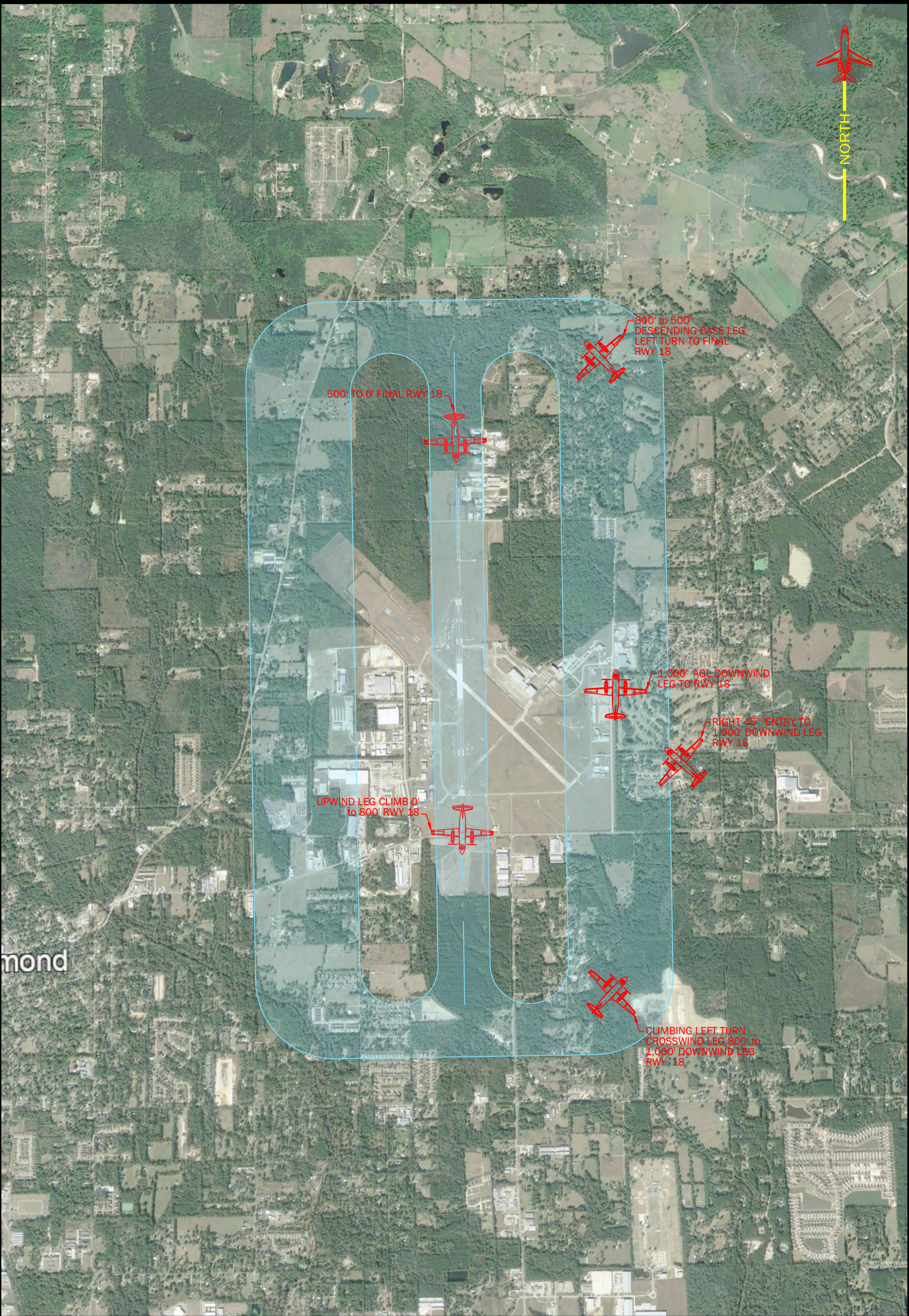
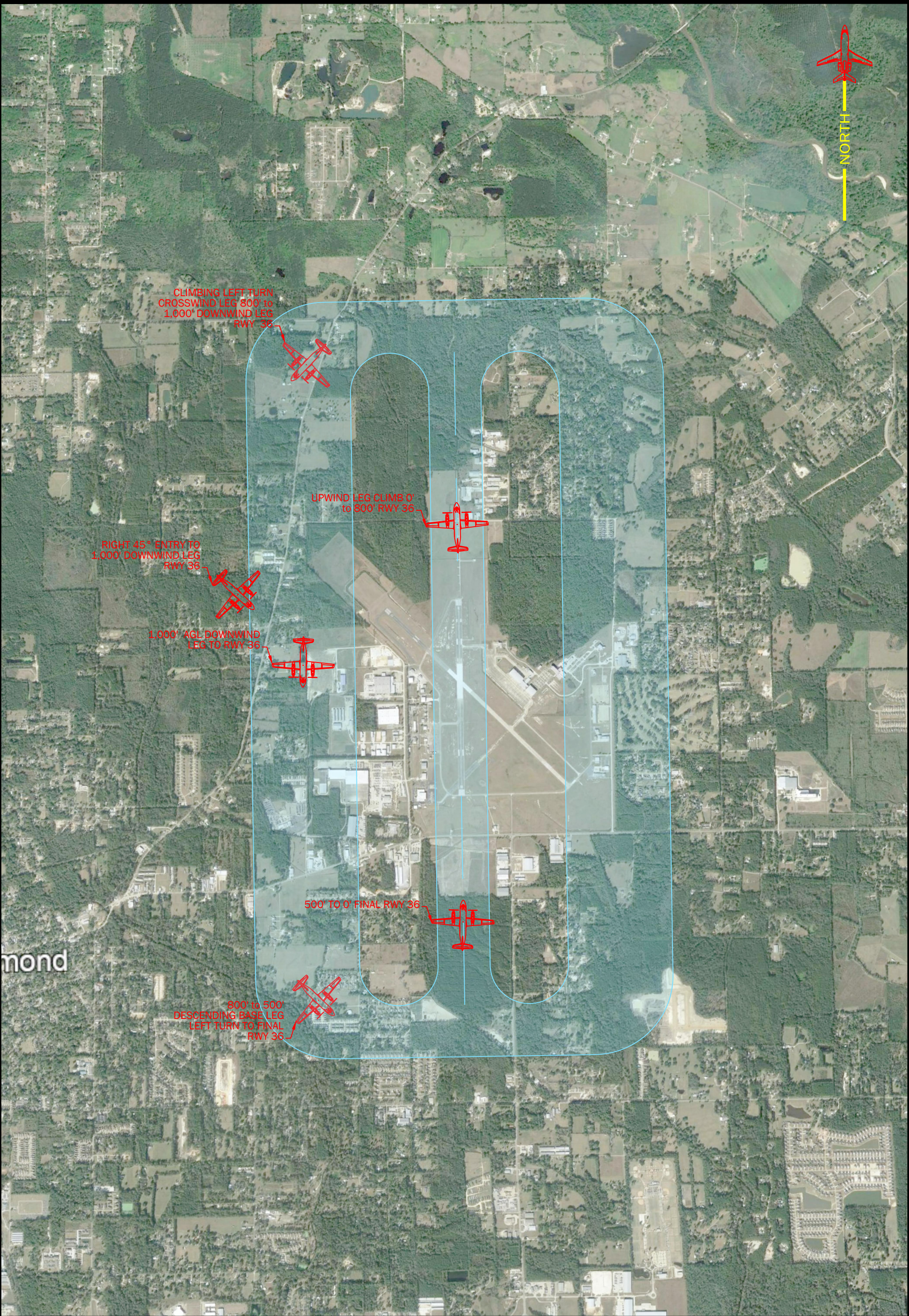
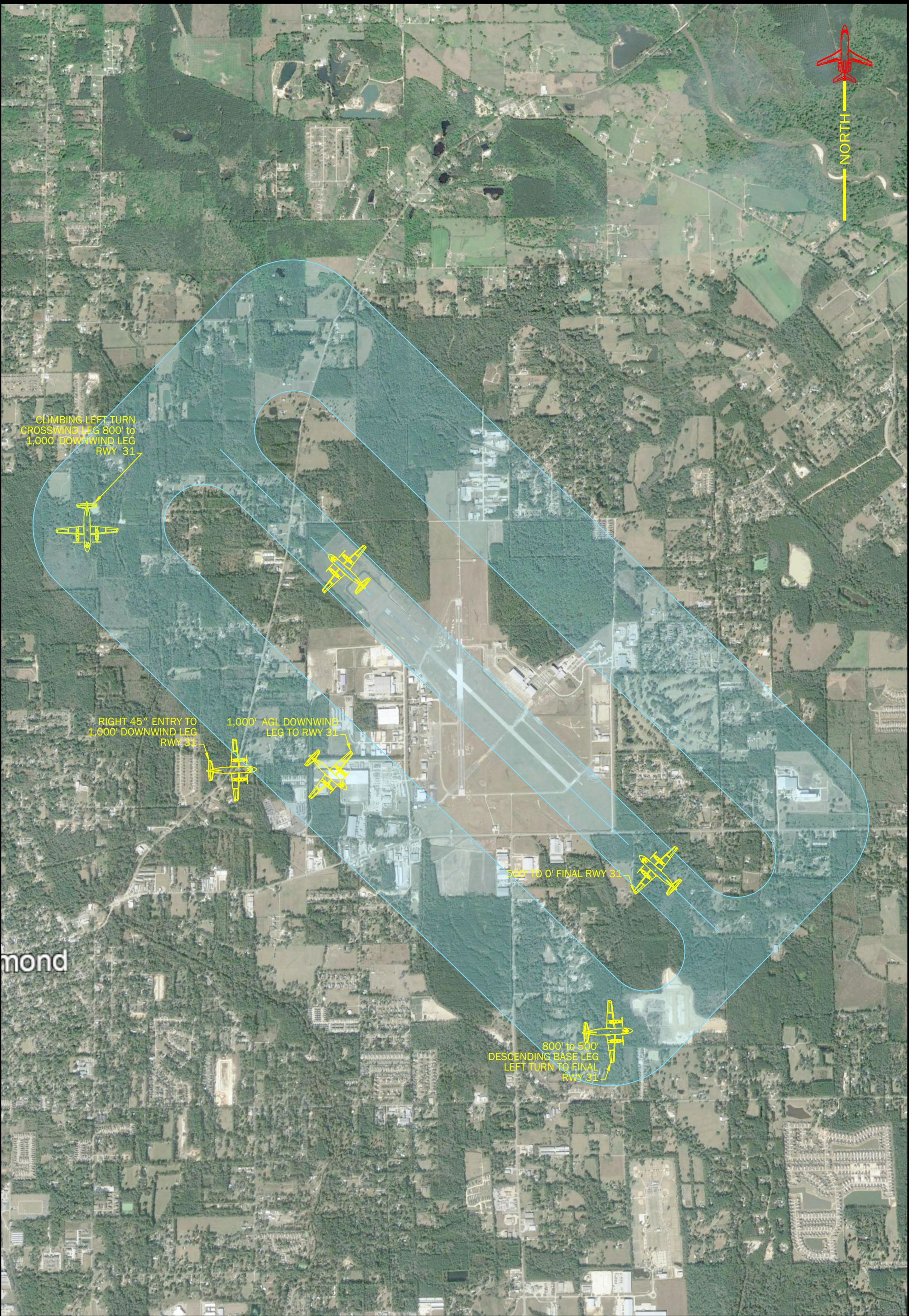


