ARIZONA
DEPARTMENT OF
TRANSPORTATION

ARIZONA AIRPORT LAND USE MANUAL *(ALUM)*

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Foreword: Introduction to the Manual

The Arizona Department of Transportation Aeronautics Group (ADOT Aeronautics) recognizes that airports are important community assets and are vital to the multimodal transportation network within and outside of the state. While historically airports were constructed on the outskirts of communities where open land was abundant and aircraft operations did not interfere with people living and working in town, over time, the population grew as did the development needed to support that growth. Many airports that were once unconstrained, are now surrounded by development, and while airports across the country experienced this encroachment, communities and airports in Arizona saw fast and extreme growth as people flocked to the southwest to live in warmer climates.

As the state agency responsible for airports' safe and continued operation, ADOT Aeronautics sponsored this Arizona Airport Land Use Manual (Manual) to provide guidance for airports and their communities to proactively plan for growth and development that is compatible with nearby airports. The intent of this Manual is to be a statewide resource for a variety of interested parties, including airport sponsors, local planning agencies, developers, real estate professionals and others on the topic of airport land use compatibility. This document is comprehensive and covers critical elements of land use compatibility, including important definitions, characteristics of incompatible development, roles and responsibilities for achieving compatibility, ways land use practices are administered, strategies for achieving land use compatibility, and guidance on when to start taking action.

To further support local efforts to establish new (or improve current) land use practices, this Manual is accompanied by several appendices which include helpful tools and templates to kick-start the planning. Examples of these tools include a model airport disclosure map template, a model airport zoning overlay, model real estate disclosure, rights of first refusal, and more and they can be found starting in **Appendix A. Model Airport Disclosure Map Template**.

It is important to note that the information and guidance shared in this Manual are intended to provide a foundational understanding of what airport compatible land use planning is and how to achieve it. ADOT Aeronautics acknowledges that every community and airport is unique and there is no one-size-fits-all approach to implementing airport compatibility land use practices. This Manual and the companion appendices were developed such that users can pick and choose the information and tools that are most applicable to their community. Read on for more information:

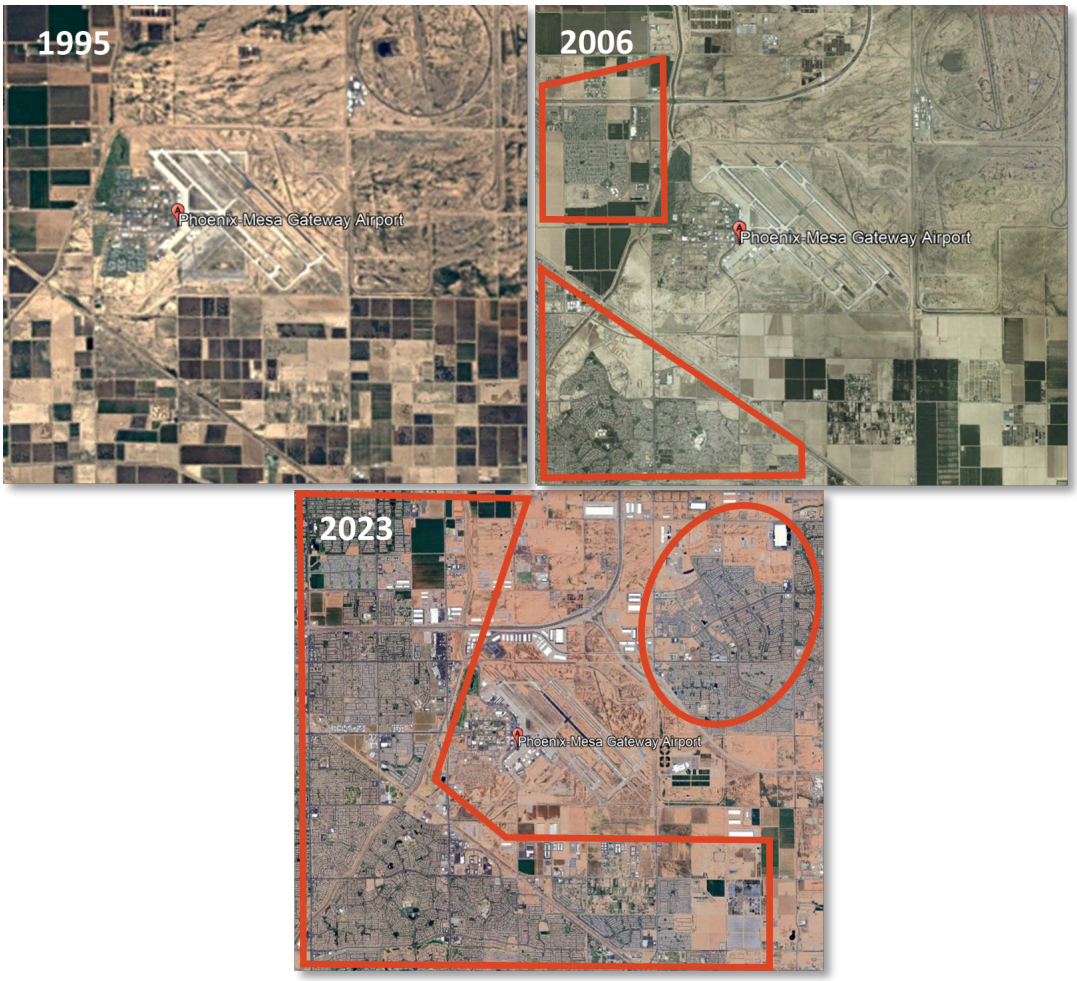
- **Chapter 1. Airport Land Use Compatibility and Why It Is Important**
- **Chapter 2. Roles and Responsibilities for Promoting and Achieving Land Use Compatibility**
- **Chapter 3. Strategies for Achieving Land Use Compatibility**
- **Chapter 4. How and When to Take Action**
- **Appendices**

Chapter 1. Airport Land Use Compatibility and Why It Is Important

Definition and History

Historically, compatible land use near airports was largely overlooked as a relevant topic. Many of the early airports were built outside of nearby cities and towns, which contributed to decades of inattentive land management practices. It was not until the 1950s that land use compatibility near airports became a subject more widely talked about, following a rise in aircraft accidents at airports located in metropolitan areas. Then President Harry S. Truman commissioned Jim Doolittle to develop a document that addressed the issue at hand. In the subsequent report titled The Airport and Its Neighbors, Doolittle ascertained that a national issue related to airports and compatible land uses existed and threatened the continued success of aviation and the health and safety of communities living near airports. The report identified 25 actions or recommendations needed at the national, local, and community levels to preserve and protect airports from incompatible land uses. Significant findings that emerged from the report included the importance of cooperative planning efforts between local government and airports, as well as effective zoning practices. Although issues related to incompatible land uses still exist today, the Doolittle Report set a foundation that subsequent federal acts and reports were built upon. **Figure 1-1** demonstrates encroaching development within the Phoenix-Mesa Gateway Airport environment over approximately 20 years.

Figure 1-1. Example Urban Sprawl near Phoenix-Mesa Gateway Airport (1995-2023)



Source: Google Earth, 2024.

Additional federal actions have since been enacted supporting goals from the Doolittle Report, such as the creation of Title 14 of the Code of Federal Regulations (CFR) Part 77 - *Safe, Efficient Use, and Preservation of Navigable Airspace* legislation which establishes several three dimensional "imaginary" surfaces around airports that are intended to protect the airspace needed for safe aircraft operations. Furthermore, various states were early adopters of land use initiatives, such as Minnesota, California, Oregon, and Washington which took steps to address land use compatibility issues using a variety of methods such as zoning laws, airport land use commissions (ALUCs), land use guidebooks, and state enabling legislation.

Recognizing that land use concerns near airports would only increase as the U.S. population grew, the Transportation Research Board's (TRBs) Airport Cooperative Research Program (ACRP) published Report 27: Enhancing Airport Land Use Compatibility in 2010 which defines compatible land as, **"…those uses that can coexist with a nearby airport without either constraining the safe and efficient operation of the airport or exposing people living and working nearby to unacceptable levels of noise or hazards."**[1] The report covers a wide range of airport land use topics including the history of land use compatibility, the roles and responsibilities of stakeholders, pertinent federal and state regulations, economic impacts of incompatible land use, noise compatibility, safety concerns, and techniques and tools for planning compatible land uses. It also discusses common issues throughout the industry related to land use and identifies resources available to airports and communities to address them. Until recently, this ACRP report served as the most recent guidance available on the topic of airport compatible land use. In 2022, the FAA released *Advisory Circular (AC) 150/5190-4B, Airport Land Use Compatibility Planning* which replaced an older AC from 1987 that was primarily focused on height and airspace concerns. AC 150/5190-4B is a more comprehensive resource that provides the FAA's take on all aspects of land use compatibility near airports. This Manual will touch on many of these elements.

Introduction to the Airport Environment

The issue of land use compatibility is not confined to an airport's property boundary. While the FAA defines several safety-related areas surrounding or close to an airport's runway(s) which may be contained within an airport's property envelope, it is not uncommon for certain protected areas to extend beyond the property line, in addition to airspace which is protected far beyond an airport's location. As such, the practice of compatibility planning is equally important on- and off-airport and requires a concerted effort by airports and their communities to implement effective protections.

It is important to recognize that the scope and scale of the protected areas around an airport can vary greatly from one airport to another. The size of these areas is based upon the facilities an airport has, the type of aircraft the runways are designed for, and the type of navigational aids available for pilots to use when landing on a runway. To understand the general size of these protected areas, short descriptions and illustrations are provided in the following pages and are separated into two groupings: those areas in the immediate vicinity of an airport/runway, and the areas protected further from an airport associated with airspace protection. Specifics on the critical areas around airports that are defined and regulated by the FAA can be found in **Chapter 2. Roles and Responsibilities for Promoting and Achieving Land Use Compatibility**. It is important to note that this is not an all-inclusive list of protected areas but those of most relevance for the purposes of this Manual.

1 Airport Cooperative Research Program (ACRP), "*Report No. 27, Enhancing Airport Land Use Compatibility*", September, 2010.

Protected Areas in an Airport's Immediate Vicinity

The following four areas described and depicted in the airport environment are defined based on the design of a runway(s) at an airport. In most cases, the majority of these areas are contained within an airport's property boundary and are under full control of the airport but there are exceptions (e.g., an airport may only own some of the property within their Runway Protection Zones [RPZs]). It is important to note that the size and placement of these areas may change over time if airports are planning for future expansions (e.g., runway extensions) and the future size and location of these areas should be protected early so the planned expansions can move forward. See **Chapter 3. Strategies for Achieving Land Use Compatibility** for more information on Airport Layout Plans (ALPs) which illustrate current and future planned airport infrastructure.

Runway Safety Area (RSA)

The RSA is a two-dimensional rectangular area closely surrounding a runway that is intended to enhance the safety of aircraft that may undershoot, overrun, or veer off the runway. This is a flat graded area which is completely clear of any objects, except those fixed by function for air navigation. The size of an RSA depends on the size of a runway and the type of aircraft it is designed to accommodate. The width of an RSA can be as wide as 500 feet, measured 250 feet on either side of the runway centerline, and extend up to 1,000 feet beyond the ends of a runway.

Runway Object Free Area (ROFA)

The ROFA is a two-dimensional rectangular area centered on a runway in which objects are not allowed other than those needed for air navigation or the maneuvering of aircraft on the ground (e.g., aircraft wings may extend into the ROFA). ROFA dimensions are dependent on the runway design and can be as wide as 800 feet and have a length of 1,000 feet beyond the runway end.

Runway Obstacle Free Zone (ROFZ)

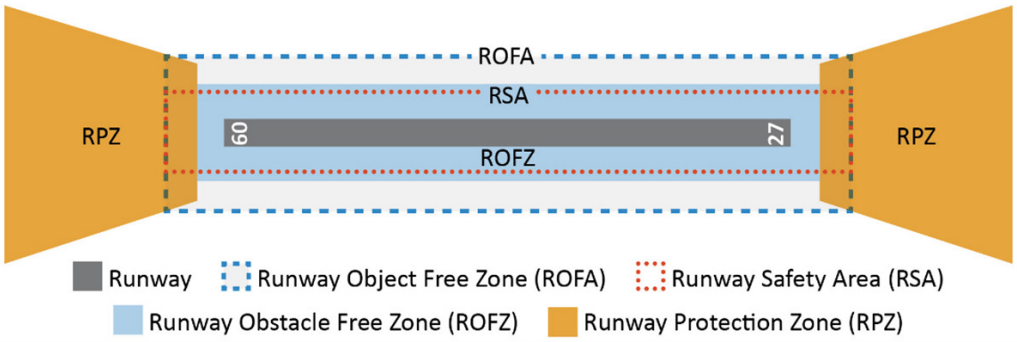
The ROFZ is a three-dimensional rectangular area that encompasses the airspace above a runway up to 150 feet above the ground. The ROFZ extends 200 feet beyond the runway end and the width varies from 120 feet to 400 feet dependent on runway design and runway approaches available. Similar to the RSA and ROFA, the ROFZ only contains those objects necessary for air navigation.

Runway Protection Zone (RPZ)

The RPZ is a two-dimensional trapezoidal-shaped area located off each runway end designed to protect people and property in the event of a runway undershoot or overrun. The size of the RPZ is based upon the design of the runway and the runway approaches available. The RPZ begins 200 feet from the end of a runway's usable pavement and widens as it moves away from the runway. The length can vary between 1,000 and 2,500 feet.

Figure 1-2 depicts the general location of the RSA, ROFA, ROFZ, and RPZ in relation to the runway.

Figure 1-2. Runway Protected Surfaces



Source: Kimley-Horn, 2024.

Protected Airspace

Extending beyond the area immediately surrounding an airport/runway, the FAA defines three-dimensional areas which are intended to protect the airspace used by aircraft to takeoff, land, and maneuver around an airport.

Part 77 Surfaces

Title 14 CFR Part 77, titled *Safe, Efficient Use, and Preservation of Navigable Airspace* (Part 77) establishes what are called "imaginary surfaces" surrounding an airport to protect departing, arriving, and transitioning aircraft from obstructions on the ground, such as trees, buildings, and other natural or manmade structures. Five imaginary surfaces are defined: primary surface, horizontal surface, conical surface, transitional surface, and approach surface (see **Table 1-1**). These surfaces extend outward and upward for varying distances and at different slopes (some shallow, others steep) based on the type of runway approach. **Figure 1-4** presents a top-down or plan view of the surfaces representing two different types of airports, where **Figure 1-3** presents a profile view of the Part 77 surfaces. More information on the role of the FAA in conducting airspace reviews of proposed structures within the Part 77 surfaces is provided in **Chapter 2**, along with a video from the FAA on how proposed structures are evaluated.

Table 1-1. Description of Part 77 Imaginary Surfaces at Civil Airports

Surface Type	Surface Description
Primary Surface	Longitudinally centered on the runway pavement and does not extend in height. Width ranges from 250 feet to 1,000 feet. Length of the primary surface extends 200 feet beyond the runway end for all paved runways. For nonpaved runways, the primary surface extends to the end of the runway.
Approach Surface	Longitudinally centered on the extended runway centerline, extends outward and up from the primary surface. The inner portion of the approach surface is equivalent to the primary surface and extends in width uniformly dependent on type of runway. The length of the approach surface ranges from 5,000 feet to 50,000 feet and has varying slopes of 20:1, 34:1, and 50:1.
Horizontal Surface	A level plane, 150 feet above airport elevation. The perimeter is formed by tangent arcs and the radius can range from 5,000 feet to 10,000 feet depending on runway type.
Conical Surface	Begins at the horizontal surface perimeter and continues outward and upward at a slope of 20:1 for a horizontal distance of 4,000 feet.

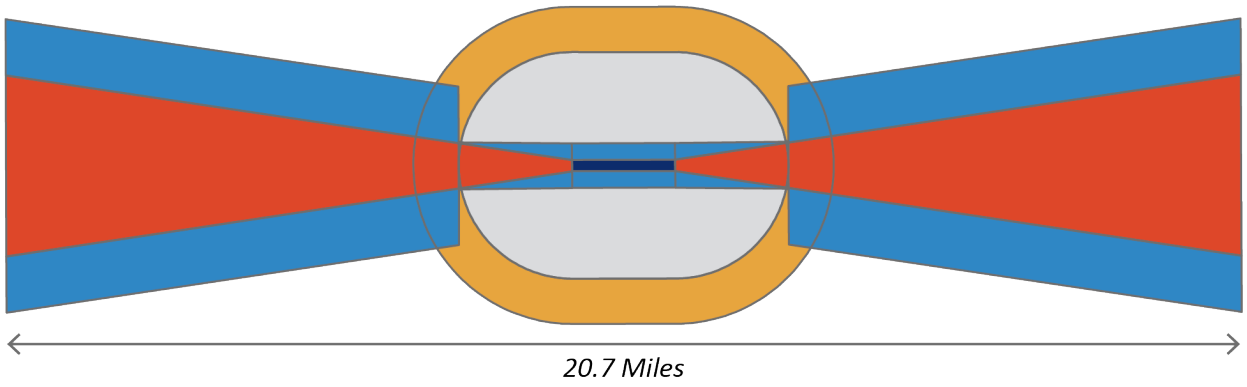
Surface Type	Surface Description
Transitional Surface	Extends outward and upward at right angles to the runway centerline and extended runway centerline at a slope of 7:1. Transitional surfaces for those portions of the precision approach surface extend through and beyond the limits of the conical surface, reaching 5,000 feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline.

Source: 14 CFR Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace, 2023.

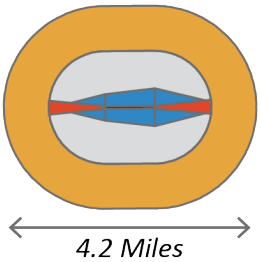
As shown in **Figure 1-3**, the size of Part 77 surfaces can vary drastically from one airport to another, based on the size of an airport's runways, and the types of runway approaches that are available. The airport presented at the top represents a larger commercial airport with more advanced facilities and precision instrument approaches on both runway ends, while the airport presented at the bottom is representative of a small general aviation (GA) airport that has basic facilities and a non-precision approach on one runway end and a visual approach on the other runway end. Specific dimensions for each surface, based on runway type and approach type, can be found in *14 CFR Part 77*.

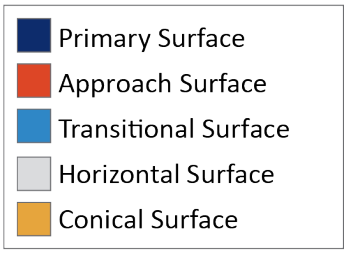
Figure 1-3. Part 77 Imaginary Surfaces at Example Airports (Plan View)

Precision Instrument Runway
9,000-foot Runway



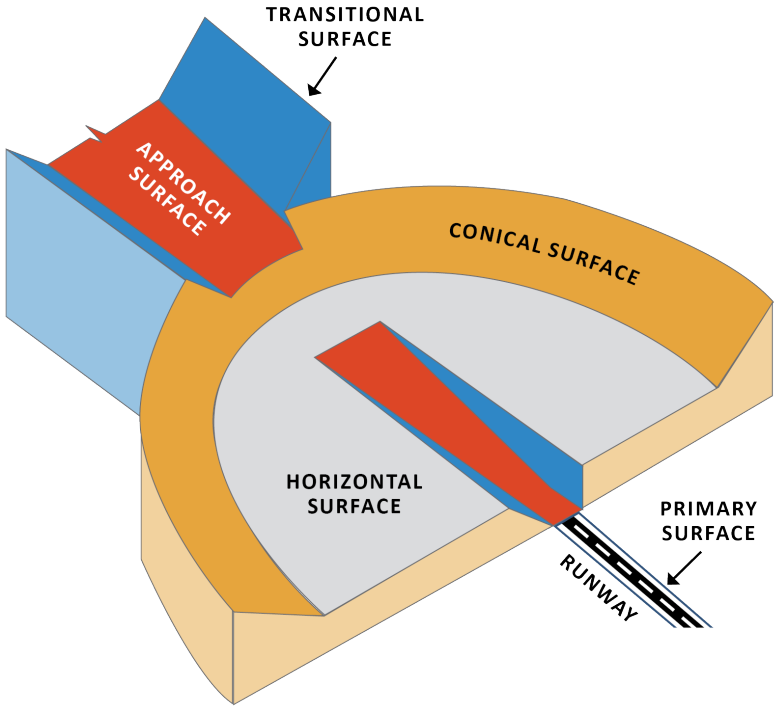
Visual/Non-precision Runway
4,000-foot Runway





Sources: 14 CFR Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace, 2023; Kimley-Horn, 2024.

Figure 1-4. Part 77 Imaginary Surfaces at Example Airport (Profile View)



Sources: 14 CFR Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace, 2023; Kimley-Horn, 2024.

Land Use Basics

Understanding the scale of the area around airports that must be protected is important when considering ways to improve land use practices. Also important is understanding the types of land uses that may be proposed or developed nearby and the characteristics that make a particular use compatible or incompatible. The following sections address both elements.

Classifications of Land Use

While some types or classifications of land uses are generally considered compatible (such as light industrial), others are not (such as high density residential). However, most often, uses land somewhere in the middle on a scale of compatibility based on the characteristics of a proposed use. For this reason, no single land use classification is considered completely compatible with airport operations and vice versa. There are specific uses within each land use classification that are compatible, and land uses that are not. More information on land use nuances that should be considered as it relates to establishing airport zoning is included in **Chapter 3**.

Table 1-2 presents the most common land use classifications including examples of land uses within each classification. The next section explores the characteristics to be considered when evaluating the compatibility of a proposed use.

Table 1-2. Common Land Use Types

Classification	Definition	Example Uses
Commercial	Uses which generally involve the sale of products or services.	• Malls • Shopping centers • Restaurants
Mixed-Use	Uses which include a mix of residential and commercial. This generally takes the form of multi-family residences located on top of ground floor commercial uses, such as stores, cafes, or offices. Mixed-use is intended to promote walkable communities and sustainability.	• Commercial/residential complexes • Parks and plazas • Transit-oriented development
Industrial	Uses which include the processing, assembly, manufacturing, and storage of material or finished products.	• Warehouses • Chemical and oil plants • Mining facilities • Power plants
Residential	Any dwelling used to house people.	• Single-family homes • Apartment complexes • Condominiums • Dormitories • Transient housing • Mobile home parks
Agricultural	Uses related to crop or livestock farming.	• Cropping (produce) • Grazing (pastureland) • Orchards
Recreational	Public and commercial land uses that generally take place outdoors, such as parks, national monuments, wildlife refuges, wilderness areas, sport courts, and outdoor theaters.	• Community parks • National forests • Wildlife sporting areas (fishing ponds, hunting areas) • Outdoor pools • Sports complexes
Institutional	Uses related to education, health care, and religion.	• Education facilities (preschool through college) • Health care facilities (hospitals, clinics, nursing homes) • Religious assemblies (churches, mosques, tabernacles)
Infrastructure	Use of land for public and private utilities, such as roads, water, sewage, energy production and communications. These utilities are found above and below ground.	• Cell towers • Powerlines • Wind turbines • Streets and highways • Power plants • Water and sewage pipes • Utility transmissions

Source: FAA AC 150/5190-4B, Airport Land Use Compatibility Planning, 2022; Kimley-Horn, 2024.

Compatibility Factors and Uses Most Impacted

Regardless of the classification of a specific land use (e.g., recreational, institutional, etc.), there are five main characteristics which impact any given use's compatibility with an airport, as shown in **Figure 1-5**. This section presents these characteristics that are generally considered incompatible with the airport environment because they have the potential to negatively impact an airport and/or the community living and working nearby.

Figure 1-5. Five Main Characteristics of Incompatible Land Uses

Tall Structures | Visual Obstructions, Electronic, and Atmospheric Interference | Population Density | Wildlife Attractants | Noise

Tall Structures

Tall structures are perhaps the most clear and well-known characteristic of incompatible land development. While tall buildings located near an airport's runways are an obvious visual cue for incompatibility, less obvious are structures and buildings located in the surrounding area. Tall structures represent a wide-ranging category of objects including buildings, power lines, trees, high terrain, smokestacks, and temporary objects such as construction cranes. In addition to structures on the ground, objects placed on the tops of buildings such as antennas and air-conditioning units also pose potential concerns related to overall building height.

The primary effect of tall structures is that they can reduce the utility of an airport and present serious hazards to aircraft as the approach surfaces may need to be altered so aircraft can avoid obstacles. For example, tall structures can impact aircraft operating under visual flight rules (VFR) by obstructing visual cues, such as terrain and landmarks, needed for navigation. In situations where poor visibility or low cloud ceilings exist aircraft generally operate under instrument flight rules (IFR), meaning they are guided by set procedures allowing pilots to operate with minimal visibility of the runway. An IFR route is established based on various factors including the height of objects along the approach path used to arrive at and depart from an airport. If a structure of a certain height is built or placed within the approach surface, the established procedure may need to be changed to provide adequate obstacle clearance. Altering approach surfaces to be steeper than what is considered regulatory for an approach type can make takeoff and landings challenging for pilots and reduce the utility of a runway. Additionally, tall structures not immediately near the airport can affect other types of aircraft operations such as helicopter, military, and agricultural activities, as these types of operations are often conducted at low altitudes.

As stated previously, Part 77 surfaces are intended to protect the airspace from obstructions that would impact aircraft arriving, departing, or maneuvering around an airport.

Good to Know

14 CFR Part 77 identifies imaginary surfaces to prevent development of obstructions (tall structures) that penetrate navigable airspace around airports.

Figure 1-6. Examples of Tall Structures

Visual Obstructions, Electronic, and Atmospheric Interference

Visual obstructions are considered an incompatible development characteristic because of the potential to impact a pilot's or air traffic controller's vision. Visual obstructions may be most impactful to pilots operating under VFR, as they require clear visibility to operate aircraft in a safe manner. Common types of visual obstructions include:

- **Dust:** Dust consists of small particles carried through the air that can create hazardous conditions and obstruct or reduce visibility. While dust can be created by various weather phenomenon (e.g., dust storms), certain uses of land are known to generate significant levels of dust, including farming, construction, brickyards, and surface mining as examples. Arizona is particularly susceptible to dust storms given its extremely dry and arid climate.
- **Glare:** Produced from highly reflective surfaces such as mirrored glass buildings, some solar panels, and large bodies of water, glare can temporarily blind pilots causing distractions at critical times during low-level flight operations.
- **Light Emissions:** Nighttime light emissions can cause visual obstructions for pilots if concentrated and not shielded from shining upward into the flight path. Additionally, when non-airport lights are arranged in a linear pattern in the same orientation nearby, they can be mistaken for airport lights depicting operational areas (e.g., runways).
- **Smoke, Steam, and Fog:** Smoke, steam, and fog can create hazardous conditions and reduce visibility for pilots operating aircraft if it travels into a runway approach path. While fog is a naturally occurring phenomenon and cannot be controlled, uses that emit smoke or steam can be. In addition to the visual disruption created by smoke and steam, it's important to recognize that those emissions can also create atmospheric disturbance in the form of thermal plumes which can create turbulence for aircraft.
- **Electronic and Atmospheric Interference:** Although it can't be seen, land uses that emit electronic frequencies can potentially interfere with radio, navigational, and communication signals and equipment used by pilots in flight. This interference can be caused directly by transmitting on frequencies used by navigational aids and indirectly by causing a physical obstruction between signals, as examples.

Good to Know

Communities have had success in modifying development design standards to help limit visual obstructions near airports, such as requiring lighting to be down-shielded.

Figure 1-7. Examples of Visual Obstructions and Electronic Interference

Population Density

High population density is considered an incompatible development characteristic because it exposes a larger concentration of people near airports who could be impacted in the event of an aircraft incident. Beyond just the number of people who would frequent a land use, it's important to consider:

- Timing of occupancy (e.g., is it occupied 24/7, 9am-5pm, weekends only, etc.)
- Ability of occupants to evacuate in an emergency

This is particularly applicable to uses such as hospitals, nursing homes, schools, and daycare centers where occupants may need assistance and cannot evacuate on their own. Additionally, places of mass assembly can inhibit evacuation due to the volume of people trying to evacuate at the same time. Limiting uses that draw large groups of people near airports can reduce potential impacts to people and property should an accident occur.

Figure 1-8. Examples of Population Dense Uses

Wildlife Attractants

Wildlife attractants are considered an incompatible development characteristic because of the potential hazard wildlife presents to aircraft operations. The FAA maintains a database of reported wildlife strikes and from 1990 to 2022 approximately 272,000 wildlife strikes with civil aircraft were reported. Due to expanding wildlife populations, increasing aircraft operations, and quieter aircraft engines, wildlife strikes are increasing in the United States. While commonly these incidents occur due to collision with birds of varying size and species, strikes have also occurred with bats and mammals, most commonly deer and coyotes.

Wildlife attractants include any human-made structure, land-use practice, or natural geographic feature that can attract or sustain hazardous wildlife by providing a source of water or food, or a location to nest/roost. The location of attractants within the landing or departure airspace of an airport or on the airport itself is of greatest concern. Additionally, wildlife attractants that are located such that they encourage wildlife to fly or traverse through the landing or departure airspace are of concern.

FAA AC 150/5200-33C, Hazardous Wildlife Attractants on or near Airports identifies uses that are known wildlife attractants (e.g., landfills, water treatment facilities, wetlands, etc.) and provides separation guidance criteria to airports for potential wildlife hazard attractants. The AC identifies a minimum separation distance of 5,000 feet for piston-powered aircraft from an airport's operation area and 10,000 feet for turbine powered aircraft. Additionally, the FAA recommends a five-mile separation radius for approach, departure, and circling aircraft. The types of wildlife concern will determine the type of mitigation technique appropriate to reduce incidents with wildlife (e.g., fencing, elimination of standing water, and prohibition of crops or other vegetation known to attract wildlife).

Figure 1-9. Examples of Wildlife Attractants

Noise

Similar to tall structures, noise-sensitivity is a characteristic more commonly known or recognized as incompatible near airports. Aircraft operations can produce significant levels of noise, with the potential to create annoyances to nearby communities including speech interference, sleep disturbance, and impacts to work and learning activities. Factors affecting noise levels (or perceived noise levels) at airports include:

- Number of aircraft operations (frequency of overflight)
- Types of aircraft using the airport (louder vs. quieter engines)
- Time of day when operations occur (daytime vs. nighttime)
- Runway orientation (location of uses under runway centerline)
- Percentage of time each runway or runway direction is used (location of overflight)
- Location of observer (outside vs. inside)
- Nature of traffic (repetitive [flight training], occasional [visiting aircraft], emergency [non-standard flight patterns])

Good to Know

Using guidelines established in *14 CFR Part 150, Airport Noise Compatibility Planning*, an airport can voluntarily conduct noise studies to produce Noise Exposure Maps (NEM), and Noise Compatibility Programs (NCP) that identify noise levels around their airport and methods to mitigate potential noise impacts if it is an issue in their community.

Development surrounding an airport is impacted differently by noise levels, as certain types of development are more sensitive to noise than others. For example, residential uses are highly sensitive to noise disturbances as are schools where students are learning. Conversely, industrial parks and commercial uses are much less sensitive to noise as they typically generate their own levels of ambient noise.

The FAA recognizes the noise created by aircraft operations and uses a unit of measurement called the Day-Night Average Sound level (DNL) to measure aircraft noise emitted at and around an airport. The DNL measurement is not based on the noise exposure of a single event, rather it is determined by measuring a person's exposure to noise over a 24-hour period on an average day of the year, based on typical type and number of aircraft operations. The FAA has established a DNL of 65 decibels (dBA) as the threshold at which a person is impacted by aircraft noise. However, it is important to keep in mind that an individual person's perception of annoyance and noise impact is unique and does not always align with a DNL of 65 dBA. Several factors can influence how an individual experiences noise including surrounding ambient noise, vegetation, and pressure (all of which change throughout the year). See **Chapter 2** for more information on aircraft noise near airports.

