Airports 101
(or, 10 Things You Need to Know about Airports)

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Delta Airport Consultants, Inc.

- Yes, it’s ALL we do!

- 8 offices
  - Richmond, VA
  - Charlotte, NC
  - Raleigh, NC
  - Harrisburg, PA
  - Cleveland, OH
  - Albuquerque, NM
  - Atlanta, GA
  - Oklahoma City, OK

- 70 aviation-enthusiastic employees
10 Things You Need to Know About Airports

1. Why are airports important? *(Why does our community need an airport?)*
2. A pilot’s perspective of the airport *(What does the user see?)*
3. Funding basics *(Who’s paying for that runway extension?)*
4. Airport Master Plans and ALPs *(How does master planning for an airport work?)*
5. Overview of the NEPA process *(NEPA what?)*
6. Airport design standards *(a.k.a. Alphabet soup)*
7. Airspace basics *(Why all the height restrictions?)*
8. Noise basics *(How loud is too loud?)*
9. Compatible Land Use *(Can’t we all just get along?)*
10. Sources for Planners *(Where do we go for more information?)*
1. Why are airports important?
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Sources of photos: NBAA.org, www.antsmagazine.com
2. A Pilot’s Perspective of the Airport
FLYING QUIET PROGRAM

This program is voluntary, intended to mitigate the effects of noise on the residential community at this airport.

Leaving aircraft are requested to fly at or above 3000 feet MSL, while in the traffic pattern over residential areas until further notice or in accordance with FAA requirements.

Noise conscious pilots will fly a traffic pattern similar to that depicted on this diagram, and maintain as few turns as safely possible during approach.
3. Funding Basics- Show me the $$

- Airport Improvement Program (AIP)
- State aviation or transportation organizations
- Local share
  - Authority or Commission
  - County or local government
- AIP Authorization expires this year- what will happen in 2016?
3. Funding Basics

- Airport sponsors who accept a grant offer are obligated to accept conditions and obligations associated with Grant Assurances.

- Grant Assurances
  - Comply with federal laws
  - Removing hazards to airspace (more on this later)
  - Compatible land use (including the adoption of zoning laws)
  - Airport revenues must be used on the airport
  - Airport Layout Plan (ALP) up to date
4. Airport Master Plans and ALPs
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- Pre-planning
- Public Involvement
- Environmental Considerations
- Existing Conditions
- Aviation Forecasts*
- Facility Requirements
- Alternatives Development and Evaluation
- Airport Layout Plans*
- Facilities Implementation Plan
- Financial Feasibility Analysis

* FAA must approve
4. Airport Master Plans and ALPs
5. Overview of the NEPA Process

- National Environmental Policy Act (NEPA) of 1969
- “Federal action”
  - Cat-Ex
  - EA (FONSI)
  - EIS (ROD)
- Public Involvement
- Environmental Resource Agencies
5. Overview of the NEPA Process

- Air Quality
- Coastal Barriers
- Coastal Zone
- Compatible Land Use
- Construction Impacts
- Section 4(f)
- Farmlands
- Fish, Wildlife, and Plants
- Floodplains
- Hazardous Materials

- Historical, Architectural, Archeological and Cultural Resources
- Light emissions and visual effects
- Natural resources and energy supply
- Noise
- Socioeconomic, Environmental Justice, and Children’s Health and Safety Risks
- Solid Waste
- Water Quality
- Wetlands
- Wild and Scenic Rivers
5. Overview of the NEPA Process

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- Coastal Zone
- **Compatible Land Use**
- Construction Impacts
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6. Airport Design Standards

- Runway Protection Zone (RPZ)
- Runway Object Free Area (ROFA)
- Runway Safety Area (RSA)
- (OFA and Safety Area for Taxiways, too)

- FAA AC 150-5300-13a, *Airport Design*
6. Airport Design Standards
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• What happens when a runway needs to be extended?
7. Airspace Basics

Why all the height restrictions?

- 14 CFR Part 77 “imaginary” surfaces

Source of photos: FAR Part 77 Objects Affecting Navigable Airspace
7. Airspace Basics
Why all the height restrictions?

Source: Delta Airport Consultants, Inc.
7. Airspace Basics

Why all the height restrictions?

- 14 CFR Part 77 “imaginary” surfaces
  - Primary
  - Approach
  - Transitional
  - Horizontal
  - Conical
- Threshold Siting Surfaces (TSS)
- Departure Surface for Instrument Runways

Source: Delta Airport Consultants, Inc.
8. Noise Basics

- Airport Noise Compatibility Planning (14 CFR Part 150)
- DNL = Day-Night Average (not one single noise event)
- 65 DNL and under is considered acceptable
- Aircraft noise has decreased considerably in the past 20 years
8. Noise Basics
9. Compatible Land Use
Source of photo: www.cloverfield.org
Noise complaints at O'Hare soar in January

SANTA MONICA, Calif. — Residential neighborhoods encircle the municipal airport here on three sides. And while it has no airline service, about 250 aircraft operate every day from Santa Monica Municipal Airport's 5,000-foot runway on a plateau above the surrounding terrain.

From above, the airfield looks "like an aircraft carrier in a sea of homes," says Alan Levenson, who lives near the airport and sometimes watches the activity from the roof of his garage.

Aircraft as small as single-engine planes and helicopters and as large as twin-engine business jets fly in and out of the 227-acre airport. As its traffic has increased, it has brought to a boil a simmering battle over whether the airport has outgrown its surroundings.
10. Sources for Planners

• Code of Federal Regulations (14 CFR) Part 77

• FAA 7460-1: Proposed Construction or Alteration of Objects that May Affect the Navigable Airspace

Forms are required for development proposed in proximity to any public-use airport; FAA will issue a determination to the sponsor. Must be submitted at least 30 days before construction.

www.oeaaa.faa.gov

• Solar Glare Hazard Analysis Tool (SGHAT)
  • www.sandia.gov/glare
  • Exhaust plume software

*FAA has no regulatory power; limit of the development is the responsibility of the community.*
10. Sources for Planners

• APA Planners and Planes
• ACRP Report 27 Enhancing Airport Land Use Compatibility
• FAA AC 150/5190-4A, Model Zoning Ordinance to Limit Height of Objects Around Airports
Questions?

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