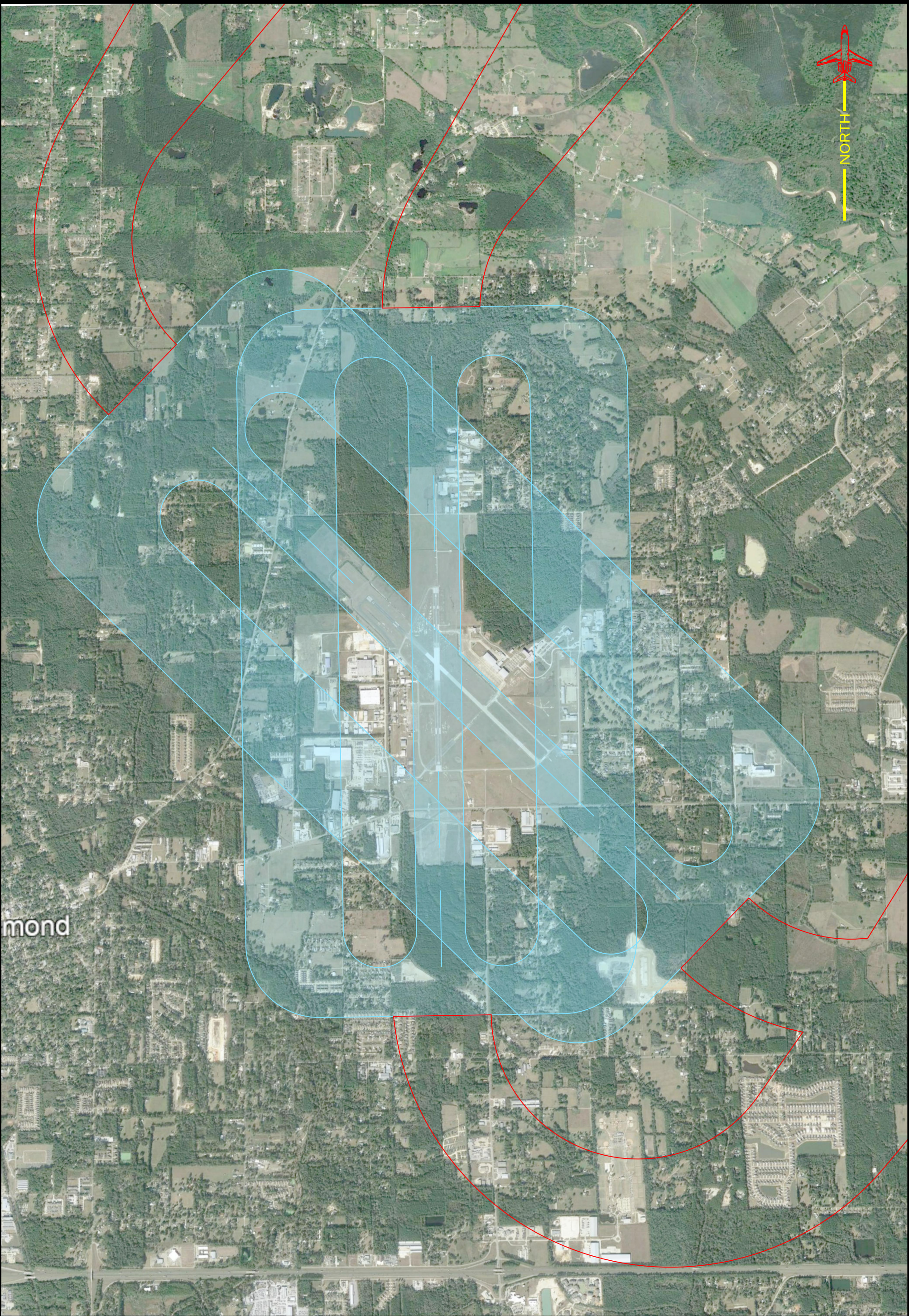


LAND USE NEAR AIRPORTS









FEDERAL AVIATION ADMINISTRATION

Decisions on zoning should consider the impacts that aviation brings to communities.

Federal Policies on Airport Noise - Aviation Noise Abatement Policy

-Aviation Noise Abatement Policy states that state & local governments, local elected officials, and airport proprietors are responsible in the abatement of aircraft noise. The primary legal obligation to address the airport noise problem always has been and remains a local responsibility.

- Federal Government reduces noise exposure by controlling the source of noise, so must local government by assuring compatible land uses in areas surrounding the airport.

-Planning & Acting in coordination, each of these parties should move toward the goal of confining aircraft noise exposure levels.

-Action Plans should include a program to ensure maximum land use compatibility with airport operations by encouraging local governments to adopt and enforce zoning or other land use controls.

-State and Local governments are directly and uniquely responsible for ensuring that land use planning, zoning, and land development activities in areas surrounding airports are consistent with the objective of ensuring land use that is compatible with present and projected aircraft noise exposure in the area.

Legal Responsibilities of State and Local Governments

-There remains a critical role for local authorities in protecting their citizens from unwanted aircraft noise, principally through their powers of land use control. Control of land use around airports to insure that only compatible development may occur in noise-impacted areas is a key tool in limited the number of citizens exposed to noise impacts, and it remains exclusively in the control of state and local governments.

-Local Governments have a legal authority to impose appropriate land use controls through zoning.

Federal Response

-The Supreme Court concluded that airport owners are liable for aircraft noise damages. Without effective land use planning, the implementation of land use plans and zoning, this could increase the owners liability including purchasing of land.

Partnering for Airport Land-Use Compatibility

2014 APA National Conference

**Georgia World Congress Center
Atlanta, GA**

Presented by:

Rick Etter and Danielle J. Rinsler, AICP
FAA Office of Airports, Airport Planning and
Environmental Division, Washington, DC

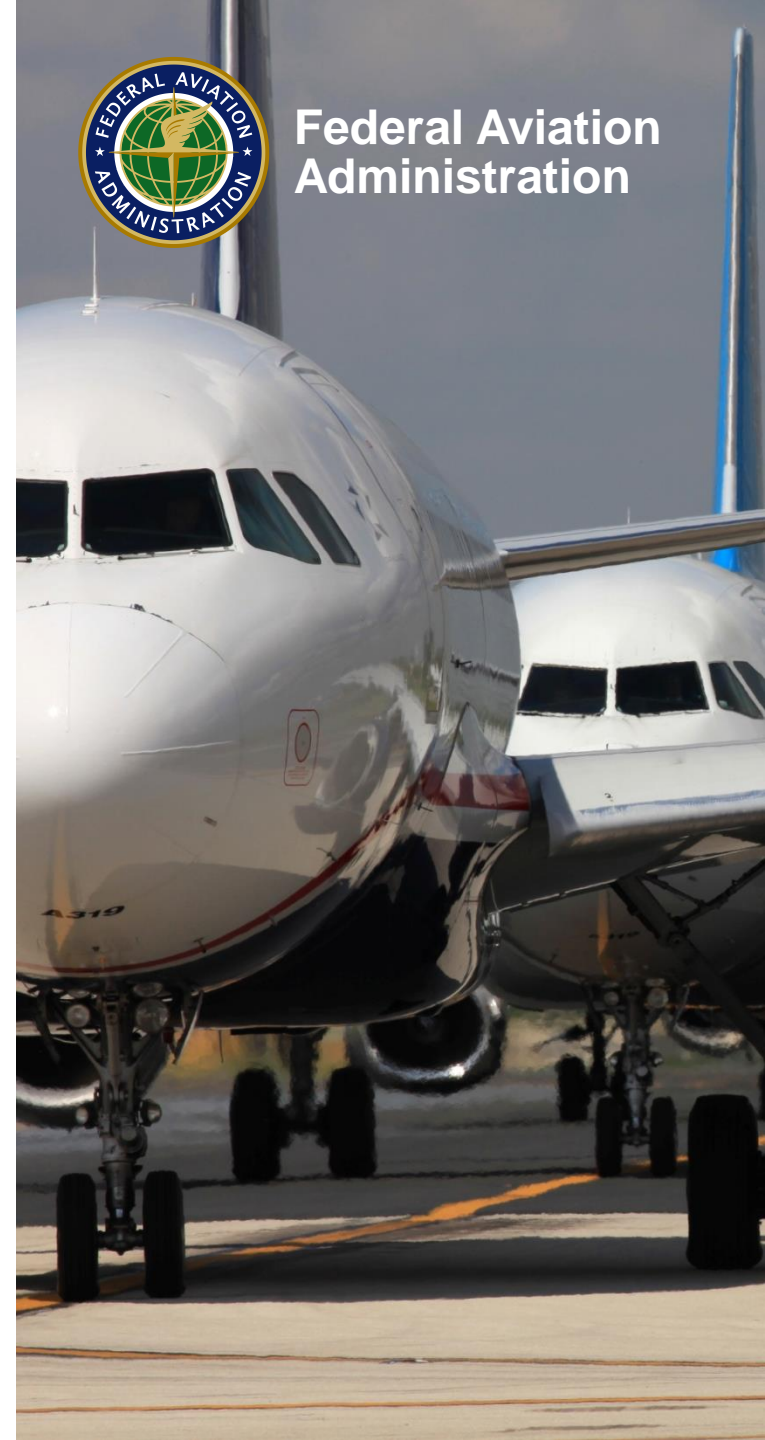
Jacqueline Sweatt-Essick
FAA Southern Regional Airports Division,
College Park, Georgia