Figure 1-10. Examples of Noise Sensitive Uses

Chapter 1 Wrap Up

Many airports face development pressures as communities expand to accommodate increasing popuation, and as that happens, having a plan in place to protect airports while allowing for the necessary development to occur becomes increasingly important. While **Chapter 3** focuses on different means and methods to help provide this protection, it's important to first understand the history of airports and their communities, along with a general overview of the airport environment and the types and characteristics of land uses that are compatible or incompatible with airport operations.

Chapter 2. Roles and Responsibilities for Promoting and Achieving Land Use Compatibility

Achieving airport land use compatibility requires input and effort from several different stakeholders, and the strategies used will vary depending on an airport's activity, service level, ownership, surrounding development, and more. However, regardless of an airport's or community's characteristics, all public-use airports are transportation assets that serve the public good and they should be protected so they can continue to serve their communities well.

Involvement of Interested Parties

The term 'stakeholder' generally refers to any person or party that is interested in the planning, development, or operation of an airport. For the purposes of this manual, there are two general groups of stakeholders related to land use. The first group, referred to as 'frontline stakeholders' in this study, influence the implementation, enforcement, and awareness of land use strategies. These frontline stakeholders, as shown in **Figure 2-1**, are each involved at some level of achieving land use compatibility. The second group of stakeholders is the 'general public,' which includes airport users, industry groups, and members of the community. Members of the public often help identify land use issues and provide feedback related to the airport, making it important to engage them during the land use process.

Figure 2-1. Interested Parties: Frontline Stakeholders and the General Public

Source: Kimley-Horn, 2024

Protection of airports from incompatible development is a responsibility that is shared between the federal, state, and local levels. No one agency, organization, or government is solely responsible for implementing compatibility practices. Instead, these parties work together; the federal government serves an advisory and regulatory role, the State of Arizona serves a regulatory role, and local governments serve an enforcement role, as shown in **Table 2-1**. While the federal, state, and local agencies all have a role to play, the protection of the airport from incompatible land use is the obligation of the airport sponsor, which is also commonly the enforcement agency. The FAA cannot control land use.

While there are key parties/agencies involved at each level, several other interested parties can be involved with airport compatibility planning depending on each airport's unique situation. The following sections provide additional insight on the responsibilities at each level of government, and the parties/agencies that are most often involved or impacted. To aid users of the Arizona Airport Land Use Manual (ALUM) in identifying information most relevant to them, a series of icons are used to identify content applicable to airports, local governments, developers, and real estate professionals.

Table 2-1. Federal, State, and Local Roles

Federal	State	Local
Advisory/Regulatory	**Regulatory**	**Enforcement**
Key Party	Key Party	Key Party
Federal Aviation Administration	State of Arizona	Local Governments
Role	**Role**	**Role**
Provides review and guidance to protect airports, airspace, and communities. Also implements regulatory, advisory, and contractual measures such as federal grant assurances.	Enables local governments to establish and enforce airport land use protections.	Implements protective measures.
Other Example Federal Parties	**Other Example State Parties**	**Other Example Local Parties**
Department of Transportation Environmental Protection Agency Department of Defense	AZ Department of Transportation Aeronautics AZ Department of Agriculture AZ Department of Economic Development	Airport Sponsors General Public Metropolitan Planning Organizations

Source: Kimley-Horn, 2024.

Federal Role

The federal role is primarily advisory and led by the FAA. However, it is important to note that other federal agencies are involved from time-to-time that have regulatory power to make decisions which may impact airport compatibility measures, such as the Environmental Protection Agency (EPA). For the purposes of the ALUM, the focus is on civil airports and the federal role is focused on the FAA, however Arizona is also home to airports under military control which are overseen by the Department of Defense (DOD). More information on regulations and programs specific to military airports can be found later in this chapter.

Federal Aviation Administration (FAA)

The FAA performs their advisory and regulatory role by developing and publishing guidance on airport design, planning, and operation in the form of Advisory Circulars (ACs), conducting airspace reviews for development near airports, providing input directly to airport sponsors and state aviation agencies when asked, funding projects that enhance or enable greater levels of land use compatibility (such as land acquisition or noise mitigation), funding research, and more. A summary of the most relevant federal resources, programs, and responsibilities is included in the following pages.

FAA Advisory Circulars

The following ACs are those which are most closely related to achieving land use compatibility near airports in order to protect airports and the communities that surround them. ACs are intended to provide guidance to airports and industry for airport planning and development. In some cases, ACs serve as companion resources to federal regulations contained in the Code of Federal Regulations (CFR) to provide additional information and suggestions for how to comply with such regulations. ACs which are related to CFRs are noted.

FAA AC 150/5190-4B, Airport Land Use Compatibility Planning

Recently published in 2022, this AC is the primary source of current guidance available to the aviation community on this topic and provides information such as:

- Characteristics of incompatibility,
- Roles of aviation and non-aviation related stakeholders,
- Suggestions for incorporation of airport, local, and regional planning efforts,
- Example solutions for achieving compatibility and sample plans,
- Expectations of airport sponsors in addressing existing incompatible land uses and protecting against new incompatible land uses,
- And more

Information from this AC has been referenced in several locations throughout this guidebook.

FAA AC 150/5300-13B, Airport Design

This AC includes the standards for the geometric layout and engineering design of airport facilities, including runways, taxiways, aprons, and other facilities and aircraft operating areas. Several of the safety related areas were introduced in **Chapter 1. Airport Land Use Compatibility and Why It Is Important**, including the Runway Safety Area (RSA), Runway Object Free Area (ROFA), Runway Obstacle Free Zone (ROFZ), and the Runway Protection Zone (RPZ). See **Chapter 1** for the descriptions and general dimensions of these protected areas.

FAA AC 70/7460-1M, Obstruction Marking and Lighting

This AC outlines the FAA standards for the marking and lighting obstructions to promote aviation safety and is related to *14 CFR Part 77* discussed later in this section.

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

This resource is dedicated to helping mitigate wildlife issues at airports by offering guidance on the types of activities that attract wildlife to airports, ways to mitigate risks and remove attractants or hazards, and the geographic areas around airports where wildlife hazards should be managed. This AC references *40 CFR Part 258, Subpart B* discussed later in this section.

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

Provides guidance for complying with federal statutory requirements that govern the construction or establishment of municipal solid waste landfills near public airports to prevent wildlife attractants. This resource is a companion to *40 CFR Part 258, Subpart B* discussed later in this section.

FAA AC 150/5200-38, Protocol for the Conduct and Review of Wildlife Hazard Site Visits, Wildlife Hazard Assessments and Wildlife Hazard Management Plans

Airports that serve air carrier operations (scheduled operations with more than 9 seats, or unscheduled operations with at least 31 seats) must be certified by the FAA under 14 CFR Part 139 - Certification of Airports. As a condition of certification, all airports must engage a wildlife damage management biologist to conduct a Wildlife Hazard Site Visit (and a Wildlife Hazard Assessment and/or Wildlife Hazard Management Plan if needed). This AC defines the standards for conducting and preparing each. This resource is a companion to *14 CFR 139.337* discussed later in this section.

In addition to these ACs commonly recognized and referenced to guide compatibility efforts, there are other ACs which may be applicable to airports and communities depending on the type of compatibility concern:

FAA AC 150/5020-1, Noise Control and Compatibility Planning for Airports (related to 14 CFR Part 150)

FAA AC 150/5000-9B, Guidelines for Sound Insulation of Structures Exposed to Aircraft Noise (related to 14 CFR Part 150)

FAA AC 150/5020-2, Guidance on the Balanced Approach to Noise Management (related to 14 CFR Part 150)

FAA AC 150/5100-17, Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Projects

Relevant Code of Federal Regulation (CFR) Titles

There are two CFR titles that are most relevant to airport land use compatibility, including Title 14 and Title 40. Within Title 14 there are three Parts (Part 77, Part 150, and Part 139) that are summarized in the following subsection, along with Part 258 under Title 40.

14 CFR Part 77 - Safe, Efficient Use, and Preservation of Navigable Airspace (Part 77)

This resource establishes the requirements for notifying the FAA of development near airports, and standards for the FAA's review of objects which might be considered a hazard to air navigation (i.e., pose a height concern).

Chapter 1 introduced this topic why it is a critical component of land use surrounding airports. When development reaches a particular height of a certain distance of an airport, the FAA requires the proponent (property owner, developer, etc.) to submit *Form FAA 7460-1* to the FAA. This form includes information pertinent to the FAA's review (called an airspace review). The FAA provides an informational video on how proposed structures are evaluated here: *FAA Obstruction Evaluation Process Explained*. To aid property owners, developers, and other interested parties in determining if a Form FAA 7460-1 is

required, the FAA launched an online program called the *Notice Criteria Tool*. This tool includes a couple of simple inputs (shown in **Figure 2-2**), including the latitude and longitude of the proposed development, the height of the development at its tallest point (including any antennae or auxiliary power unit or HVAC that may be on a roof, for example), and the type of structure (crane, bridge, building, landfill, powerline, pole, etc.) Users must also be cognizant that the tallest point of structure must reference site elevation in Mean Sea Level (MSL). The tool will return a response on whether the proposed development triggers an airspace review by the FAA. Individuals or parties who knowingly or willingly violate the notice requirements of Part 77 may be subject to a $1,000 penalty per day until the notice is filed. See **Appendix D. Video - How to Use FAA's Notice Criteria Tool and Submit a 7460-1 (if required)** for a tutorial on how to use the tool and file notice if it is required.

Figure 2-2. FAA Notice Criteria Tool

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference CFR Title 14 Part 77.9.

You must file with the FAA at least 45 days prior to construction if:

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
- your structure will emit frequencies, and does not meet the conditions of the FAA Co-location Policy
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- your structure will be on an airport or heliport
- filing has been requested by the FAA

If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the Air Traffic Areas of Responsibility map for Off Airport construction, or contact the FAA Airports Region / District Office for On Airport construction.

The tool below will assist in applying Part 77 Notice Criteria.

* **Structure Type:**	SELECT ONE Please select structure type and complete location point information.
Latitude:	Deg M S N
Longitude:	Deg M S W
Horizontal Datum:	NAD83
Site Elevation (SE):	(nearest foot)
Structure Height :	(nearest foot)
Is structure on airport:	No Yes
	Submit

Source: FAA Notice Criteria Tool: Obstruction Evaluation/Airport Airspace Analysis (OE/AAA), 2024.

If the proponent must file, the FAA will conduct a formal obstruction analysis and will return a finding indicating if the proposed development would pose a hazard to air navigation. The FAA uses the "imaginary surfaces" introduced in **Chapter 1** to determine whether a proposed development would be an obstruction to airspace. It is important to note that a Determination of Hazard is not an enforceable ruling that prohibits the development from moving forward. It is only an assessment of the proposed development's impact on airspace and potentially, the implications of proceeding with development on an airport's approaches. If an obstruction is constructed, an airport's approach minimums can be impacted, limiting the conditions under which pilots can land at an airport. This can unnecessarily reduce the utility of an airport. It is important to note that it is up to the local land planning authorities to deny development that is determined by the FAA to pose a hazard to air navigation. This development can be denied using local land use regulations, such as airport overlay zoning, building permit processes, and other strategies. **Chapter 3. Strategies for Achieving Land Use Compatibility** provides more information on the land use solutions that can be implemented at the local level to help enforce limitations when the FAA determines a proposed use to be a hazard to air navigation.

Heads Up

Height Obstruction Considerations

It is important to note that while the FAA's Notice Criteria Tool is a very beneficial tool for property owners and developers, there are some potential pitfalls that should be acknowledged. First, the Notice Criteria Tool does not account for existing trees and vegetation that may grow over time to a height that penetrates Part 77 surfaces in the future (even though height was not an issue initially). Secondly, some property owners or developers may unknowingly make modifications to structures that would trigger the need to use the Notice Criteria Tool again. An example of this is adding an antenna on top of a building.

Table 2-2 gives more detail on the specific dimensions of Part 77 imaginary surfaces at civil airports. A full description of the Part 77 imaginary surfaces and their orientations around a runway are available on the National Oceanic and Atmospheric Administration (NOAA) National Geodetic Survey website: *https://www.ngs.noaa.gov/AERO/oisspec.html*. It is important to note that 14 CFR Part 77 defines different imaginary surfaces around military airports which will be discussed in more detail subsequently in this chapter.

Table 2-2. Dimensions of Part 77 Imaginary Surfaces

Item	Dimensional Standards (Feet)					
	Visual Runway		Non- Precision Instrument Runway			Precision Instrument Runway
	A	B	A	B		
				C	D	
Width of Primary Surface and Approach Surface Width at Inner End	250	500	500	500	1,000	1,000
Radius of Horizontal Surface	5,000	5,000	5,000	10,000	10,000	10,000
	Visual Approach		Non-Precision Instrument Approach			Precision Instrument Approach
			A	B		
	A	B		C	D	
Approach Surface Width at End	1,250	1,500	2,000	3,500	4,000	16,000
Approach Surface Length	5,000	5,000	5,000	10,000	10,000	*
Approach Slope	20:1	20:1	20:1	34:1	34:1	*

Legend

A: Utility Runways
B: Runways Larger than Utility
C: Visibility Minimums Greater than ¾ Mile
D: Visibility Minimums as Low as ¾ Mile
** Precision Instrument Approach Slope is 50:1 for Inner 10,000 Feet and 40:1 for additional 40,000 Feet*

Source: NOAA, National Geodetic Survey, 2023

Heads Up

Terminal Instrument Procedures (TERPS)

TERPS are a separate set of imaginary surfaces that are used to inform the development of instrument procedures and conduct obstruction analyses for instrument operations for both civilian and military airports. TERPS criteria are assessed as a part of the FAA's review under Form FAA 7460-1. *Order 8260.3G United States Standard for Terminal Instrument Procedures* includes more information on TERPS standards and applicability.

Heads Up

One-Engine Inoperative (OEI)

OEI obstacle identification surface is another important imaginary surface to consider. This surface is much larger than 14 CFR Part 77 and TERPS surfaces and applies to turbine engine aircraft (jets) operated under Title 14 CFR Part 121 (generally large, U.S.-based airlines, regional air carriers, and cargo operators) and Title 14 CFR Part 135 (generally on-demand charter operations) and specifies the airspace which must be obstacle free for an aircraft to climb after departure in the event that one engine becomes inoperative (in an emergency). New obstructions to OEI surfaces cannot be mitigated by marking and lighting (like Part 77 obstructions) and require the airline to alter their departure path or departure slope and may also require the airline to reduce weight onboard (including fuel, passengers, and baggage). Airport sponsors should remain cognizant of obstacles within OEI surfaces and consider additional obstacle clearance standards as noncompliance could result in impacts to operations under 14 CFR Part 121 and 135. The most up-to-date national guidance on OEI is in *AC 120-91A, Airport Obstacle Analysis*.

14 CFR Part 150 - Airport Noise Compatibility Planning (Part 150)

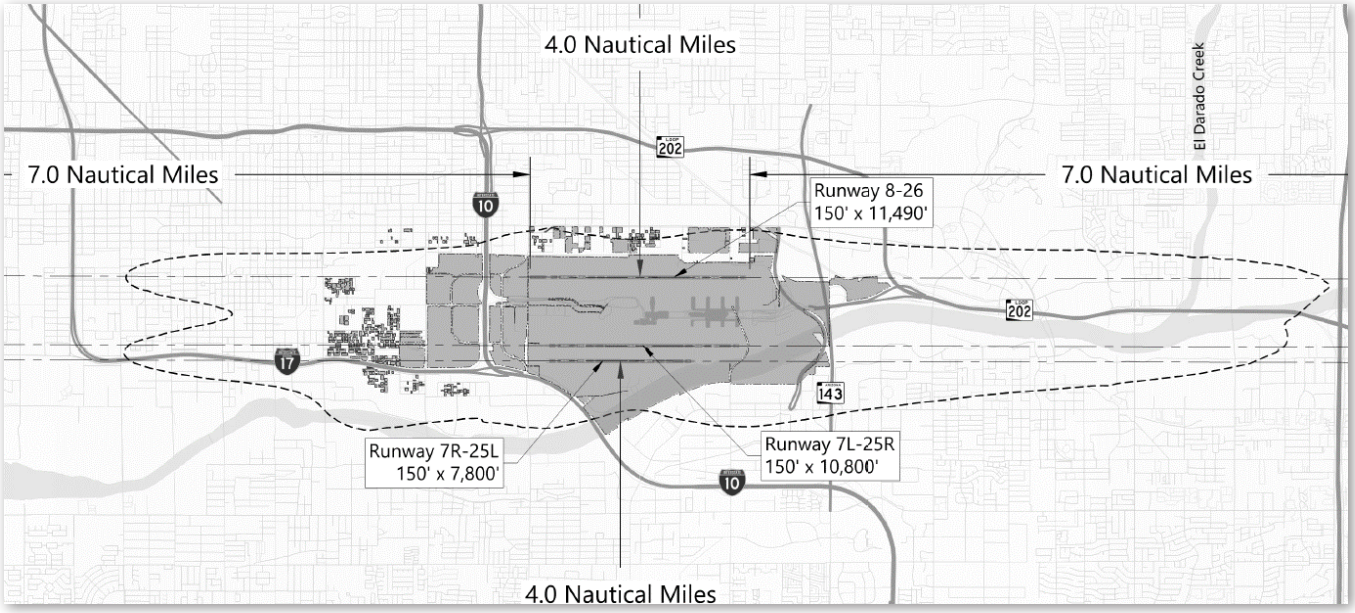
This resource establishes the standards and procedures for developing and submitting airport Noise Exposure Maps (NEMs) and airport Noise Compatibility Programs (NCPs). Airport participation in this program is completely voluntary, but it exists to help airports understand where the surrounding community may be exposed to higher levels of noise and provide eligibility for funding support to implement noise mitigation strategies where applicable. It is important to note that this program is available to all publicly-owned, public use airports included in the National Plan of Integrated Airport Systems (NPIAS).

Specifically, 14 CFR Part 150 establishes standard methodologies and units of noise measurement (the A-weighted sound level [in decibels or dBA] and the day-night average sound level [DNL]), identifies land uses normally compatible with different levels of noise exposure, and provides technical assistance to airports who intend to prepare and execute acceptable NEMs and NCPs. It also specifies that the FAA's Aviation Environmental Design Tool (AEDT) is the required model to be used to calculate aircraft noise exposure at airports. **Figure 2-3** provides an example of noise contours mapped around an airport, showing contours for DNL 60 dBA.

Good to Know

In 2021, the FAA initiated a nationwide survey to study and understand the impact of aircraft noise on communities. The results from the *Neighborhood Environmental Survey* suggest that the public perception of aircraft noise has changed substantially and indicate 50% of people surveyed were "highly annoyed" with a DNL of 60 dBA, which is 5 dBA lower than the existing threshold of significance established in Part 150 (DNL 65 dBA). Communities should consider the findings of this research and feedback from the public when determining the best land use policies, keeping in mind that they are permitted to establish more protective noise level restrictions, such as a DNL of 60 dBA, as an example. More information can be found in the FAA's *Environmental Desk Reference for Airport Actions*.

Figure 2-3. Example Noise Contours for DNL of 60 dBA



Source: Phoenix Sky Harbor International Airport Disclosure Map, Airport Master Plan Update, 2019.

14 CFR Part 139.331 - Obstructions

This regulation establishes the requirement that all Part 139 certificate holders must remove, mark, or light any object within the airport's authority that has been deemed an obstruction by the FAA unless the removal, marking, or lighting of the object is determined to be unnecessary by the FAA.

14 CFR Part 139.337- Wildlife Hazard Management

This resource establishes the requirements for certificated airports to conduct a Wildlife Hazard Site Visit, a Wildlife Hazard Assessment, and/or a Wildlife Hazard Management Plan. *FAA AC 150/5200-38* serves as a companion to this regulation.

14 CFR Part 139.339 – Airport Condition Reporting

This regulation establishes several requirements pertaining to airport condition reporting for Part 139 certificate holders. Part 139 certificate holders must provide information on specific conditions that may affect the safe operations of air carriers, such as surface irregularities on the movement area or safety areas, unresolved wildlife hazards, construction or maintenance activity in movement, safety, landing and parking areas, and any other condition specified in the Airport Certification Manual or that may adversely affect the safe operations of air carriers.

40 CFR Part 258, Subpart B, Criteria for Municipal Solid Waste Landfills, Location Restrictions

This regulation establishes the requirements and restrictions for siting new or expanding municipal solid waste landfills near airports, based on the type of aircraft using the airport (10,000 feet for runways used by turbojet aircraft and 5,000 feet for runways used by piston aircraft). *FAA AC 150/5200-33C* and *FAA AC 150/5200-34A* are companions to this regulation.

AIP Funding and Grant Assurances

The FAA provides funding support to airports included in the NPIAS through the Airport Improvement Program (AIP). In recent years, additional programs have been made available for airports to receive additional federal funding for projects under the Bipartisan Infrastructure Law (BIL). This funding is provided via grants to public agencies (i.e., airport owners/sponsors) for the planning and development of public-use airports. Projects eligible for this funding include those related to airport safety, capacity, security, and environmental concerns. Since airport land use compatibility can impact the safety of aircraft operations and the ability for airports to meet capacity demand, this funding can be used for projects that help airports achieve higher levels of compatibility, such as land acquisition or planning studies.

Good to Know

Providing AIP funds is an important role the FAA has that serves both land use purposes and the development needs of airports. Under the AIP, federal funds can be used to enhance compatibility at airports through projects such as land acquisition or airport zoning.

In addition to administering funding, the FAA acts in regulatory manger by establishing a set of contractual obligations (referred to as grant assurances) that airport sponsors must agree to, and comply with, in order to accept funding from the FAA. The purpose of the assurances is to ensure that recipients are maintaining and operating their facilities safely and efficiently. There are a total of 39 grant assurances, several of which are related to enhancing airport land use compatibility (Grant Assurance 4, 5, 6, 7, and 19) and two of which specifically address land use compatibility around airports (Grant Assurance 20 and 21).[1] As defined in the assurances, airport sponsors are obligated to pursue all reasonable and appropriate actions to promote and establish compatible land uses near their airport. More information on FAA grant assurances and how the FAA implements them can be found in the *AIP Handbook (FAA Order 5100.38D)* and the *FAA Airport Compliance Manual (FAA Order 5190-6B)*.

Grant Assurance 20 "Hazard Removal and Mitigation"

This assurance requires an airport to take appropriate actions to protect visual and instrument operations by removing, lowering, relocating, marking, lighting, or otherwise mitigating any airport hazards that currently exist, and preventing the establishment of future ones.

Grant Assurance 21 "Compatible Land Use"

This assurance requires an airport to restrict the use of property in its vicinity to land uses and activities that are compatible with airport and aircraft operations.

Airport Cooperative Research Program (ACRP)

The FAA sponsors the ACRP which is "an industry-driven, applied research program that develops near-term, practical solutions to airport challenges." The charge of the program is to provide national guidance to the industry on topics that are not otherwise addressed through other federal research programs. Since its inception, ACRP has produced over 400 resources and tools which are free to access at any time via their website at *https://www.trb.org/ACRP/ACRP.aspx*.

A few research products from ACRP provide industry guidance and best practices for establishing and enhancing airport land use compatibility. More information on each is provided in the next sections.

1 A complete list of grant assurances is available here: *Grant Assurances (Obligations) | Federal Aviation Administration (faa.gov)*.

ACRP Report 27: Volume 1 Enhancing Airport Land Use Compatibility

This report is the leading guidance published by ACRP on this topic and helps airport sponsors understand the varying issues of land compatibility and learn best practices, while also providing resources to enhance land use compatibility.

ACRP Report 27: Volume 2 Land Use Survey and Case Study Summaries

This report provides case studies for different types of airports and serves as tool for airport sponsors and planners on a range of issues and how different approaches to compatibility can be applied.

ACRP Report 206: Guidebook on Effective Land Use Compatibility Planning Strategies for General Aviation Airports

This resource presents land use planning and approaches relevant to airport sponsors of general aviation facilities and their communities.

ACRP Report 15: Aircraft Noise: A Toolkit for Managing Community Expectations

This report discusses ways airports can improve public relations concerning airport noise and improve communication of airport impacts and noise compatibility plans. The report also includes community outreach presentations provided by various airport managers as a toolkit to create best practices when engaging the public on noise.

Department of Defense (DOD)

As previously mentioned, military airports are operated by the DOD and are subject to some unique regulations and are eligible to participate in programs designed to increase the compatibility of military airports and their surrounding communities. The activity at military airports is quite different than the activity at civil airports and include training operations and the use of special air space and military operations areas (MOAs). Key resources and programs related to land use compatibility around military airports are explained in this section.

14 CFR Part 77 § 77.21 - Department of Defense (DOD) Airport Imaginary Surfaces

In addition to setting standards for obstructions to airspace for civil airports, this set of regulations defines the airspace protection requirements surrounding military airports. Some of the DOD Part 77 imaginary surfaces share similar characteristics with surfaces for civil airports, with the same general layout and dimensions. However, the military Part 77 surfaces include an inner and outer horizontal surface with the outer horizontal surface at an elevation that is higher than the horizontal surface of civil airports. **Table 2-3** provides further details on imaginary surfaces defining the airspace of military airports.

Table 2-3. DOD Airport Imaginary Surfaces

Surface Type	Description
Inner Horizontal Surface	A two-dimensional surface that is oval shaped at a height of 150 feet above airport elevation with a radius of 7,500 feet from the end of each runway.
Conical Surface	A surface extending from the outer edge of the inner horizontal surface outward and upward at a slope of 20:1 for a horizontal distance of 7,000 feet to a height of 500 feet above the established airfield elevation.
Outer Horizontal Surface	A two-dimensional surface, located 500 feet above the established airport elevation, extending outward from the outer portion of the conical surface for a horizontal distance of 30,000 feet.
Primary Surface	A surface located on the ground or water longitudinally centered on each runway and equal in length to the runway. The width of the primary surface for runways is 2,000 feet. (This width may be reduced on bases where design standards were subject to previous lateral clearance criteria).
Clear Zone Surface	A surface located on the ground or water at each end of the primary surface, with a length of 1,000 feet and the same width as the primary surface.
Approach Clearance Surface	An inclined plane, centered on the extended runway centerline, beginning 200 feet beyond each end of the primary surface and extending for 50,000 feet at a slope of 50:1 until reaching an elevation of 500 feet above the established airport elevation. It then continues horizontally for 50,000 feet. The width of this surface at the runway end is the same as the primary surface, it flares uniformly, and the width at 50,000 is 16,000 feet.
Transitional Surfaces	A surface extending outwards and upright at right angles from the runway centerline at a slope of 7:1, connecting the primary surface, first 200 feet of the clear zone surface, and the approach clearance surface.
Infrastructure	Use of land for public and private utilities, such as roads, water, sewage, energy production and communications. These utilities are found above and below ground.

Source: 14 CFR Part 77 § 77.21 Department of Defense Airport Imaginary Surfaces, 2023.

The Air Installation Compatibility Use Zone (AICUZ) Program

To help facilitate compatible land use around military airports and bases, the AICUZ Program was developed to address the issue of encroaching development to military airfields. The program includes the assessment of noise impacts (similar to a Part 150 Noise Compatibility Plan) and accident potential to make recommendations to local planners for incorporation into their planning regulations to prevent encroachment. This program is advisory and relies upon coordination with local governments to enforce the findings of the AICUZ.

Installation Resilience Program

The Installation Resilience Program, implemented by the Office of Local Defense Community Cooperation (OLDCC), provides states and local communities with opportunities to partner with military installations to protect these assets and the communities surrounding them. The program expands the efforts of a previous program known as a Joint Land Use Study (JLUS) with the intention of recognizing the impacts of incompatible land use and encroachment on the community and the future viability of military installations and identifying solutions which benefit both entities. Many activities can be conducted under the program, such as Compatible Use Studies and preparation of land use ordinances.

State Role

The role of the state in providing for land use compatibility near public airports is regulatory, achieved via Arizona State Statutes (A.R.S.). The Arizona Legislature enacted two statutes to help protect airports from some level of incompatibility, both of which are designed to inform land buyers of their proximity to airports prior to purchasing property. In addition to the state legislature, the Arizona Department of Transportation (ADOT) supports compatibility efforts at the state level by conducting planning studies and funding projects that enhance compatibility.

Arizona Legislature

The State of Arizona enacted two pieces of legislation, A.R.S 28-8485. Airport Influence Areas and A.R.S 28-8486. Public Airport Disclosure. These statutes do not prescribe any design standards or development policies for communities to implement. Instead, the purpose of A.R.S 28-8485 and 24-8486 is to provide land buyers with notice of the potential for overflights and noise from a nearby airport. The intent of these notification policies is to reduce complaints from buyers about the noise impacts or other factors associated with living, working, or recreating near an airport. Both statutes similarly include defining areas around airports which may be subject to aircraft noise, however there are some important differences, which are summarized in **Table 2-4**.

Good to Know

See **Appendix B. Video - How to Develop an Airport Disclosure Map and Submit for Approval** for a more detailed assessment of each state statute, and the airports with disclosure maps on file.

A.R.S. 28-8485 Airport Influence Areas

In short, A.R.S. 28-8485 allows a local government with an airport to decide, at its discretion, to designate an "airport influence area" in the vicinity of the airport which identifies property exposed to aircraft noise and overflights. A DNL of 65 dBA is suggested for use in defining the influence area, but it is not required. If a local government decides to establish an influence area, it must be filed with the county recorder in each county that contains property in the influence area (i.e., if an influence area is spread across two counties, the influence area must be recorded in both counties). The record is intended to notify owners or potential purchasers of property in the defined area (via a title report) that it is subject to aircraft noise and overflight.

A.R.S. 28-8486 Public Airport Disclosure

This second state statute grants authority to the Arizona Department of Real Estate (ADRE) and requires that ADRE make a map available to the public which shows the exterior boundaries of the "territory in the vicinity of a public airport" which is defined as property within the traffic pattern airspace as defined by the FAA and includes property that is exposed to a DNL of 60+ dBA in counties with a population over 500,000, and 65+ dBA in counties with a population less than 500,000. Each airport (not the ADRE) is required to record the territory map with the county recorder in each county that contains property in the identified territory (i.e., if a territory is spread across two counties, the territory map must be recorded in both counties). The record works similarly to the airport influence area established in A.R.S. 28-8485 where a purchaser of property will be provided the map at the time of purchase and it will be identified in the title report. This ALUM provides a Model Airport Disclosure Map Template in **Appendix A. Model Airport Disclosure Map Template** that allows airports to develop territory maps compliant with A.R.S. 28-8486. Additionally, an educational video is available in **Appendix B. Video - How to Develop an Airport Disclosure Map and Submit for Approval** to guide airports through the process of developing and submitting disclosure maps that comply with A.R.S. 28-8486.

Good to Know

A.R.S. 28-8461 – Disclosure Boundaries for Military Airports

Disclosure boundaries within the territory in the vicinity of a military airport, an ancillary military facility, or under a military training route, are defined in A.R.S. 28-8461 and differ from the requirements for civilian airports defined in A.R.S. 28-8486. This statute provides the disclosure boundary dimensions for Luke Air Force Base, Davis-Monthan Air Force Base, Yuma Marine Corps Air Station and Laguna Army Airfield, and Libby Army Airfield. The disclosure maps for military airports are furnished by the Arizona State Land Department and are filed with the Arizona Department of Real Estate.

