

Airports 101

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

MARY ASHBURN PEARSON, AICP

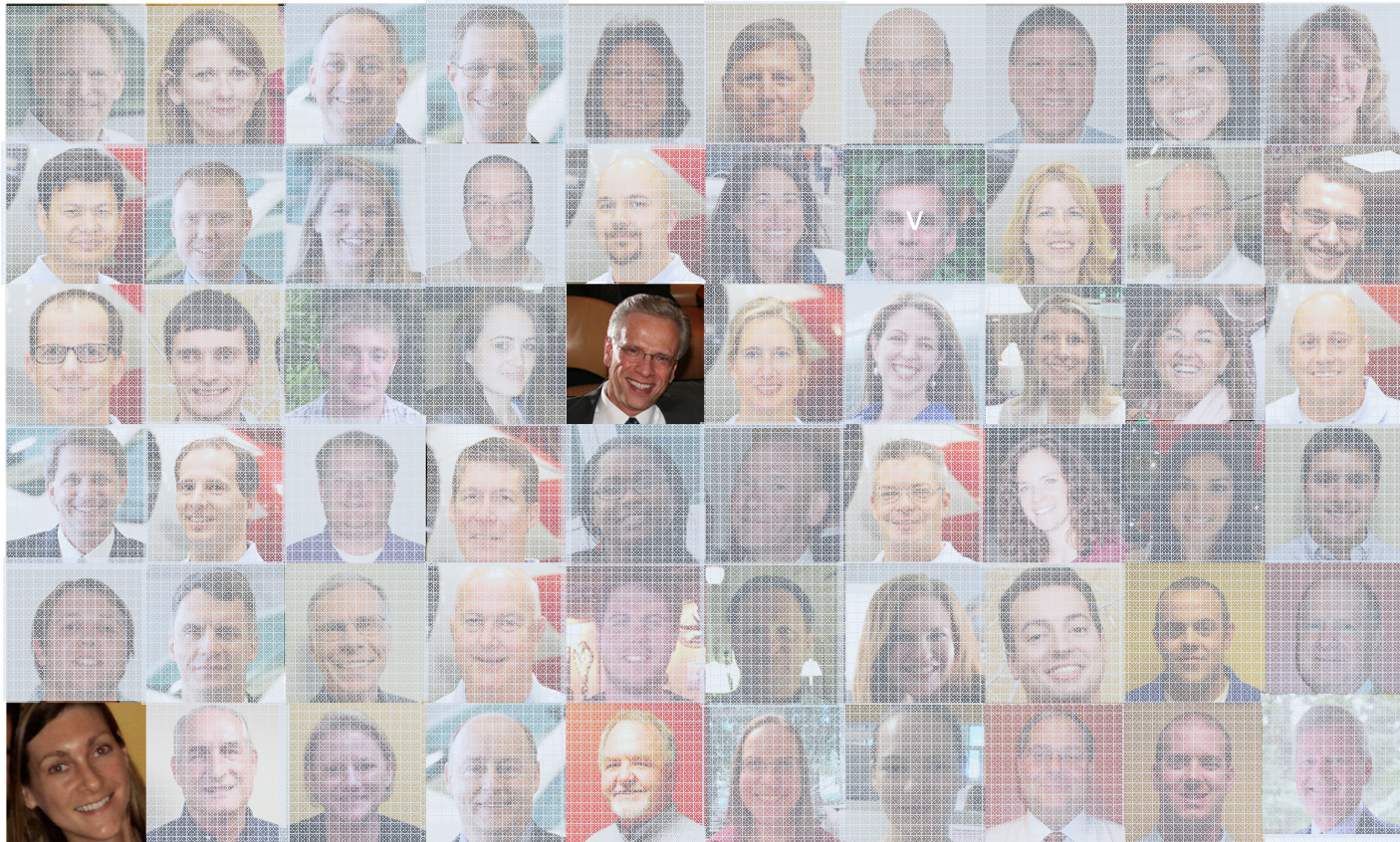
ROY G. LEWIS, AICP

DELTA AIRPORT CONSULTANTS, INC.

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

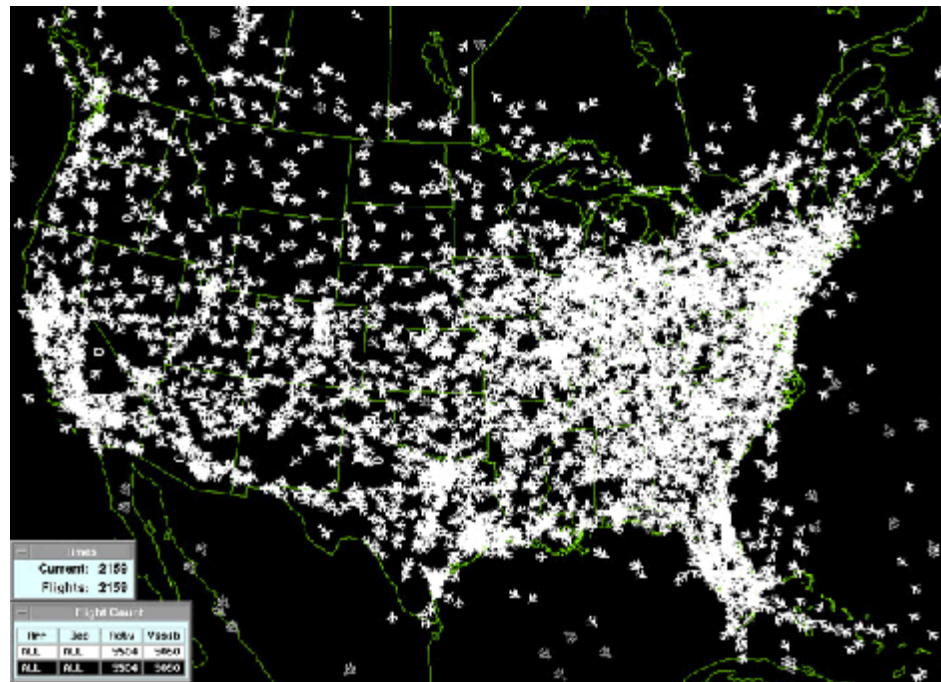




10 Things You Need to Know About Airports

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?