Stephanie A.D. Ward, AICP
Mead & Hunt, Inc., Lansing, Michigan

April 26, 2014



**Federal Aviation
Administration**



Agenda

- **Introductions**
- **Land Use Basics**
- **FAA Role**
- **FAA Advisory Circular “Airport Land Use Compatibility Planning”**
 - Consequences of Incompatible Development on Airports and Communities
 - Stakeholders
 - Airport and Local Land Use Planning Coordination
 - FAA Regulations and Guidance
 - Tools and Techniques

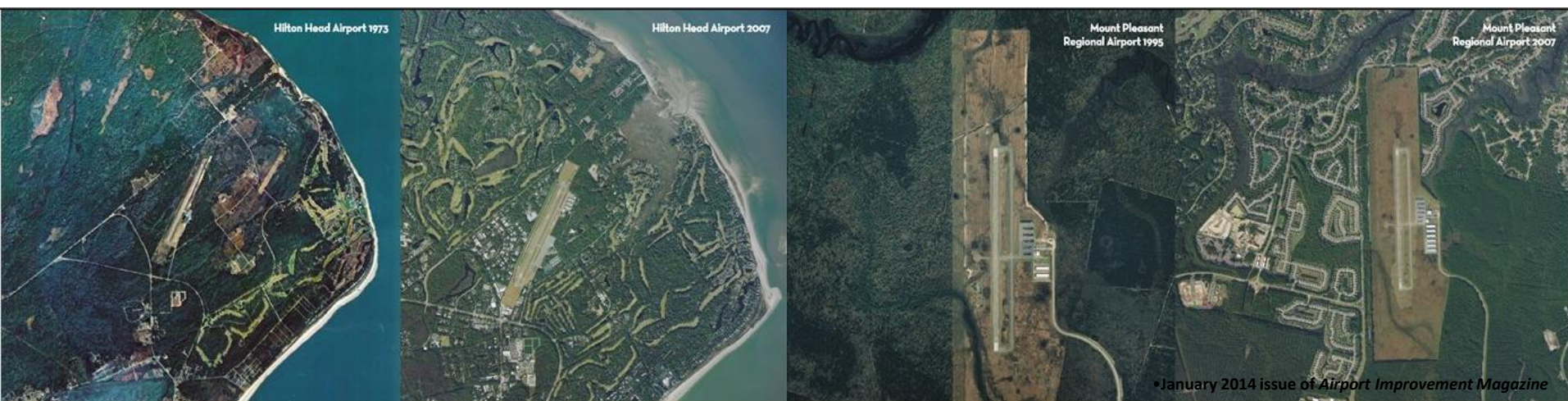
Agenda (continued)

- **FAA Funding for State/Local Airport Compatible Land Use Plans**
 - Section 160 of Vision 100 (PL 108-176)
 - Section 153 of the FAA Modernization and Reform Act of 2012 (PL 112-95)
- **Stakeholder Outreach and Continuing APA Input**
- **Schedule for the Advisory Circular**
- **Questions and Answers**

Land Use Basics

What is considered “compatible”?

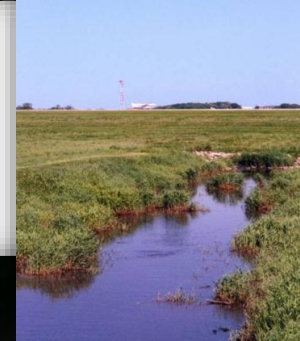
- **Airport compatible land use:**
 - Complies with location, height, and activity restrictions
 - Provides for safe aircraft movement and airport operations
 - Preserves public health, safety, and welfare for people located in proximity of airport



Land Use Basics

What are the areas of concern?

- **5 common concerns:**
 - Noise
 - Concentrations of people
 - Wildlife attractants
 - Tall structures
 - Visual obstructions



Community and Airport Perspectives

How do they differ?

■ Example: Industrial land use

What a community sees:

- Jobs
- Property & income taxes
- Economic impact



•Google

What the airport sees:

- Visual obstructions
- Hazards to flight
- Concentrations of people



•Google

A Difference in Perspectives

Regardless of the variables...maintaining compatibility near airports is important!



US Airways Airbus A320 (flight 1549) struck a flock of migrating Canada geese at 3,100 feet above ground level following departure from LaGuardia Airport; power was lost in both engines.



HERNDON, Va. -- Two people were taken to a hospital after a two-seat, single engine Cessna crashed into the living room of a third-story apartment...The plane crashed through the roof of the apartment building in Herndon after it had electrical problems and its engine cut off, and came to rest on the living room floor... - Huffington Post

Who is the FAA Office of Airports?

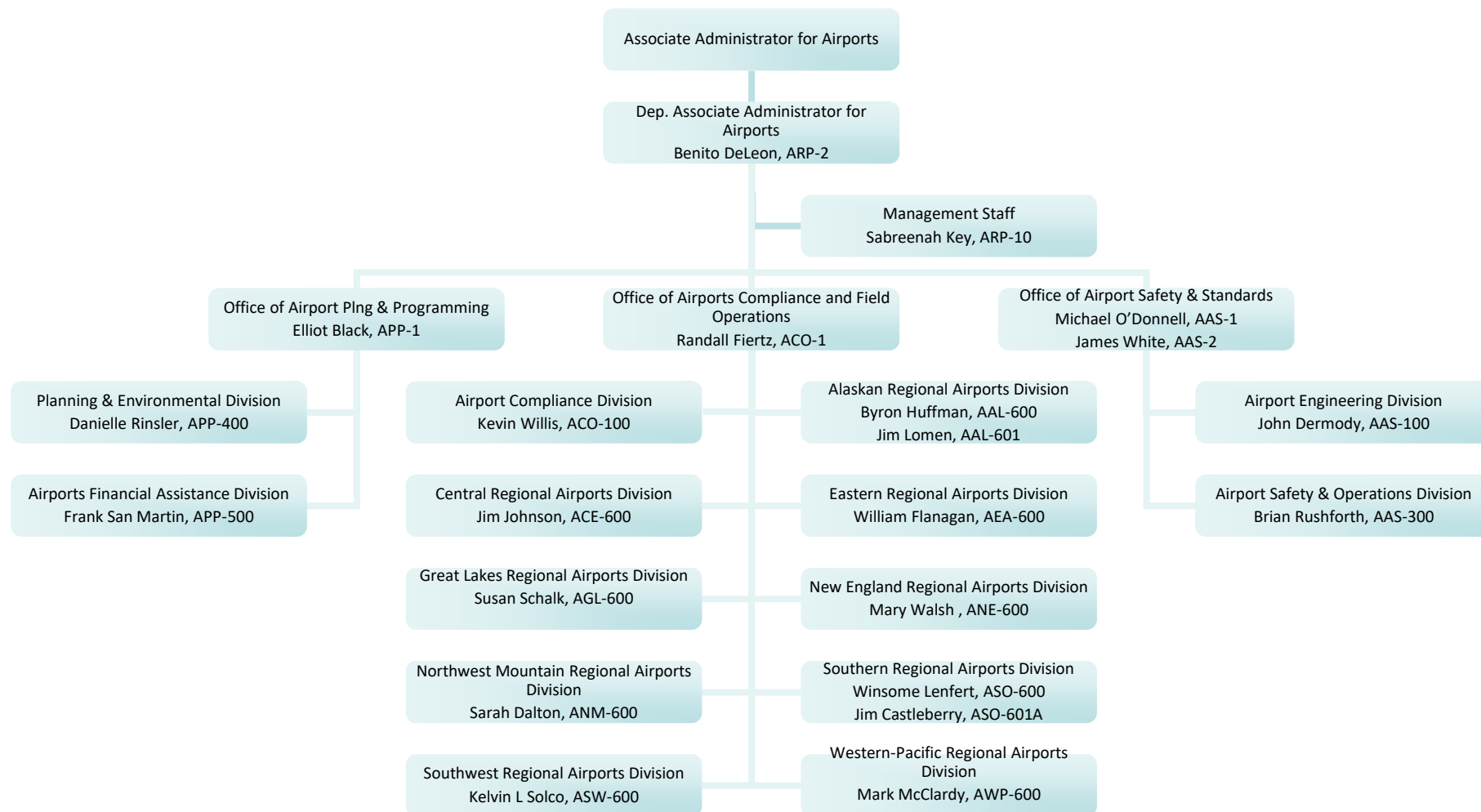
The Airports organization comprises roughly 500 personnel working across the country in—

- 3 Headquarters Offices
- 9 Regional Division Offices
- 21 Airport District/Development Offices

Contact:

https://www.faa.gov/airports/news_information/contact_info/regional/

FAA Office of Airports – Organization Chart




Office of Airports Key Stakeholders

- **Airport owners and operators**
- **Traveling public**
- **Airlines and other aviation system users**
- **Neighboring and impacted communities**
- **State aeronautical agencies**
- **Elected and appointed officials (Federal, state and local)**
- **Other units within the FAA (e.g., Air Traffic Organization, Runway Safety Office, Flight Standards, Flight Procedures, Policy Office)**
- **Other Federal agencies (e.g., FHWA, TSA, USFWS, EPA, Corps of Engineers, etc.)**
- **Federal oversight units (GAO, OIG, OMB)**

Need for Improved FAA Guidance

- **Enhance coordination and consistency between airport master plans and comprehensive land use and general plans**
- **Identify compatible development opportunities and preserve long term operational capability of the airport.**
- **Airports and airspace are often located within and influence multiple jurisdictions**
- **Federal government has limited authority for land use regulation**

Which brings us to the FAA's Advisory Circular Update

 US Department of Transportation Federal Aviation Administration			Advisory Circular		
Subject: A MODEL ZONING ORDINANCE TO LIMIT HEIGHT OF OBJECTS AROUND AIRPORTS			Date: 12/14/87 Initiated by: AAS-100	AC No: 150/5190-4A Change:	

1. PURPOSE.

a. This advisory circular provides a model zoning ordinance to be used as a guide to control the height of objects around airports.

b. This advisory circular has been editorially updated for reprint/stock purposes only. There were no changes made to the content of the advisory circular except to update the format and renumber the document to AC 150/5190-4A.

2. CANCELLATION. AC 150/5190-4, A Model Zoning Ordinance to Limit Height of Objects Around Airports, dated August 23, 1977.