Table 2-4. Summary of A.R.S 28-8485 and 28-8486

A.R.S. 28-8485 Airport Influence Areas	A.R.S. 28-8486 Public Airport Disclosure
• Establishes authority for a local government to develop airport influence areas, if desired. • Influence area to include property that experiences overflight noise. DNL of 65+ dBA suggested but not required. • Establishes responsibility for local government to record influence area with county recorder in each impacted county, resulting in notification to a potential property purchaser in the airport influence area (if local government creates influence area to begin with). • Intent is to eliminate noise complaints because property purchasers are made aware of the noise created by overhead flights prior to purchasing the property. • Compliance with statute is optional.	• Establishes responsibility for ADRE to develop a territory map of airport influence areas. • Territory includes traffic pattern airspace and a DNL of 60+ or 65+ dBA depending on county population. • Establishes responsibility for local government to record the maps with county recorder in each impacted county, resulting in notification to a potential property purchaser in the territory. • Intent is to eliminate noise complaints because property purchasers are made aware of the noise created by overhead flights prior to purchasing the property. • Compliance with statute is mandatory.

Source: Arizona State Legislature, 2024.

Arizona Department of Transportation

While state government is responsible for establishing legislation, the state agency most involved in the day-to-day support of Arizona's airports is the Arizona Department of Transportation's Aeronautics Group (ADOT Aeronautics). A division of ADOT's Multimodal Planning Division, ADOT Aeronautics is responsible for helping manage the state's system of public airports, administering the Arizona Airport Development Program, distributing funds from the State Aviation Fund, and more. The agency is charged with providing a safe airport system that is adequately maintained, supportive of the economy, and considerate to the environment.[2] Key to this mission is to support airport compatible land use. Specific efforts of ADOT Aeronautics to promote compatibility are described in more detail later in this section.

2 ADOT, "*Draft Airport Development Guidelines – Five-Year Airport Development Program and Grant Management*", January 2024.

Arizona State Aviation System Plan

As required by the FAA, ADOT Aeronautics is responsible for developing and regularly updating the Arizona State Aviation System Plan (SASP), which is a long-term planning document intended to assist with data-driven and informed decision making as it pertains to the 67 public-use airports included in Arizona's aviation system. ADOT Aeronautics last updated this document in 2018 and it includes several goals, performance measures, and recommendations developed to support a safe aviation system. One of the ways ADOT Aeronautics uses this document is to better understand compliance with the state statutes referenced previously and understand the extent to which airports across the state are engaging in airport land use compatibility efforts.

Table 2-5 provides the system goals, associated performance measures, and results of the performance assessments that are related to land use compatibility from the 2018 AZ SASP. As shown, 76 percent of airports reported coordinating with their local communities to adopt land use controls or ordinances to protect their airports, however, only 30 percent of airports reported developing an airport disclosure area in accordance with A.R.S. 28-8486 (compliance with A.R.S. 28-8485 was not assessed as it is not mandatory). The 2018 AZ SASP also indicates that 37 percent of airports reported owning all the land within their primary runway's runway protection zones (RPZs). This information is helpful for ADOT Aeronautics to monitor the existing conditions of airports' land use compatibility efforts over time, however ADOT cannot mandate that airports and their communities adopt airport compatible practices outside of what is required by law (territory or disclosure maps).

Table 2-5. 2018 Arizona State Aviation System Plan Update Metrics Associated with Land Use Compatibility

Goal Category	Performance Measure	Systemwide Performance*
Safety and Security	Percent of airports with surrounding municipalities that have adopted controls/zoning.	76%
	Percent of airports who have adopted airport disclosure areas.	30%
	Percent of airports controlling all primary runway end runway protection zones (RPZs).	37%
	Percent of airports with clear approaches to both ends of the primary runway.	28%
	Percent of airports with adopted wildlife plans in accordance with appropriate FAA regulations.	28%
	Percent of airports that have active programs to clear obstructions from their approaches.	22%
Economic Support	Percent of airports that are recognized in local/regional growth plans.	61%
** Percent of the System Meeting the Performance Measure*		

Source: 2018 AZ SASP, 2018.

State Aviation Fund

Established in 1979, the State Aviation Fund provides financial assistance for airport planning, development, acquisition of land, construction, and other improvements for Arizona's public use airports. Revenue for the Aviation Fund is generated through flight property taxes, aircraft license taxes, aviation fuel sales taxes, and other miscellaneous investments and revenue sources.

ADOT Aeronautics manages expenditures from the State Aviation Fund by developing a Five-Year Airport Capital Improvement Program (ACIP) each year. The ACIP is approved by the State Transportation Board (STB), allowing funds to be distributed into the Airport Development Grants Program and Airport Pavement Management System (APMS). Publicly-owned airports are eligible to receive funds from these programs. The Federal, State Local Program helps cover a portion of their local share when airports receive federal grants. The State, Local program supports safety and maintenance enhancement projects, allows airports to conduct preventative maintenance, or develop environmental or planning studies. State funds prioritize projects enhancing safety and various other projects needed to help airports meet FAA standards. Note that projects must be included in an airport sponsor's ACIP to receive grants via the Airport Development Grants Program and APMS.

State funding can be used to improve land use compatibility at airports. As an example, under qualifying projects, land can be acquired to meet improvements needed in several project areas including safety, capacity, planning, environmental, and more. Another example is funding planning efforts for airports to update their master plans, airport layout plans (ALPs), or environmental studies that may impact the future use of land on and near airports.

State Sponsor Assurances

When airports accept grant funding from ADOT, they are subject to a set of sponsor assurances as a condition of the grant (very similar to federal grant assurances introduced earlier in the chapter). Two of the sponsor assurances are related to the protection of airports from incompatible land uses and are summarized below. **Appendix C. ADOT Grant Sponsor Assurances** includes a copy of the ADOT Airport Development Reimbursable Grant Agreement which includes all sponsor assurances, and the specific language of the following two assurances:

Immediate Vicinity Land Use Restriction: This assurance states, in summary, that airport sponsors shall restrict the use of land around the airport to activities and purposes that are compatible with airport operations and take appropriate action, including adoption of zoning laws. If an airport sponsor accepts state funds for a project that improves airport land use compatibility, including noise compatibility or protection of airspace, then the airport will not create or allow changes in land use which would reduce compatibility. For example, if an airport used state funds to purchase an avigation easement within an RPZ to allow for tree trimming (to maintain a clear approach), the airport cannot allow future development that would create an airspace obstruction.

Disposal of Land: This assurance states, in summary, that an airport sponsor may request permission from the State or the FAA to dispose of land that was acquired for airport development purposes with State or FAA funding. If permission is granted, the value of the land that is proportionate to the State or FAA's original grant must be reinvested in another eligible airport development project or be deposited back into the State Aviation Fund if no eligible project exists. Furthermore, the land being disposed can only be used for purposes compatible with airport noise levels.

Local Role

Local governments serve the enforcement role for achieving land use compatibility, as they have the authority to create, implement, and enforce measures such as zoning ordinances that directly protect the airport from encroachment of incompatible development, and protect nearby communities from adverse impacts of nearby airports (e.g., noise). The local government is the ultimate land use authority, and in many cases also serve as the airport sponsor, positioning them well to implement effective land use control to preserve the airport as a community asset capable of meeting existing and future demand. In some cases, an airport's environment may cross jurisdictions, in which case an intergovernmental agreement (IGA) can be a helpful tool when developing airport compatible land use strategies.

As noted previously, airports that accept federal funding from the FAA are bound by grant assurances which require airport sponsors (oftentimes local governments) to protect operations and restrict land uses near the airport to those which are compatible. Therefore, although the achievement of compatibility is a shared responsibility at the federal, state, and local levels, it is the local level which serves as the front line and can have the greatest impact on enhancing compatibility swiftly and effectively.

Good to Know

While the local role is typically fulfilled by a city or county government, regional agencies may also be considered, such as metropolitan or regional planning organizations (MPOs/RPOs). These regional agencies often work closely with local governments to support cross-jurisdictional coordination, including regional transportation plans which should address airports and the need for compatible development.

Specific means and techniques of enhancing and achieving airport land use compatibility will vary from one community to another. **Chapter 3** includes a discussion of several ways land use compatibility can be achieved, offering suggested tools for consideration. Examples include airport zoning, airport overlay zoning, land acquisition, easements, rights of first refusal, and more. Local governments may also opt to educate their communities about the importance of airport compatible land use planning and work closely with airports on their current conditions and future development needs. The public play an important role in land use planning and most citizens have an interest in this topic, particularly as it relates to property values and aircraft noise. Engaging with the community helps to bolster public support, which is critical to ensure compatibility solutions are reasonable and reflect the communities' and the airports' interests.

Airport Role

Airports play a direct role in airport land use compatibility efforts and must work with local governments to ensure the land around their airport is compatible for aircraft operations, as well as the development needs for the future. While the "local" and "airport" role is oftentimes a blended role, there are specific responsibilities of each entity individually.

Airports are responsible for developing and regularly updating airport planning documents including airport master plans, Airport Layout Plans (ALPs), noise compatibility plans (if needed), and more. These planning documents may address specific elements of land use compatibility efforts. For example, ALPs will depict RPZs, approach and departure surfaces, runway obstacle free zones, identify Part 77 obstructions, existing landside and airside features, on and off airport land use drawings, and property boundaries. The ALP may also show zoning around the airport and any applicable noise contours. It is important for airports to collaborate with local planning authorities during development of airport planning documents. By coordinating airport-specific planning and development projects with local planning authority efforts (e.g., comprehensive plans, site plan reviews, etc.), land use compatibility is promoted outside of the airport property boundary. More information on tools and techniques that can be used to enhance compatibility (and those which require participation by the airport) is included in **Chapter 3**.

Good to Know

Utility providers are an important group for airports and local government to coordinate with as they develop and maintain critical infrastructure that is needed to deliver utilities (such as electricity, internet, telephone, etc.) to residents and businesses within a community. This infrastructure can be found above ground, or it may be buried underground. As communities continue to grow, utility access will need to be expanded and that will require new utility lines, poles, and other infrastructure that will likely be owned and maintained in perpetuity. Coordinating early and often with utility providers to understand their expansion plans will help airports and local governments understand potential compatibility issues. See Chapter 3 for some solutions that can aid in preventing compatibility issues related to above-ground utility structure height and potential airspace obstructions (e.g., utility poles, cell towers, power lines, etc.), such as airport zoning (limiting structure height) and subdivision regulations (requiring underground utilities).

Chapter 2 Wrap Up

Achieving land use compatibility requires input from a variety of interested parties, including frontline stakeholders and the general public, many of whom have specific roles and responsibilities. As discussed in this chapter, the federal role is an advisory and regulatory one, whereas the state role is largely regulatory, and the local role is to enforce land use solutions, to protect the airport environment from incompatible development. The successful and sustainable integration of airports and communities relies on all interested parties being involved and proactive in the pursuit to achieve airport land use compatibility.

Chapter 3. Strategies for Achieving Land Use Compatibility

Achieving compatible land use around airports can seem like a tall order considering the number of stakeholders and parties involved. Airports are diverse in size, services provided, and roles they serve. Thus, each airport and its surrounding communities may require different approaches to achieve compatibility. There are several tools and techniques which are commonly implemented to successfully enhance compatibility. This chapter introduces some of those solutions and provides context on what they are and when they might be used so users can find the strategies best suited for their unique situation.

This chapter is organized to first introduce the importance of community education and coordination of long-term planning efforts among interested parties (airports, local governments, regional planning agencies, etc.), and then discusses more formal solutions which may be appropriate or needed (e.g., zoning, land acquisition, etc.).

Educating Frontline Stakeholders and the General Public

Before diving into the details on specific reports, studies, and documents that can be used, it is important to first recognize the importance of educating frontline stakeholders and the general public on airport land use compatibility and why it matters to them. First and foremost, it should be communicated that airport land use compatibility is essential to protect the safety and quality of life of people living, working, and recreating near airports, and the safety of pilots and passengers in the air. As examples, it may be helpful to explain to the community that land uses sensitive to noise (e.g., homes and schools) should be avoided near airports to prevent annoyance and disruption, and that uses that attract large concentrations of people should be avoided in the runway approach paths in the event of an aircraft emergency. Providing this education is key to the success of any land use solution and public acceptance of the solutions proposed by an airport and/or local government. Creating a communication and education strategy can benefit every airport and community embarking on a mission to achieve higher levels of land use compatibility.

Common Outreach and Education Tools

The number and types of interested parties involved at an airport will vary depending on the size, ownership, use, and activity of an airport. However, most airports will find they have a diverse group of interested parties, including frontline stakeholders and the general public, that they should be engaging with, and those parties will have varying degrees of aviation and land use knowledge and experience.

Good to Know

A Community Presentation template which can be tailored to a specific airport and audience is available at the link in **Appendix C. ADOT Grant Sponsor Assurances**. This presentation includes an overview of airport land use compatibility, what it is, who is responsible, and how to achieve it. Speaker notes are also provided.

FAA Advisory (AC) 150/5050-4A, Community Involvement in Airport Planning is a resource that provides general guidance to both airport sponsors and local governments for public involvement in airport planning. Some outreach methods can be used anytime, while others are more suited to engagement for a formal project, plan, or action. Regardless of the methods used, it's critical to recognize and understand that different audiences will require messaging tailored to their needs and interests. For example, residents will be interested in understanding how enhancing compatibility practices will improve their quality of life and enhance their safety, while elected officials will be interested in understanding how these practices will impact the tax base and accommodate future growth demands on their communities.

Methods that can be Used Anytime:

- **Airport open houses** are commonly used to invite the public and engage local government in the airport planning process. Open houses are informal meetings that can be used to educate the public about an airport in general or about a specific airport project or issue (such as land use). Open houses offer an avenue for the public to give feedback to an airport sponsor and vice versa. Opening the doors to the public and inviting community members to visit is a great way to increase familiarity with an airport and educate the community on the benefits of an airport compatible environment, such as increased safety, reduced impacts of noise, and preservation of home and land values. These events are also helpful for demonstrating the important role the airport serves, especially for those less familiar with an airport.
- **Airport land use handouts/brochures** are simple but effective tools that can communicate key compatibility issues in a succinct format. The practice of airport land use compatibility planning can be complex; these short publications (one or two pages in length) can provide the fundamentals of airport land use compatibility, pertinent regulations, and summarize the benefits of pursuing airport land use compatibility, such as focusing on community safety. These can be posted to an airport's website and be printed and distributed at open houses, city council meetings, and more. Handouts can be useful to quickly educate frontline stakeholders (local governments, developers, and real estate professionals) that may have limited knowledge of aviation land use.

Heads Up

ACRP Land Use Brochure

ACRP provides an online tool that helps communities develop a customizable and easy-to-understand brochure that educates the public on the importance of achieving airport land use compatibility.

The tool is free to use and available here: *Interactive Tools – Aligning Community Expectations with Airport Roles (trb.org)*

- **Supplementary community outreach programs** such as social media campaigns, newsletters, website updates, airport tours, and participation in community events can also increase the visibility of an airport in the community and help inform the public of more formal outreach programs.

Methods Associated with a Formal Action, Plan, or Project:

- **Public hearings** are formal meetings for receiving testimony from the public and other interested parties on specific plans, projects, issues, or actions. Public hearings allow public comments to be officially recorded, which can satisfy outreach requirements for projects like *14 CFR Part 150 - Airport Noise Compatibility Planning* (Part 150). Public hearings in this context are associated with a specific airport project or plan[1] and are not an appropriate tool to gather feedback from the community on an airport in general.
- **Advisory committees** can be useful to formally engage interested parties believed to be impacted by airport planning or development (e.g., airport master plans). These interested parties can include airport users, elected officials, local government representatives (e.g., municipal planners), businesses, industry groups, and more.

1 *Grant Assurance 9* requires public hearings for projects related to the location of an airport, a runway, or a major runway extension.

As discussed in **Chapter 2. Roles and Responsibilities for Promoting and Achieving Land Use Compatibility**, the local planning authorities and airport sponsors must work closely to identify ways for establishing and enforcing land use regulations around an airport. Therefore, education of local planners and elected officials is highly valuable in creating regulations and enforcing protections that both prevent airport related incompatibilities and are practical, reflecting the needs of the community.

Long-Range Plan Coordination

The next step is to work towards aligning the applicable long-range plans to reflect airport and municipal development needs. Given the complexity and sensitivity of land use, it is important for airport sponsors to be proactive in coordinating with appropriate frontline stakeholders and the general public to provide input on municipal or regional planning efforts (e.g., comprehensive plans, area plans, etc.) and to allow for municipal and regional input on airport planning efforts (e.g., master plans). These long-range plans can help establish compatible land use before issues arise.

Municipal Plans: Comprehensive Plans and General Plans

Municipal planning efforts are intended to guide the growth of development, preservation of natural resources, and implementation of safe and effective transportation networks. These documents lay out the proposed development in a community and can be key in preventing incompatible uses from being developed next to each other. Arizona law requires each county to have a comprehensive plan, while each incorporated city or town must have a general plan. It is vital that these required plans consider the potential for airport hazards to address safety as well as the development of airports to maintain harmonious use within their jurisdiction.

Comprehensive Plans (for Counties)

Comprehensive plans, as shown in **Figure 3-1**, consider several factors including geography, demographics, socioeconomic trends, and natural resources to make recommendations about how and where a community should develop. An assessment of current and future land uses and a map depicting these uses are often accompanied by general plans for cities or towns within the county (sometimes referred to as "local plans") as described in the following section **General Plans (for Cities and Towns)**. The goal of a comprehensive plan is to guide current decision making to accomplish coordinated and harmonious development of land while protecting natural resources, preserving property rights and values, and ensuring community betterment.

Figure 3-1. Sample County Comprehensive Plan

Source: Yuma County Comprehensive Plan, 2023.

A.R.S. 11.804 Comprehensive Plan describes the statewide requirements and guidelines for counties and political subdivisions to adopt long-term comprehensive plans within their jurisdiction. As described in the legislation, a comprehensive plan should outline a long-term plan for the land within its jurisdiction.

Counties having a population of more than 125,000 people should have a comprehensive land use plan that includes elements such as (see *A.R.S. 11.804* for the full listing of requirements):

- Is public record and can be utilized by county planning and zoning commissions to sufficiently perform their duties
- Depicts future planned land uses on a map
- Identifies intensity of current development and the needed development to meet future population density goals for each land use (residential, commercial, industrial, agricultural, recreational, etc.)
- Recommends a comprehensive land use plan that strives for a diverse mix of land use
- Considers natural resources (air quality, management and inventory of water resources, efficient use of energy)
- Considers transportation and circulation needs

For counties having a population of more than 200,000 people, the comprehensive plan should additionally include elements such as (see *A.R.S. 11.804* for full listing of requirements):

- An inventory and strategy to maintain open spaces (undeveloped natural resources characterized by great natural scenic beauty)
- Planning for multimodal transportation
- Identification of high noise and accident potential areas relating to military airports

Communities may want to consider forming an Intergovernmental Agreement (IGA) when developing their Comprehensive Plan if the airport within the community touches multiple jurisdictions. An IGA is an effective way to gather consensus when implementing airport land use compatibility strategies that impact multiple jurisdictions. See **Regional Planning and Interagency Coordination Agreements** for more information.

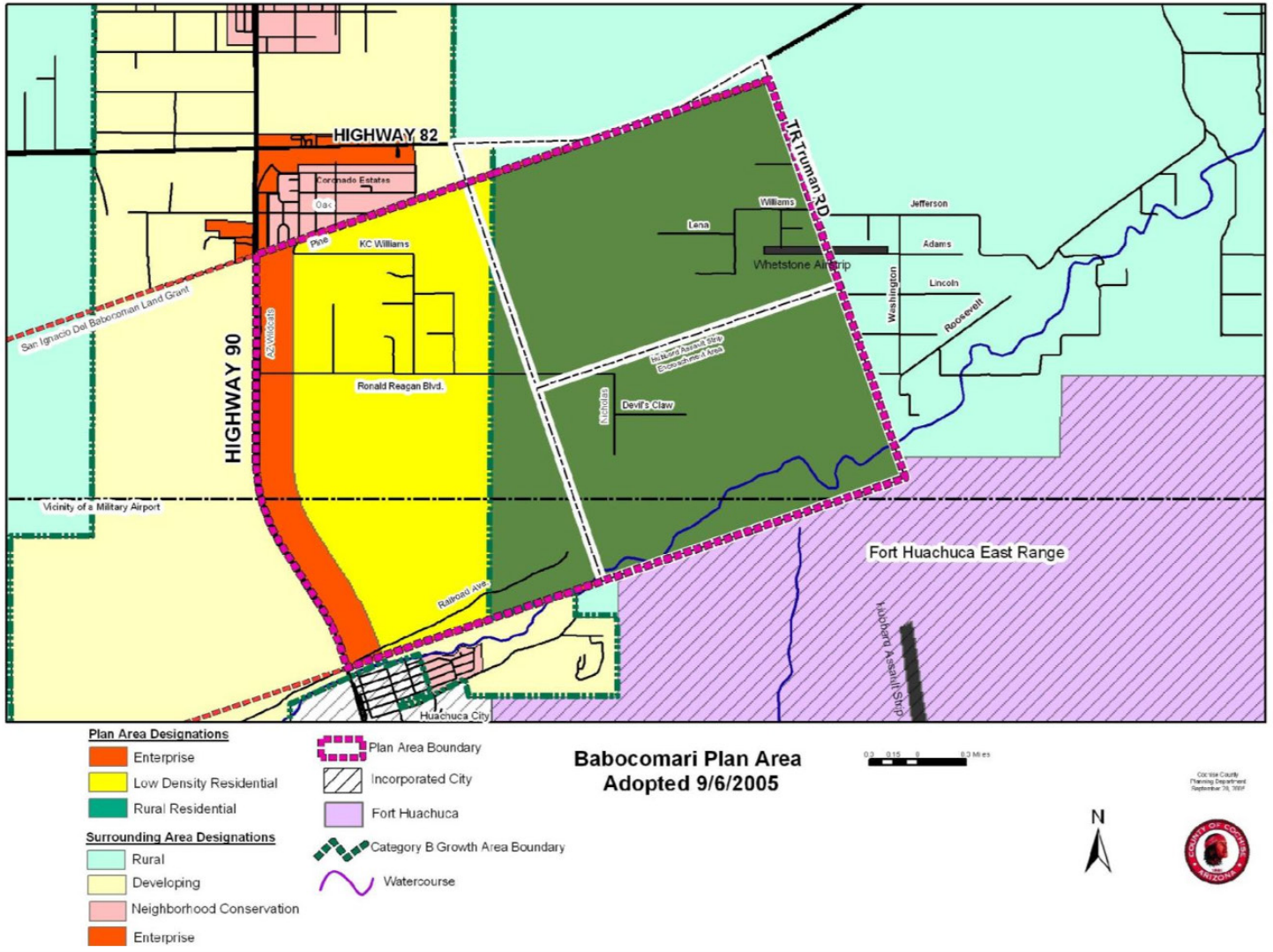
General Plans (for Cities and Towns)

General plans (sometimes referred to as “local plans” or “area plans”) address the development and growth of individual communities (cities and towns). *A.R.S. 9-461.05 General Plans* establishes the general requirements for any incorporated city or town to create a general land use plan within their jurisdiction. General plans are often included in their respective county’s comprehensive plan to encourage coordination between the town/city and county. General plans contain similar components as comprehensive plans and include future recommended land uses, inventory of open spaces, transportation and circulation planning, and consideration of compatibility to military airports, among others (see *A.R.S. 9-461.05*). An example of a land use map from a general plan (called an “area plan” in this instance) is shown in **Figure 3-2**.

Regardless of the required plan (comprehensive or general) it is key for all municipalities to consider the location of nearby airports in their respective long-range plans, especially if their jurisdiction falls within an airport territory or airport influence area as defined in state statute (see **Chapter 2** for more information on *A.R.S. 28-8485 Airport Influence Areas* and *A.R.S. 28-8486 Public Airport Disclosure*). When developing these planning documents, municipalities should engage their local airport sponsors (which in some cases is the same municipality), ideally using relationships established during the public education process. At the same time, airport sponsors should be proactive in reaching out to municipal planning staff to initiate and continue the discussion of including their airport in these long-term plans and can assist in identifying the boundaries of an airport influence area and potential airport hazards that may exist. Ultimately, all parties should seek to achieve alignment between the comprehensive plan, the general plan, and airport-specific planning documents, including the airport master plan and Airport Layout Plan (ALP), so that the short- and long-term vision of the subject airport is reflected in the comprehensive plan and general plan. More information on the master plan and ALP is included in the following sections.

The consequences of comprehensive and general plans not addressing airport hazards and land use issues can have long-term impacts on both an airport and community. Airports may be operationally restricted, lose federal funding, or fail to meet the needs of users and the public, while communities may lose the economic impact generated from an airport, lose their local connection to the national aviation system, and experience a potential increase in aircraft noise or safety hazards associated with incompatible land use practices.

Figure 3-2. Example Land Use Map from a General Plan



Source: Cochise County, Babocomari Area Plan, 2005.

Airport Plans: Master Plans, Airport Layout Plans (ALPs), and Part 150 Airport Noise Compatibility Plans

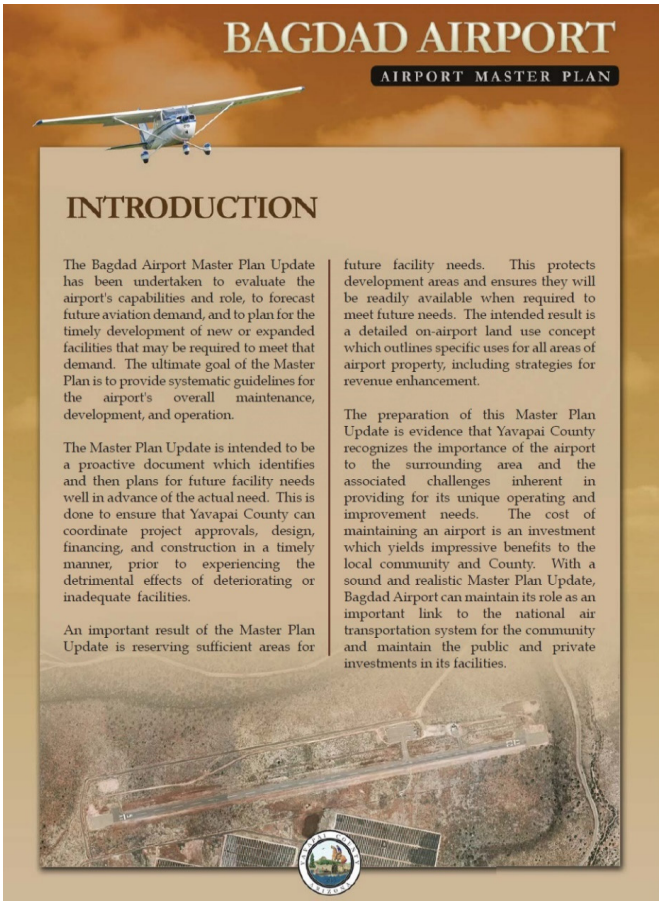
While airport sponsors should coordinate with local planning authorities to ensure community development is compatible with their airport, they must also involve other external frontline stakeholders and the general public in airport-specific planning efforts to create cohesion between airport needs and community goals. Examples include inviting local planning staff, elected officials, regional planning agencies, and others to provide input on future development plans of an airport. This may be done via an airport master plan or an ALP. Their input may also be sought (along with others) on plans more specifically centered on land use compatibility issues, such as a Part 150 Noise Exposure Map (NEM) and/or Noise Compatibility Program (NCP). Specific requirements for public consultation and municipal coordination are noted in the applicable sections.

Airport Master Plans

An airport master plan is the primary planning document that guides long-term (20 years) future development of airport facilities and improvement projects to meet forecasted demand. Master plans inventory existing facilities, forecast aviation activity and demand, detail facility requirements to meet future demand, assess environmental considerations, document development alternatives, and create an associated Capital Improvement Plan (CIP) for development needs, among other elements. It is recommended by the FAA that airports update master plans every seven to ten years. See **Figure 3-3** for a sample airport master plan with a description of the plan's contents.

One of the first tasks in conducting a master plan is to create a public involvement program that encourages information sharing and coordination between an airport sponsor, users, local government officials, municipal planning staff, and others (including the general public). The intent is for the public involvement program to provide opportunities for members of the public to comment on the needs and future plans for airport development. By inviting local planning staff and officials to participate in a master plan, an airport is offering the same opportunity for input as they should be requesting for their applicable comprehensive or general plan(s), creating a unified vision of the airport and it's needs over the long-term planning horizon. See *AC 150/5070-6B, Airport Master Plans* for more information on master plans and the public involvement requirements.

Figure 3-3. Example Airport Master Plan



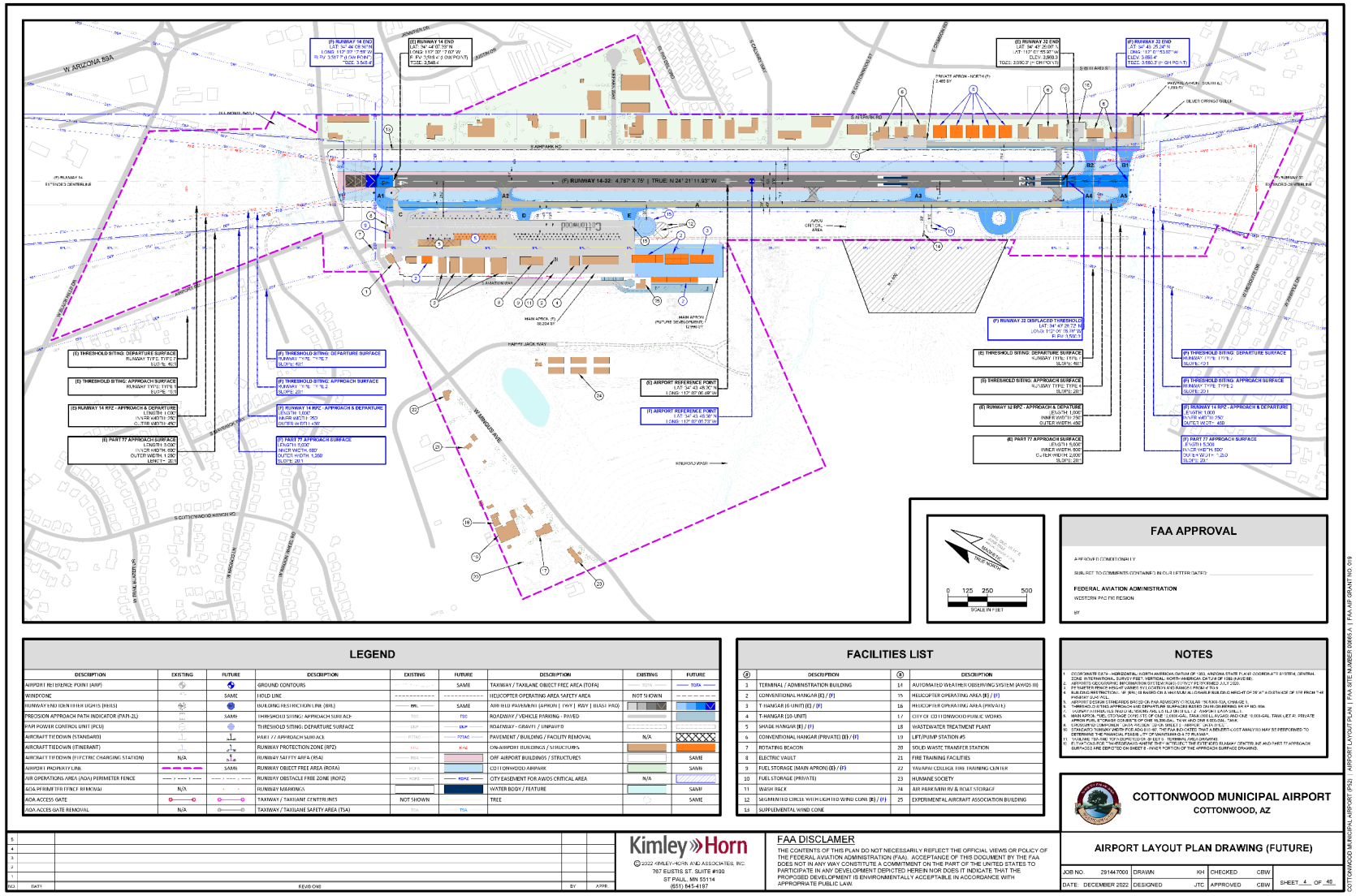
Source: Bagdad Airport, Airport Master Plan, 2014.