Source: FAA









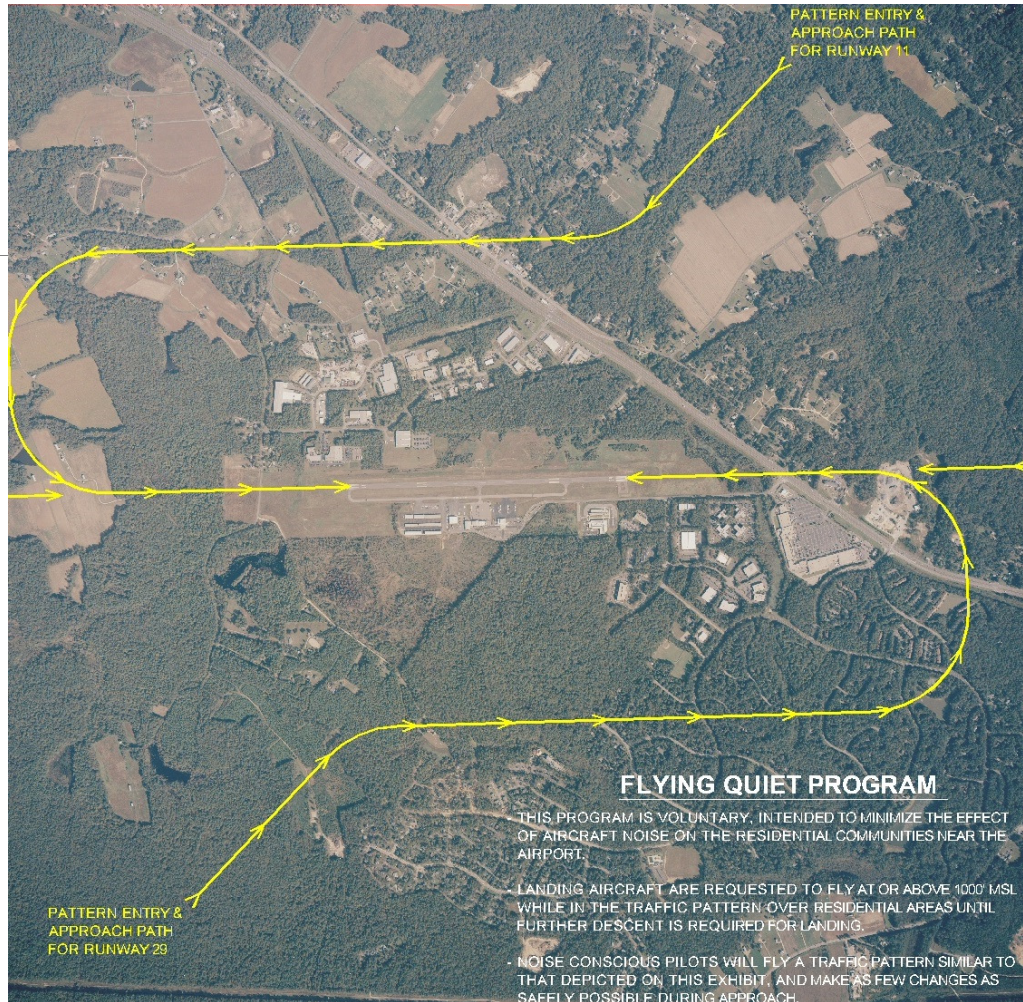
1. Why are airports important?



Sources of photos: NBAA.org, www.antsmagazine.com

2. A Pilot's Perspective of the Airport






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



U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Change 2 to Airport Master Plans **Date:** 1/27/2015 **AC No.:** 150/5070-6B
Initiated by: APP-400 **Change:** 2


1. PURPOSE. This Change 2 incorporates additional guidance on passenger convenience, ground access, and access to airport facilities, as identified in Section 131 of Public Law 112-95, "FAA Modernization and Reform Act of 2012 (49 U.S.C. § 47101(g)(2))." Additional provisions of Public Law 112-95 such as Section 132 (b) which amended the definition of airport planning to include plans for recycling and minimizing the generation of airport solid waste (49 U.S.C. § 47102(b)(5)(C)), and Section 133 providing that master plans address issues related to solid waste recycling and waste minimization (49 U.S.C. § 47106(a)(6)(A)) have been addressed in separate FAA guidance. These and related considerations will be incorporated into a future change to this AC.

This change also incorporates relevant updates related to the recent changes to Advisory Circular (AC) 150/5300-13, Airport Design, and references to the new Standard Operating Procedures for preparation and submission of Airport Layout Plans.

2. PRINCIPAL CHANGES. Changed text is indicated by vertical bars in the margins. The primary revisions are contained in Chapters 8 and 10 and Appendix B of this AC. In addition, limited editorial and text revisions since the release of Change 1 to this AC in 2007 are incorporated throughout. A full revision to this AC is underway.