3. FOCUS.

a. Aviation safety requires a minimum clear space (or buffer) between operating aircraft and other objects. When these other objects are structures (such as buildings), the buffer may be achieved by limiting aircraft operations, by limiting the location and height of these objects, or, by a combination of these factors. This advisory circular concerns itself with developing zoning ordinances to control the height of objects, based on the obstruction surfaces described in Subpart C of Federal Aviation Regulations (FAR) Part 77, Objects Affecting Navigable Airspace, current edition. It should be recognized, however, that not all obstructions (objects whose height exceeds an obstruction surface) are a hazard to air navigation.

b. The Federal Aviation Administration (FAA) conducts aeronautical studies on obstructions which examine their effect on such factors as: aircraft operational capabilities; electronic and procedural requirements; and, airport hazard standards. If an aeronautical study shows that an obstruction, when evaluated against these factors, has no substantial adverse effect upon the safe and efficient use of navigable airspace, then the obstruction is considered not to be a hazard to air navigation. Advisory Circular 150/5300-4, Utility Airports--Air Access to National Transportation, current edition, presents additional discussion on hazards to air navigation.

c. Airport zoning ordinances developed for height limitations do not in themselves ensure compatible land use surrounding the airport. Land use zoning, incorporating height limiting criteria, is an appropriate means for achieving this objective. Advisory Circular 150/5050-6, Airport-Land Use Compatibility Planning, current edition, presents generalized guidance for compatible land use planning in the vicinity of airports.

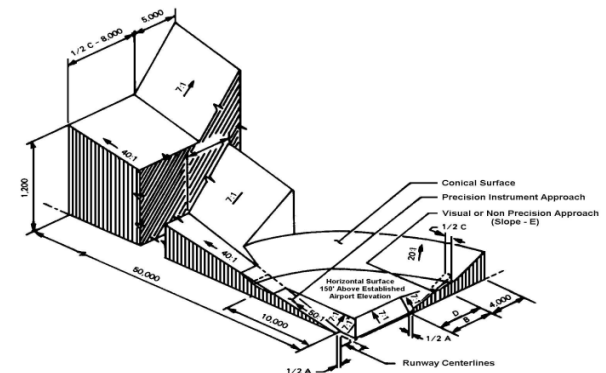
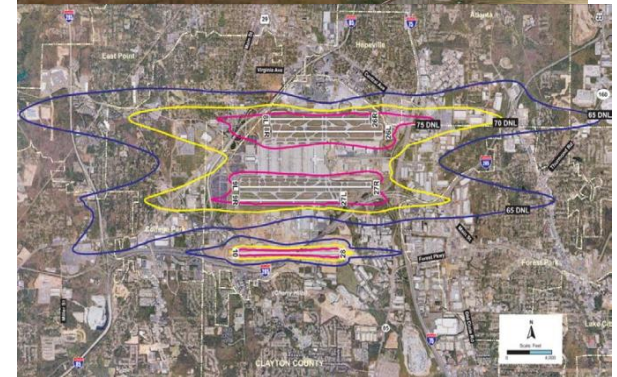
FAA Airport Land Use Compatibility Planning Guidance Objectives

- **Encourage compatible land uses around airports**
- **Facilitate coordination between entities developing airport master plans and local land use or general plans.**
- **Educate airport planners about local land use planning**
- **Inform local land use planners about airport planning**

Advisory Circular Outline

- **Chapter 1** – Introduction
- **Chapter 2 – Land Use Compatibility Concerns**
- **Chapter 3** – Roles and Responsibilities of Stakeholders
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- **Chapter 6** – Tools and Techniques for Land Use Compatibility

- **Noise Sensitive Land Uses**
- **Concentrations of People**
- **Obstructions to Airspace**
 - Tall Structures
 - Visual Obstructions
- **Wildlife Attractants**



Noise Sensitive Land Uses

- **Normally concerned with speech interference indoors.**
- **Federal Standard of Significance**
 - DNL 65 dB
 - Based on Annoyance
- **Noise sensitive land uses include:**
 - Schools
 - Churches
 - Residences
 - Natural Areas Managed for Quiet



Schools



Residential subdivision

Source: Mead & Hunt

Concentrations of People Near Airports

- Concern regarding concentrations of people in close proximity to airports, and especially within runway protection zones (RPZs) and noise sensitive areas
- Land uses include:
 - Residential development
 - Hospitals
 - Schools
 - Recreational/special uses
 - Parking and other transportation facilities



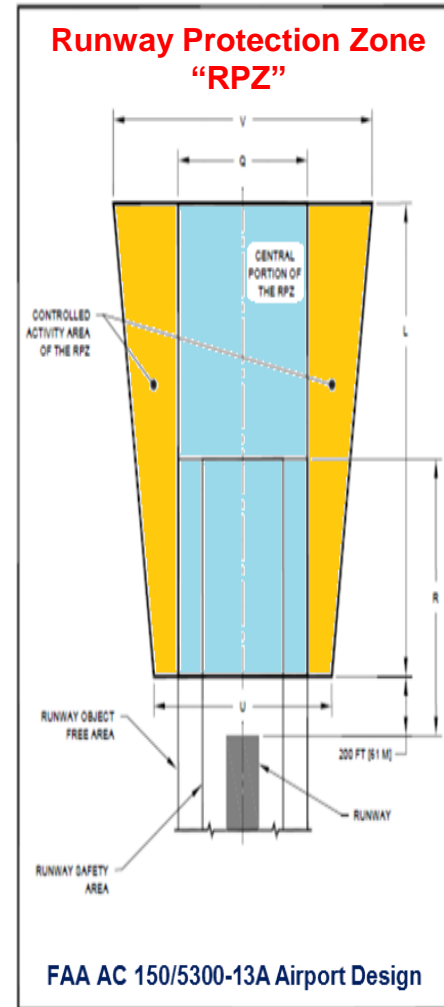
Residential



Recreational



Places of Assembly



Source: Mead & Hunt

Birmingham Example



Recent UPS A-300 Crash in Birmingham, AL



Tall Structures

- **Concern regarding obstructions to flight, including penetrations of FAR Part 77 and other airspace surfaces**
- **Land uses include:**
 - Cell towers
 - Power lines
 - Vegetation
 - Wind turbines
 - Buildings (high-rises)
 - Transportation Structures (elevated roadways, rail facilities)



Cell towers and trees (or towers that look like trees)



Wind turbines



Power lines

Source: Mead & Hunt

Visual Obstructions

- **Concern regarding:**

- Smoke/steam
- Dust
- Glare
- Light emissions

- **Land uses include:**

- Industrial
- Water bodies
- Solar facilities



Glint or glare – solar panels

Source: FAA



Dust – gravel extraction



Light emissions



Steam emissions – industrial

Solar Glare Hazard Analysis Tool (SGHAT) at:

www.sandia.gov/glare

Source: Mead & Hunt

Wildlife Attractants

- **Concern regarding hazards to aircraft**
- **Land uses include:**
 - Municipal solid waste facilities/landfills
 - Sewage treatment facilities
 - Farmland
 - Water bodies including retention ponds
 - Recreational



Land Fills



Wetlands



Recreational uses



Farmland



Ponds

Source: Mead & Hunt

Airport Wildlife Challenges

Population growth



Airport Wildlife Challenges

Increasing wildlife population



Airport Wildlife Challenges

Wildlife rapidly habituate to aviation safety harassment/frightening techniques



Wildlife Strikes



April 26, 2014

Partnering for Airport Land-Use
Compatibility

25

Engine Ingestion of Wildlife



April 26, 2014

Partnering for Airport Land-Use
Compatibility



**Federal Aviation
Administration**

26

Consequences of Non-Compatible Uses

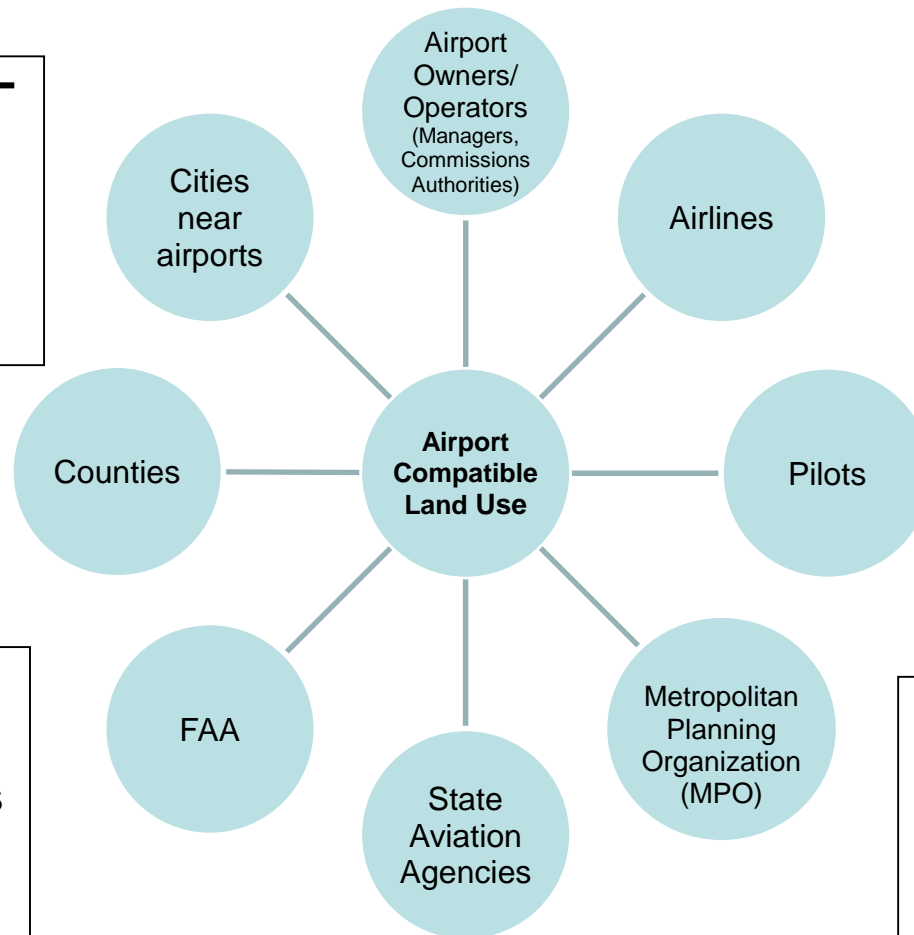
- **Consequences to the aviation system and users:**
 - Impacts to airport viability and air service, including constraining the airport's operations and limiting future airport development
 - Impacts to runway approach and departure surfaces
 - Increased safety risk due to obstructions or wildlife hazards
- **Consequences to people living near airports:**
 - Exposure to aircraft noise and emissions, and safety concerns
- **Consequences to local and regional jurisdictions:**
 - Unrealized local/regional economic development due to airport growth constraints
- **Economic consequences (airport and community):**
 - Potential for litigation (and associated costs)
 - Lost revenue and development opportunities

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Numerous Planning Partners

Local jurisdictions –
Implement and enforce land use decisions through comprehensive planning and zoning ordinances.