Airport Layout Plans (ALPs)

Another element of a master plan is an ALP. The ALP is a visual depiction of an airport's existing facilities and proposed developments to meet the forecasted need as shown in **Figure 3-4**. ALPs also include information on airspace and any approach obstructions present at an airport. ALPs can also be developed outside of a master plan and be accompanied by an ALP Narrative Report, which is essentially a shortened and simplified version of a master plan.

To comply with federal grant assurances (introduced in **Chapter 2**), specifically *Grant Assurance 29 "Airport Layout Plan"*, airports must ensure an updated ALP is maintained at all times in accordance with Chapter 10 of *AC 150/5070-6B, Airport Master Plans* and FAA's *Standard Operating Procedure 2.0 Standard Procedure for FAA Review and Approval of Airport Layout Plans (ALPs)*. Airports must update ALPs to accurately reflect modifications to facilities as well as surrounding land use changes that may impact navigable airspace. In addition, *Grant Assurance 6 "Consistency with Local Plans"* requires airports sponsors to ensure coordination with local government and that projects depicted in the master plan and ALP are "reasonably consistent" with local plans (e.g., comprehensive plans, general plans). Similar to master plans, inviting municipal planning staff and officials to participate in the review and development of an ALP can foster a greater level of coordination between this long-range airport plan and long- range plans of the local community, while also satisfying the grant assurance requirements.

Figure 3-4. Example Airport Layout Plan Exhibit



Source: Cottonwood Municipal Airport, Airport Layout Plan Drawing (Future), 2023.

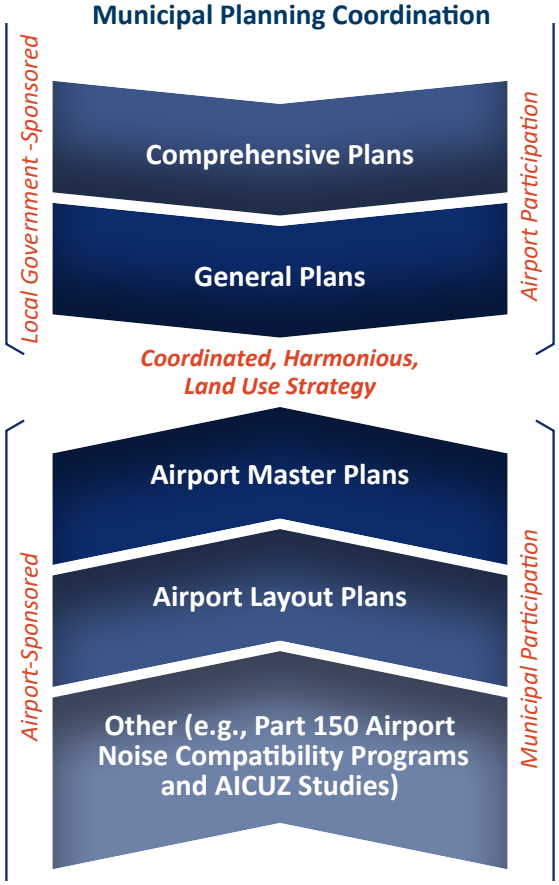
Part 150 Airport Noise Compatibility Plans

Part 150 NEMs and NCPs are effective tools for airports to measure and mitigate (if needed) the impacts of noise in their communities. These resources are highly valuable to the public, legislators, and airport sponsors. **Chapter 2** discusses *14 CFR Part 150 - Airport Noise Compatibility Planning*, which details the federal requirements when conducting federally approved NEMs and NCPs and the elements that should be included to provide a comprehensive assessment of noise impacts in the community.

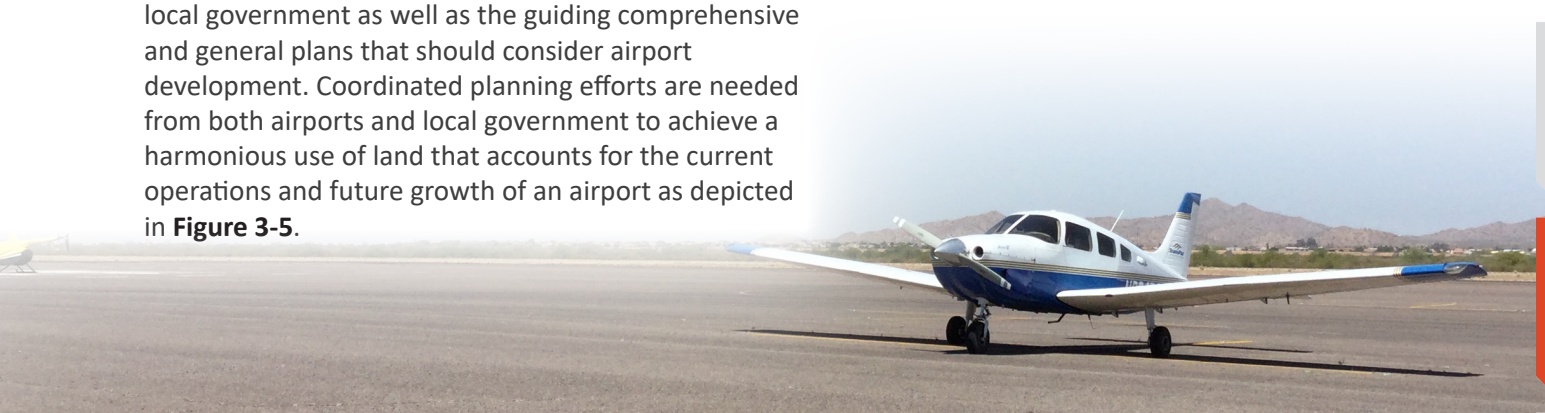
The NEM identifies "noncompatible land use" within applicable noise contours and includes projected noise exposure based on forecasted operational activity at an airport for at least five years in the future. The NCP addresses noise abatement alternatives and proposes measures to eliminate or reduce current and future noncompatible land uses. Public involvement is required in the development of both an NEM and NCP and airport sponsors must document the public participation, including coordination and consultation with municipal planning staff and officials with jurisdiction over the property impacted.

Table 3-1 provides more information on important planning documents that airports should provide to local government as well as the guiding comprehensive and general plans that should consider airport development. Coordinated planning efforts are needed from both airports and local government to achieve a harmonious use of land that accounts for the current operations and future growth of an airport as depicted in **Figure 3-5**.

Figure 3-5. Airport Planning and Municipal Planning Coordination



Source: Kimley-Horn, 2024.



Good to Know

The *Air Installation Compatibility Use Zone (AICUZ) Program* is administered by the Department of Defense to address encroaching development around military airfields. The studies assess the noise impacts on surrounding development and accident potential and provide a basis from which to make recommendations to municipalities to update planning practices and regulations to prevent further encroachment of incompatible development. This requires significant coordination between military and municipal planning staff.

Table 3-1. Key Long-Range Plans

Plan	Purpose
Sponsored by Local Government	
Comprehensive Plan	Guiding document or set of documents that outlines a county's long-term plan for growth and economic development (can be as long as a 30–40-year plan). Comprehensive plans can include dividing and classifying areas into growth categories-including those that are expected to grow rapidly and those expected to grow at a slower rate. All counties in Arizona are required to have a comprehensive plan for the development of the land within its jurisdiction.
General Plan	These plans are often included as a part of the associated county's comprehensive plan and focus on future growth of cities and towns within the jurisdiction of the county. Discussions with the public play more of a role in the formulating these plans when compared to comprehensive plans. The General Plan should include information about the airport that aligns with the Airport Master Plan and ALP.
Sponsored by Airport	
Airport Master Plan	Identifies the short, medium, and long-term development goals of an airport, forecasts future demand, and establishes facility requirements to meet this demand, along with development alternatives. The airport development needs documented in the Airport Master Plan should be reflected in the applicable General Plan of the local city/town(s) and illustrated in the ALP.
Airport Layout Plan (ALP)	Shows a graphical depiction of current conditions of an airport and provides a map of airport property, facilities, utilities, known airspace obstructions, runway protection zones, approach paths, and planned improvements (which is required for projects to receive federal funding). The ALP should illustrate the development needs documented in the Airport Master Plan and be incorporated in the applicable General Plan of the local city/town(s).
Part 150 Airport Noise Compatibility Plan	Quantitatively measures airport noise, helping to identify areas of potential incompatibility (noise contours) on an NEM which can be used to implement noise reduction and abatement strategies (e.g., adopt zoning ordinances or installing sound proofing solutions) in an NCP.
Sponsored by Military	
Air Installation Compatible Use Zone Study (AICUZ)	Similar to Part 150 Compatibility Plans for civil airports, this study documents noise impacts from military airfields, operations, and training exercises. The AICUZ studies also identify accident potential sites around military airfields.

Sources: FAA AC 150/5190-4B,2022; Air Force Instruction 32-7063, 2005.

Regional Planning and Interagency Coordination Agreements

Airports may influence large areas of land, thus requiring coordination between multiple municipal or regional entities. Regional planning and interagency coordination agreements can help create a cohesive plan that enables an airport to meet land use requirements for grant assurances, accommodate future demand, and fund future airport improvement projects. Arizona is home to two types of regional entities, both charged with addressing cross-boundary issues and needs. A Council of Governments (COG), also called a Regional Council, is a governing body that serves multiple local municipalities and uses policies and planning to address regional issues. A Metropolitan Planning Organization (MPO) is a policy board formed and authorized to conduct the metropolitan planning process. In some locations, a COG may also serve as the MPO for transportation planning.[2]

2 Maricopa Association of Governments, "AZ COGs and MPOs", Accessed April 2024.

MPOs are required by *23 CFR Part 450 §450.310 - Metropolitan Planning Organization Designation and Redesignation* to represent localities in all urbanized areas with populations over 50,000 people. MPOs are appointed through an agreement between the state and local government. Examples of MPOs in Arizona include the Sun Corridor Metropolitan Planning Organization (SCMPO) and Flagstaff Metropolitan Planning Organization (FMPO) and example COGs include the Maricopa Association of Governments (MAG) and the Pima Association of Governments (PAG). COGs and MPOs provide regional guidance and interagency coordination to help local government and airports coordinate plans and actions. These entities can have varying levels of involvement based on the legislative authority or aviation expertise of the organization.

Grant Assurance 10 "Metropolitan Planning Organization" requires airport sponsors of medium and large hub airports to coordinate regionally with an MPO by providing a master plan and updated ALP for projects involving the establishment or relocation of an airport, a new runway, or a major runway extension. While this is only required at medium and large hub airports, this type of coordination is a best practice for all airports located within the jurisdiction of an MPO.[3]

Note that the development of joint zoning boards can address the mitigation of airport hazards that require multijurisdictional coordination and provide land use planning on a regional level. Joint airport zoning boards are discussed later in this chapter, including the requirements needed to create a joint airport zoning board.

Land Use Regulations

Local and regional planning can help lay the groundwork for various types of additional land use controls, which may include a variety of types of zoning, and/or establishment of development standards such as building codes and subdivision regulations. This section includes additional detail on different types of land use regulations that can be used to better control the type or the characteristics of new development near airports.

Heads Up

Zoning Shortfalls

Here are some zoning shortfalls to be aware of and consider closely when working towards airport land use compatibility:

Mixed Use: Emerging as a popular land use classification that can include a mix of elements that are considered compatible AND incompatible. Close attention to the uses and density allowed in mixed-use developments is critical.

Inclusive Zoning: Allows for more flexibility in allowable uses than the zoning category implies. For example, caretaker units may be allowed in an inclusive zone even if residential is not permitted.

Definitions: Every community is going to have different land use definitions. All definitions should be thoroughly reviewed and understood when making airport compatible land use decisions. Incompatible uses may be hiding in plain sight.

Future Considerations: Uses change overtime and an existing compatible development may become incompatible. For example, tree growth poses an ongoing concern if it is not trimmed routinely, or adding a new antenna may not trigger a new height review, despite it creating a new obstruction.

3 Phoenix Sky Harbor International Airport (PHX) is the only airport in Arizona classified as a Large Hub in the FAA's National Plan of Integrated Airport Systems (NPIAS) 2023-2027. All other airports with commercial service are classified as Nonhub or Small Hub.

Airport Zoning and Overlay Zoning

Zoning defines allowable land uses and characteristics of uses in certain locations within a jurisdiction. Zoning generally classifies land uses into broad categories (commercial, residential, industrial, recreational, etc.) and dictates where in the jurisdiction such uses can be developed.

Airport zoning is tailored specifically to assessing the types of land uses compatible/incompatible with airport operations and defining where those uses can and cannot be located in relation to an airport. Airport zoning defines the allowable use of a property outright, commonly restricting land in the immediate vicinity of an airport to industrial or commercial uses which are often considered the most compatible at a foundational level.

Heads Up

A.R.S. 12-1134: "Private Property Rights Protection Act"

Signed into law in 2006, Proposition 207 the "Private Property Rights Protection Act," requires compensation to private landowners whose property has decreased in value because of a change in land use law. Airport sponsors and municipalities must be cognizant of this law when working with the public to revise zoning laws.

Airport overlay zoning is different than airport zoning. Overlay zoning does not define the type of land use allowed by region/parcel, rather it includes the application of additional restrictions or development standards on top of the underlying zoning. As an example, airport zoning may define only industrial uses to be allowed near an airport (as they are generally considered compatible), whereas airport overlay zoning may place height restrictions, sound insulation requirements, and limitations on occupancy on top of what the property is already zoned (commercial, residential, etc.). Some municipalities find that adopting airport overlay zoning is easier as it does not require the re-zoning of any land.

Airport zoning and overlay zoning can substantially reduce common compatibility issues such as tall structures, visual obstructions (light, glare, dust, steam, etc.), wildlife attractants, noise, and population density as discussed in **Chapter 1. Airport Land Use Compatibility and Why It Is Important**. However, each technique has its own benefits and drawbacks, as shown in **Table 3-2**. See **Appendix E. Airport Land Use Community Presentation Template** for an example of airport overlay zoning which can be adopted and modified by airports and their surrounding communities to fit their needs.

Table 3-2. Airport Zoning vs. Overlay Zoning

Zoning Type	Airport Zoning	Overlay Zoning
What is it used for?	Defining and allowing known types of land uses that are generally compatible with airport operations, such as industrial.	Can be tailored to address specific compatibility issues throughout an airport influence area. As an example, height restrictions can be enacted for otherwise compatible industrial areas under aircraft approach paths. Another example is the requirement for lighting to be down shielded near airports.

Zoning Type	Airport Zoning	Overlay Zoning
What are the primary shortcomings?	May prove ineffective when applied to very large areas or as a strategy for long periods of time as the demand for industrial or commercial may not be realistic or could change over time.	Helps improve compatibility for a specific land use, but it does not change the underlying land use classification or zoning, which may still permit an incompatible use (e.g., residential).
Where is it best used?	Best used where industrial zoning or commercial use is both practical and consistent with the comprehensive or general plan and in communities that are new and growing and can establish underlying zoning prior to development.	Best used in established communities where the public may oppose changes to the underlying zoning already in place.

Source: FAA AC 150/5190-4B, 2022.

Extraterritorial Zoning

In some cases, an airport's influence area can extend across multiple jurisdictional boundaries. When this happens, a municipality may seek to implement extraterritorial zoning which allows for the extension of a jurisdiction's zoning power into a separate jurisdiction. Often this is needed when the neighboring jurisdiction is unable or unwilling to establish their own airport zoning (or overlay zoning). Arizona state law (*A.R.S. 9-462.07 Extraterritorial Jurisdiction*) authorizes municipalities to extend zoning powers to any unincorporated territory, in which the county does not have applicable zoning. The jurisdiction that is exercising extension of zoning powers can do so for unincorporated land (not located in a municipality) up to three miles from its corporate limits and must additionally coordinate with members representing the unincorporated territory (where zoning powers will now extend to) when preparing the comprehensive zoning regulations. Note that the state statute is limited to unincorporated county land and does not apply to a neighboring municipality that is unable or unwilling to establish their own airport zoning (or overlay zoning) – however, *A.R.S. 28-8465 Joint Airport Zoning Board* does include provisions for establishing and enforcing airport zoning regulations applicable to an airport's hazard area (see the next section for more information on joint zoning boards). In any case, extraterritorial zoning can be politically sensitive and requires effective coordination between municipalities.

Heads Up

County Islands

In some cities and towns there are pockets of land that are not incorporated into the city/town but fall under the control of the county. These are known as county islands and are an example of a scenario in which extraterritorial zoning may be applicable if the county does not have the same airport zoning protections in place as the city/town does. See **Figure 3-6** for an example of county islands near an airport.

Heads Up

Recently, the Arizona Legislature passed a few bills that will impact zoning in communities across the state, and allow greater population density and/or building height. Each of these bills are summarized below for reference, including any exemptions for airport facilities:

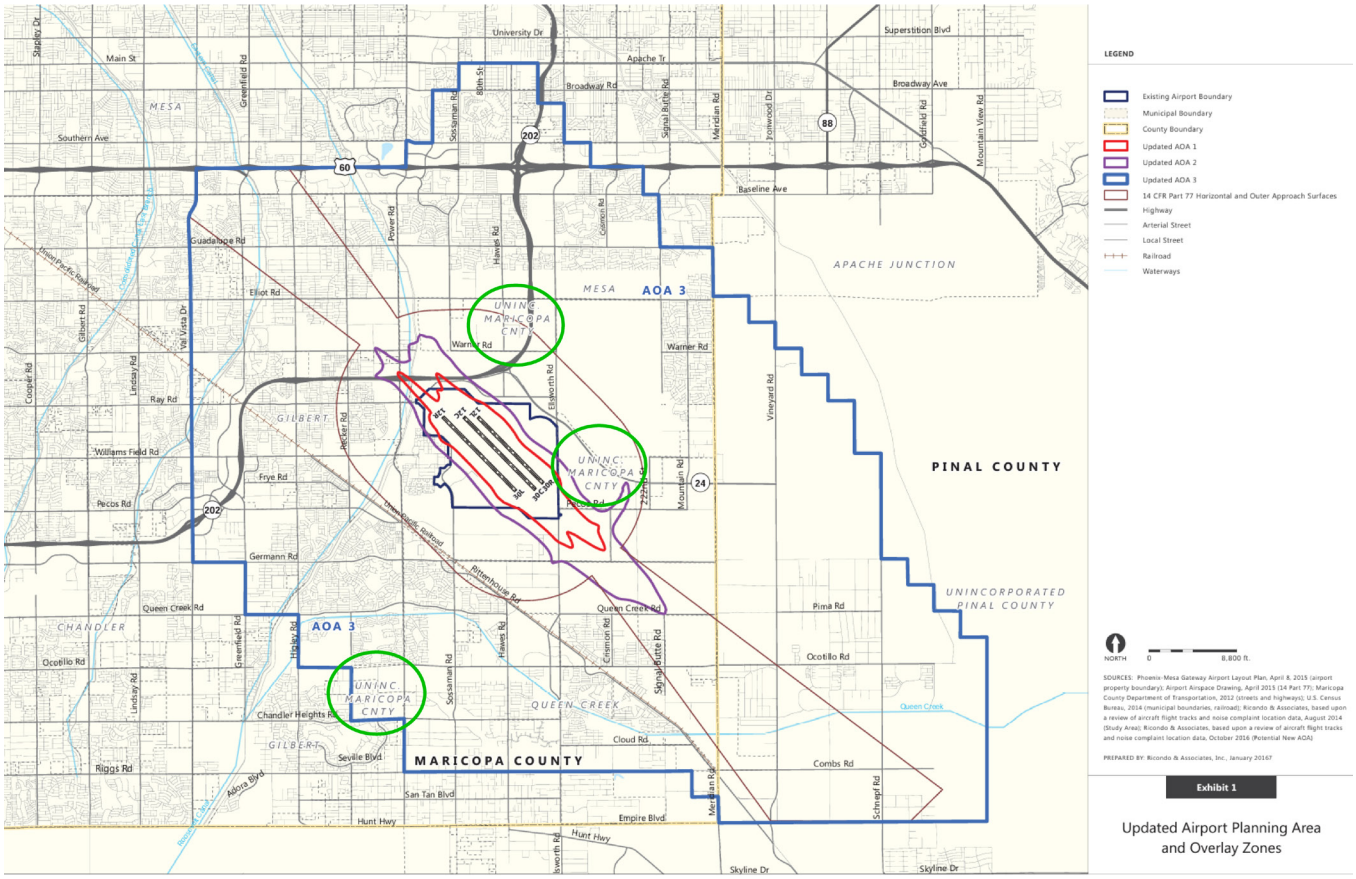
- **House Bill 2297**, which takes effect January 1, 2025 and is codified in **A.R.S. 9-462.10**, requires municipalities of 150,000 or more people to "allow multifamily residential development or adaptive reuse on not more than ten percent of the total existing commercial, office or mixed use buildings within the municipality without requiring a conditional use permit, a planned unit development or rezoning application or any other application that would require a public hearing." This permits developers and property owners to develop uses of potentially taller heights and greater population density than what was allowed previously based on the underlying zoning. Fortunately, there are exemptions for civilian and military airports as follows:
  - Land in the territory in the vicinity of a military airport or ancillary military facility as defined in section 28-8461.
  - Land in the territory in the vicinity of a Federal Aviation Administration commercially licensed airport or a general aviation or public airport as defined in section 28-8486.
- **House Bill 2720**, which takes effect January 1, 2025 and is codified in **A.R.S. 9-461.18**, requires municipalities of 75,000 or more people to adopt regulations that allow at least one attached, and one detached accessory dwelling unit (ADU) on any lot or parcel where a single-family dwelling is allowed. This will allow increased residential population density than what may previously have been allowed by municipal zoning. Fortunately, the same exemptions for civilian and military airports also apply here:
  - Land in the territory in the vicinity of a military airport or ancillary military facility as defined in section 28-8461.
  - Land in the territory in the vicinity of a Federal Aviation Administration commercially licensed airport or a general aviation or public airport as defined in section 28-8486.
- **House Bill 2721**, which takes effect January 1, 2026 and is codified in **A.R.S. 9-462.10 13**, requires municipalities of 75,000 or more people to allow the development of duplexes, triplexes, fourplexes, and townhomes as a permitted use on all lots zoned for single-family residential use within one mile of the municipality's central business district and at least 20 percent of any new development of more than 10 acres. This will allow increased residential population density than what may previously have been allowed by municipal zoning. Fortunately, similar exemptions for civilian and military airports also apply:
  - Land within the territory in the vicinity of a public airport as defined in Section 28-8486 or to the extent this section would interfere with the public airport's ability to comply with the laws, regulations and requirements of the United States relative to applying for, receiving or spending federal monies.
  - Land within the territory in the vicinity of a military airport as defined in Section 28-8461.

While each bill does provide exemptions for property near an airport, the area defined as the "territory in the vicinity of" may not fully cover areas of concern as it relates to compatibility with airport operations. For example, residential uses outside of the "territory" may still be subject to aircraft noise and associated annoyance. Municipalities should consider ways to improve compatibility beyond the "territory," particularly as it relates to uses that are now allowed by right with the passage of this new legislation (e.g., require additional sound insulation for the newly allowed residential uses).

Joint Airport Zoning Board

A.R.S. 28-8465 Joint Airport Zoning Board gives jurisdictions the ability to adopt joint airport zoning boards. If an airport is owned or controlled by a municipality and an airport's hazard area is located outside of its jurisdiction, the municipality may form a joint zoning board with the affected municipalities. The purpose of the joint zoning board is to adopt, administer, and enforce airport zoning regulations applicable to an airport hazard area in the jurisdictions the hazard area is located within, in an effort to prevent encroachment from development surrounding the hazard area, regardless of the jurisdiction that property falls within.

Figure 3-6. Sample County Islands within an Airport's Planning and Influence Area (shown in green)



Sources: Phoenix-Mesa Gateway Airport, Airport Land Use Compatibility Plan Update, 2017; Kimley-Horn, 2024.

Other Land Use Regulations

Other land use regulations can be used where needed to achieve greater compatibility than zoning alone. These solutions include subdivision regulations, development agreements, and building codes, all of which control land use on a more granular level. These should be used in tandem with broader land use measures like airport zoning or overlay zoning to provide maximum protection for airports.

Subdivision Regulations

Subdivision regulations set planning requirements for undeveloped land including utility layout, rights-of-way, avigation easements, lot layout, and other elements in land platting. Subdivision regulations can promote compatibility in sensitive areas by securing avigation easements before development and requiring property disclosures. This solution does not define or establish where new subdivisions can be placed (that would require zoning) but can help limit incompatibilities with residential developments when there are no options to move or prohibit them.

Development Agreements

A development agreement is a binding contract, entered into voluntarily, between two parties, typically a local government and a property owner (developer). The development agreement is a written document that aims to regulate the development of one or more land parcels and determines the rules that will govern the development occurring on these land parcels. Typically, a development agreement is authorized by a statute, local ordinance, or code, and furthers the public interest by ensuring development promotes health, welfare, safety, and economic interest. Development agreements can be an effective airport land use compatibility strategy because it provides an opportunity for a local government (and airport sponsor) and developer to bring certain requirements to the table and find common ground about what can and cannot be included in a given development. Local governments could propose requirements on allowable land uses, building height, building density, open space requirements, down shielded lighting, and more, all of which would improve the compatibility of the development within the airport environment. Development agreements are often extensive and can include Codes, Covenants, and Restrictions (CC&Rs), avigation easements, and more. These agreements provide opportunity for future growth that is compatible with the airport environment and protects the safety and quality of life for future residents and visitors.

Good to Know

Codes, Covenants, and Regulations (CC&Rs) are used in common interest developments, like condos, townhomes, or other Homeowner Association (HOA) developments. CC&Rs are established by the developer upon new construction or by the HOA.

CC&Rs can be used as a tool to improve airport land use compatibility because they establish requirements for the use and maintenance of properties within a specific development. CC&Rs can include restrictions on certain vegetation that may be particularly attractive to hazardous wildlife, requirements to cover waste receptacles, restrict reflective solar panel installations, require sound insulated doors and windows, and more.

Building Codes

Building codes can support compatibility by defining allowable building materials and methods. Specifically, building codes can be helpful in establishing requirements for sound insulation of noise-sensitive issues (such as increased insulation for residential and institutional uses, higher quality windows and doors with higher sound ratings, etc.) and defining allowable exterior building materials (such as limiting large amounts of reflective exterior materials to minimize glare). The application of building codes is limited to new development, unless current incompatible development requires rehabilitation or expansion, which would trigger the need to meet new building code requirements. Some example building codes tailored to address airport land use compatibility can be found in **Appendix H. Using Building Codes**.

Transfer of Development Rights

Transfer of Development Rights (TDR) programs are intended to guide development of properties by allowing a municipality to permit a developer to "transfer" levels of development density or intensity to another geographic location. As an example, if a comprehensive plan identifies an area as high density residential, and this area is now subject to significant noise, the area of concern can now be changed to low density and the developer will be then permitted to construct the higher-density development in another location that would otherwise have not been permitted.

Property Acquisition

While land use regulations like zoning, overlay zoning, building codes, and subdivision regulations serve their purpose, some cases of incompatibility can best be solved if an airport acquires the property to control land use. One of the benefits of acquiring land or property rights is that it generally provides airports perpetual control over the land, while land use regulations can be less resilient in the long run, becoming outdated in relation to new compatibility standards or changing land use plans.

Good to Know

Alternative Strategies

Right of First Refusal – These agreements are attached to a parcel of land to allow an airport the opportunity to buy land before anyone else when it is listed for sale. This is useful for ensuring that an airport has the opportunity to acquire property (particularly within sensitive areas like an RPZ) before it is offered up for sale on the public market. This agreement can be accompanied by a payment to the property owner for providing the advanced opportunity.

Land Contracts – Land contracts allow airports to pay for property in increments (monthly, bi-annual, etc.), applying payments to go to the purchase of the property. Land contracts can be useful in areas that are experiencing high pressure to develop and when an airport needs to pay over time.

Fee Simple Purchase

The most straightforward way to acquire control over property is to purchase it using fee simple purchase. Put simply, this is the complete acquisition of an entire property, the structures on it (if any), and the air rights above and the mineral rights below. Due to the costs and other challenges associated with property purchase, the FAA recommends airport sponsors focus on owning the property within the Runway Protection Zones (RPZs) and Object Free Areas (OFAs) [4] which are introduced in **Chapter 1**, as they are the most sensitive to disruption from incompatible uses.

Purchase of Development Rights

When fee simple purchase is not a possible, airport sponsors may consider another acquisition strategy known as Purchase of Development Rights (PDR) where an airport purchases the right to develop the subject property (in perpetuity). This allows the property owner to retain the ownership of the land but they cannot develop it. This may be more effective in rural areas where the development rights can be purchased for less than traditional fee simple purchase. However, in more developed communities, the value of the development rights may be equally as expensive as acquiring the property outright.

4 FAA, *AC 150/5190-4B, Airport Land Use Compatibility Planning*, September 2022.

Avigation Easements and Conservation Easements

Another effective tool relating to property acquisition is the use of easements. Easements are rights acquired to land that is established through deed, contract, or contractual agreement, allowing an airport to actively control incompatible use, prevent future issues, prevent litigation, and raise public awareness of airport operations. Two common strategies used are avigation and conservation easements. In some cases, easements may also include a hold-harmless clause which protects the airport from future legal claims associated with the airport. Hold-harmless agreements and nonsuit agreements are discussed separately in the **Disclosure and Notifications** section as these strategies can also be pursued separate from an easement.

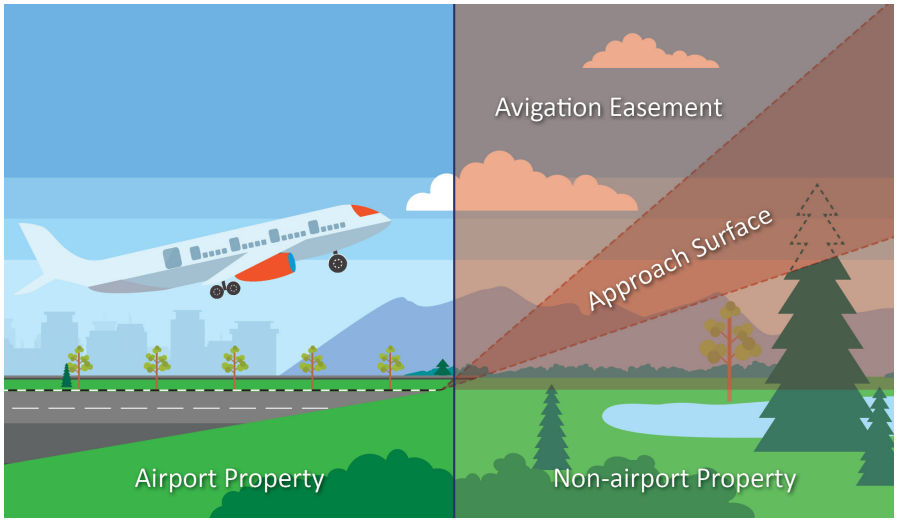
Avigation easements give airports more flexibility and positive control of land use compared to zoning but are less complex and usually less expensive than outright ownership. Airports will purchase avigation easements which notify property owners of the proximity to airport activities and the rights that have been purchased to allow related activities (aircraft overflight, noise, vibrations, dust, etc.) over the property. Avigation easements also allow airports the right to remove obstructions like trees, vegetation, or structures on properties to ensure protection of airspace as shown in **Figure 3-7**.