PAGE CONTROL CHART			
Remove Pages	Dated	Insert Pages	Dated
i-iii	7/29/2005	i-iii	1/27/2015
iv	5/1/2007	iv	1/27/2015
7-8	7/29/2005	7-8	1/27/2015
13	7/29/2005	13	1/27/2015
27	7/29/2005	27	1/27/2015


**AIRPORT LAYOUT PLAN UPDATE
VOLUME I - REPORT**



CHESTERFIELD COUNTY AIRPORT
CHESTERFIELD, VIRGINIA

**FINAL REPORT
MARCH 2012**

Prepared for
COUNTY OF CHESTERFIELD, VIRGINIA



**DELTA AIRPORT
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Shenandoah Valley Regional Airport
Airport Master Plan Update

WORKING PAPER #1

PRELIMINARY DRAFT
MARCH 2015



**DELTA AIRPORT
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Prepared For:
SHENANDOAH VALLEY REGIONAL AIRPORT COMMISSION
WEYERS CAVE, VA



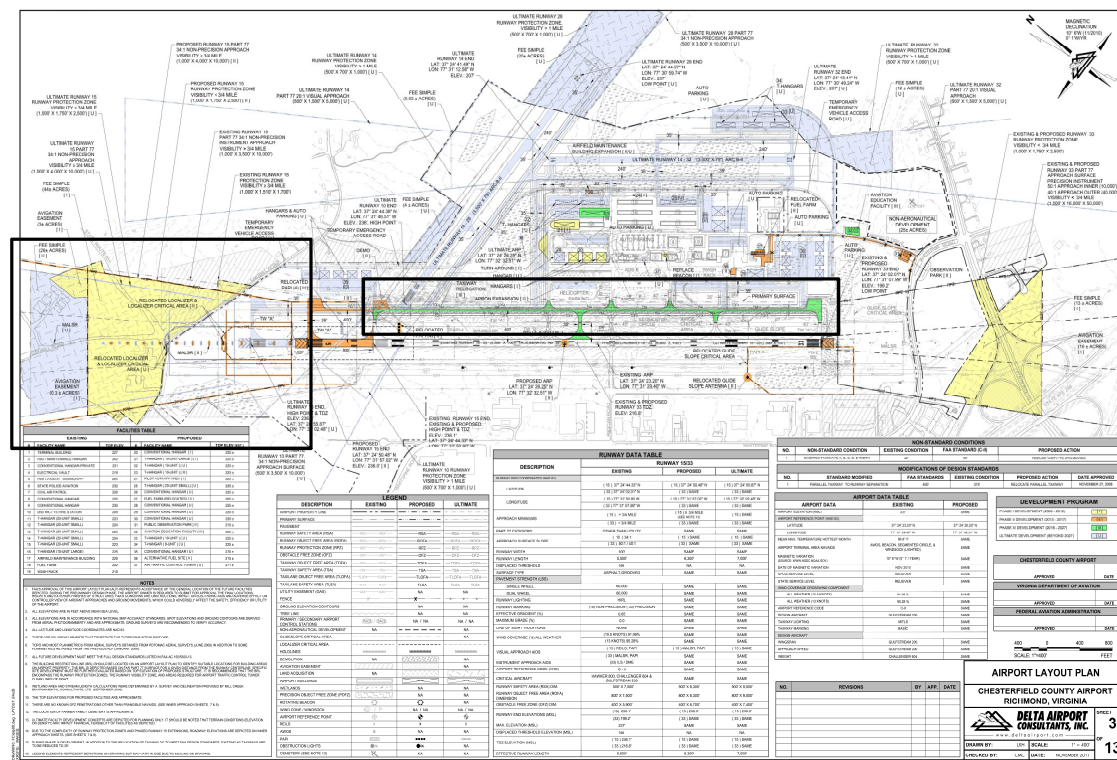
FAA AIP Project No. 3-51-0049-0037-2014

4. Airport Master Plans and ALPs

- 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

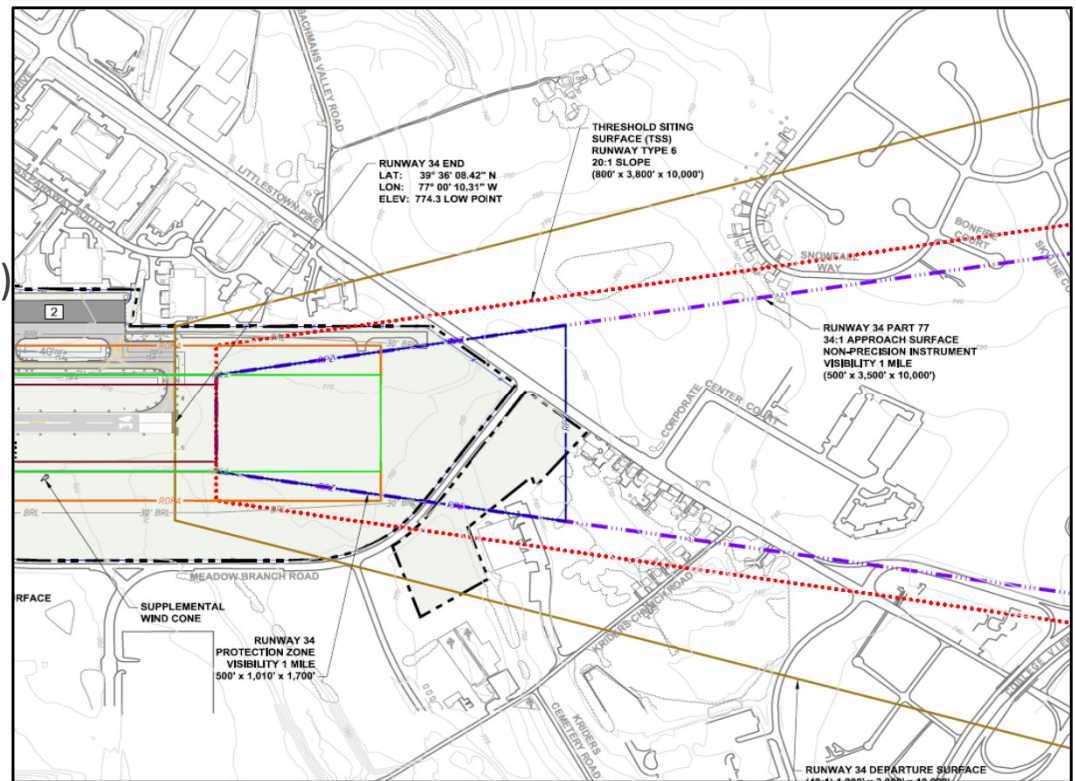
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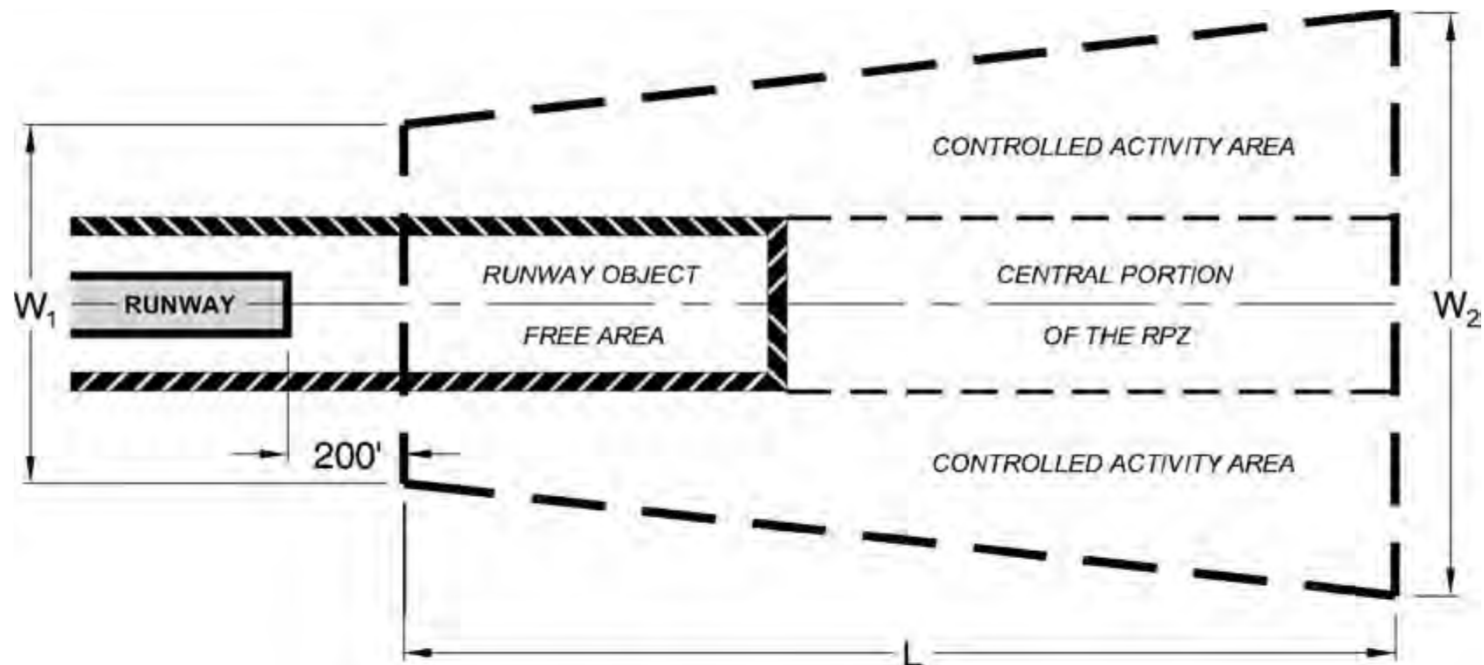
6. Airport Design Standards