FAA –
Reviews air space, develops standards and guidelines, funds projects with grant assurances, makes recommendations

State –
Technical assistance, may authorize zoning, develops standards and guidelines

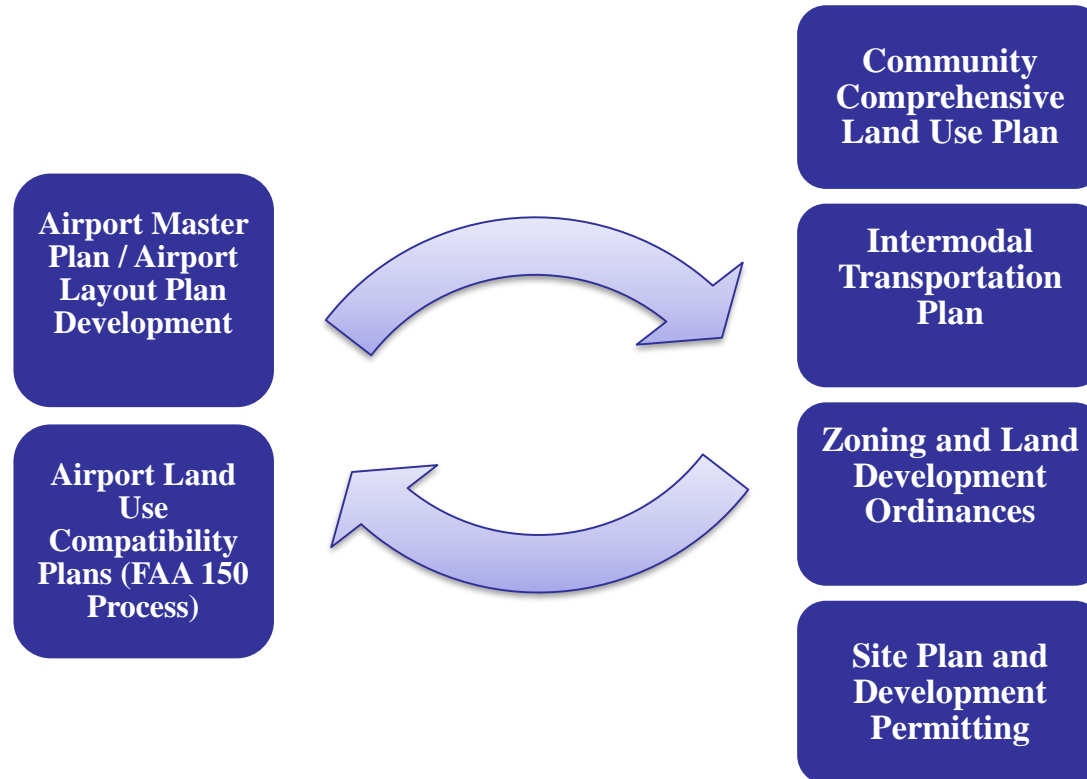
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Airport and Local Planning Coordination

Airport Planning

Local Planning



Advisory Circular Outline

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FAA Regulatory / Guidance References

Code of Federal Regulations

14 CFR Part 77 SAFE, EFFICIENT USE, AND PRESERVATION OF THE NAVIGABLE AIRSPACE

14 CFR Part 150 Airport Noise Compatibility Planning

14 CFR Part 139.337 Wildlife Hazards

40 CFR Part 258.10, Municipal Solid Waste Landfills, Location Restrictions, Airport Safety

<http://www.ecfr.gov/cgi-bin/ECFR?SID=4f29c1a8529ec46bb53bd2bd7e3948a5&page=browse>

FAA Advisory Circulars (AC)

AC 150/5190-4A A Model Zoning Ordinance to Limit Height of Objects Around Airports

AC 150/5020-1 Noise Control and Compatibility Planning for Airports

AC 150/5070 Airport System Planning Process

AC 150/5100-17 Land Acquisition and Relocation Assistance for AIP Assisted Airport Projects

AC 150/5200-33 Hazardous Wildlife Attractants on or near Airports

AC 150/5200-34 Construction or Establishment of Landfills near Public Airports

AC 150/5300-13A Airport Design

AC 70/7460-2K Proposed Construction or Alteration of Objects that May Affect the Navigable Airspace

http://www.faa.gov/airports/resources/advisory_circulars/

Advisory Circular Outline

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Tools and Techniques

- **Airport Land Use Compatibility Plans**
- **Airport Noise Compatibility Plans**
- **Zoning / Permitting Ordinance Development**
 - Overlay Zoning
- **Natural Features – Inventory and Mitigation**
- **Real Property Acquisition and Disclosure**
- **Dedications, Deed Restrictions**

Noise Compatibility Program (14 CFR Part 150)

- **Acquisition For Redevelopment**

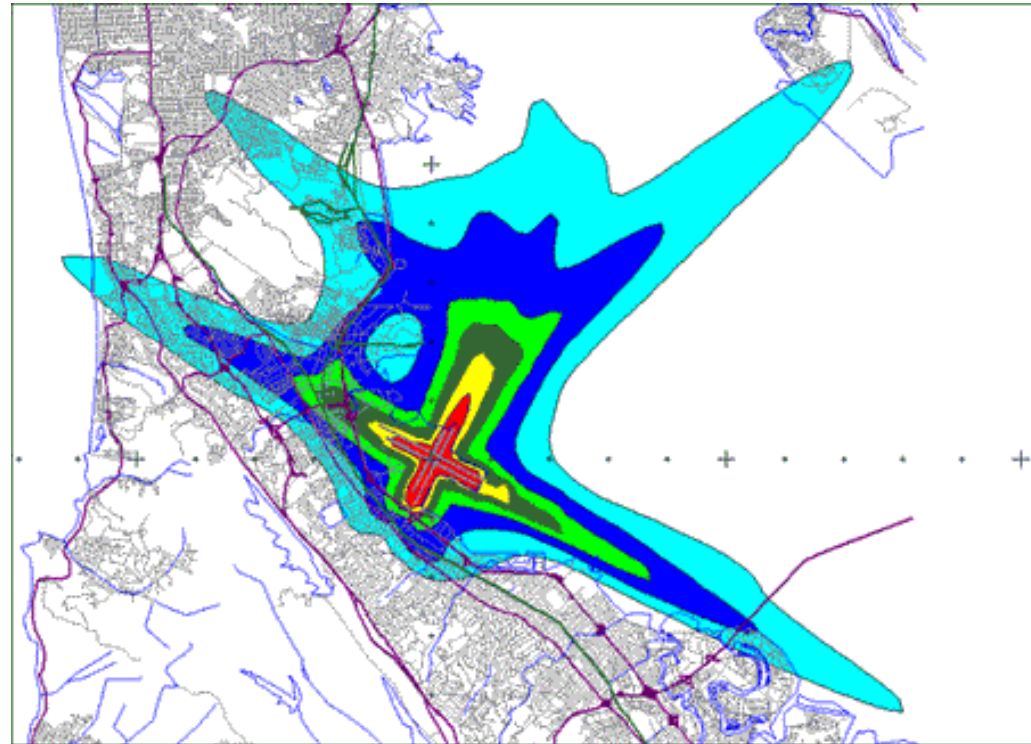
- **Building Codes**

- To ensure interior noise levels of 45 dB or less for noise sensitive structures.

- **Sound Insulation**

- **Sound Barriers**

- **Operational Measures**



Source: Mead & Hunt

Compatible Land Use Planning - State/Local Governments Grants

Section 160 of Vision 100 Century of Aviation (PL 108-176)

Section 153 of the FAA Modernization and Reform Act of 2012 (PL 112-95)

FAA grants **to state and local governments** to develop compatible land use plans for the communities around large and medium hub airports that are **not** covered by active Part 150 program (either no program or 10-year old program). Grant Funding Authority Extended to September 2015.

Chicago O'Hare International Airport

Des Plaines, IL

Harwood Heights, IL

Wood Dale, IL

San Francisco International Airport

San Mateo County, CA

Ontario International Airport

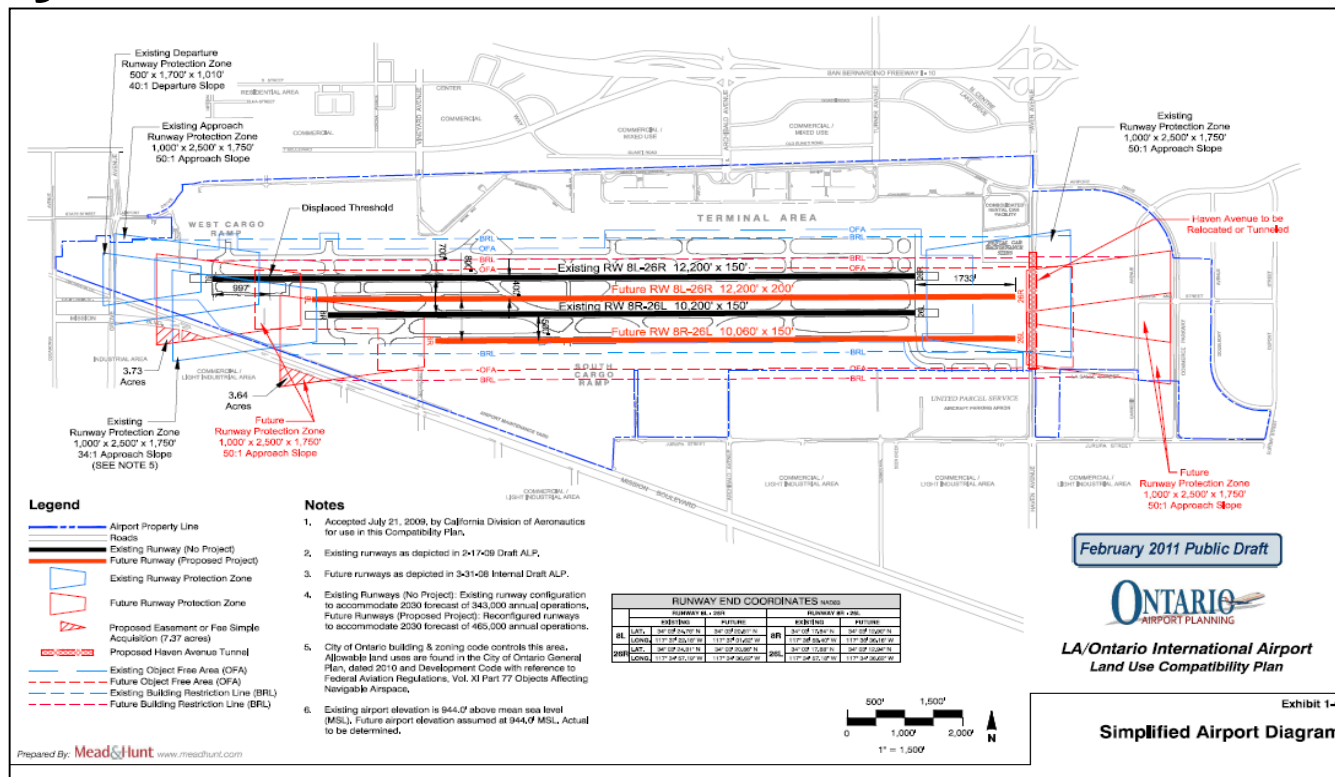
City of Ontario, CA

FAA Program Guidance Letter 05-05 (updated 2012) details AIP Grant requirements.

