

## Effective Airport Zoning Ordinance (AZO)

An effective AZO seeks to prevent development of land uses that are incompatible with the airspace protection requirements, noise and safety impacts, and aircraft overflight annoyance created by airport operations. An AZO that is context specific and addresses the specific concerns of the airport operator and host community has a better chance of garnering local support and consistent implementation.



Communication, education, and outreach are key elements for establishing relationships and gaining support for the adoption and implementation of airport compatibility regulations.

For more information about the *ACRP Research Report 206: Guidebook on Effective Land Use Compatibility Planning Strategies for General Aviation Airports*, go to: <http://www.trb.org/Publications/PubsACRPPublications.aspx>.

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## Strategies by Stakeholder

### Airport Manager

- Spearhead the compatibility effort
- Be the trusted advisor
- Develop relationships with stakeholders
- Garner support from elected officials

### Airport Sponsor Agency

- Understand the advantages/disadvantages of the organization's structure
- Recognize the need to plan ahead
- Assess the status of current airport compatibility regulations
- Encourage collaboration
- Enhance agency communications

### Community Planning Department

- Understand the issue
- Involve airport management
- Promote airport compatibility
- Consider airport in land use planning efforts

### Local Governing Body (Elected Officials)

- Understand the issue
- Adopt and implement compatibility regulations
- Provide transparency

## Strategies for Improving Local Processes

- Gain local support for the airport
- Promote understanding of the importance of airport land use compatibility and the consequences of incompatible uses
- Understand state airport compatibility laws, guidance, and aviation services
- Adopt local regulations that include a map and define the compatibility review process
- Implement compatibility regulations
- Provide regular agency outreach and education

## Strategies for State Agencies

- Support state airport compatibility legislation
- Provide guidance, education, and tools
- Monitor and get involved in local land use actions

# Effective Compatibility Planning Strategies for General Aviation Airports

GA Airports attract business and provide other essential services. [Right]



Potomac Airfield, MD. Google Earth, 2018.

### Compatibility Issue [above]

Residential encroachment off runway end; road aligned with runway is confusing to pilots

### Compatibility Issue [right]

Land uses attracting birds



Busy GA Airport. Napa County Airport, CA. Mead & Hunt Inc. 2010.

## Introduction

General aviation airports are an integral link to our nation's transportation system and contribute to the vitality of our economy.

One of the greatest concerns facing airport operators today is encroachment by incompatible land uses that can threaten or limit airport operations.

Collectively and over time, poor land use decisions can lead to the restriction of airport activity or to airport closure, slowly eroding our aviation system.

Equally important, incompatible land uses can attract people into areas where they will be exposed to disruptive noise levels or to safety hazards.



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## What are airport compatible land uses?

A compatible land use is one that allows airports to operate safely and efficiently without exposing people that are living or working nearby to aircraft noise or other aviation-related effects. Four factors are considered for land use compatibility: aircraft noise exposure, aircraft overflight, safety, and airspace protection.

### Noise/Overflight: Sensitive Uses



Landing Plane. Freebie Photography: [https://freebie.photography/transport/slides/landing\\_plane.htm](https://freebie.photography/transport/slides/landing_plane.htm).

### Safety: Concentrations of People



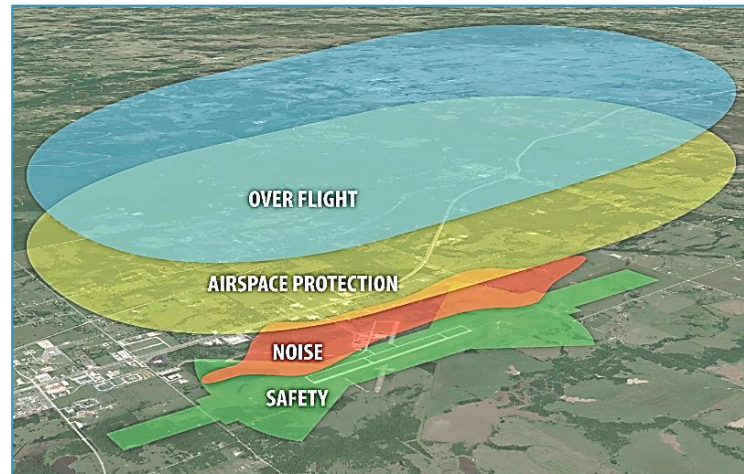
Big Band Concert. Pexels-photo-302839.