Good to Know

Easements and disclosures are most effective when presented early in the buying process. Early notification eases the process for buyers by eliminating surprises and minimizes potential questions or confusion at closing. Early notification also benefits developers and sellers who may fear buyers backing out last minute when they learn about disclosures at the very end.

For new construction, a best practice is to provide a map of the airport influence area and any easement boundaries or disclosures that impact development or individual parcel upfront to prospective home buyers. Local governments and planning staff should consider requiring developers to provide this information early on as a part of their development review and permitting processes.

Figure 3-7. Example Illustration of an Avigation Easement



Source: Kimley-Horn, 2024.

Conservation easements can require land to remain in an undeveloped condition or prevent certain types of development or uses. As an example, if an airport acquires easements for agricultural land, the current owner will retain the title of the land and be permitted to use the land only for this purpose. This type of easement is best suited for agriculture, wetlands, forest, or other protected environments and in some cases can be less expensive to acquire than purchasing development rights. Easements can become less effective when the land is under development pressure and fair market value is difficult to establish.

Heads Up

Requirements of Land Purchased with Federal Funds: Uniform Act of 1970

Utilizing all available resources, including federal funds, can help airports acquire the land needed to enhance compatibility. If acquiring land with federal funds, airports must meet requirements of the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. (P.L. 91-646. Uniform Act of 1970)*. This law sets forth guidelines for creating equitable practices and requirements of fair market value, just compensation for condemnation, or displacement compensation for individuals that consequently are relocated due to a federally assisted project.

FAA AC 150/5100-17 Land Acquisition and Relocation Assistance for Airport Improvement Projects, provides information on how airports can comply with P.L. 91-646. Uniform Act of 1970, if opting to use federal funds for land acquisition.

FAA: FAQ Brochure for Using Federal Funds to Purchase Land

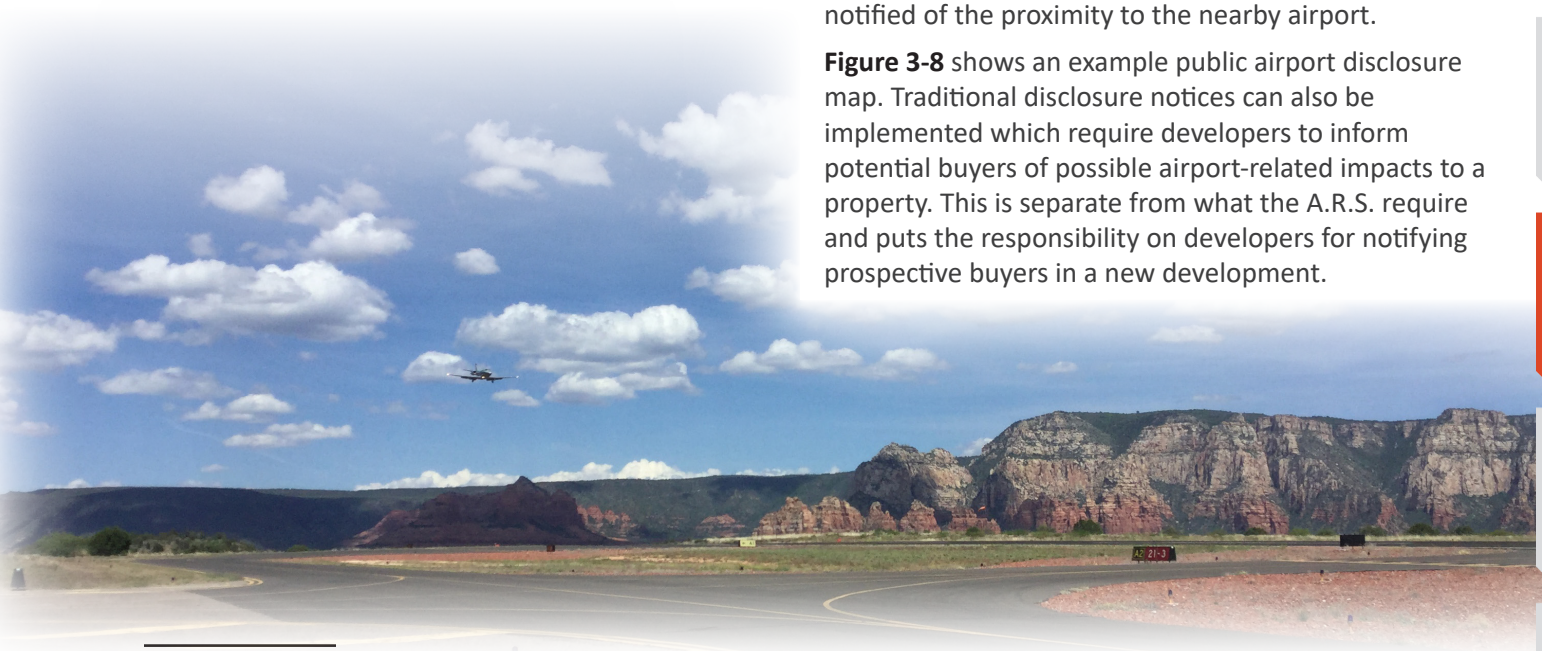
Disclosure and Notifications

Many airports and municipalities use notification techniques such as airport disclosure notices, deed restrictions, and hold-harmless/nonsuit agreements to raise public awareness of the potential for compatibility issues. While these methods do not provide any direct control in preventing compatibility issues, they are a useful tool in notifying potential property owners of the presence of an airport and the potential for airport impacts to that property, such as overflights or noise. Notification techniques should be used in conjunction with land use regulations, property acquisition, education, and coordination agreements.

Airport Disclosure Notices

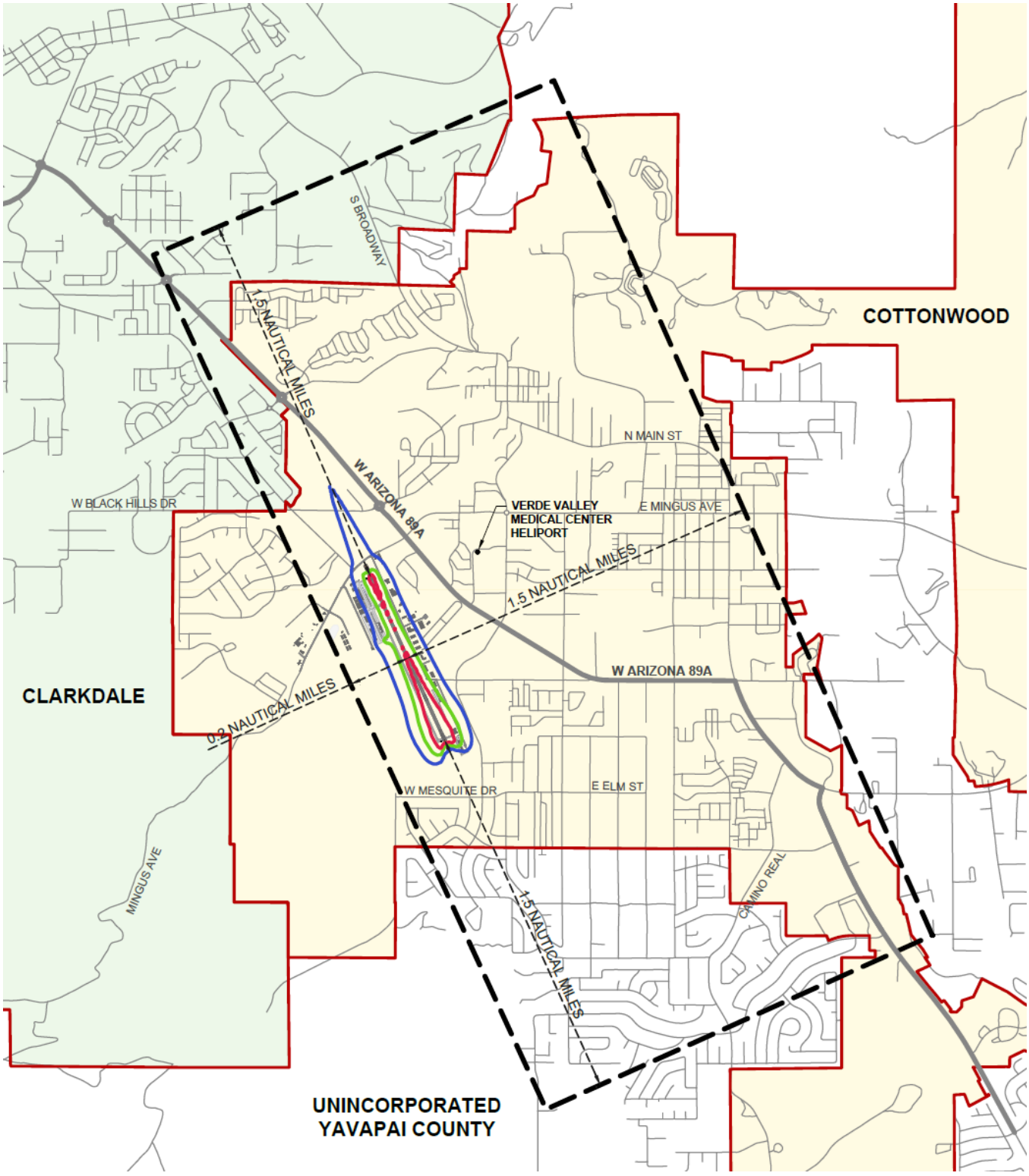
As discussed in **Chapter 2**, *A.R.S. 28-8486 Public Airport Disclosure* requires airports to work with the Arizona Department of Real Estate (ADRE) to provide a map to the public showing the boundaries of "the territory in the vicinity of a public airport" (property within the traffic pattern airspace) that is exposed to a Day Night Average Sound Level (DNL) of 60+ or 65+ decibels (dBA) depending on county population.[5] An airport must file this with the county recorder for each impacted county. When a buyer goes to purchase property within the defined territory, they will be provided the map and notified of the proximity to the nearby airport.

Figure 3-8 shows an example public airport disclosure map. Traditional disclosure notices can also be implemented which require developers to inform potential buyers of possible airport-related impacts to a property. This is separate from what the A.R.S. require and puts the responsibility on developers for notifying prospective buyers in a new development.



5 Counties having a population of more than 500,000 must show a DNL of 60 decibels (dBA) or higher and counties with a population of 500,000 or less must show 65 decibels (dBA) or higher. The territory in the vicinity of a military airport, an ancillary military facility, or under a military training route, is defined in A.R.S. 28-8461. Disclosure maps prepared under A.R.S 28-8461 must also be filed with ADRE.

Figure 3-8. Public Airport Disclosure Map



Source: Cottonwood Municipal Airport, Public Airport Disclosure Map, 2022.

Deed Restrictions

Deed restrictions can also be used as a notification tool. These legal documents are tied to the title of a property (in perpetuity) and if used in this way, can obligate the owner to disclose the property's proximity to an airport to prospective buyers when it is put on the market.

Hold-Harmless/Nonsuit Agreements

Other notification methods such as hold-harmless and nonsuit agreements can inform property owners as well as protect an airport or municipality from potential lawsuits. These agreements require property owners to acknowledge the potential for noise or other airport impacts on their property and agree to not bring suit against an airport sponsor for any such impact. These legal documents are also tied to the property in perpetuity which helps notify future buyers of the potential for airport-related impacts.

Chapter 3 Wrap-Up

There are many strategies, tools, and techniques for achieving land use compatibility for both an airport and affected communities. There is no single method or strategy that best fits all airports in preventing incompatibilities. Rather, each airport, municipality, and community must work together to understand the needs of the airport and community and review the various implications of different strategies to determine the method best suited to meet the goals of an airport and the need for expanded development within a community to serve continued growth. While each airport and community will be different, education and outreach along with long-range planning (via comprehensive plans or general plans) can be effective first steps in bringing all interested parties to the table in a collective understanding of the importance of achieving compatibility and the tools best suited to achieve it in their individual communities.

Chapter 4. How and When to Take Action

Once the importance of land use compatibility is understood, roles and responsibilities for achieving compatibility have been identified, and common solutions for achieving compatibility are reviewed, it is time to take action to implement land use strategies. However, there are dozens of strategies available, and airports and their associated communities may be left wondering how and when to take action. This chapter offers guidance on prioritizing required actions to comply with state and federal land use compatibility requirements and recommended actions to enhance or establish best practices.

A common theme in this Manual is the recognition of no one-size fits all approach to achieving land use compatibility around airports, and each airport and surrounding community will have varying needs based on their unique geography, infrastructure, population growth, political climate, development pressure and public perception. However, whether an airport already has encroaching development or is miles from the nearest town, implementing compatible land use practices benefits all airports and all communities.

Chapter 3. Strategies for Achieving Land Use Compatibility introduced several strategies and formal actions that can be employed to enhance compatibility but purposely does not prescribe specific solutions for specific scenarios. This is because there are simply too many variables that need to be considered by airports and their communities before selecting the solutions most appropriate for them. While the type of formal actions or solutions will vary from one community to another, timeliness is always in the best interest. Once development occurs, it is rarely removed (in fact, it is often grandfathered, meaning any formal actions would not apply to any existing development) so it is imperative to act early to implement the best protections.

How to Take Action?

It is important to recognize that there are some required actions on behalf of airports and their communities, and there are additional measures that, while not required, are encouraged to further enhance compatibility beyond what is required by state and federal law. All public-use airports in Arizona must first start by achieving compliance with state regulations and all airports included in the Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS) must comply with federal grant (sponsor) assurances. This should be airports' first priority. Once compliance is achieved, airports and their communities can consider additional measures to enhance compatibility as a second priority. The following sections review how airports can meet the requirements (originally introduced in **Chapter 2. Roles and Responsibilities for Promoting and Achieving Land Use Compatibility**) and enhance their protections as appropriate (strategies introduced in **Chapter 3**):

- **Priority #1:** Achieve Compliance with State and Federal Requirements (as applicable)
- **Priority #2:** Enhance Compatibility with Additional Strategies

When to Take Action?

Now. Communities that act early are usually best positioned to identify and prevent new incompatible development, while accommodating compatible development more quickly with reduced delays in site plan approvals and development permits.

Priority #1: Achieve Compliance with State and Federal Requirements (as applicable)

The first step in achieving compatibility is to meet compliance with state and federal requirements. What airports are required to do as it relates to land use compatibility is determined by the type of airport and any state or federal obligations they are subject to.

State Requirements

All 67 public-use airports in Arizona must comply with *A.R.S. 28-8486 Public Airport Disclosure*, which requires airports to work with the Arizona Department of Real Estate (ADRE) to develop airport disclosure maps (sometimes referred to as territory maps) and file them with the applicable county recorders. ***Public airports need to review their airport disclosure maps to confirm that they are accurate, available from the ADRE, and are on file with their local county recorder(s)***. If their map is outdated or unavailable, airports must work with the ADRE to achieve compliance. **Chapter 2** provides more information on state statutes (including A.R.S. 28-8486) and the specific requirements, and **Appendix A. Model Airport Disclosure Map Template** provides a model Airport Disclosure Map Template that can be used by airports to create or update their existing disclosure map (if needed). Additionally, **Appendix B. Video - How to Develop an Airport Disclosure Map and Submit for Approval** includes a link to the **How to Develop an Airport Disclosure Map and Submit for Approval** video which is available to guide airports through the process of developing and submitting disclosure maps to the appropriate entities.

Further, as noted in **Chapter 2**, airports that have accepted grant funding from the Arizona Department of Transportation (ADOT) are subject to a set of sponsor assurances as a condition of the grant. These assurances generally require (among other things):

- The airport sponsor take appropriate action to restrict the use of land around the airport to purposes compatible with airport operations (including adoption of appropriate zoning laws), and
- That the disposal of airport property purchased using grant(s) may not be used for purposes that are incompatible with airport noise levels

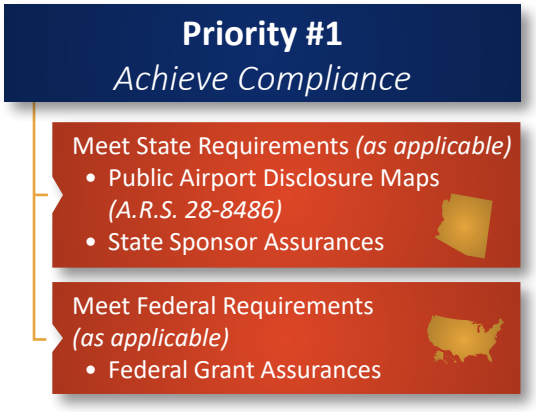
The intent of these state sponsor assurances is to protect airports from incompatible use, similar to federal grant assurances (introduced in **Chapter 2** and discussed more in the next section). The sponsor assurances note adoption of zoning as an applicable action but does not specify that zoning is required. The assurances allow for airport sponsors to "…take appropriate action…" which will vary from one airport and community to another. ***State-obligated airports need to review their current land use compatibility practices (e.g., airport zoning, property acquisition, avigation easements, etc.), communicate those to ADOT Aeronautics Group (ADOT Aeronautics) and discuss any concerns of noncompliance.*** Further, if a state-obligated airport intends to dispose of airport property purchased with grant funding, they must coordinate with ADOT Aeronautics and the FAA for permission and only land uses compatible with airport noise levels are allowed to be developed on that property. A full list of the state sponsor assurances is available in **Appendix C. ADOT Grant Sponsor Assurances**.

Federal Requirements

All airports included in the NPIAS which have accepted funds from FAA-administered airport financial assistance programs (such as the Airport Improvement Program [AIP]) must comply with a set of 39 grant assurances as a condition of receiving federal funding for projects.[1] Many of the assurances are related to enhancing airport land use compatibility, including two which that specifically address land use compatibility and hazards around airports. *Grant Assurance 20 "Hazard Removal and Mitigation"* and *Grant Assurance 21 "Compatible Land Use"* require airports to protect operations by mitigating any existing airport hazards and preventing the establishment of new ones, and to restrict the use of property nearby to land uses that are compatible with airport and aircraft operations.

Airports need to review their current land use compatibility practices and determine if they are compliant with FAA grant assurances. Note that these two grant assurances specify that airports "…take appropriate action…" understanding that compatibility practices that are reasonable and practical at one airport will vary from what is feasible at another airport. See **Chapter 2** for more information on grant assurances and the FAA's Advisory Circular *(AC) 150/5190-4B, Airport Land Use Compatibility Planning* which can be used by airports to assess what is considered reasonable for their unique scenario based on their local conditions. **Figure 4-1** illustrates the elements of Priority #1.

Figure 4-1. Priority #1 for All Arizona Airports



Source: Kimley-Horn, 2024.

Priority #2: Enhance Compatibility with Additional Strategies

While achieving compliance with both state and federal requirements is the initial priority, it does not guarantee that all compatibility issues faced by an airport and surrounding community will be addressed. In some instances, compliance with state statutes and state and FAA grant assurances may provide sufficient protection for airport land use issues, but in others, an additional solution (or solutions) may be needed to achieve a sufficient level of compatibility.

If an airport or community determines that their public airport disclosure map and existing compatibility measures are not effective enough at addressing incompatible development, it is time to identify additional solutions for implementation based on geographic, economic, and political conditions. To help identify these strategies and solutions most effective for an airport and community, a five-step process can be followed as shown in **Figure 4-2**.

1 Arizona has a total of 59 airports in the NPIAS as reported in the FAA's *2023-2027 National Plan of Integrated Airport Systems*. (will be updated in September 2024 when new NPIAS report is released)

These steps represent the general process for implementing additional strategies to enhance compatibility. For some airports and communities, the implementation of land use protections may be an iterative process, requiring intermediate steps to be repeated to fully understand which strategies are most effective and how to implement them. Icons representing the four frontline stakeholder groups (airports, local governments, developers, and real estate professionals) are included to indicate who is likely to be involved in each step. However, each airport and community will need to determine who the appropriate parties are for their unique situation.

Figure 4-2. Priority #2 Enhance Compatibility

Source: Kimley-Horn, 2024.

Step 1: Identify Existing Compatibility Measures in Effect

When determining which compatibility measures are most appropriate, airports and local governments should confirm what types of compatibility measures are currently in place (if any). Note that it is likely that this step will be accomplished as airports work to achieve Priority #1 as they will need to understand what compatibility efforts are being used to satisfy state and/or federal grant assurances, as applicable. Some land use solutions are more likely to be recognized, such as airport zoning or special building codes, compared to others which have more limited application (like rights of first refusal agreements or avigation easements). Regardless of what is being used, airports and communities need to first identify what is in place today, keeping in mind that some strategies may have been implemented years ago.

After determining what protections are in place, it is important that they are reviewed to evaluate if they are being properly enforced. If there is a lack of enforcement, the airport should coordinate with the applicable parties to determine why and make a plan for improved implementation moving forward. As an example, if an airport overlay zone has been in place for years in a community but due to staff turnover the local government planners are unaware of additional restrictions, the solution might be as simple as bringing awareness to the staff approving site plans and permits. Another example is an airport may have purchased avigation easements decades ago to protect their airspace but with new airport management, those easements are unknown and vegetation has been allowed to grow and penetrate the airspace creating an obstruction. For some communities, the key to enhancing compatibility is to enforce what is existing, and not necessarily adopt additional restrictions.

Step 2: Understand Future Plans for Airport and Community Growth

Enhancing compatibility involves not only mitigating current incompatibilities but also understanding the planned development of the airport and community to prevent future incompatible use. As noted previously in this Manual, once incompatible development occurs it can be difficult and costly to remove.

Chapter 3 discusses the importance of coordination between planning efforts at the airport, municipal, and county levels. Airport master plans and airport layout plans (ALPs) depict the existing conditions of airport infrastructure and the anticipated future development and expansion to meet anticipated demand. These planning documents identify changes such as runway extensions, safety area sizes, and dimensions of airspace surfaces. A local government's understanding of an airport's planned development and activity levels is pertinent to understanding how the property around an airport may be impacted. As an example, if an airport has plans to expand to meet additional demand, it is likely that the road network around the airport would need to be assessed to ensure it can carry additional volume of vehicular traffic. Similarly, if additional activity is anticipated, it is important to recognize that more frequent aircraft noise may be experienced.

County comprehensive plans and municipal general plans, meanwhile, lay out the plans for growth and development of their communities. Ideally, these comprehensive and general plans will recognize the existence of any airport(s) within their jurisdiction and specify how future airport development is being considered in relation to growth of the community (e.g., planning for land uses such as light industrial around the airport and/or improving multimodal access to the airport such as bike and pedestrian). Airports should be aware of how the community is planning to grow and be familiar with elements like growth area plans and preservation of open spaces or historic sites that could impact the future plans of the airport.

Understanding how, when, and where an airport intends to grow, and how, when, and where a community intends to grow is essential to later steps. Airports and local governments are most likely to be engaged at this step, however developers may also play a role as they often can provide insight into major pre-planned development of property which has already been purchased.

Step 3: Acknowledge the Compatibility Issues which are Most Prevalent/Concerning

This Manual introduced the five main characteristics of incompatible land uses in **Chapter 1. Airport Land Use Compatibility and Why It Is Important**. While some airports and communities may only be impacted by one main issue (or characteristic), such as noise, others may be challenged with several issues. Understanding that airports often have limited resources, it may not be possible for airports to immediately address all compatibility issues. Therefore, determining the compatibility issue or issues (e.g., noise, tall structures, visual obstructions, wildlife attractants, and population density) which are most prevalent in a community is critical to identifying the land use strategies that will have the most impact.

Input from frontline stakeholders and the general public is instrumental in identifying which issues are most prevalent – understanding that each party is likely to have different issues or concerns. Typically, the public will only voice noise concerns or noise will be a primary concern unless there are pressing safety issues. Airports may be most concerned with allowable building heights as it relates to the protection of their approaches and airspace. Developers may push back on requirements to reduce density, and local governments may be encouraging development to increase the tax base regardless of the impact on the airport.

Frontline stakeholders and the general public can be engaged in both a formal (e.g., public hearings, advisory committee, etc.) and informal setting (e.g., airport open houses) to discuss and come to agreement on which compatibility issues are most concerning.

Step 4: Determine Strategy or Strategies Most Applicable to Those Compatibility Issues

Once an airport and community have determined which compatibility issues are the most prevalent and necessitate action, strategies presented in **Chapter 3** can be assessed to determine which are the most appropriate. This effort can be supported by:

- Becoming familiar with commonly applied land use compatibility strategies
- Understanding the strengths and limitations of various strategies in relation to the airport or community's current and future conditions
- Continuing to involve frontline stakeholders and the appropriate groups of the general public
- Referencing examples of how other airports and communities have enhanced land use compatibility. One source is *ACRP Report 27: Enhancing Airport Land Use Compatibility, Volume 2: Land Use Survey and Case Study Summaries*.

It may be helpful for airports and communities to answer some of the following example questions (in no particular order) when assessing which strategy or strategies to implement:

- Does the airport own all the property within their Runway Protection Zones (RPZs)?
- Is the airport sponsor also the land use authority for the municipality/county?
- Is the community supportive of the airport?
- Is the airport already encroached with surrounding development?
- Does the airport currently receive noise complaints?
- Does the airport impact more than one municipality (town, city) or county? Are those local governments/communities supportive of the airport and open to multi-jurisdictional solutions?
- Is the community facing high development pressure?
- Is fair market value of surrounding property difficult to establish?

These questions are intended to identify factors unique to each airport and community that will be important to consider when assessing the feasibility and practicality of various land use strategies. While airports and local governments are most likely to be engaged in this step and making decisions on strategies, it is important to note that stakeholder outreach should be a part of any land use solution(s) identified for implementation as it is key to gaining support of those impacted by the solutions. For some compatibility measures it may only require focused discussions with nearby property owners (such as for rights of first refusal, avigation easements, land acquisition, etc.), and for others, it will require engaging frontline stakeholders and the general public (such as for adoption of airport zoning, revision of building codes, etc.). Considering stakeholder feedback often leads to improved implementation and enforcement.

Figure 4-3 illustrates some example strategies based on local conditions of an airport and community and a few of the questions listed above. This chart is not intended to address all possible scenarios, rather highlight some common local conditions/scenarios. Further, although multiple strategies are shown for the example scenarios, it is not suggested that all of the listed strategies need to be implemented; these listed strategies are simply identified as the most applicable options for the local conditions/scenario. In certain cases, a single strategy may address multiple issues (e.g., implementation of airport zoning may prevent development of obstructions in the RPZ and limit noise-sensitive uses).

Figure 4-3. Example Strategies Based on Local Conditions

Source: Kimley-Horn, 2024.

Step 5: Implement Strategy or Strategies

Once an airport and community have determined the land use measures most applicable to their local conditions, the implementation of those strategies can begin. Implementation will look different depending on the strategy or strategies that have been chosen in Step #4. For example, some strategies will only require a one-time action and will not require the involvement of the local government or the general public (e.g., fee simple purchase or avigation easements) while others will require early and ongoing coordination with the local government and formal engagement of the public (e.g., drafting or amending an airport zoning ordinance with a public hearing for adoption). Ideally the local government will have been involved in previous steps so at this stage, there is no surprise when an airport suggests the adoption of a strategy that would require support and participation of the local government (e.g., updating building codes, updating subdivision restrictions, requiring deed restrictions, etc.).

After the appropriate formal (and informal) steps have been taken to implement the strategies, it is vital that airports and their communities monitor their enforcement, as applicable. For example, if a community adopts revised building codes to help improve compatibility of new development (e.g., requiring higher sound-insulated windows for new residential and institutional uses), it is important that the local government planning staff and building inspectors are checking that those codes are being enforced. Similarly, if an airport has purchased avigation easements on property nearby, it is important that the airport monitor the height of structures on that property, so they do not penetrate the airspace (e.g., trimming trees that grow into the purchased easement).

With the exception of fee simple property acquisition, the purchase of development rights, and some disclosure/notifications, most other strategies require some level of monitoring to ensure they are being enforced appropriately. As noted previously in Step #1, some airports and communities may already have land use strategies in place and the issue is enforcement. Whether a community already has protections in place, or they are implementing new ones, monitoring of those strategies is key.

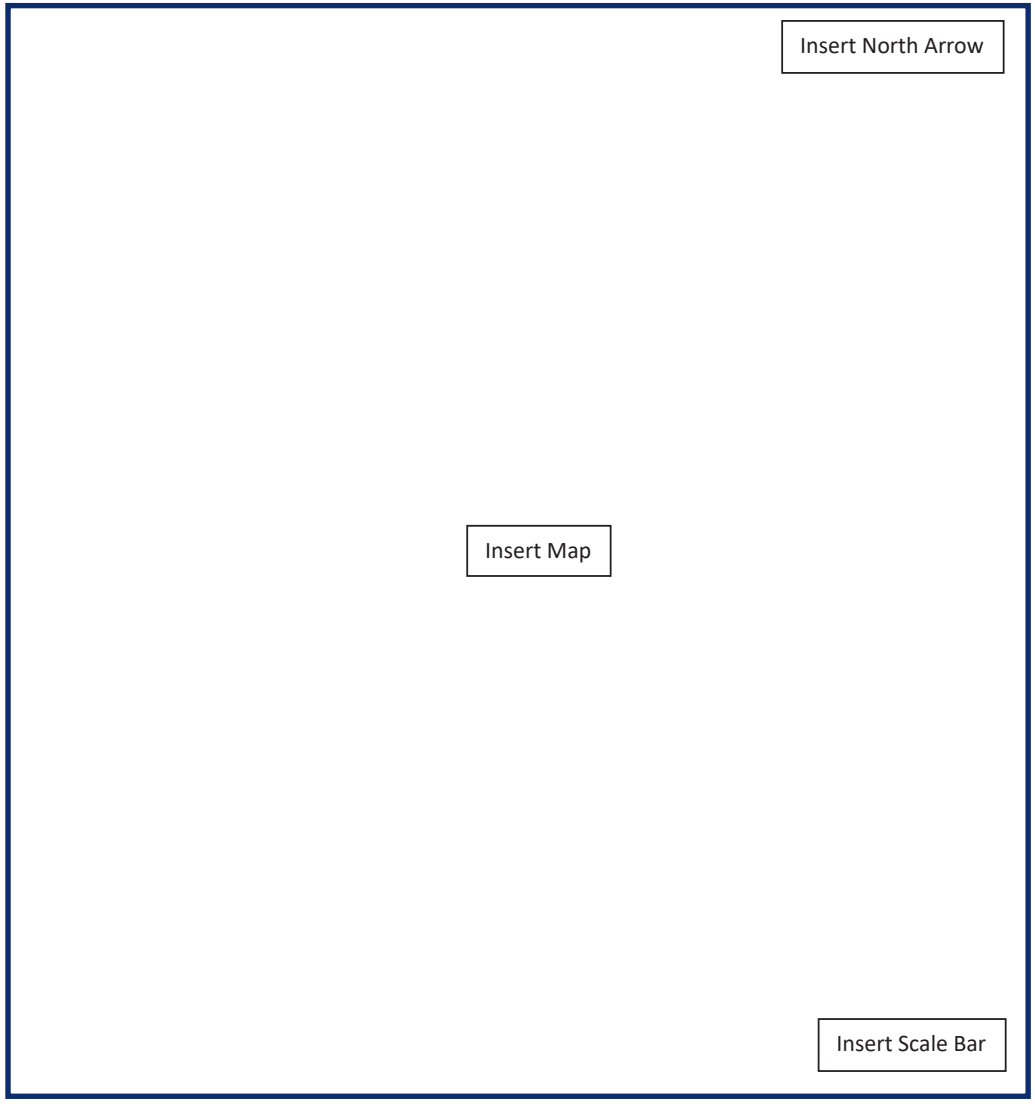
Chapter 4 Wrap Up

This Manual is intended to be utilized by a diverse group of users, including airport sponsors, local and regional government planning staff, developers, real estate professionals, and others. Previous chapters have introduced the importance of compatibility and key compatibility issues, the roles of responsible parties in achieving compatibility, and common strategies used, and this chapter addresses the timing and approach to taking action. As noted frequently throughout this Manual, a universal set of actions or recommendations to achieve compatibility cannot be prescribed due to each airport/community's unique characteristics. Instead, this Manual provides information and resources to help users to identify the land use strategies that are needed for their scenario, and to develop a plan for engaging frontline stakeholders and the general public along with monitoring the implementation of selected measures.

