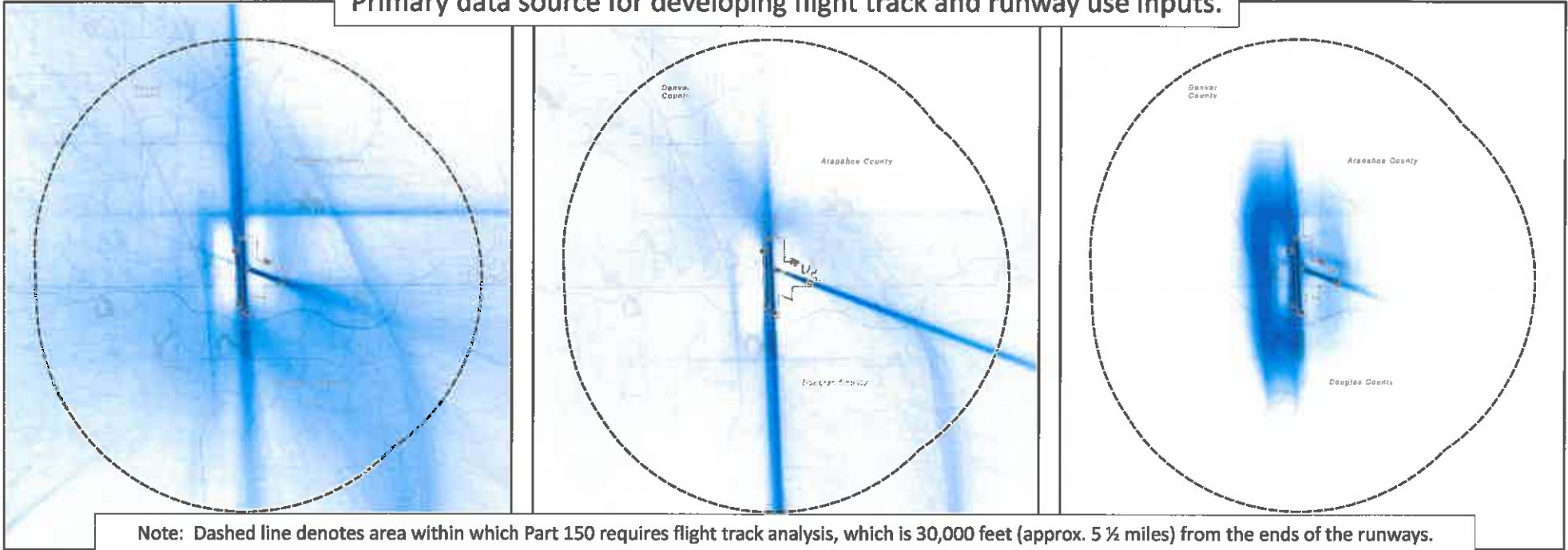
Note: Dashed line denotes area within which Part 150 requires flight track analysis, which is 30,000 feet (approx. 5 1/2 miles) from the ends of the runways.





# Noise Modeling: Flight Tracks (Non-Jet Density Plots)

Primary data source for developing flight track and runway use inputs.

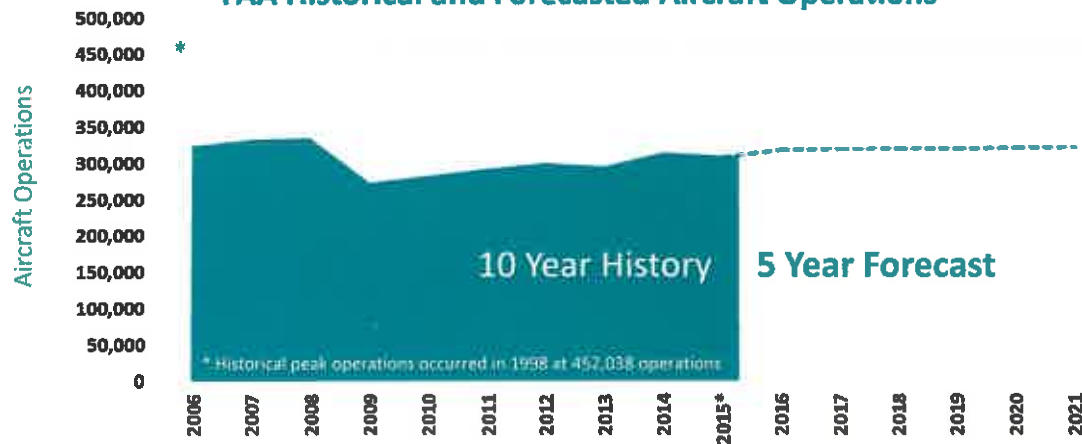


Note: Dashed line denotes area within which Part 150 requires flight track analysis, which is 30,000 feet (approx. 5 1/2 miles) from the ends of the runways.



# Forecast of Aircraft Operations – 2016 and 2021

FAA Historical and Forecasted Aircraft Operations



Source: Historical-ATADS, January 2016; Forecast-FAA TAF, January 2016 Note: \* 2015 period represents June 1, 2014 to May 1, 2015

## 2015 Based Aircraft Fleet Mix

Aircraft Type	#	%
Single Engine	626	64%
Jet	151	15%
Multi Engine	103	11%
Turbo Prop	73	7%
Helicopter	29	3%
<b>Total</b>	<b>982</b>	<b>100%</b>



Typical single engine  
C-172



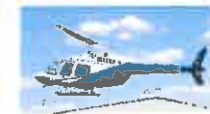
Typical multi engine  
Baron



Typical turbo prop  
King Air



Typical jet  
G450



Typical helicopter  
Bell 206

- **Regression** – forecast tied to local/regional economic factors
- **Market Share** – comparison with other markets in the region
- **Trends** – historical pattern of activity that projects trend

Note: Selected methodology may be a blend of the above.



# Project Contacts and Websites

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- Project Website provides most relevant information
  - Will be updated regularly for public outreach purposes
  - <http://www.centennialairport.com/index.php/en/noise-exposure-map-project/noise-exposure-map-update>
- Airport information website provides broader information
  - <http://www.centennialairport.com/index.php/en/>
- Sign up to receive future Centennial Airport NEM Update e-newsletters