- 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*

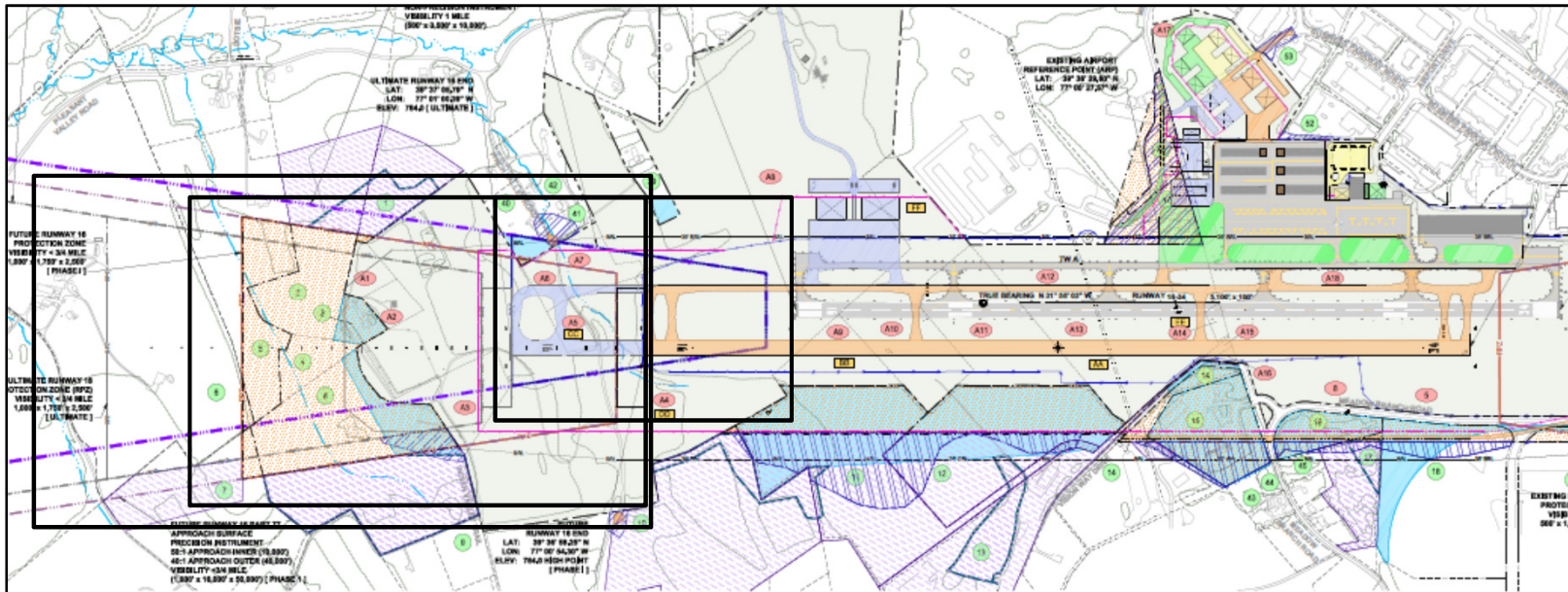


6. Airport Design Standards



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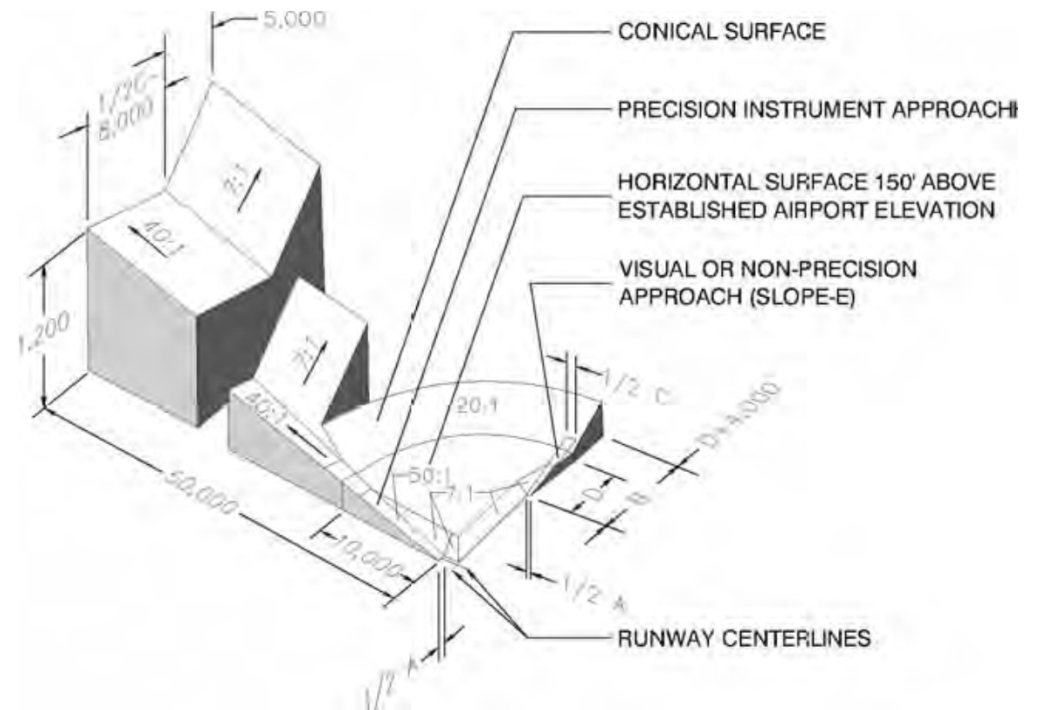
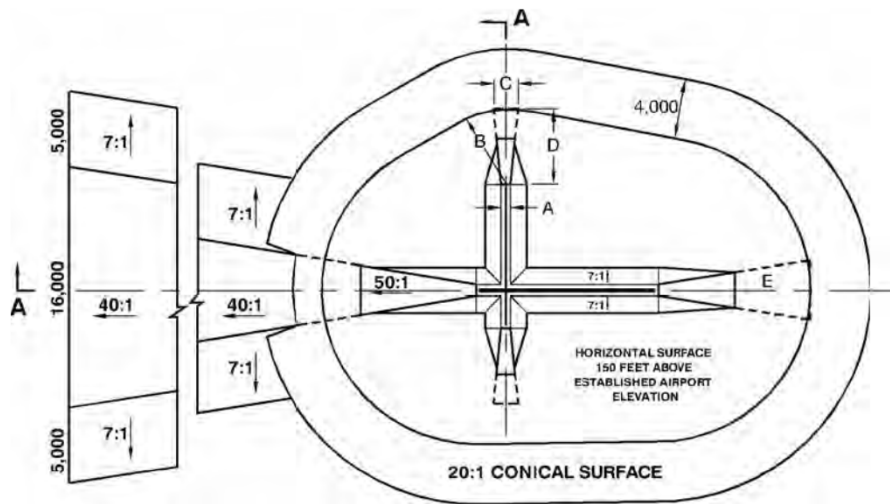
- What happens when a runway needs to be extended?