http://www.faa.gov/airports/aip/guidance_letters/media/PGL_05-05.pdf

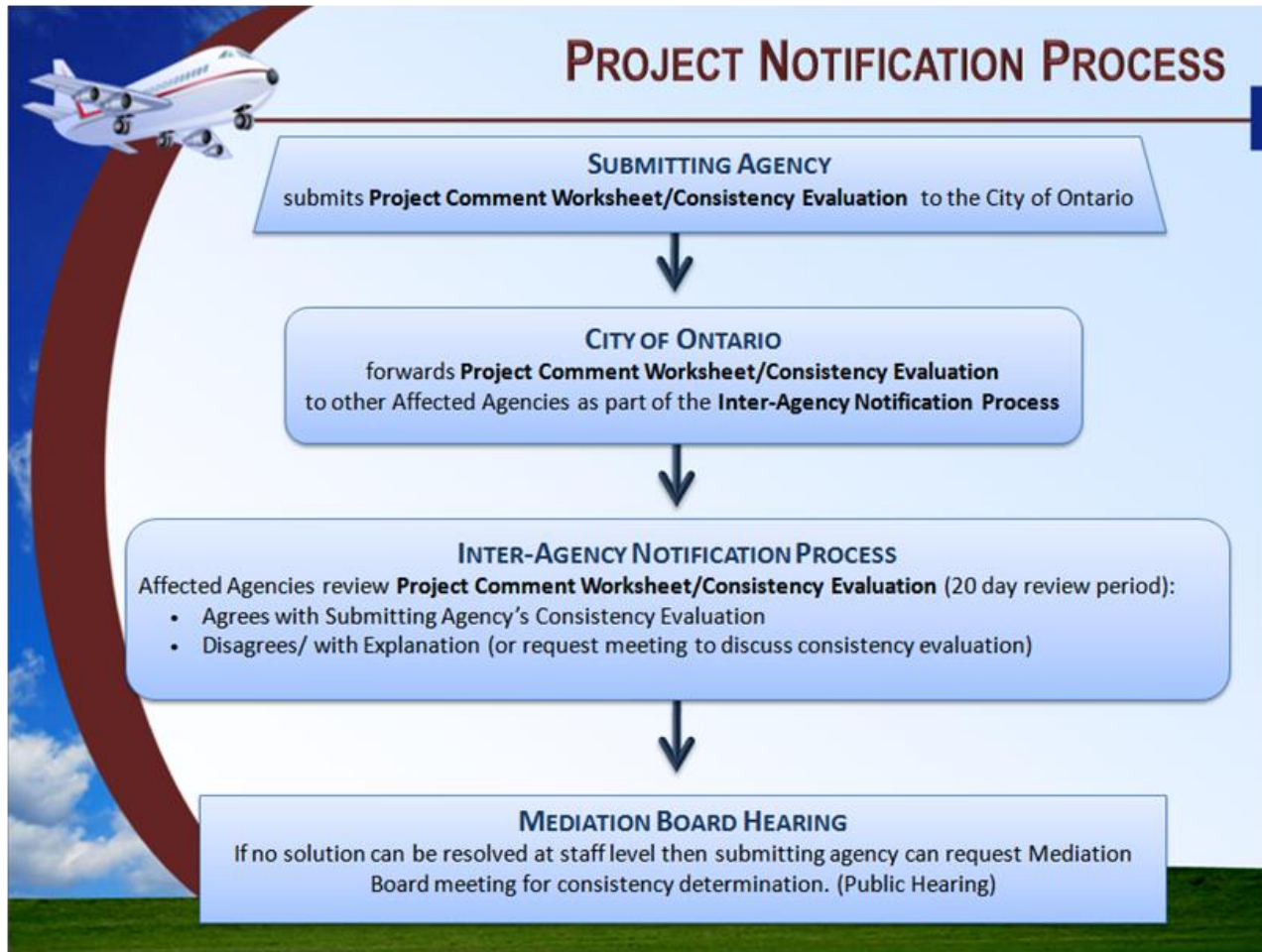
Coordinated Airport Land Use Compatibility Planning

City of Ontario: Ontario International Airport



Source: City of Ontario

Project Notification Process



Source: City of Ontario

Notification Process

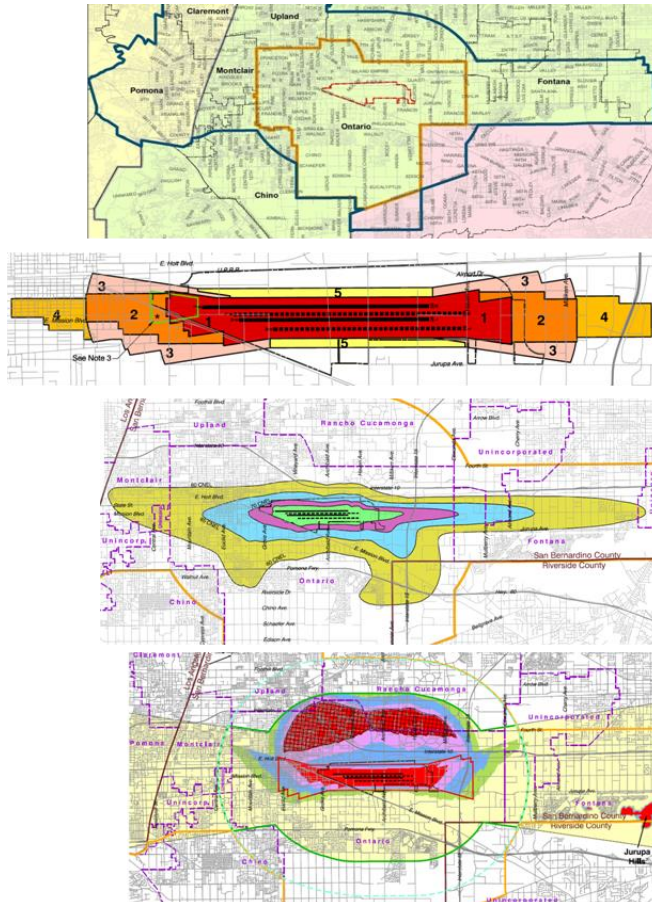


Table 2-1

Major Land Use Actions subject to the ONT Inter-Agency Notification Process

The following types of Major Land Use Actions are subject to the ONT Inter-Agency Notification Process if located anywhere within the Airport Influence Area (*Applies to all Affected Jurisdictions*):

- Expansion or creation of the sphere of influence of a city or district (e.g., annexation or incorporation)
- General Plan, Specific Plan or Zoning Amendments
- Major capital improvements (e.g., water, sewer, roads) that would promote urban development in undeveloped or agricultural areas to the extent that such uses are not reflected in a previously reviewed general plan or specific plan.
- Any proposal for acquisition of a new site or expansion of an existing site by a special district, school district, or community college district.
- Any proposal for construction or alteration of a structure (including antennae) taller than 200 feet above the ground.

The following types of Major Land Use Actions are subject to the ONT Inter-Agency Notification Process only if they are located within a safety zone (*Applies solely to the City of Ontario*):

- Any proposed land use within Safety Zone 1 that is not an aviation-related use.
- Public agency acquisition of sites intended for institutional uses including hospitals, schools, jails or prisons.
- Any discretionary development proposal for projects having a building floor area of 20,000 square feet or greater unless only ministerial approval (e.g., a building permit) is required.
- Proposed development of airport property if such development is not an aviation-related use or has not previously been included in an airport master plan or community general plan reviewed under the Alternative Process.

The following types of Major Land Use Actions are subject to the ONT Inter-Agency Notification Process only if they are located within a noise impact zone of 65+ dB CNEL (*Applies to the City of Ontario, City of Fontana and unincorporated areas of San Bernardino County*):

- Residential development, including land divisions, consisting of five or more dwelling units or individual parcels.
- Any nonresidential use having outdoor dining or gathering functions.
- Public agency acquisition of sites intended for institutional uses including hospitals, schools, jails or prisons.