A collection of supplemental resources and tools are provided in the following appendices. These can be used by airports and communities to jump-start their airport land use compatibility efforts:

- **Appendix A. Model Airport Disclosure Map Template**
- **Appendix B. Video - How to Develop an Airport Disclosure Map and Submit for Approval**
- **Appendix C. ADOT Grant Sponsor Assurances**
- **Appendix D. Video - How to Use FAA's Notice Criteria Tool and Submit a 7460-1**
- **Appendix E. Airport Land Use Community Presentation Template**
- **Appendix F. Model Airport Overlay Zoning Ordinance and Examples**
- **Appendix G. Model Real Estate Disclosure and Examples**
- **Appendix H. Using Building Codes**
- **Appendix I. Model Right of First Refusal**
- **Appendix J. Model Avigation Easement and Examples**

Appendix A. Model Airport Disclosure Map Template



NOTES:

1. x
2. x
3. x
4. x
5. x

Refer to Arizona Revised Statute (A.R.S) 28-8486 for specific requirements associated with developing a Public Airport Disclosure Map.

LEGEND:

Icon	DESCRIPTION
Icon	DESCRIPTION
Icon	DESCRIPTION
Icon	DESCRIPTION
Icon	DESCRIPTION

Insert Airport Name

PUBLIC AIRPORT DISCLOSURE MAP

Insert City Name, Arizona

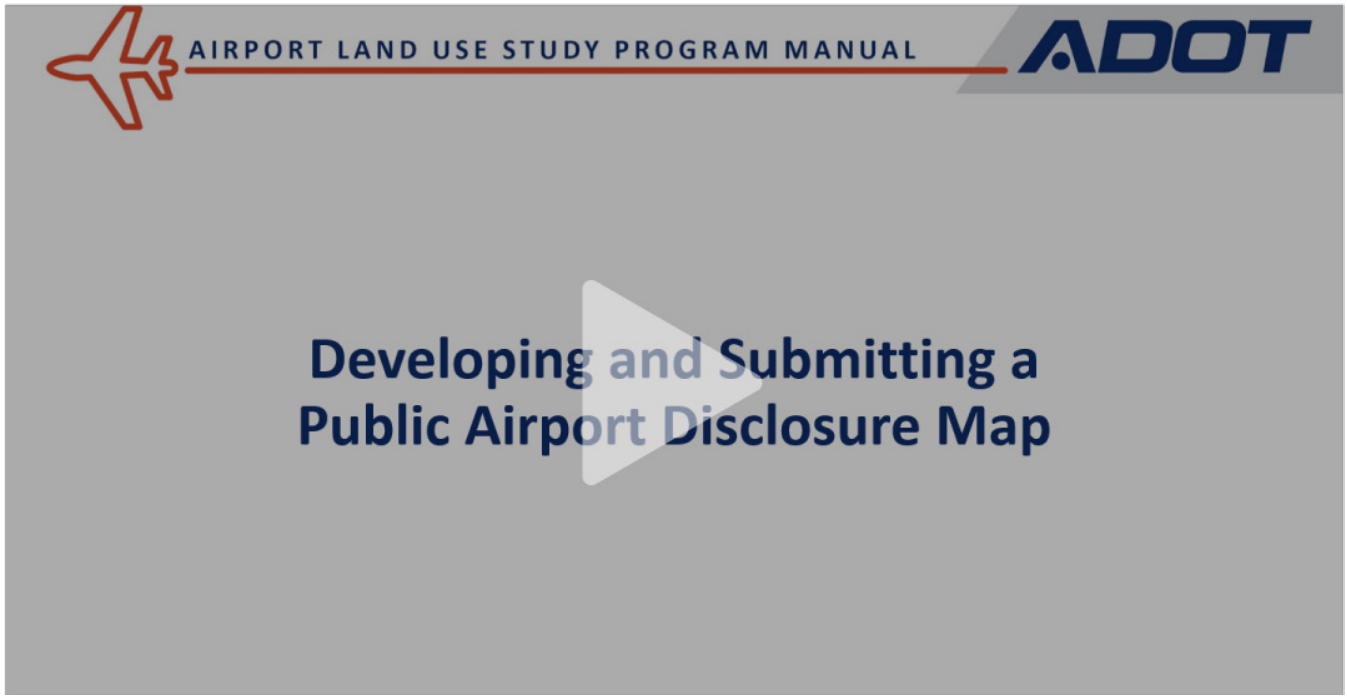
Insert Airport Logo

PREPARED BY:	X
DATE:	X

To download this map template for your use, please visit *https://azdot.gov/planning/airport-development/links-and-resources-airport-development*.

Appendix B. Video - How to Develop an Airport Disclosure Map and Submit for Approval

This video introduces the state-required Airport Disclosure Maps and explains how an airport can develop one if there is not one on file with the Arizona Department of Real Estate (ADRE). The video can be found at *https://azdot.gov/planning/airport-development/links-and-resources-airport-development*.



Appendix C. ADOT Grant Sponsor Assurances

Grant Number E#x##
Sponsor Name
Airport Name

EXHIBIT A

Sponsor Assurances

Upon acceptance of the grant offer by the Sponsor, these assurances will become a part of this Agreement. The Sponsor hereby covenants and agrees with the State as follows:

General

1) That the Project is consistent with plans (existing at the time of approval of the Project) of political jurisdictions authorized by the State to plan for the development of the area surrounding the Airport and has given fair consideration to the interest of communities in or near where the Project is to be located. In making a decision to undertake any airport development Project under this Agreement the Sponsor insures that it has undertaken reasonable consultation with affected parties using the Airport at which the Project is proposed. All appropriate development standards of Federal Aviation Administration (FAA) Advisory Circulars, Orders, or Federal Regulations shall be complied with. All related state and federal laws shall be complied with.

2) That these covenants shall become effective upon execution of this Agreement for the Project or any portion thereof, made by the State and shall remain in full force and effect throughout the useful life of the facilities or the planning project's duration developed under the grant, but in any event, not less than twenty (20) years from the date of acceptance of the grant offer by the Sponsor.

3) The Sponsor certifies in this Agreement that it is a political subdivision of the State and is the public agency with control over a public-use Airport and/or on behalf of the possible future development of an Airport and is eligible to receive grant funds for the development or possible development of an Airport under its jurisdiction.

4) The Sponsor further agrees it holds good title, satisfactory to the State, to the landing area of the Airport or site thereof, or will give assurance satisfactory to the State that good title will be acquired.

5) That the Sponsor is the owner or lessee of the property or properties on which the Airport is located and that the lease guarantees that the Sponsor has full control of the use of the property for a period of not less than twenty (20) years from the date of this Agreement. All changes in airport ownership or to an airport lease shall be approved by the State.

6) The Sponsor agrees that it has sufficient funds available for that portion of the project costs which are not to be paid by the State (or the United States).

7) The Sponsor agrees to provide and maintain competent supervision to complete the Project in conformance with this Agreement.

8) Preserving Rights and Powers: The Sponsor agrees it shall not take or permit any action which would operate to deprive it of any of the rights and powers necessary to perform any or all of the terms, conditions and assurances in this Agreement without written permission from the State, and shall act promptly to acquire, extinguish or modify any outstanding rights or claims of right by others which would interfere with such performance by the Sponsor. This will be done in a manner acceptable to the State. The Sponsor shall not sell, lease, encumber or otherwise transfer or dispose of any part of its title or other interests in the property shown on the airport property map included in the most recent FAA-approved Airport Layout Plan, or to that portion of the property upon which State

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funds have been expended, for the duration of the terms, conditions and assurances in this Agreement without approval by the State. If the transferee is found by the State to be eligible under Title 49, United States Code, to assume the obligations of this Agreement and to have the power, authority and financial resources to carry out such obligations, the Sponsor shall insert in the contract or document transferring or disposing of Sponsor's interest and make binding upon the transferee all the terms, conditions and assurances contained in this Agreement.

9) Public Hearings: In Projects involving the location of an Airport, an airport runway or a major runway extension, the Sponsor has afforded the opportunity for public hearings for the purpose of considering the economic, social and environmental impacts of the Airport or runway location and its consistency with goals and objectives of such planning as has been carried out by the community and it shall, when requested by the State, submit a copy of such hearings to the State.

Financial

Pursuant to A.R.S. 35-326, the Sponsor may elect to utilize the Local Government Investment Pool ("LGIP") maintained by the state treasurer. The Sponsor shall request written approval from the State to use the LGIP. Thereafter, the State may deposit the funds authorized by the grant into the Sponsor's account. After approval of the reimbursements by the state, the funds shall be disbursed through the LGIP account to the Sponsor. The disbursements shall be made pursuant to the applicable laws and regulations.

The Sponsor shall establish and maintain for each Project governed by this Agreement, an adequate accounting record to allow State personnel to determine all funds received (including funds of the Sponsor and funds received from the United States or other sources) and to determine the eligibility of all incurred costs of the Project. The Sponsor shall segregate and group project costs into cost classifications as listed in the Specific Provisions of Exhibit C.

Record Keeping

The Sponsor shall maintain accurate records of all labor, equipment and materials used in this Project and that upon reasonable notice, shall make available to the State, or any of their authorized representatives, for the purpose of audit and examination all records, books, papers or documents of the recipient relating to work performed under this Agreement. For airport development Projects, make the Airport and all airport records and documents affecting the Airport, including deeds, leases, operation and use agreements, regulations and other instruments, available for inspection by any duly authorized agent of the State upon reasonable request.

Airport Based Aircraft Reporting

The Sponsor shall furnish to the State on a quarterly basis, a current detailed listing (including: Registration/N Number, Name, Address and Phone Number of Owner) of all based aircraft on the Airport in a form approved by the State.

Airport Layout Plan

1) The Sponsor shall maintain a current signed/approved Airport Layout Plan (ALP) of the Airport, which shows building areas and landing areas, indicating present and planned development and to furnish the State an updated ALP of the Airport as changes are made.

2) The Sponsor shall be required to prepare an ALP for update or revalidation in accordance with current FAA and State standard guidelines. The ALP will indicate any deviations from FAA design standards as outlined in current FAA

Advisory Circulars, orders or regulations. A copy of the signed/approved ALP in electronic format shall be forwarded to the State after authentication by FAA or the State.

3) The Sponsor shall assure that there are no changes to the airport property boundaries, together with any off-site areas owned or controlled by the Sponsor which support the Airport or its operations as a part of this project.

4) If a change or alteration is made at the Airport which the State determines adversely affects the safety, utility or efficiency of the Airport, or any State funded property on or off Airport which is not in conformity with the ALP as approved by the State, the Sponsor will, if requested by the State, eliminate such adverse affect in a manner approved by the State.

Immediate Vicinity Land Use Restriction

The Sponsor shall restrict the use of land, adjacent to or in the immediate vicinity of the Airport, to activities and purposes compatible with normal airport operations and to take appropriate action including the adoption of appropriate zoning laws. In addition, if the Project is for noise compatibility or to protect the 14 CFR Part 77 imaginary surfaces of the Airport, the Sponsor will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the Airport, of the noise compatibility program measures or the imaginary surfaces of the Airport upon which State funds have been expended.

Airport Operation

1) The Sponsor shall promote safe airport operations by clearing and protecting the approaches to the Airport by removing, lowering, relocating, marking and/or lighting existing airport hazards and to prevent, to the extent possible, establishment or creation of future airport hazards. The Sponsor shall take appropriate action to assure such terminal airspace as is required to protect instrument and visual operations to the Airport (including established minimum flight altitudes) will be adequately cleared and protected by preventing the establishment or creation of future airport hazards. The Sponsor shall promptly notify airmen of any condition affecting aeronautical use of the Airport.

2) The Sponsor further agrees to operate the Airport for the use and benefit of the public and to keep the Airport open to all types, kinds and classes of aeronautical use without discrimination between such types, kinds and classes; provided that the Sponsor shall establish such fair, equal and nondiscriminatory conditions to be met by all users of the Airport as may be necessary for the safe and efficient operation of the Airport; and provided further, that the Sponsor may prohibit any given type, kind or class of aeronautical use of the Airport if such use would create unsafe conditions, interfere with normal operation of aircraft, or cause damage or lead to the deterioration of the runway or other airport facilities.

3) In any agreement, contract, lease or other arrangement under which a right or privilege at the Airport is granted to any person, firm or corporation to conduct or engage in any aeronautical activity for furnishing services to the public at the Airport, the Sponsor shall insert and enforce provisions requiring said person, firm or corporation:

   a) to furnish services on a reasonable and not unjustly discriminatory basis to all users thereof and charge reasonable and not unjustly discriminatory prices for each unit or service;

   b) and be allowed to make reasonable and nondiscriminatory discounts, rebates or similar types of price reductions to volume purchasers;

c) each Fixed Based Operator (FBO) and Air Carrier at the Airport shall be subject to the same rates, fees, rentals and other charges as are uniformly applicable to all other FBOs and Air Carriers making the same or similar uses of the Airport and utilizing the same or similar facilities;

d) each Air Carrier using such Airport shall have the right to service itself or to use any FBO that is authorized or permitted by the Airport to serve any Air Carrier at the Airport.

4) The Sponsor shall not exercise or grant any right or privilege which operates to prevent any person, firm or corporation operating aircraft on the Airport from performing any services on its own aircraft with its own employees (including but not limited to maintenance, repair and fueling) that it may choose to perform. In the event the Sponsor itself exercises any of the rights and privileges referred to in this assurance, the services involved will be provided on the same conditions as would apply to the furnishing of such services by a commercial aeronautical operator authorized by the Sponsor under these provisions.

5) The Sponsor shall suitably operate and maintain the Airport and all facilities thereon or connected therewith which are necessary for airport purposes and to prohibit any activity thereon which would interfere with its use for aeronautical purposes and to operate essential facilities, including night lighting systems, when installed, in such manner as to assure their availability to all users of the Airport; provided that nothing contained herein shall be construed to require that the Airport be operated and maintained for aeronautical uses during temporary periods when snow, flood or other climatic conditions interfere substantially with such operation and maintenance.

6) The Sponsor shall not permit an exclusive right for the use of the Airport by any person providing, or intending to provide, aeronautical services to the public. For purposes of this paragraph, providing services at an Airport by a single FBO shall not be construed as an "exclusive right" if:

a) it would be unreasonably costly, burdensome or impractical for more than one FBO; and

b) if allowing more than one FBO to provide such services would require a reduction of space leased pursuant to an existing agreement between a single FBO and the Airport.

Note: Aeronautical activities that are covered by this paragraph include, but are not limited to: charter flights, pilot training, aircraft rental, sightseeing, air carrier operations, aircraft sales and services, aerial photography, agricultural spraying, aerial advertising and surveying, sale of aviation petroleum products whether or not conducted in conjunction with any other aeronautical activity, repair and maintenance of aircraft, sale of aircraft parts, and any other activities which because of their direct relationship to the operation of aircraft can be regarded as an aeronautical activity.

7) The Sponsor shall terminate any exclusive right to conduct an aeronautical activity now existing at the Airport before any grant of assistance from the State. However, there shall be no limit on the duration of the assurances regarding Exclusive Rights and Airport Revenue so long as the Airport is used as an Airport. There shall be no limit on the duration of the terms, conditions, and assurances with respect to real property acquired with State funds.

8) Airport Pavement Preservation Program: The Sponsor certifies that they have implemented an effective pavement preservation management program at the Airport in accordance with Public Law 103-305 and with the most current associated FAA policies and guidance for the replacement, reconstruction or maintenance of pavement at the Airport. The Sponsor assures that it shall use and follow this program for the useful life of the pavement constructed, reconstructed or repaired with financial assistance from the State and that it will provide such reports on pavement condition and pavement management programs as may be required by the State.

Grant Number E#x##
Sponsor Name
Airport Name

Sponsor Transactions

The Sponsor shall refrain from entering into any transaction which would deprive the Sponsor of any of the rights and powers necessary to perform any or all of the covenants made herein, unless by such transaction the obligation to perform all such covenants is assumed by another public agency eligible to assume such obligations and having the power, authority and financial resources to carry out such obligations; and, if an arrangement is made for management or operation of the Airport by an agency or person other than the Sponsor, the Sponsor shall reserve sufficient powers and authority to insure that the Airport will be operated and maintained in accordance with these covenants or insure that such an arrangement also requires compliance therewith.

Airport Revenues

The Sponsor shall maintain a fee and rental structure for the facilities and services at the Airport which will make the Airport as self-sustaining as possible under the circumstances existing at the particular Airport, taking into account such factors as the volume of traffic and economy of collection. All revenues generated by the Airport (and any local taxes established after Dec 30, 1987), will be expended by it for the capital or operating costs of the Airport; the local airport system; or the local facilities which are owned or operated by the owner or operator of the Airport and which are directly or substantially related to the actual air transportation of passengers or property, on or off the Airport.

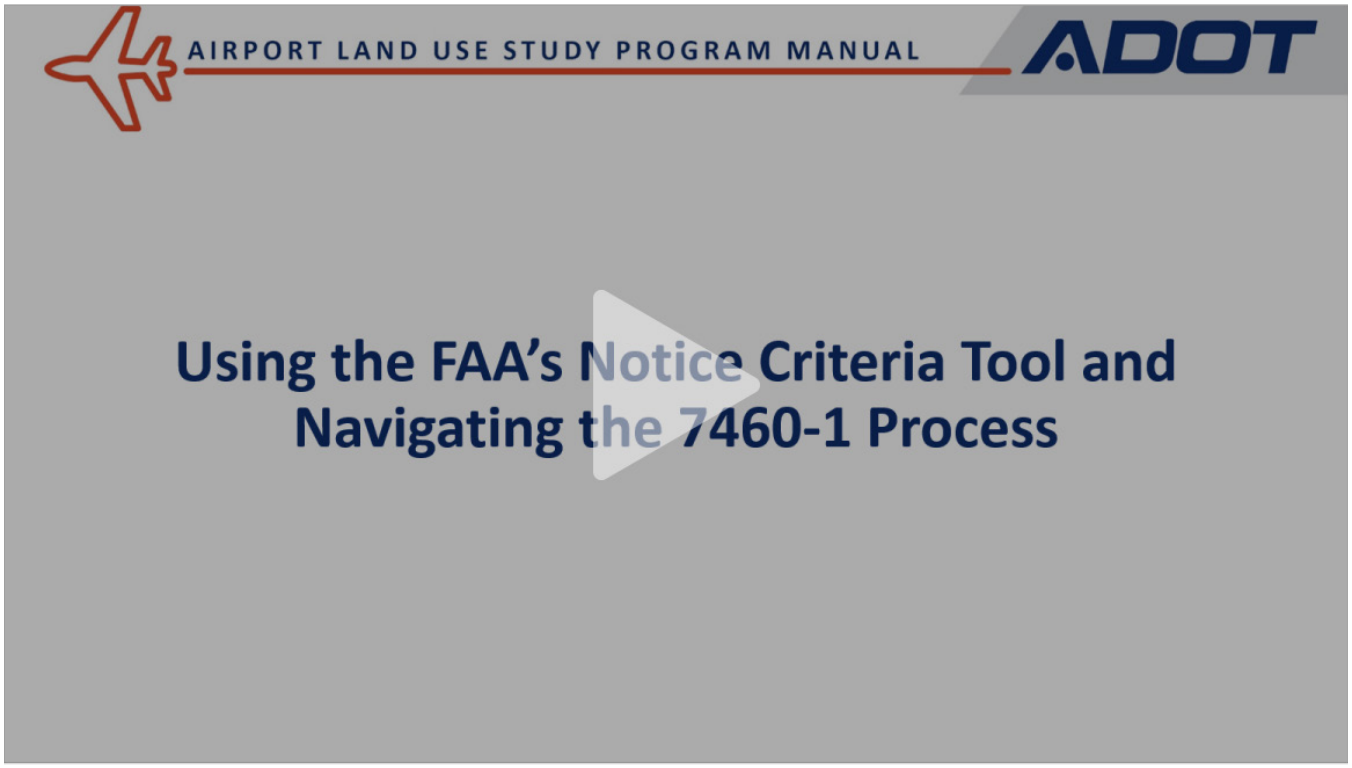
Disposal of Land

1) For land purchased under a grant for airport development purposes (it is needed for aeronautical purposes, including runway protection zones, or serve as noise buffer land; and revenue from the interim use of the land contributed to the financial self-sufficiency of the Airport), the Sponsor shall apply to the State and FAA for permission to dispose of such land. If agreed to by the State and/or FAA, the Sponsor shall dispose of such land at fair market value and make available to the State and FAA an amount that is proportionate to the State and FAA's share of the cost of the land acquisition. That portion of the proceeds of such disposition, which is proportionate to the share of the cost of acquisition of such land, shall be (a) reinvested in another eligible airport development Project or Projects approved by the State and FAA or (b) be deposited to the Aviation Trust Fund if no eligible Project exists.

2) Disposition of such land shall be subject to the retention or reservation of any interest or right therein necessary to ensure that such land will only be used for purposes which are compatible with noise levels associated with operation of the Airport.

Appendix D. Video - How to Use FAA's Notice Criteria Tool and Submit a 7460-1 (if required)

This video introduces the Federal Aviation Administration's (FAA) web-based Notice Criteria Tool which can be used to determine if notice of proposed construction or alteration needs to be filed with the FAA. The video also includes instructions for filing an FAA Form 7460-1 if the Notice Criteria Tool indicates it is required. The video can be found at *https://azdot.gov/planning/airport-development/links-and-resources-airport-development*.



Appendix E. Airport Land Use Community Presentation Template

This appendix includes a copy of the Airport Land Use Community Presentation template which can be modified and used by airports to communicate the importance of airport land use compatibility with their local community. An editable version of this presentation file is available at *https://azdot.gov/planning/airport-development/links-and-resources-airport-development*.


AIRPORT LAND USE STUDY PROGRAM MANUAL

Airport Land Use: Community Outreach Template
(SLIDE SHOULD BE DELETED – FOR USER'S INFORMATION ONLY)

This presentation is provided to airports as a resource for educating stakeholders about airport land use compatibility and is intended to help airport sponsors and/or local governments communicate to their local communities the following:

- The importance of achieving compatible land use around the airport
- Discussing common incompatible land use characteristics
- A high-level summary of the airport land use process
- The actions that can be taken to progress an airport land use compatibility strategy

This Community Outreach Template can be used for a wide range of stakeholder audiences, including real estate professionals, chambers of commerce, airport board members, airport land use committees, local governmental representatives, MPOs/local planning staff, and the general public.

***Slides can be omitted at the presenter's discretion and speaker notes have been added to facilitate discussion.**

SLIDE DIRECTIONS: THIS SLIDE IS INTENDED TO BE DELETED AND IS FOR THE INDIVIDUAL/USER WHO'S PRESENTING. THE PRESENTATION AND THE MESSAGE SHOULD BE TAILORED TO YOUR SITUATION AND YOUR AUDIENCE.

THE SLIDE SHOW IS SET UP WITH SLIDE DIRECTIONS IN THE NOTES (SIMILAR TO THIS) WHICH ARE IN ALL CAPITAL LETTERS. EACH SLIDE ALSO HAS A SCRIPT THAT CAN BE USED IF YOU'D LIKE. ALL SLIDES CAN BE EDITED, ALTHOUGH SOME IMAGES ARE PICTURES AND YOU CAN ONLY REMOVE THEM, NOT EDIT ALL IMAGES. YOU ARE WELCOME TO EDIT THE SCRIPT TO FIT YOUR SITUATION AND COMFORT LEVEL – IT IS PROVIDED AS A GUIDE FOR THE PRESENTER.

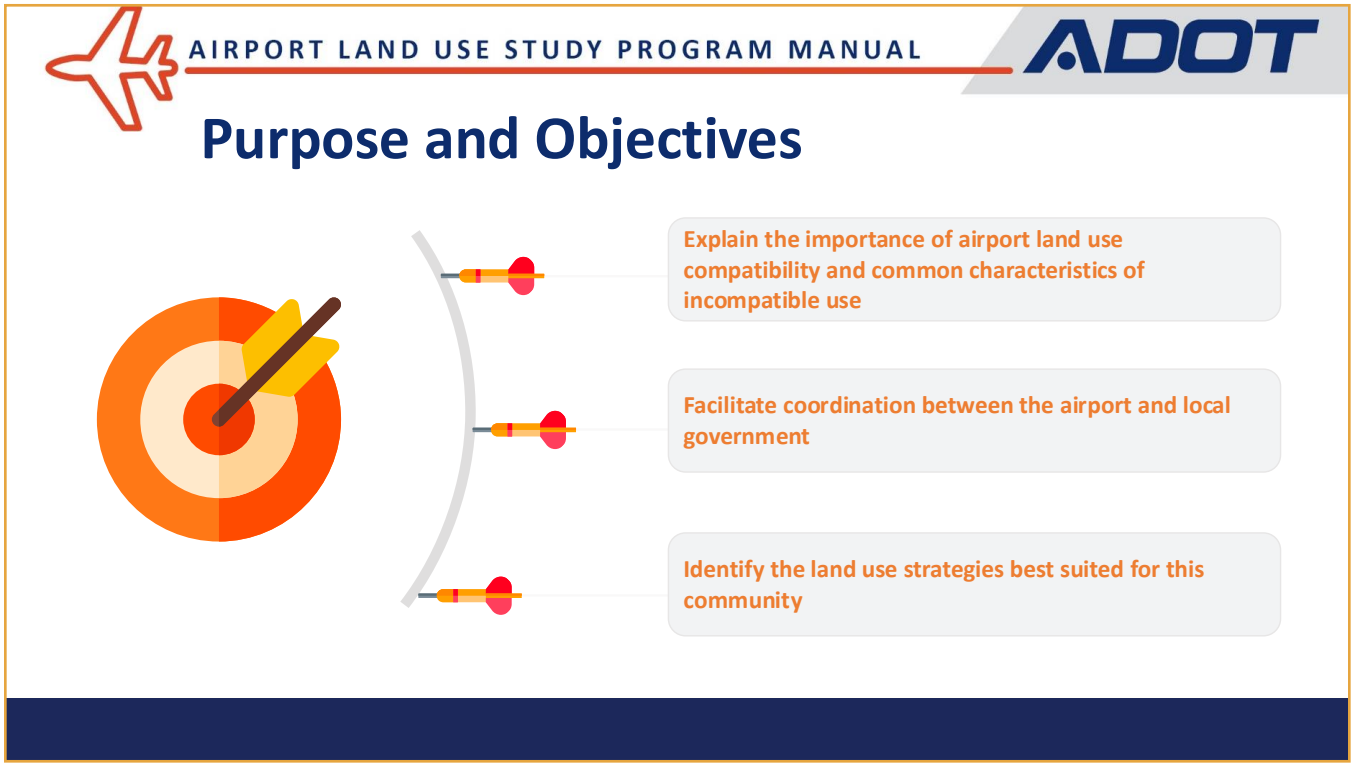
IN GENERAL, YOU MAY USE THIS PRESENTATION TO TALK ABOUT COMPATIBLE LAND USE PLANNING AND YOU CAN CUSTOMIZE THE MESSAGE TO ADDRESS YOUR SPECIFIC ISSUES OR NEEDS. AS AN EXAMPLE, YOU MAY WANT TO DISCUSS LAND USE COMPATIBILITY EFFORTS YOU'VE UNDERTAKEN AND ONLY FOCUS ON THE ISSUES THAT ARE MOST CRITICAL TO YOUR AIRPORT. PLEASE FEEL FREE TO ADD/REVISE THE SLIDES TO ADDRESS YOUR NEEDS.

THIS PRESENTATION HAS BEEN DEVELOPED TO SERVE A WIDE RANGE OF AUDIENCES:

- SLIDES 3-9 CAN BE UTILIZED FOR MORE GENERAL AUDIENCES.
- SLIDES 10-22 CAN BE USED TO FOCUS ON EDUCATION OF FORMAL ACTIONS TO ACHIEVE LAND USE COMPATIBILITY FOR AUDIENCES SUCH AS AIRPORT BOARD MEMBERS, POLITICAL REPRESENTATIVES, AIRPORT LAND USE COMMITTEES, ETC. WHO ARE MORE FAMILIAR WITH THE AIRPORT ENVIRONMENT AND OR MUNICIPAL PLANNING.

SLIDE DIRECTIONS: THIS SLIDE IS INTENDED TO SERVE AS AN INTRO TO THE PRESENTATION AND CAN BE MODIFIED FOR YOUR AIRPORT AND AUDIENCE. YOU MAY LEAVE THE AERIAL IMAGE OR REPLACE IT WITH ONE FOR YOUR AIRPORT. DIRECTIONS TO MODIFY THE AERIAL IMAGE ARE NOTED IN THE WHITE BOX ON THE SLIDE (WHICH SHOULD BE REMOVED PRIOR TO FINALIZING). FEEL FREE TO INSERT THE DATE, YOUR NAME, AND ANY OTHER INFORMATION ON THIS INTRO SLIDE.

SCRIPT: I’d like to talk about Airport Land Use Compatibility in relation to our airport. ADOT Aeronautics recently completed the Arizona Airport Land Use Study Program Manual to provide all airports, communities, and agencies with information we can use to promote compatible land use and ensure support for continued safe and efficient aviation activity.



SCRIPT: The purpose and objectives of ADOT's Arizona Airport Land Use Study Program Manual are varied, but most importantly the manual was developed by ADOT to provide guidance and direction that can help to protect people and property on the ground and in the air. The manual is Arizona-specific but includes information regarding best practices at the national level as well as FAA and state guidance and requirements as applicable to airports. The manual and its associated tools were developed to:

- First, explain why airport land use compatibility is important for both the community and the airport and define incompatible uses.
- Understand and help to facilitate the **coordination that is needed from the local government, airport, and public** to ensure airports can **continue to operate and grow, while minimizing impacts** on the community. This will help to facilitate an action plan that addresses the needs of all stakeholders.
- And finally, an important focus of the manual and this presentation is identifying **available actions or strategies** that can be implemented to adopt a plan that is **tailored to our community and best suited for our needs**.