### Airspace Protection: Physical Obstructions



Wind Turbines on the Field. Publicdomainpictures.net.

### Geographic extent of primary compatibility factors



Mead & Hunt, Inc. (2018)

## Airport Compatibility Concerns

Nationally, airspace protection is considered to be the most basic and critical compatibility concern. Locally, any of the other three compatibility factors may be equally important.

### Overflight

Concern: Annoyance

Objective: Increase buyer/renter awareness of airport proximity

### Airspace Protection

Concern: Hazards to flight

Objective: Avoid new hazards (physical obstructions, visual obstructions, wildlife attractants)

### Noise

Concern: Disruption of human activities

Objective: Avoid new noise-sensitive uses in noise impacted areas

### Safety

Concern: Risk to people and property

Objective: Limit number of people

### Airspace Protection: Visual Obstructions (e.g., steam, glare)



Power Plant, Brown Coal Industry. Pixelbay.com.

## Consequences of Incompatibility

### Impacts to Airports

Incompatible land use can constrain an airport's operations and limit future development by:

- Impacting safe runway approach and departure procedures, especially in inclement weather
- Creating flight hazards caused by obstructions or wildlife attractants
- Causing community conflicts or negatively impacting community support for the airport

### Consequence:

#### Community opposition to airport



### Consequences to Airport Neighbors

Airport operations can expose the community to:

- Aircraft noise and emissions
- Safety risks, such as aircraft crashes

### Economic Consequences

Encroachment can reduce economic growth by:

- Constraining airport businesses
- Reducing local/regional economic development generated by airport growth constraints
- Losing revenue and development opportunities

## Who is responsible for land use compatibility?

### FAA

Protects the national airspace by reviewing proposed construction via Form 7460-1 submittals. Develops standards and guidelines. Holds airport sponsors to grant assurances (Nos. 20 and 21) addressing airport compatibility.

### States

Develop regulations and guidelines. Some states provide oversight, guidance, tools, and technical assistance.

### Local Jurisdictions

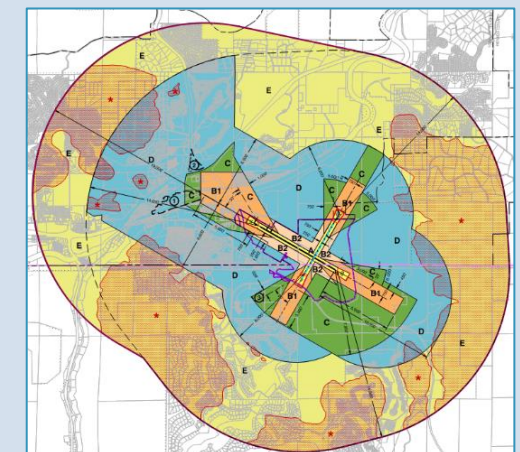
Adopt plans, policies, and zoning ordinances to promote land uses that are compatible with airport operations and prevent ones that are not.

### Airport Managers and Sponsors

Advocate for adoption of airport compatibility measures. Contribute expertise and awareness to measures for implementation and enforcement.

## How is compatibility achieved?

An adopted Airport Zoning Ordinance (AZO) is the most effective and direct tool available for promoting land use compatibility. A map is essential and should be included in the AZO to define the areas subject to compatible land use policies and regulations. The AZO should provide a clearly defined review process that describes the roles and responsibilities of the FAA, state aviation, agency, airport management, and local agencies.



Mead & Hunt, Inc. Truckee Tahoe Airport Land Use Compatibility Plan. (2016)