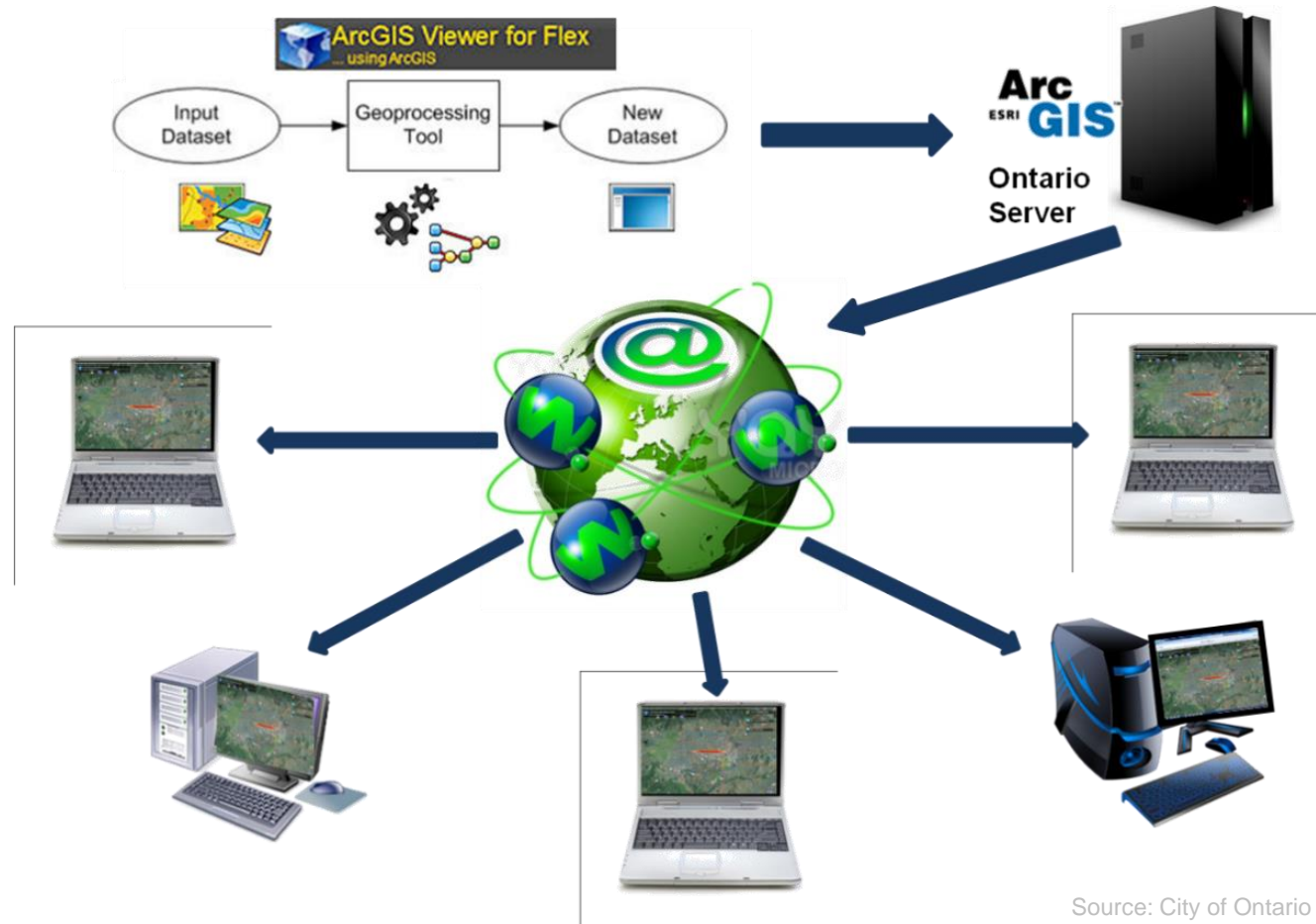
The following types of Major Land Use Actions are subject to the ONT Inter-Agency Notification Process only if they are located within an airspace protection zone (*Applies to all Affected Jurisdictions*):

- Any proposed object (including buildings, antennas, and other structures) having a height that requires review by the Federal Aviation Administration in accordance with Federal Aviation Regulations Part 77, Subpart B.
- Any proposed object (including buildings, antennas, and other structures) that would penetrate the allowable height as defined by Map 2-4 or conflict with the Airspace Protection policies.
- Any project having the potential to create electrical or visual hazards to aircraft in flight, including:
 - Electrical interference with radio communications or navigational signals.
 - Lighting which could be mistaken for airport lighting.
 - Glare in the eyes of pilots of aircraft using the airport.
 - Impaired visibility near the airport.
- Any project (e.g., water treatment facilities, waste transfer or disposal facilities, parks with open water areas), plan (e.g., Habitat Conservation Plan) or proposal to acquire sites intended for lakes, ponds, wetlands, or sewer treatment ponds which would have the potential to cause an increase in the attraction of birds or other wildlife that can be hazardous to aircraft operations in the vicinity of an airport.

Source: City of Ontario

City of Ontario GIS Tool Framework

- All agencies have access to tool
- Hosted and maintained by the City of Ontario
- Web-based application/no software needed by end users



Source: City of Ontario

GIS Tool Benefits

- **Ensures consistent application of the compatibility criteria by all jurisdictions**
- **Expedites compatibility reviews**
- **Preliminary consistency determination**
- **Identifies areas of concern for complex projects**
- **Uniform report generated**

Coordinated Airport Land Use Compatibility Planning

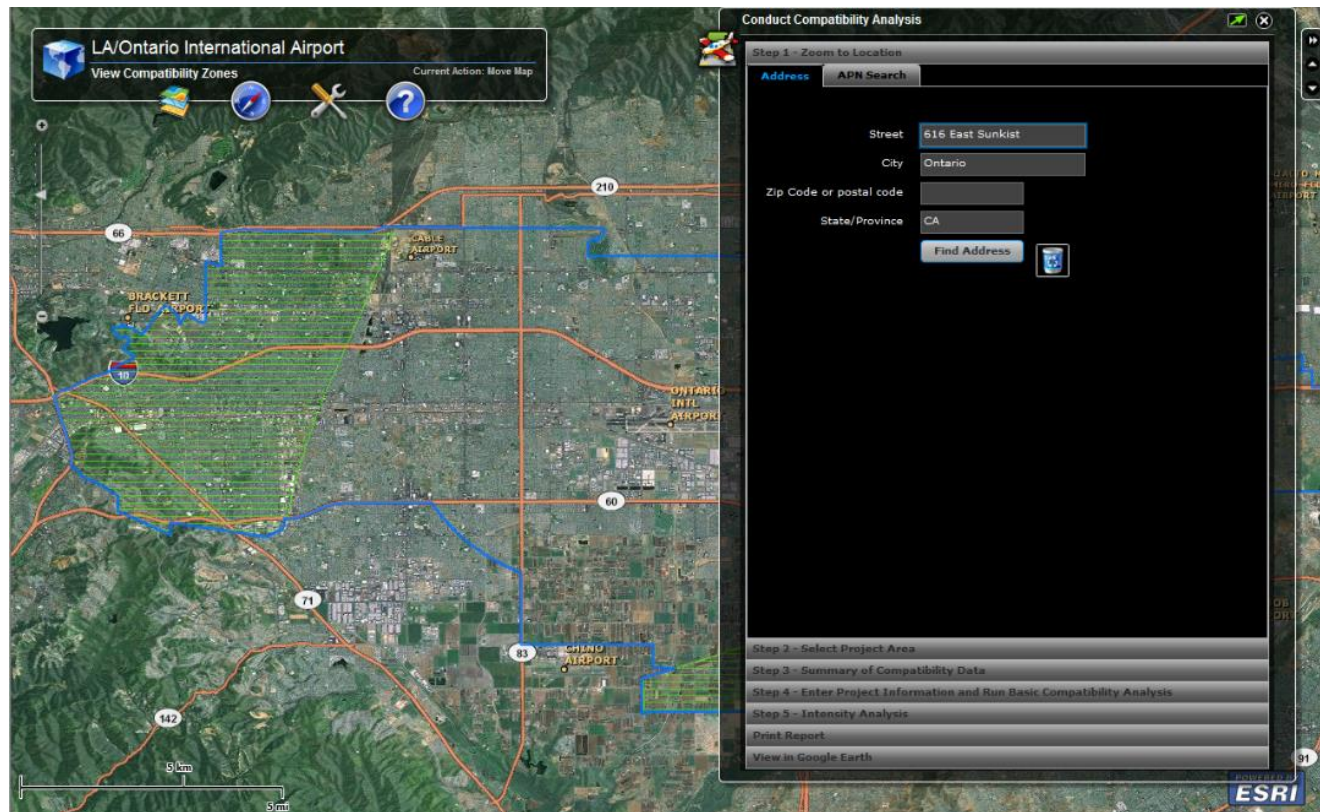
- **GIS Tool**



<http://www.ontarioplan.org/index.cfm/28345/33706>

Coordinated Airport Land Use Compatibility Planning

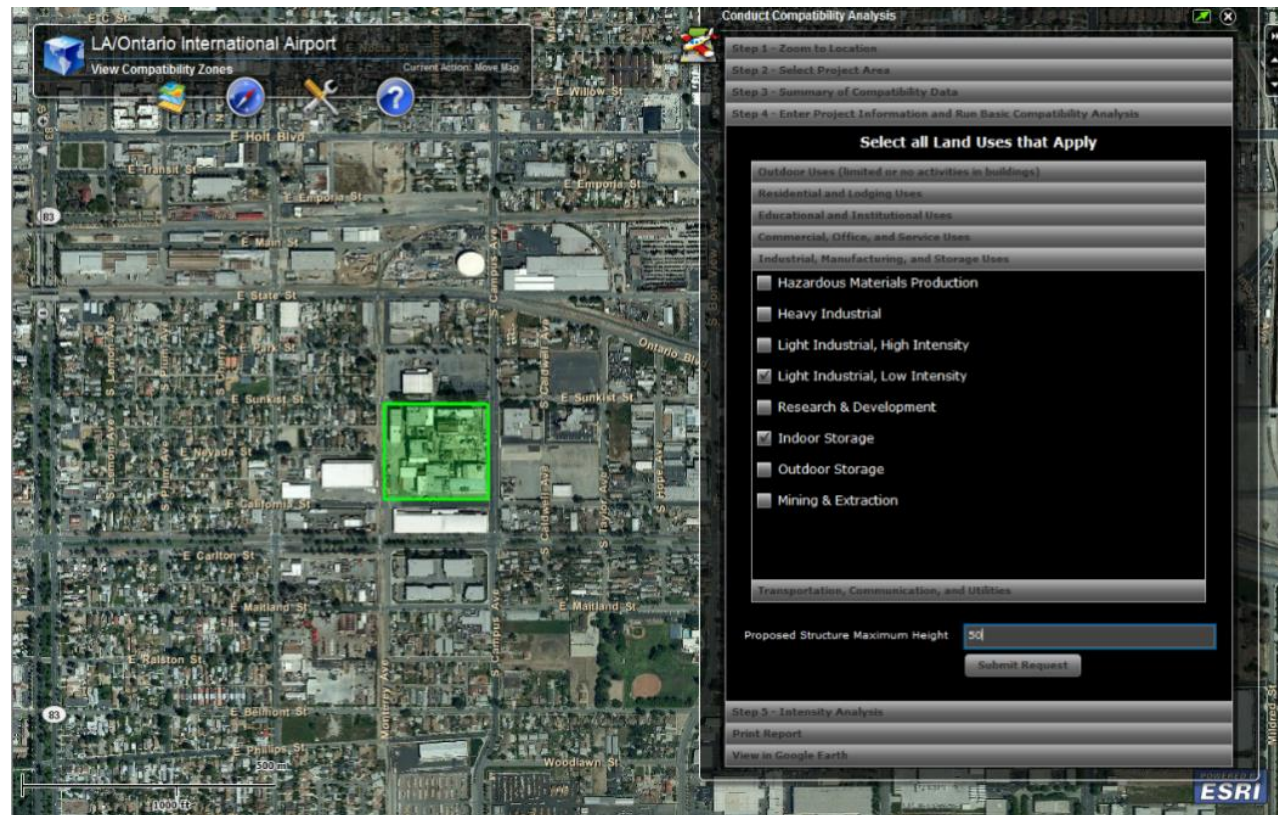
- Enter address for property to be analyzed