AIRPORT LAND USE STUDY PROGRAM MANUAL

Meeting Agenda

- Importance of Achieving Land Use Compatibility
- Interested and Responsible Parties
- Characteristics of Incompatible Land Use
- The Airport Environment and Applicable Guidance and Requirements
- Identifying and Adopting a Land Use Strategy
- What We Have Done So Far
- What is Left to Do

SLIDE DIRECTIONS: IF YOU MODIFY SUBSEQUENT SLIDES AND DELETE CONTENT, PLEASE REVISE THE AGENDA TO FIT YOUR FINAL PRESENTATION.

SCRIPT: As noted, today's meeting will focus on the agenda topics listed on the slide. These include:

- The importance of achieving land use compatibility and how it benefits everyone in the community.
- Who the interested and responsible parties are for land use compatibility and what your role is in this effort.
- The characteristics of incompatible land use specific to aviation.
- Defining the airport environment and the applicable guidance and requirements at the federal and state levels that apply to airport compatible land use.
- Developing and adopting our land use strategy for protecting the community, both on the ground and in the air.
- Discussing the efforts we've undertaken so far to address compatible land use.
- Summarizing what we have left to do to ensure compatible land use in the future.

SLIDE DIRECTIONS: YOU CAN MODIFY PHOTOS OR TEXT. YOU MAY WANT TO INSERT THE AIRPORT'S INDIVIDUAL ECONOMIC IMPACT IN THE SCRIPT OR INSERT ANOTHER SLIDE AFTER THIS TO DISCUSS THE ECONOMIC IMPACT TO REINFORCE THE ECONOMIC CONTRIBUTION OF THE AIRPORT.

SCRIPT: Land use compatibility, and especially compatibility related to aviation, is an important aspect of our community. Land use compatibility contributes to public safety in terms of protecting people on the ground as well as aircraft and people in the air. Land use compatibility for airports is unique in that aircraft takeoff and land from the facility, so the impact of aviation activity does not exist only at the airport or on the ground, but also in the surrounding area and airspace as the aircraft approach and depart the airport and its runway system. We can help preserve the community through land use compatibility, reducing future environmental impacts that result from aviation activity such as noise, water, or other conditions. The environmental impacts can be minimized to ensure property values are supported because of the airport's positive contributions. The growth of the community and the airport should be considered concurrently as part of any planning effort given that airports help to support our local, regional, and statewide economy. The 2021 Arizona Aviation Economic Impact Study (2021 Arizona AEIS) showed that Arizona's airports, aerospace, and defense industries contributed over **$121.4 billion** to the state's economy. This contribution can be enhanced through compatible land use planning that ensures airports can be developed and operated effectively and meet future demand in concert with the growing needs of our communities. Finally, airports that accept federal financial assistance are required to meet obligations to ensure that any land use within the vicinity of the airport does not impact the safe operation of aircraft.

SCRIPT: When considering the individuals most impacted by compatible land use issues near airports, it can be helpful to think of them as interested parties and/or responsible parties. The graphics shown on this slide help identify the stakeholder groups known to be interested in achieving compatibility and the key parties responsible for achieving it.

Looking at the interested parties first, you'll see those identified as "Frontline Stakeholders." These stakeholders include airports, local governments, developers, and real estate professionals. In addition to these four stakeholder groups, we also recognize that others are impacted by efforts to protect airports from incompatible development, including tenants of the airport, airport users and pilots, along with members of the community and industry groups. Each of these stakeholders has some degree of interest in or potential to be impacted by land uses that are incompatible with airport operations.

Switching gears to the responsible parties – you'll notice that a couple of the interested parties are ALSO shown as responsible parties – namely, airports and local governments. Those parties are shown as being responsible at the "Local" level, but there are additional parties responsible at both the state and federal levels. Put simply, the federal and state agencies provide guidance and establish requirements for airports and local communities to protect airports, but they do not control land development near airports. Airport sponsors and local governments (if different) are the ones with the power to establish and enforce land use protections. Land use remains a local issue and we are tasked with implementing the protective measures necessary for our community.

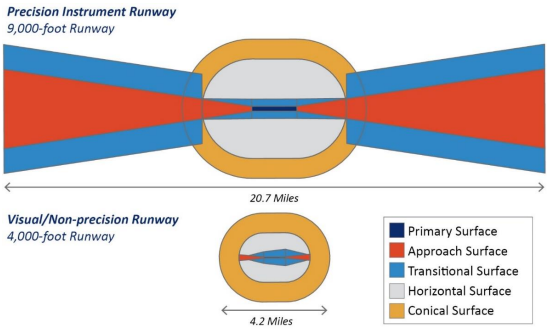
SCRIPT: There are 5 common characteristics of incompatible land use around airports. These include:

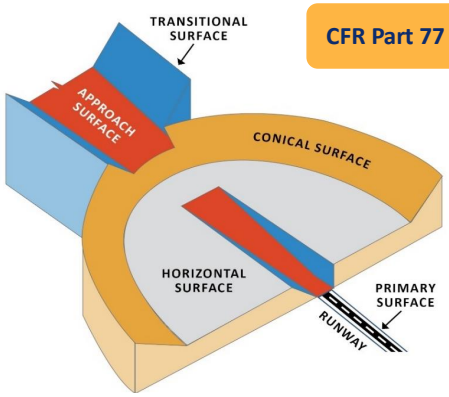
- **Tall Structures:** The airspace surrounding an airport must be free of obstructions to airspace for the protection of aircraft and can include structures such as cranes, powerlines, high terrain, smokestacks, or trees.
- **Wildlife Hazards:** Land uses such as landfills, agricultural activities, or golf courses can attract wildlife hazards and pose a significant threat to aircraft depending on their location.
- **Visual Obstructions, Electronic, and Atmospheric Interference:** A pilot's vision can be impaired by development that causes smoke, steam, glare, or dust. These can include smoke/ventilation stacks or mining activities. Land use that creates electrical interference with navigational aids and radio communications should also be controlled near an airport.
- **Noise:** Aircraft can produce different levels of noise and can have negative impacts on people's daily lives. Certain types of development can be more sensitive to noise than others (e.g., residential developments such as schools or nursing homes are more sensitive to the impacts from aircraft noise when compared to industrial). Factors impacting noise levels or perceived levels of noise include number of aircraft operations, types of aircraft, time of day/time of year, direction of runway use, location, and frequency of flight tracks.
- **Population Density:** High population density is considered an incompatible development characteristic because it exposes a larger concentration of people near airports who could be impacted in the event of an aircraft incident or exposed to significant noise levels. Additionally, large population centers can produce wildlife attractants from associated waste/trash.

Scope and Scale

Land use compatibility is not confined to an airport's property boundary.

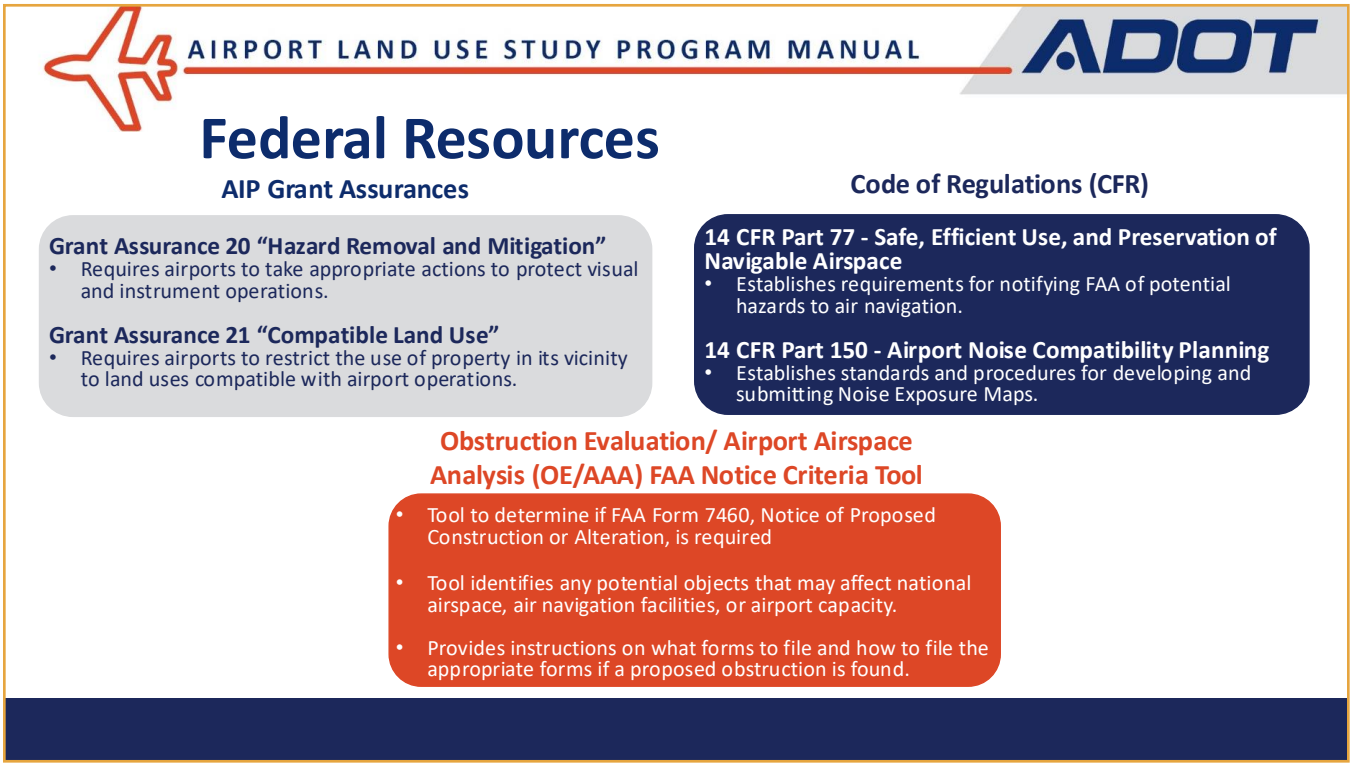
- The protected area around an airport can vary greatly from one airport to another.





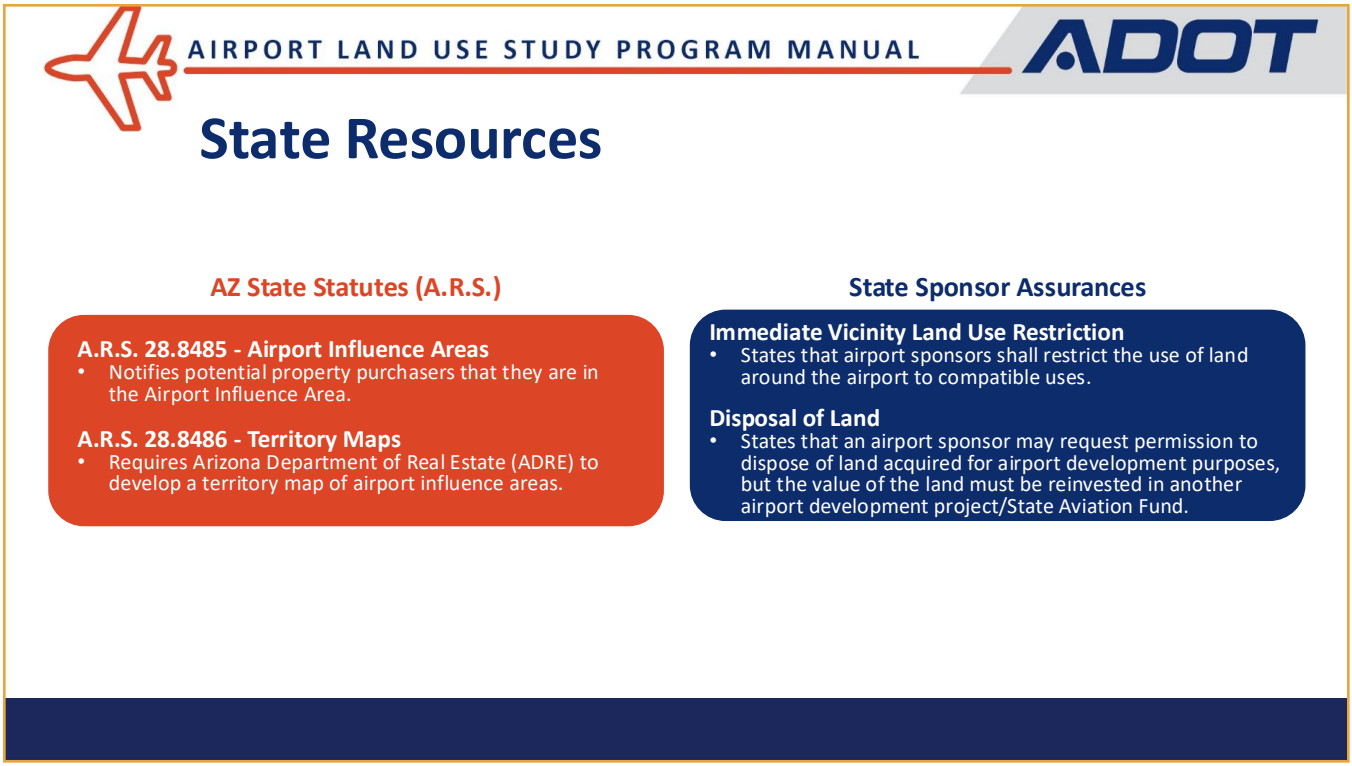
SLIDE DIRECTIONS: YOU CAN TAILOR THIS TO BE SPECIFIC TO THE TYPES OF APPROACH PROCEDURES AT YOUR AIRPORT AND WHAT IS APPLICABLE. IF YOU HAVE AN AIRSPACE DRAWING FROM AN ALP SET, YOU COULD INSERT IT IF DESIRED OR JUST TALK ABOUT AIRSPACE RELATIVE TO YOUR AIRPORT.

SCRIPT: The FAA defines certain airspace boundaries around a civilian airport based on the necessary flight path and obstruction clearance required to support safe aircraft operations. These boundaries can be thought of as "imaginary surfaces" that extend outward and upward from the runway surface and are defined in the Federal Aviation Administration (FAA) Code of Federal Regulation (CFR) Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*. Part 77 also establishes the standards and notification requirements for objects that affect this airspace. As shown, a civilian airport that supports precision instrument flight procedures requires considerably more obstruction clearance, spanning 10 miles off the end of each runway, whereas an airport with a non-precision or visual runway may only have Part 77 surfaces extending about 2 miles off each runway end.



SLIDE DIRECTIONS: YOU MAY REMOVE THE 14 CFR PART 150 TEXT IF YOU HAVE NOT CONDUCTED A PART 150 STUDY.

SCRIPT: There are many federal resources that are available to help guide compatible land use planning, some of which are informational and others that are requirements or must be considered. Those listed on the slide are essential. Airports that accept federal funds from the Airport Improvement Program or AIP must agree to grant assurances. Two of the grant assurances require airports to address land uses including hazard removal and mitigation and compatible land use restrictions. We discussed CFR Part 77 on the prior slide and the importance of protecting the airspace around an airport. When there are developments proposed near airports, there is a tool to determine if an FAA Form, the 7460, is required relative to the potential for the object, whether a building, crane, or even light pole, to affect the airspace for our airport. Many developers are very familiar with this process and filing this form, but ADOT has also developed a video showing how to complete one of these forms if you know anyone who needs help.



SLIDE DIRECTIONS: YOU COULD TALK THROUGH THE SCRIPT AND THEN ADD A SLIDE AND OR JUST CONTENT TO THE SCRIPT ABOUT YOUR AIRPORT'S INFLUENCE AREAS AND WHETHER YOU HAVE A RECENT DISCLOSURE MAP. YOU CAN ALSO GO TO ADOT'S WEBSITE TO THE AIRPORT LAND USE DASHBOARD AND DOWNLOAD OR TAKE A SCREEN SHOT OF THE AIRPORT DISCLOSURE MAP FOR YOUR AIRPORT. YOUR PART 77 SURFACES ARE ALSO DEPICTED IN THE DASHBOARD.

YOU CAN INSERT A SLIDE AFTER THIS ONE AND PLACE THE DISCLOSURE MAP ON THE NEXT SLIDE OR USE SLIDE 15 (WHICH HAS A PLACEHOLDER FOR THE DISCLOSURE MAP).

SCRIPT: In addition to federal resources and requirements, the state has statutes in place specific to airports and requirements for airports to have airport influence areas identified on a disclosure map for purposes of compatible land use planning. Disclosure maps are required to be submitted to the Arizona Department of Real Estate. Similar to the FAA, the state has grant assurances when an airport sponsor accepts state aviation funds. These include restricting the use of land around the airport to compatible uses and requiring an airport sponsor to obtain permission to dispose of land that was purchased with state funds for airport development purposes and to use the value of the land in another airport development project or to return it to the State Aviation Fund.

AIRPORT LAND USE STUDY PROGRAM MANUAL

Strategy Types

- Educating Frontline Stakeholders & General Public
  - Awareness of Federal & State Grant Assurances
  - Community Involvement
- Long-Range Plan Coordination
  - Key Long-Range Plans
- Land Use Regulations
- Property Acquisition

SLIDE DIRECTIONS: YOU CAN KEEP THE SLIDE AND SCRIPT AS IS OR REVISE TO ONLY DISCUSS THE STRATEGIES THAT YOU ARE INTERESTED IN DISCUSSING WITH THE AUDIENCE.

SCRIPT: The ADOT study identified five categories of strategies that can be employed to help achieve higher levels of development compatibility near airports. The five strategy types include:

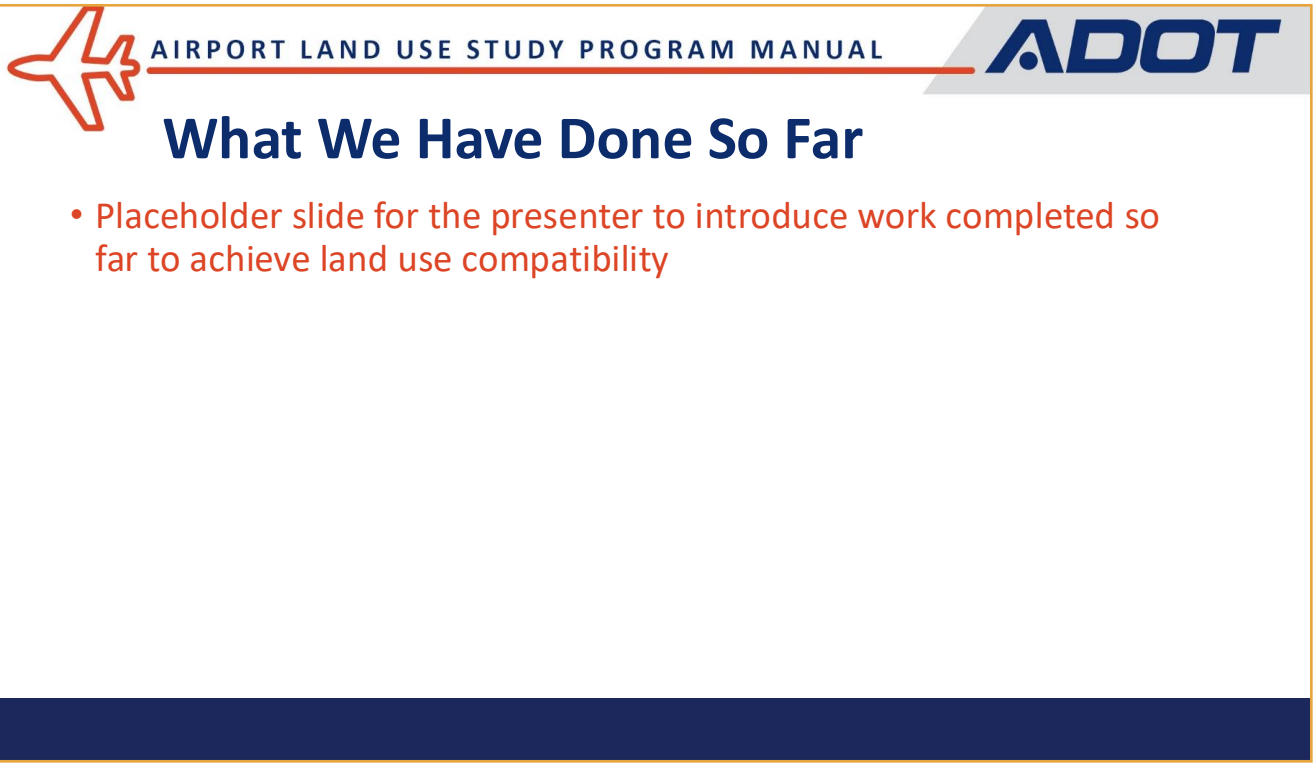
1. **Education** – this meeting is an example of providing information to educate our community on the importance of compatible land use planning and to provide awareness of the requirements at the federal and state level regarding grant assurances that we agreed to when we accepted federal and state funds. While the education is essential for frontline stakeholders, it can also be useful to the general public to engage and understand the airport, its activities, and how to support a safe operating environment for our entire community.
2. **Long-Range Plan Coordination** – airports are only one element of the community, but should be considered in the broader context of the transportation system and economic activities. Coordination with others in our community regarding long-range plans, including airport master plans, comprehensive plans, transportation plans, and general plans is essential to our community's long-term growth and development.
3. **Land Use Regulations** – through the planning and zoning process, land use regulation can be used as a strategy to promote compatible land use.
4. **Property Acquisition** – an airport sponsor can utilize several different property acquisition strategies including purchasing the property outright through fee simple ownership, but there are other methods as well including purchasing development rights, avigation and conservation easements, right of first refusal agreements, and land contracts.

It's imperative that our community examines which strategy or strategies work best for us.

SLIDE DIRECTIONS: YOU CAN KEEP THE SLIDE AND SCRIPT AS IS OR REVISE TO TAILOR TO YOUR SITUATION.

SCRIPT: ADOT developed a checklist to assist airport sponsors in evaluating the appropriate land use strategy or strategies that would work for our community. In determining the most appropriate strategy, the checklist identifies the following steps that can also lead to adoption:

- **Step 1:** Identify the applicable stakeholders in our community who need to be involved in the planning process specific to compatible land uses. (COULD BE: multiple jurisdictions? Regional planning?)
- **Step 2:** Conduct outreach and education with those selected as stakeholders in the planning process, whether these are meetings or electronic correspondence, whatever we decide works best and is needed in our community.
- **Step 3:** Coordinate the efforts between the airport and the applicable local government units on the strategy, especially long-range plans, regulations and any disclosure or notifications.
- **Step 4:** Engage the public in our proposed planning strategy to educate and inform them regarding airport compatible land use planning and our needs.
- **Step 5:** Research the range of available formal actions that we can consider that work best for our community.
- **Step 6:** Utilize available resources including the Arizona Airport Land Use Manual (ALUM) to answer questions, gather more information, and develop our strategy for implementation.



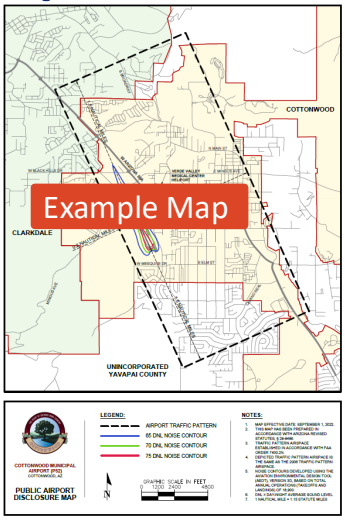
SLIDE DIRECTIONS: YOU CAN USE THIS SLIDE TO IDENTIFY THE STEPS YOUR AIRPORT HAS TAKEN TO DATE TO IMPROVE LAND USE COMPATIBILITY. YOU CAN DISCUSS STRATEGIES THAT HAVE BEEN CONSIDERED, THOSE THAT HAVE BEEN IMPLEMENTED, AND WHAT THE OUTSTANDING ISSUES ARE.

IF YOU HAVE NOT UNDERTAKEN ANY STEPS, YOU CAN REMOVE THIS SLIDE (PLEASE REMEMBER TO EDIT THE AGENDA ON SLIDE 4 TO CORRESPOND WITH THE FINAL SLIDES THAT ARE INCLUDED).

AIRPORT LAND USE STUDY PROGRAM MANUAL

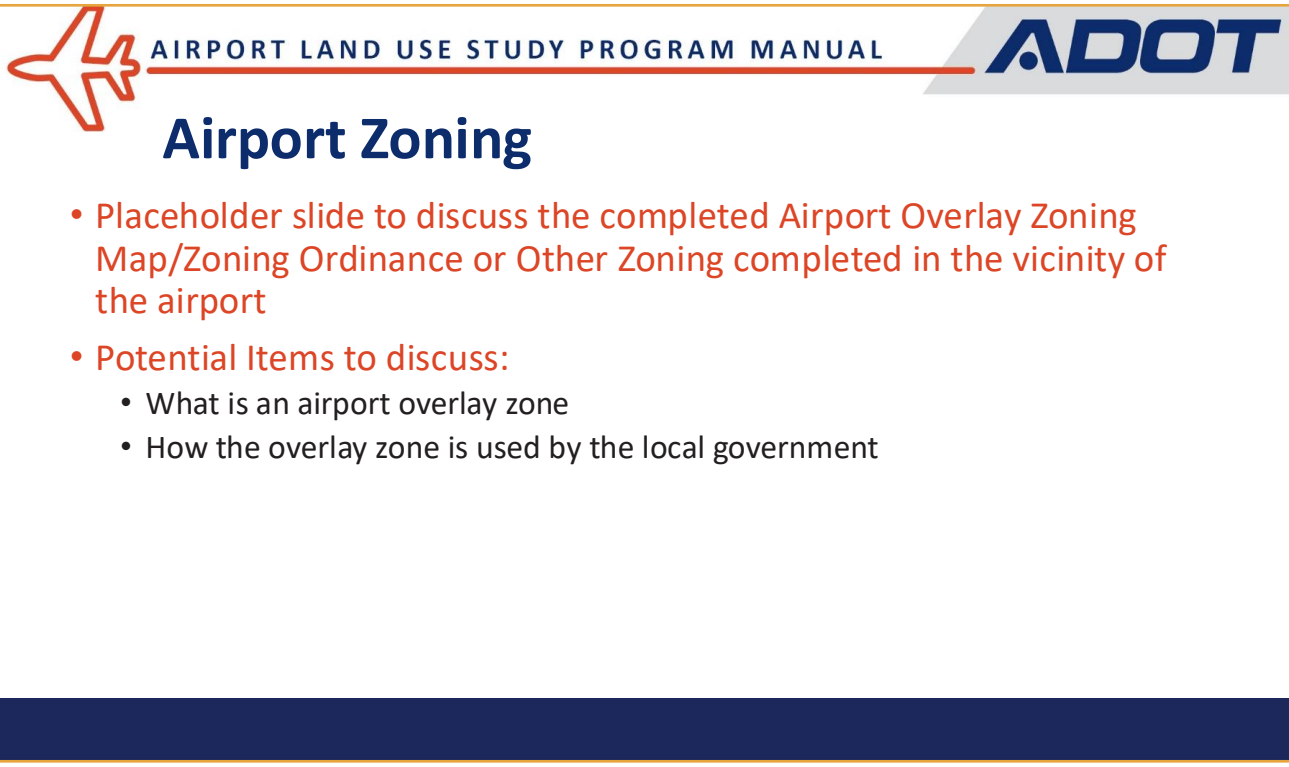
Public Airport Disclosure Map

- Placeholder slide to discuss the completed Airport Disclosure Map
- Potential Items to discuss:
  - What is an airport disclosure map?
  - Where is the disclosure map located?
  - When was it completed/updated?



SLIDE DIRECTIONS: YOU COULD ADD YOUR AIRPORT'S INFLUENCE AREAS AND DISCLOSURE MAP ON THIS SLIDE. YOU CAN ALSO GO TO ADOT'S WEBSITE TO THE AIRPORT LAND USE DASHBOARD AND DOWNLOAD OR TAKE A SCREEN SHOT OF THE AIRPORT DISCLOSURE MAP FOR YOUR AIRPORT. YOUR PART 77 SURFACES ARE ALSO DEPICTED IN THE DASHBOARD.

AS NOTED, YOU CAN DISCUSS WHAT AN AIRPORT DISCLOSURE MAP IS, WHERE IT IS LOCATED (ARIZONA DEPARTMENT OF REAL ESTATE BUT ALSO WITH COUNTY?), AND WHEN IT WAS LAST UPDATED.



SLIDE DIRECTIONS: YOU COULD ADD INFORMATION (MAP OR MAPS AS AVAILABLE) ON ZONING IN THE VICINITY OF THE AIRPORT AND/OR INFORMATION ON ANY AIRPORT OVERLAY ZONING THAT EXISTS.

AS NOTED, YOU CAN DISCUSS WHAT AN AIRPORT OVERLAY ZONE IS AND HOW THE OVERLAY ZONE IS USED BY THE LOCAL GOVERNMENT.

AIRPORT LAND USE STUDY PROGRAM MANUAL

What We Need Your Help With

- Placeholder slide for the presenter to inform the community on what work still needs to be done and what they area able to help with

SLIDE DIRECTIONS: YOU COULD ADD BULLETS OR TEXT ON WHAT HELP YOU NEED FROM THE COMMUNITY TO INCREASE COMPATIBLE LAND USE IN THE AIRPORT ENVIRONMENT.

Appendix F. Model Airport Overlay Zoning Ordinance and Examples

This appendix includes the following:

- Model Airport Overlay Zoning Ordinance
- National Example from FAA Advisory Circular 150/5190-4B (State of Iowa)
- Larger City Example (City of Phoenix, Phoenix Sky Harbor International Airport)
- Smaller City Example (City of Scottsdale, Scottsdale Airport)

Model Airport Overlay Zoning Ordinance

[Note to user: This model airport overlay zoning ordinance has been developed using model ordinance language found in ACRP Report 27 Enhancing Airport Land Use Compatibility and the FAA's AC 150/5190-4B. This model overlay ordinance is not a one-size-fits-all template and it will require modifications to be used by airports and their local government(s). The intent of this model is to provide a starting point, particularly for smaller communities and airports, from which to establish local zoning which protects an airport and the surrounding community. This model includes the establishment of five Airport Overlay Zones based on 14 CFR Part 77 Surfaces and Runway Protection Zones (RPZs) assuming an airport has visual approaches only. Note that each airport and local government may choose to define the scope of their overlay zoning differently through the creation of additional zones and changing the size based on the type of approaches their runways have. This model ordinance has been prepared as a reference for Arizona jurisdictions and airports. This is a basic form which does not contemplate all possible scenarios and may require modification for the user's intended purpose. Please consult with legal counsel prior to implementing this or any other model document in the Airport Land Use Manual. An editable version of this document is available at https://azdot.gov/planning/airport-development/links-and-resources-airport-development]

1. Title and Authority

The _____ Airport Land Use Land Use & Height Overlay Zoning Ordinance created by the [Municipality] shall regulate and restrict the height of structures, objects, and growth of natural vegetation, and limit or otherwise regulate the use of property, within the vicinity of _____ Airport to promote compatibility between the Airport and surrounding land uses. Overlay Zones and associated boundaries of those zones around _____ Airport are established in this Ordinance. The associated _____ Airport Land Use & Height Zoning Map is incorporated into and made part of this Ordinance.

[Note to user: It is intended that such restrictions will be coordinated with the restrictions existing under the [Municipality's] existing zoning code.]