7. Airspace Basics

Why all the height restrictions?

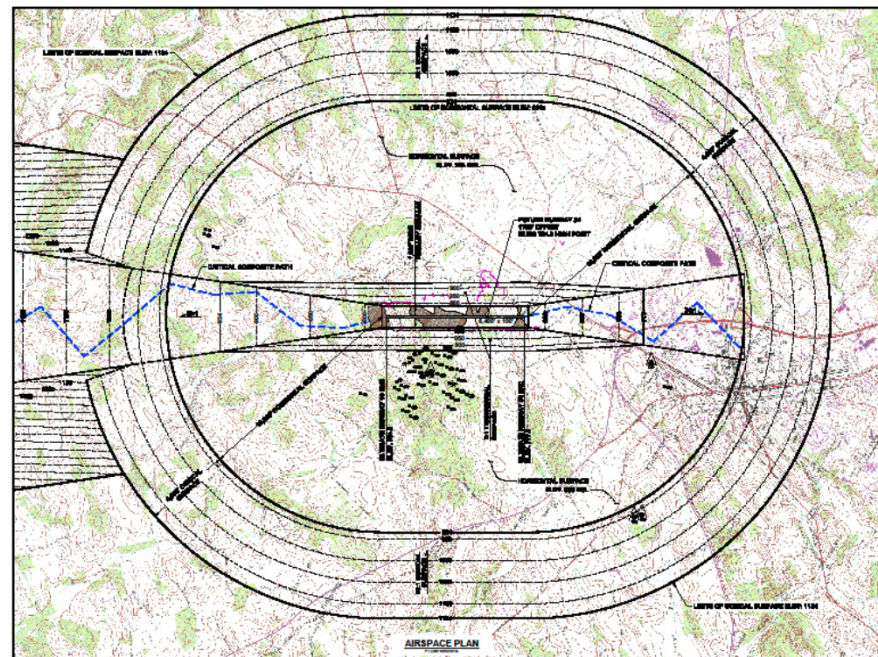
o14 CFR Part 77 “imaginary” surfaces



Source of photos: FAR Part 77 Objects Affecting Navigable Airspace

7. Airspace Basics

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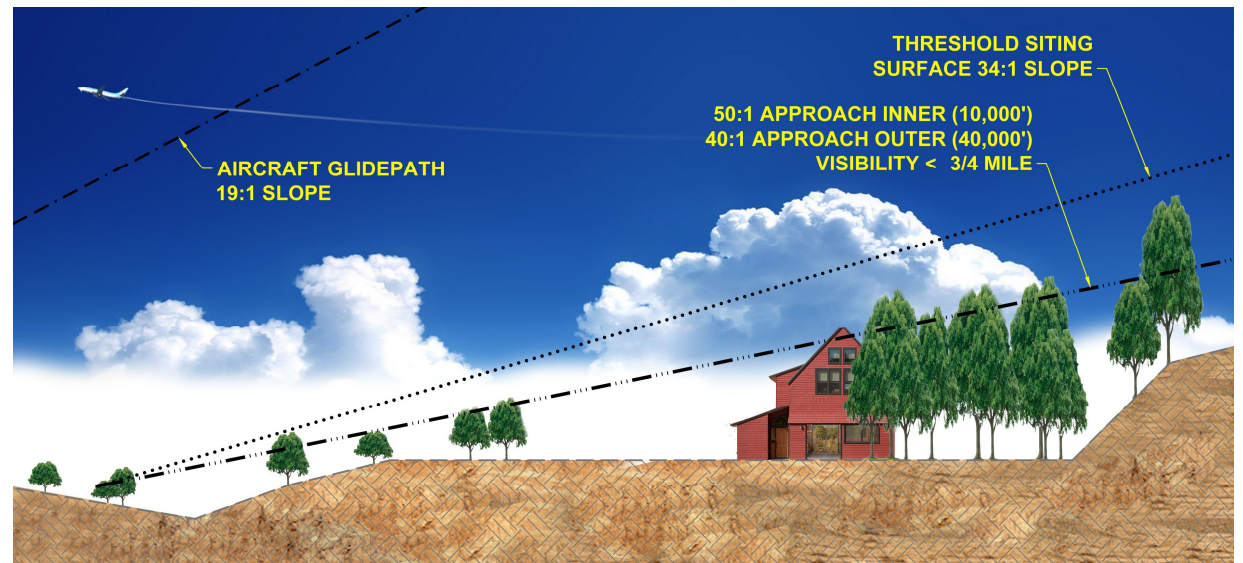


Source: Delta Airport Consultants, Inc.