<http://www.ontarioplan.org/index.cfm/28345/33706>

Coordinated Airport Land Use Compatibility Planning

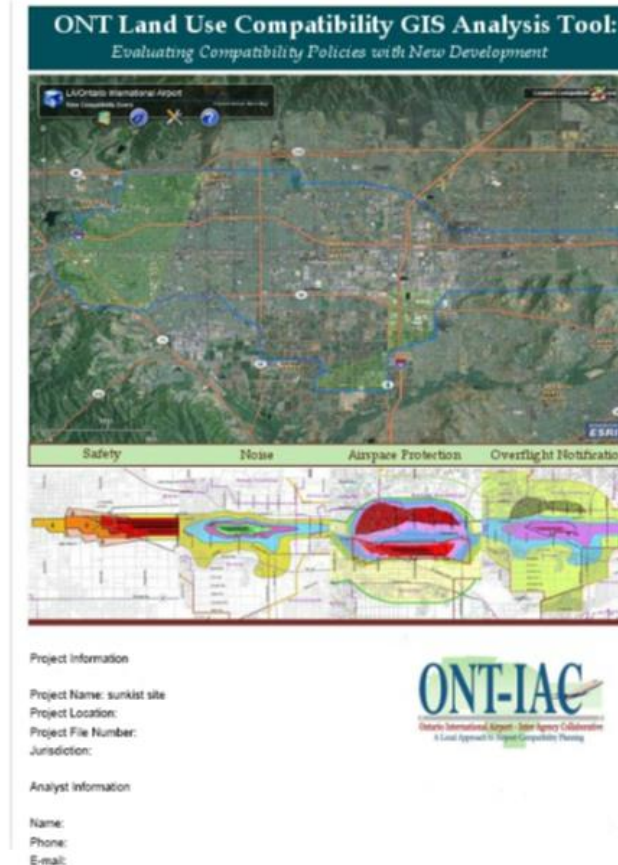
- Identify proposed uses for the site
- Enter maximum height for proposed structure



<http://www.ontarioplan.org/index.cfm/28345/33706>

Coordinated Airport Land Use Compatibility Planning

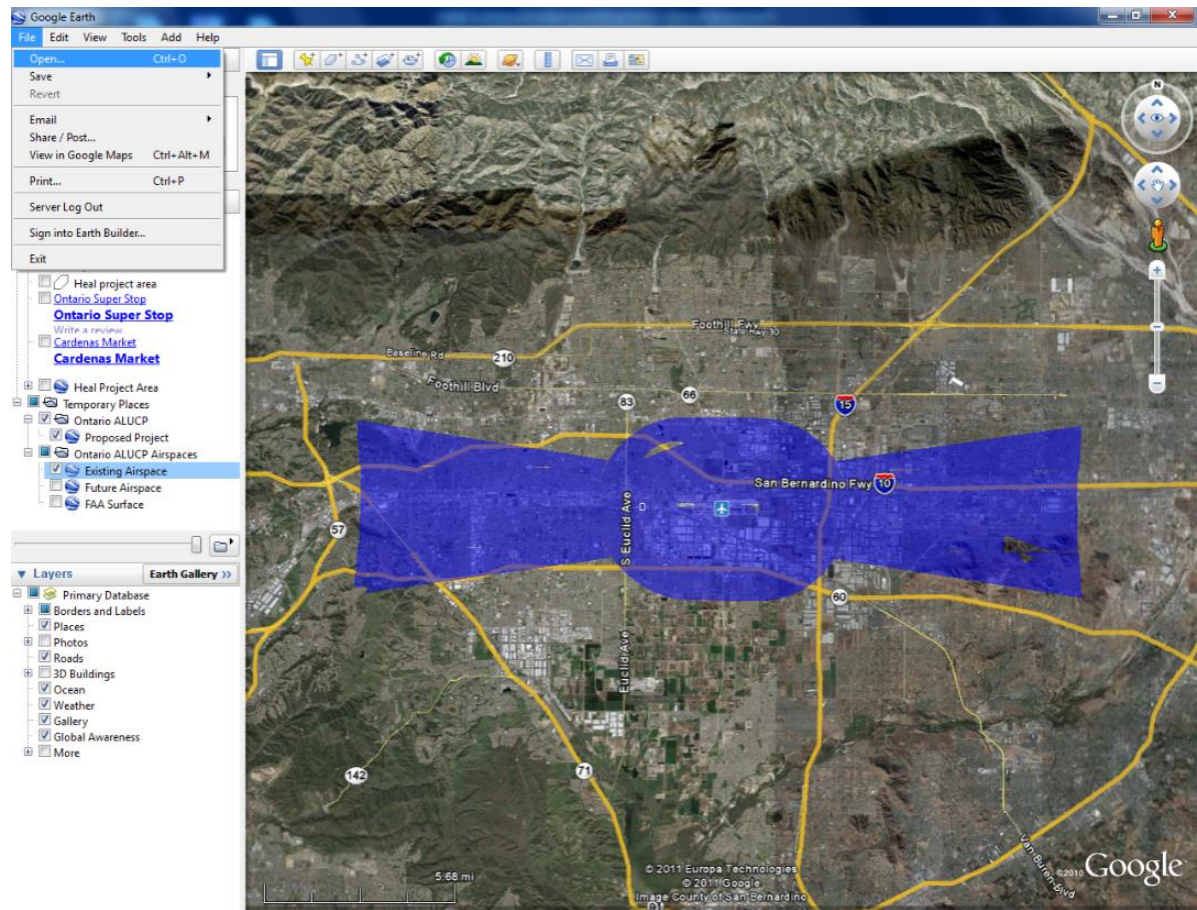
- Report generated for each respective area screened



Source: City of Ontario

Coordinated Airport Land Use Compatibility Planning

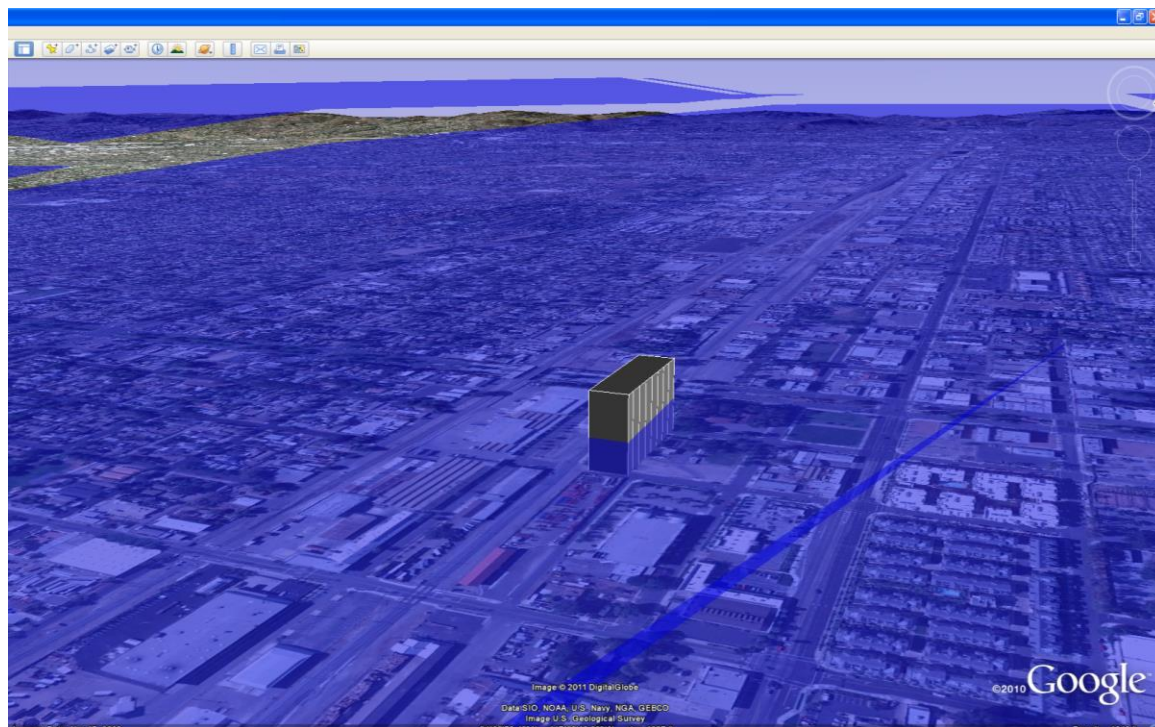
- **View output (exported as .kmz) in Google Earth**
- **Review proposed development with airspace overlay**



<http://www.ontarioplan.org/index.cfm/28345/33706>

Coordinated Airport Land Use Compatibility Planning

- Review whether object protrudes through imaginary surfaces
- Utilize results to inform planning



<http://www.ontarioplan.org/index.cfm/28345/33706>

Ongoing Coordination and Input

- **Aviation/Airport stakeholders, including:**
 - National Association of State Aviation Officials (NASAO)
 - American Association of Airport Executives (AAAE)
 - Airports Council International – North America (ACI-NA)
 - Airports Consultant Council (ACC)
 - Aircraft Owners and Pilots Association (AOPA)
- **American Planning Association**

Advisory Circular Completion Schedule

- **Complete Preliminary Draft AC – April 2014**
- **Industry Review / Comment – June 2014**
- **Final Review Draft Complete – End of CY 2014**
- **Publication – Early 2015**
- **Outreach and Education – Ongoing**

Questions?

Where to Get More Information:

<https://www.faa.gov/airports/environmental/>

APA Conference DEEP DIVE Session:

Airports and Community Compatibility

Tuesday, April 29th – 2:30 - 5:15 PM

Location: GWCC-C211/C212/C213

Rick Etter, rick.etter@faa.gov

Danielle Rinsler, AICP, danielle.rinsler@faa.gov

Jackie Sweatt-Essick, jackie.sweatt-essick@faa.gov

Stephanie A.D. Ward, AICP, stephanie.ward@meadhunt.com