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

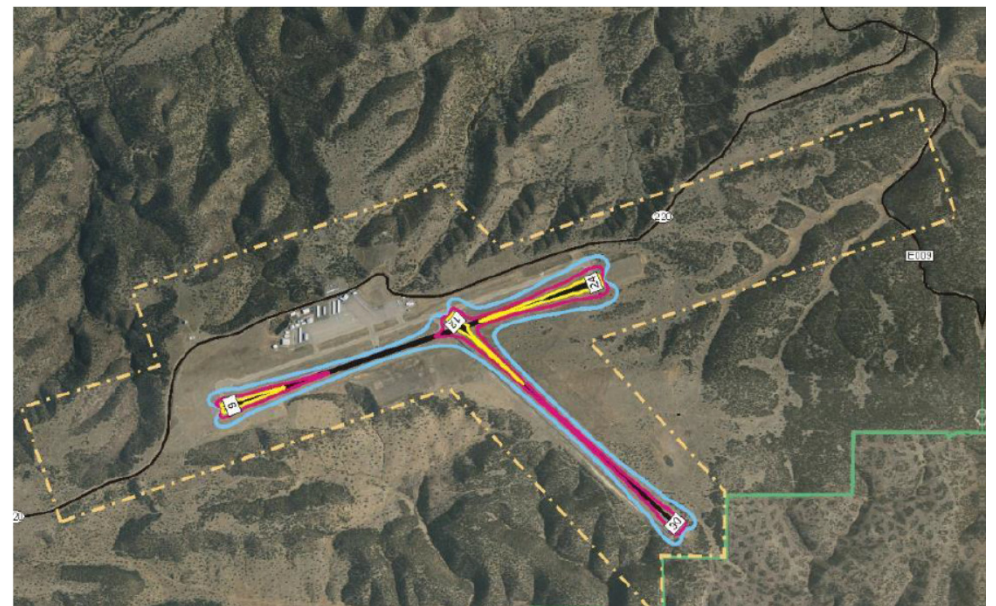


Source: Delta Airport Consultants, Inc.

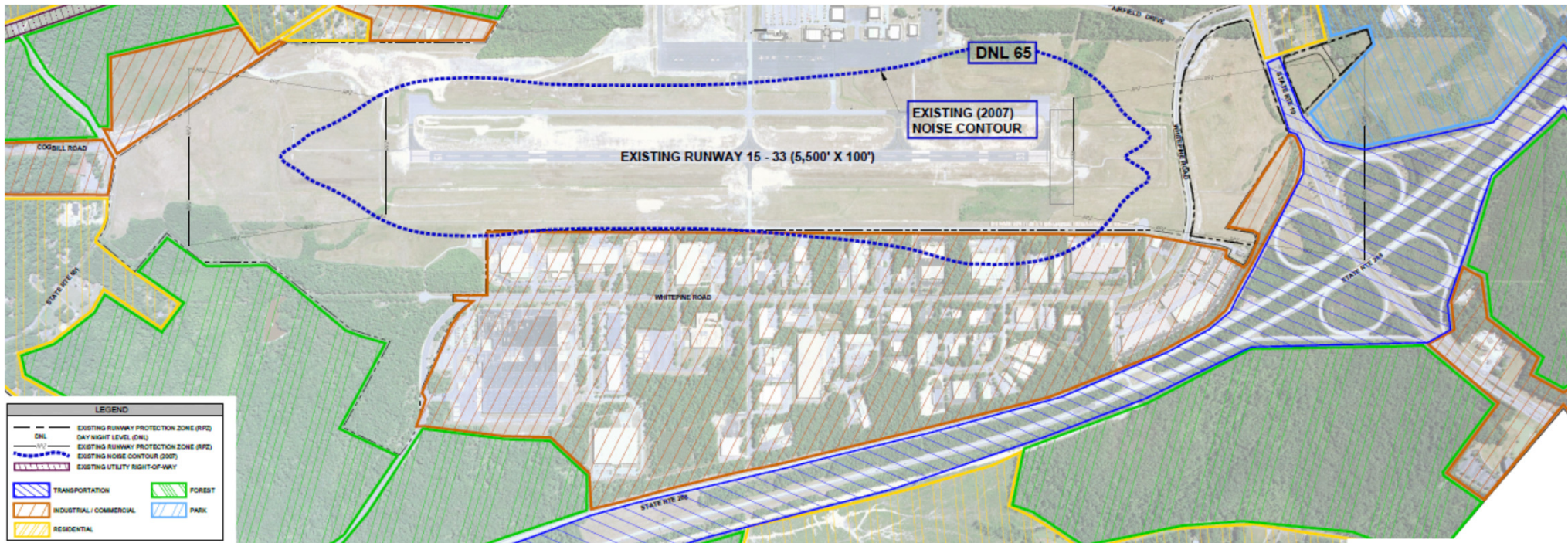
8. Noise Basics

- 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

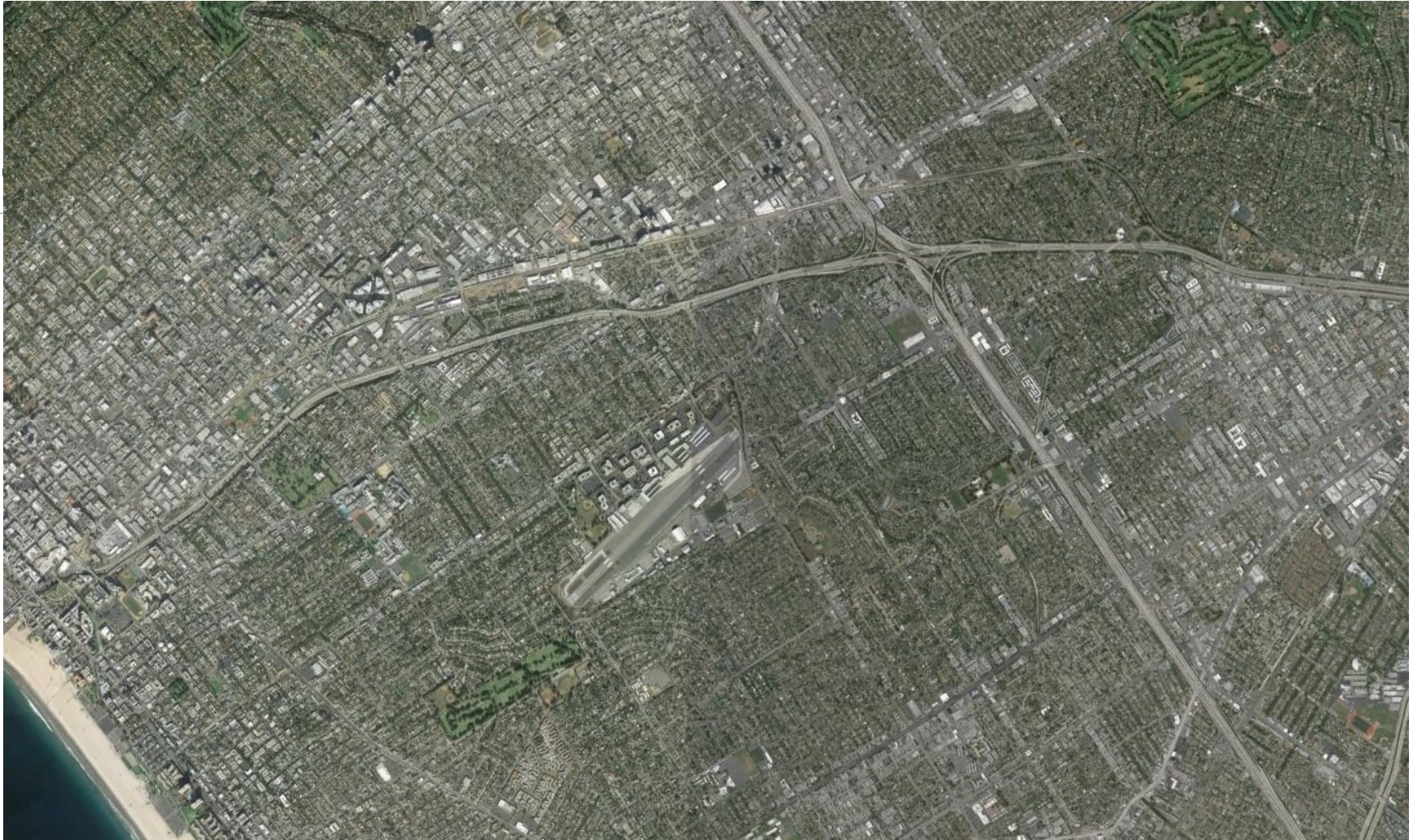


9. Compatible Land Use











Source of photo: www.cloverfield.org

The Noise Near This Airport's Runway Is Getting Louder

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 260 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.



A jet landing at Santa Monica Airport in California. Emily Berl for The New York Times



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.

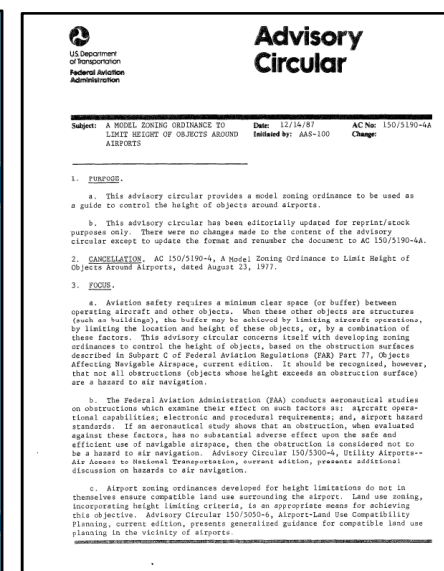
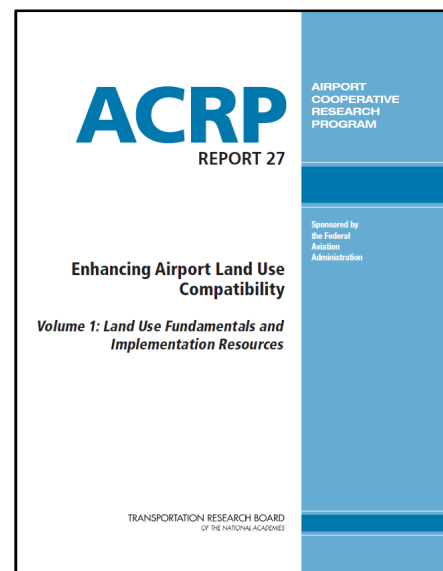
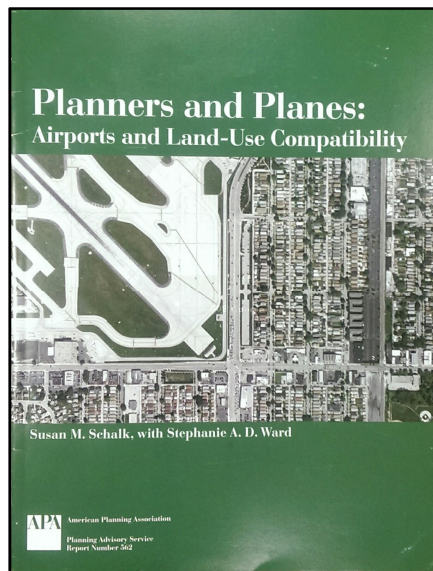
www.oiaa.faa.gov

- 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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