2. Findings and Purpose

Recognizing that the _____ Airport is a vital transportation facility, providing public access to and from [Municipality/Region] and generating economic benefit for the community, this Ordinance establishes:

1. The creation or establishment of an airport hazard is a public nuisance.
2. Airport hazards pose a potential threat to public health, safety, and welfare and can negatively impact quality of life.
3. Airport hazards can impact the safe movement of aircraft at, to, and from the _____ Airport.
4. Airport hazards can impact the utility of the _____ Airport and the public investment that has been made in its development and operation.
5. For the protection of public health, safety, and overall welfare, the prevention of airport hazards is necessary to the extent legally possible.
6. The prevention and mitigation of airport hazards is a public purpose for which [Municipality] may raise and expend public funds.

3. Applicability and Scope

This Ordinance encompasses the prescribed areas defined in this Ordinance around the _____ Airport. See Exhibit A – _____ Airport Land Use & Height Zoning Map.

4. Definitions

Airport Hazard – Any use of land or water that will interfere with electronic/navigational/radio signals or communication between aircraft and the _____ Airport, create visual obstructions or otherwise impair pilot visibility in the vicinity of the Airport, create atmospheric interference, attract wildlife, or create physical obstructions to flight in the Airport's vicinity, or be sensitive to aircraft noise and vibration. Any use that endangers or interferes with the landing, takeoff, or maneuvering of aircraft intended to use the Airport.

Airport Overlay Zones - Zones intended to place height and land use conditions on land impacted by airport operations while retaining the existing underlying land use zone. Title 14 Code of Federal Regulations Part 77 (14 CFR Part 77) Surfaces for visual runway approaches and Runway Protection Zones have been combined to create five Airport Overlay Zones. The five specific zones create a comprehensive area focused on maintaining compatible land use around airports.

Zone 1 - Runway Protection Zone (RPZ) - The area off the end of the runway end designed to provide a clear area that is free of above ground obstructions and structures to enhance the protection of people and property on the ground. Zone A is intended to provide a clear area that is free of above-ground obstructions and structures.

Zone 2 - Runway Approach - A critical overlay surface that reflects the approach and departure areas for each runway at an airport. The approach surface is longitudinally centered on the extended runway centerline, extending outward and upward from the end of the runway. The approach slope for visual runways is 20:1 for a distance of 5,000 feet.

Zone 3 - Transitional Surface - The transitional surface extends outward and upward at right angles to the runway centerline and extends at a slope of seven feet horizontally for each one-foot vertically (7:1) from the sides of the primary and approach surfaces. The transitional surfaces extend to the point at which they intercept the horizontal surface at a height of 150 feet above the established airport elevation.

Zone 4 - Horizontal Surface - The horizontal surface is a horizontal plane located 150 feet above the established airport elevation and begins at the edge of the transitional surfaces and primary surface for a distance of 5,000 feet for visual approach runways.

Zone 5 - Conical Surface - The conical surface extends upward and outward from the periphery of the horizontal surface at a slope of 20 feet horizontally for every one-foot vertically (20:1) for a distance of 4,000 feet. It is the outermost zone of the overlay areas and has the least number of land use restriction considerations.

Primary Surface - The primary surface is longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway. When the runway has no specially prepared hard surface, the primary surface ends at each end of that runway. The width of the primary surface is 250 feet, or 50 feet beyond the marked edge of a turf runway.

Visual Approach - An approach to an airport conducted with visual reference to the terrain only, with no navigational aids.

5. Airport Overlay Zones

Airport Overlay Zones established by this Ordinance include all of the land lying beneath Airport Overlay Zones 1-5 as defined in the Definitions section. The dimensions of these zones are provided in **Table 1**.

Table 1. Dimensions for Airport Overlay Zones – Visual Runway

Zone	Description	Inner Width	Outer Width	Length	Height or Slope
1	Runway Protection Zone (Begins at end of turf runway, 200' past hard surface runway)	250'	450'	1,000'	Not applicable
2	Runway Approach (Begins at end of turf runway, 200' past hard surface runway)	250'	1,250'	5,000'	20:1
3	Transitional Surface (width)	N/A	1,050'	N/A	7:1
4	Horizontal Surface (radius)	Begins at edge of transitional surface	5,000'	N/A	150' above runway (excludes approach zone)
5	Conical Surface (radius)	Begins at edge of horizontal surface	4,000'	N/A	20:1

*[Note to user: **Table 1** includes dimensions of Airport Overlay Zones based on an airport having visual approaches to its runway(s). These dimensions will change based on the type of runway approach(es) an airport has. See 14 CFR Part 77 for more information. You may also consider sub-dividing the Runway Approach zone (proposed Zone 2) into separate sub-zones for precision runway approaches which are much larger in size.]*

6. Airport Zone Height Limitations

Unless otherwise provided for in this Ordinance, no structure, object, natural vegetation, or terrain shall be erected, altered, allowed to grow or be maintained within any Airport Overlay Zones established by this Ordinance to a height in excess of the following (also shown in Exhibit A, the Airport Land Use & Height Zoning Map).

Zone 1: ___ feet AGL/MSL

Zone 2: ___ feet AGL/MSL

Zone 3: ___ feet AGL/MSL

Zone 4: ___ feet AGL/MSL

Zone 5: ___ feet AGL/MSL

[Note to user: It may be easier to establish a blanket allowable height in each of the zones (either above ground level [AGL] or above mean sea level [MSL]) based on what would be allowed under Part 77 rather than requiring property owners and developers to estimate based on the dimensions provided in Table 1. You could allow for variances to exceed these heights if the owner/developer can prove it either (1) does not require an FAA airspace review via the 7460-1 process – suggest use of the FAA's Notice Criteria Tool, or (2) the FAA finds no hazard or impact to airport approaches after conducting the required airspace review. Be sure to add these additional requirements if you decide to allow this.]

7. Land Use Limitations within Airport Zones

General categories of land use types are provided in **Table 2** with an indication of their level of compatibility with the Airport by Airport Overlay Zone. Land uses defined in **Table 2** as compatible (C) within the subject zone are allowable if the proposed development follows all provisions of this Ordinance. Those land uses identified as incompatible (I) within the subject zone are not allowed. Several uses may be considered compatible or incompatible after further review by the Airport Zoning Administrator (see Section 10). Those uses are identified in **Table 2** as review required (RR) and require an Airport Zoning Permit (see Section 11).

Table 2. _____ Airport Land Use Compatibility Chart

Key: C = Compatible, RR = Review Required, I = Incompatible, * = Noise-sensitive Uses					
Land Use	**Zone 1**	**Zone 2**	**Zone 3**	**Zone 4**	**Zone 5**
	RPZ	**Approach**	**Transitional**	**Horizontal**	**Conical**
Residential					
Single-Family	I	RR*	RR*	C	C
Multi-Family	I	I	RR*	C	C
Group Living	I	I	RR*	C	C
Mobile Homes	I	I	RR*	C	C
Hotels	I	I	RR*	C	C
Institutional					
Schools and Educational Facilities	I	I	RR*	C	C
Day Care Facilities	I	I	I	RR	C
Hospitals	I	I	I	RR	C
Other Medical Facilities	I	RR	RR	C	C
Religious or Cultural Assembly (large)	I	I	RR*	C	C
Schools and Educational Facilities	I	I	RR*	C	C
Commercial					
Professional Offices	I	RR	RR	C	C
Shopping Malls	I	I	RR	C	C
Other Retail	I	RR	RR	C	C
Restaurants	I	RR	RR	C	C
Fairgrounds, amusement parks, theaters, casinos	I	I	I	RR	C
Arenas, Stadiums, Racetracks	I	I	I	RR	C
Industrial					
Light Industrial	I	RR	C	C	C
Heavy Industrial	I	I	RR	C	C
Waste (hazardous waste, landfills, solid waste transfer stations, commercial composting, underwater wastewater discharge, wastewater treatment)	I	I	I	RR	RR
Agriculture					
General Agriculture	RR	RR	RR	C	C
Commercial Livestock Operations	I	I	I	RR	C
Aquaculture	I	I	I	RR	RR

Key: C = Compatible, RR = Review Required, I = Incompatible, * = Noise-sensitive Uses					
Land Use	Zone 1 RPZ	Zone 2 Approach	Zone 3 Transitional	Zone 4 Horizontal	Zone 5 Conical
Resource Extraction					
Mining	I	RR	RR	C	C

[Note to user: This table includes general categories and types of land uses and assumed level of compatibility based on industry knowledge. Review this table carefully and expand as necessary to address specific types of land uses and/or definitions of land uses that are already used in your municipality. Refer to guidance provided in ACRP Report 27 and FAA AC 150/5190-4B.]

8. Nonconforming Uses and Marking and Lighting

This Ordinance is not retroactive. The regulations prescribed in this Ordinance shall not be construed to require the removal, lowering, or other changes to or alteration of any structure not conforming to the regulations herein as of the effective date of this Ordinance, or otherwise interfere with the continuance of any legal nonconforming use.

Notwithstanding the preceding provisions of this section, the owner of any nonconforming building, object, or natural vegetation that is considered a height hazard is required to permit the installation, operation, and maintenance thereon of markers and lighting necessary to indicate to aircraft operators the presence of an airport hazard in the vicinity of the airport.

9. Airport Zoning Map

The Airport Overlay Zones established by this Ordinance are shown on the Exhibit A to this Ordinance. The _____ Airport Land Use & Height Overlay Zoning Map, including all notations, references, elevations, data, zone boundaries, and other information thereon, is hereby adopted as part of this Ordinance.

10. Ordinance Administration and Enforcement

It shall be the duty of the [City/Town Zoning Administrator] appointed pursuant to A.R.S. § 9-462.05(C) or [County Zoning Inspector] appointed pursuant to A.R.S. § 11-815(A) referred to herein as the "Airport Zoning Administrator" to administer and interpret the regulations prescribed herein. The Airport Zoning Administrator shall enforce the requirements of this Ordinance, with the assistance, as requested, of the [Municipality's planning department] and code enforcement.

11. Airport Compatibility Permits

Land uses identified as needing additional review in **Table 2**, noted with (RR), will be reviewed by the Airport Zoning Administrator via the submission of an Airport Compatibility Permit. Applications for Airport Compatibility Permits shall be made to the Airport Zoning Administrator upon forms furnished by the Airport Zoning Administrator. Applications shall be either granted or denied by the Airport Zoning Administrator according to the regulations prescribed herein.

It is the duty of the applicant to provide the Airport Zoning Administrator with sufficient information to evaluate the proposed action. This information shall include, but not be limited to, the following:

- Contact information
- Structure information
- Site information
- Drawing information
- Certification
- Identification of current and potential compatibility concerns

The Airport Zoning Administrator may require additional information from the applicant to comprehensively assess any potential compatibility concerns.

[Note to user: If a proposed use includes concerns over noise-sensitivity, consider including a requirement for avigation easements to be granted to your municipality for approval of any new noise-sensitive development. Also, consider requiring additional sound attenuation measures, such as windows and doors with a higher sound rating. Additionally, this section should be modified to fit the existing permitting procedures used within your municipality.]

12. Variances

Any person desiring to erect, alter, or increase the height of any structure, object, or to permit the growth of any natural vegetation, or otherwise use their property in violation of any section of this Ordinance may apply to the Board of Adjustment for a variance from such regulation as permitted by

A.R.S. § 9-462.06 / A.R.S §11-816. No application for variance to the requirements of this Ordinance may be considered by the Board of Adjustment unless a copy of the application has been submitted to the Airport Zoning Administrator and the airport manager for an opinion as to the aeronautical effects of the requested variance. The Airport Zoning Administrator and Board of Adjustment will consider the potential impacts on the Airport and the proposed use regarding noise, concentration of people, height, visual/atmospheric/electronic obstructions and interference, and wildlife attractants.

[Note to user: This section should be modified to fit the existing variance procedures used within your municipality.]

13. Appeals

Any person, property owner, or taxpayer impacted by any decision implementing this Ordinance may appeal to the Board of Adjustment.

[Note to user: This section should be modified to fit the existing appeals procedures used within your municipality.]

14. Penalties

Any violation of this Ordinance or of any regulation, order, or ruling promulgated hereunder shall constitute a simple misdemeanor, and shall be punishable by a fine of not more than $_dollars, an imprisonment for not more than _____(year or month), or both; each day a violation continues to exist shall constitute a separate offense.

[Note to user: This section should be modified to fit the existing penalties used within your municipality to address zoning violations.]

15. Conflicting Regulations

Where there exists a conflict between any of the regulations or limitations prescribed in this Ordinance and any other regulations applicable to the same area, whether the conflict be with respect to height or structures, the use of land, or any other matter, the more stringent limitation or requirement shall govern and prevail.

16. Severability

If any provision of this Ordinance or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of the Ordinance, which can be given effect without the invalid provision or application, and to this end, the provisions of this Ordinance are declared to be severable.

17. Effective Date

This Ordinance shall be in effect from and after its passage by the governing body and publication and posting as required by law.

Adopted on this ____ day of ____, 20__.

Exhibit A – Airport Land Use & Height Overlay Zoning Map

The exhibit provides the _____ Airport Land Use & Height Overlay Zoning Map to be kept on file with the appropriate governmental entities.

National Example

[Note to user: The FAA provides an example of an ordinance from the State of Iowa in its Advisory Circular 150/5190-4B.]

APPENDIX D. EXAMPLE AIRPORT LAND USE COMPATIBILITY OVERLAY ZONING ORDINANCE

Sample Airport Land Use & Height Overlay Zoning Ordinance from Iowa Department of Transportation, Office of Aviation

1. Title and Authority:

The _____ AIRPORT LAND USE & HEIGHT OVERLAY ZONING ORDINANCE created by the _____ shall regulate and restrict the height of structures, objects, and growth of natural vegetation, as well as land uses; otherwise regulating the use of property, within the vicinity of the _____ Airport. Creation of appropriate zones and establishing the boundaries thereof, as well as providing for changes in the restrictions and boundaries of such zones is vested in this Ordinance. _____ Airport Land Use & Height Zoning Map is incorporated into and made part of this Ordinance. It is intended that such restrictions will be coordinated with the restrictions existing under the _____ County zoning ordinance.

2. Statement of Purpose and Findings

1. The _____ Airport is acknowledged as an essential public facility to the local community.
2. The creation or establishment of an airport hazard is a public nuisance and poses a potential concern to the surrounding communities served by _____ Airport.
3. There shall be no creation or establishment of a hazard that endangers public health, safety, welfare, or impacts an individual's quality of life, nor prevents the safe movement of aircraft at the _____ Airport.
4. For the protection of the public health, safety, and general welfare, and for the promotion of the most appropriate use of land, it is necessary to prevent the creation or establishment of airport hazards.
5. The prevention of airport hazards shall be accomplished, to the extent legally possible, by proper exercise of the police power.
6. The prevention of new airport hazards, and the elimination, removal, alteration, mitigation, or marking and lighting of existing airport hazards, are considered to be a public purpose for which _____ (City/County) may raise and expend public funds, as an incident to the operation of airports, to acquire or property interest therein.

3. Applicability

This ordinance encompasses the prescribed areas defined in this ordinance around the _____ Airport. See Exhibit A.

4. Definitions

Airport Overlay Zones

Zones intended to place height and land use conditions on land impacted by airport operations while retaining the existing underlying zone. The Title 14 Code of Federal Regulations Part 77 (14 CFR Part 77) Surfaces and runway protection zones have been combined to create five airport overlay zones. The five specific zones create a comprehensive area focused on maintaining compatible land use around airports.

Approach and Runway Protection Zone Map.

The Approach and Runway Protection Zone Map is compiled from the criteria in 14 CFR Part 77, "Objects Affecting Navigable Airspace." It shows the five-airport overlay zones affected by the Airport Overlay Zoning Ordinance, and includes the layout of runways, airport boundaries, elevations, and area topography. Applicable height limitation areas are shown in detail.

Conical Surface (Zone E) - The conical surface extends upward and outward from the periphery of the horizontal surface at a slope of 20 feet horizontally for every one-foot vertically (20:1) for a distance of 4,000 feet. It is the outermost zone of the overlay areas and has the least number of land use restriction considerations.

Horizontal Surface (Zone D) - The horizontal surface is a horizontal plane located 150 feet above the established airport elevation and begins at the edge of the transitional surfaces and primary surface for a distance of 5,000 feet for visual approach runways.

Primary Surface - The primary surface is longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway. When the runway has no specially prepared hard surface, the primary surface ends at each end of that runway. The width of the primary surface is 250 feet, or 50 feet beyond the marked edge of a turf runway.

Runway Protection Zone (RPZ) (Zone A) - The area off the end of the runway end designed to provide a clear area that is free of above ground obstructions and structures to enhance the protection of people and property on the ground. Zone A is intended to provide a clear area that is free of above-ground obstructions and structures.

Runway Approach Surface (Zone B) - A critical overlay surface that reflects the approach and departure areas for each runway at an airport. The approach surface is longitudinally centered on the extended runway centerline, extending outward and upward from the end of the runway. The approach slope for visual runways is 20:1 for a distance of 5,000 feet.

Transitional Surface (Zone C) - The transitional surface extends outward and upward at right angles to the runway centerline and extends at a slope of seven feet horizontally for each one-foot vertically (7:1) from the sides of the primary and approach surfaces. The transitional surfaces extend to the point at which they intercept the horizontal surface at a height of 150 feet above the established airport elevation.

Visual Approach.

An approach to an airport conducted with visual reference to the terrain.

5. Airport Overlay Zones

Airport overlay zones established by this Ordinance include all of the land lying beneath the runway protection zone, the approach surface, transitional surface, horizontal surface and conical surface. These zones are identified as A, B, C, D and E and are defined under the definition section, Table 5.1 and in Exhibit A.

Table 5.1 Dimensions for Airport Overlay Zones - Visual Runway

Zone	Inner Width	Outer Width	Length	Height or Slope
A (Runway Protection Zone – Begins at end of turf runway, 200' past hard surface runway)	250'	450'	1,000'	Not applicable
B (Approach zone - Begins at end of turf runway, 200' past hard surface runway)	250'	1,250'	5,000'	20:1
C width (Transitional Surface)		1,050'		7:1
D radius (Horizontal Surface)	Begins at edge of transitional surface	5,000'		150' above runway (excludes approach zone)
E radius (Conical Surface)	Begins at edge of horizontal surface	4,000'		20:1

6. Airport Zone Height Limitations and Lighting Requirements

Unless otherwise provided for in this Ordinance, no structure, object, natural vegetation, or terrain shall be erected, altered, allowed to grow or be maintained within any airport zone established by this Ordinance to a height in excess of the applicable height limitations established by this Ordinance in Table 5.1 and shown on Exhibit A, the "_____ Airport Zone Overlay Map."

Lighting and marking requirements will be determined through an FAA 7460-1 airspace analysis. The owner of any structure, object, natural vegetation, or terrain is hereby required to install, operate, and maintain such markers, lights, and other aids to navigation necessary to indicate to the aircraft operators in the vicinity of an airport the presence of an airport hazard.

7. Land Use Limitations within Airport Zones

Land uses defined below as compatible shall be issued a permit if they follow all provisions of this ordinance. Those land uses identified as 'not compatible' will not be permitted within Zones A-E.

Land uses identified as 'additional review' will be evaluated by the land use administrator as to the potential impacts on the airport regarding noise, concentration of people, height, visual restrictions, wildlife attractions, flammable substances and electrical, navigational or radio interference.

_____ **Airport**

Zone Chart

Land Uses	Zone A	Zone B	Zone C	Zone D	Zone E
Single Family	**NC**	**AR**	**NC**	**AR**	**C**
Multi-Family, group living Uses	**NC**	**NC**	**NC**	**AR**	**C**
Permitted uses in "C" Commercial District	**NC**	**AR**	**AR**	**C**	**C**
Permitted uses in "M" Manufacturing District	**NC**	**AR**	**AR**	**AR**	**C**
Basic Utility Uses (i.e., utility substation facilities, electrical substations, water and sewer lift stations, water towers)	**NC**	**NC**	**NC**	**AR**	**C**
Sanitary landfills	**NC**	**NC**	**NC**	**NC**	**AR**
Solar power, generation equipment, wind generation, wind farms	**NC**	**NC**	**NC**	**AR**	**AR**
Communication transmission facilities	**NC**	**NC**	**NC**	**AR**	**AR**
Outdoor storage, signs and displays	**NC**	**AR**	**AR**	**AR**	**C**
General Community Service	**NC**	**AR**	**AR**	**AR**	**C**
Daycare Uses	**NC**	**NC**	**NC**	**AR**	**C**
Detention Facilities (i.e., prisons, jails, probation centers, juvenile detention homes, halfway houses)	**NC**	**NC**	**NC**	**AR**	**C**
Educational Facilities	**NC**	**NC**	**NC**	**AR**	**C**
Hospitals	**NC**	**NC**	**NC**	**AR**	**C**
Religious Assembly Uses	**NC**	**NC**	**NC**	**AR**	**C**
Communication Transmission Facility Uses (i.e., broadcast, wireless, point to point, emergency towers and antennae)	**NC**	**NC**	**NC**	**AR**	**AR**
Parking Uses (i.e., ground lots, parking structures)	**AR**	**C**	**AR**	**C**	**C**
Transportation Uses (i.e., highways, interstates, local and county roads)	**AR**	**C**	**C**	**C**	**C**
Utility Uses (i.e., solar power generation equipment, wind generators, wind farms)	**NC**	**NC**	**NC**	**AR**	**AR**
***Farms** – plant and animal with no residential*	**AR**	**AR**	**AR**	**C**	**C**
Resident-related (i.e., single-family home, mobile home if converted to real property and taxed)	**NC**	**AR**	**NC**	**AR**	**C**

Land Uses	Zone A	Zone B	Zone C	Zone D	Zone E
Grain bins, bulk fuel, grain elevator	**NC**	**NC**	**NC**	**AR**	**AR**
Man-made water retention, detention, wetlands	**NC**	**NC**	**NC**	**AR**	**AR**
Commercial Recreational Use* - *Outdoor* recreation	**NC**	**AR**	**NC**	**AR**	**C**
Commercial Recreational Use* - *Indoor* recreational facilities	**NC**	**AR**	**NC**	**AR**	**C**
Parks	**NC**	**AR**	**NC**	**C**	**C**
Casino	**NC**	**NC**	**NC**	**AR**	**C**

* **Commercial Recreational Uses** (i.e., facilities used for physical exercise, recreation, or culture)

Key:

C = *Compatible*

AR = *Additional Review Required*

NC = *Not Compatible*

8. Airport Zoning Map

The Airport Land Use & Height Overlay Zones established by this Ordinance are shown on the Exhibit A to this Ordinance. The Official Airport Land Use & Height Overlay Zoning Map, may be amended, and all notations, references, elevations, data, zone boundaries, and other information thereon, is hereby adopted as part of this Ordinance.

9. Ordinance Administration

It shall be the duty of the _____ referred to herein as the "Airport Zoning Administrator" to administer the regulations prescribed herein. Applications for permits and variances shall be made to the Airport Zoning Administrator upon forms furnished by the Airport Zoning Administrator. Applications for action by the Board of Adjustment shall be forthwith transmitted by the Airport Zoning Administrator should an applicant request review. Permit applications shall be either granted or denied by the Airport Zoning Administrator according to the regulations prescribed herein.

10. Airport Zoning Permits

It shall be the duty of the applicant to provide the Airport Zoning Administrator with sufficient information to evaluate the proposed action. This information shall include but not be limited to the following:

- Contact information
- Structure information
- Site information
- Drawing information
- Certification

- Identify current and potential compatibility concerns

The Airport Zoning Administrator shall evaluate the proposal based upon information provided by the applicant. The Airport Zoning Administrator shall approve the permit if after evaluation, the proposed project is found to be adequately compatible. Should the proposed project be found to be incompatible after review, the Airport Zoning Administrator shall deny the permit. Should the permit be denied, the applicant shall have the right to request a variance or an appeal as prescribed in this Ordinance.

11. Variances

Any person desiring to erect, alter, or increase the height of any structure, object, or to permit the growth of any natural vegetation, or otherwise use his property in violation with any section of this Ordinance, may apply to the Board of Adjustment for variance from such regulation. No application for variance to the requirements of this Ordinance may be considered by the Board of Adjustment unless a copy of the application has been submitted to the _____ Airport Zoning Administrator and the airport manager for an opinion as to the aeronautical effects of the variance.

12. Appeals

Any person, property owner, or taxpayer impacted by any decision of this Ordinance, may appeal to the Board of Adjustment. ***(Insert detail regarding procedures for the appeals process already in use by the adopting governing body.)***

13. Penalties

Any violation of this Ordinance or of any regulation, order, or ruling promulgated hereunder shall constitute a simple misdemeanor, and shall be punishable by a fine of not more than $_____ dollars or imprisonment for not more than _____ (year or month) or both; each day a violation continues to exist shall constitute a separate offense. ***(Insert detail regarding penalties already in use by the adopting governing body.)***

14. Conflicting Regulations

Where there exists a conflict between any of the regulations or limitations prescribed in this Ordinance and any other regulations applicable to the same area, whether the conflict be with respect to height or structures, the use of land, or any other matter, the more stringent limitation or requirement shall govern and prevail.

15. Severability

If any provision of this Ordinance or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of the Ordinance, which can be given effect without the invalid provision or application, and to this end, the provisions of this Ordinance are declared to be severable.

16. Effective Date

This Ordinance shall be in effect from and after its passage by the governing body and publication and posting as required by law.

Adopted on this _____ day of _____, 20__.

Exhibit A-Airport Land Use & Height Overlay Zoning Map

The exhibit provides the Official Airport Land Use & Height Overlay Zoning Maps to be kept on file with the appropriate governmental entities. The maps must be amended when changes occur within the jurisdictional boundaries of the map

OTHER EXAMPLE ZONING ORDINANCES

Minnesota Airport Zoning Ordinance:

https://www.dot.state.mn.us/aero/planning/zoning.html

Florida: Airport and Airspace Protection and Zoning- FDOT-

https://www.fdot.gov/aviation/compland.shtm

Larger City Example (City of Phoenix)

[Note to user: This example comes from the City of Phoenix for the Phoenix Sky Harbor International Airport. This example calls for the restriction of object height in the vicinity of the Airport, and restriction of uses that would otherwise endanger or interfere with aircraft operations (e.g., create electrical interference, impair pilot visibility, create wildlife hazards, etc.). In addition to the "Airport Height Zoning Article" in Chapter 4 of the Phoenix City Code, the City also maintains a separate Airport Noise Impact Overlay Zone in Section 644 of its Zoning Ordinance.]

Article XIII.

Airport Zoning[1]

1 **Editor's note—**Ord No. G-5179, TA-9-06, § 1, adopted June 4, 2008, effective July 4, 2008, amended Art. XIII, §§ 4-236—4-247 in its entirety to read as herein setout with the exception of the recently approved Downtown Zone Section 4-240.F [2-241.B]. See Section 4-236. Former said article pertained to similar subject matter and derived from Ord. No. G-3106, § 2 and Ord. No. G-4784, TA-33-05, adopted 3-15-2006, eff. 4-14-2006.

State Law reference—Airport zoning, A.R.S. § 28-8461 et seq.

Sec. 4-236. Repealer; saving clause.

The Phoenix Sky Harbor Airport Municipal Airport Zoning Article passed by the City Council on February 1, 1971, is hereby repealed, except for Section 4-240, Height Limitations, Subsection F "Downtown Zone", which is renumbered [Section] 4-241, Zones, Subsection Height Zone B—"Downtown Zone". All rights or remedies of the City are expressly saved as to any and all violations of said article. As to all violations that have accrued at the time of the effective date of this Article, the Court shall have all the powers that existed prior to the effective date of this Article. All existing violations of the Phoenix Sky Harbor Municipal Airport Zoning Article which may become nonconforming uses shall be considered as violations of this Article in the same manner that they were violations of the Phoenix Sky Harbor Municipal Airport Zoning Article. (Ord. No. G-5179, § 1, 2008)

Sec. 4-237. Short title.

This [Article] may be cited as "The City of Phoenix Airport Height Zoning Article." (Ord. No. G-5179, § 1, 2008)

Sec. 4-238. Applicability and scope.

This Article does not give any person any entitlement or right to heights higher than the heights in the City of Phoenix Zoning Ordinance or different than any applicable overlays or other zoning requirements. This Article does not alter or modify in any way the City of Phoenix Zoning Ordinance or any of the other processes or requirements set forth in the Phoenix City Code. (Ord. No. G-5179, § 1, 2008)

Sec. 4-239. Airport Zoning Commission.

A. *Creation; composition; terms of members; vacancies; compensation of members.* There is hereby created an Airport Zoning Commission. The City's Planning Commission is appointed as the Airport Zoning Commission. The members of the Commission shall serve without compensation.

b. *Powers and duties; regulations.* It shall be the duty of the Commission to hold public hearings when necessary and make recommendations to the City Council on all airport matters relating to the creation of the various zones and their boundaries, the appropriate height regulations and restrictions to be enforced, amendments to this Article, and any other zoning matter within the scope of the police power pertaining to the airports under the ownership of control of the City. The Commission is authorized to confer and advise with other City, County, Regional or State Planning Commissions with regard to airport zoning matters. (Ord. No. G-5179, § 1, 2008)

Sec. 4-240. Definitions.

As used in this Article, unless the context otherwise requires:

1. *"Airport"* means Phoenix Sky Harbor International Airport, as the context requires, and any area of land or water designed and used for the landing and takeoff of aircraft, and utilized or designated to be utilized by the public for those purposes.

2. *"Airport Board of Adjustment"* or *"Board"* means the Board created by this Article. The Board will hear appeals when there is alleged error in any order, requirement or decision made by the aviation director in the enforcement of this Article, and grant variances in accordance with the terms of this Article.

3. *"Airport elevation"* means the highest point of an airport's usable landing area measured in feet from mean sea level.

4. *"Airport hazard"* means any temporary or permanent obstacle, structure, object, tree or use of land which obstructs the airspace required for, or is otherwise hazardous to, the flight of aircraft in landing or takeoff, or which is determined by the Federal Aviation Administration to be a hazard to air navigation.

5. *"Airport Zoning Commission"* or *"Commission"* means the Commission created pursuant to A.R.S. Section 28-8467 and by this Article, which will recommend the boundaries of the various zones to be established and the regulations to be adopted and perform other duties required by law.

6. *"Airport zoning map"* means those maps that have been, or may hereafter, be published to show the various surface areas and vertical zones within which may exist airport hazards for each of the airports under the jurisdiction of the City.

7. *"Height"*. For the purpose of determining the height limits in all zones established in this Article and shown on the airport zoning maps, the datum shall be mean sea level elevation unless otherwise specified.

8. *"MSL" mean sea level.* Elevation (on the ground) or altitude (in the air) of any object, relative to the average sea level datum.

9. *"Nonconforming use"* means any permanent obstacle, structure, tree, or use of land lawfully existing as of the effective date of this Article, which does not conform to a regulation prescribed in this Article or an amendment thereto, as of the effective date of such regulation.

10. *"Person"* means an individual, firm, partnership, corporation, company, association, joint stock association or body politic and includes a trustee, receiver, assignee, administrator, executor, guardian or other representative.

11. *"Runway"* a strip of land on an airport, on which aircraft can take off and land. Runways may be a man-made surface (often asphalt, concrete, or a mixture of both) or a natural surface (grass, dirt, or gravel).

12. *"Structure"* means an object, either temporary or permanent, constructed or installed by a person, including, without limitation, buildings, towers, cranes, derricks, smokestacks and overhead transmission lines.

13. *"Maximum building height."* maximum building height includes all rooftop appurtenances, obstruction lights, lightning arresting devices, etc. as shown below. Height elevations are above mean sea level (NAVD 88).

14. *"Obstacle."* any structure, growth, or other object, including a mobile object. (Ord. No. G-5179, § 1, 2008)

Sec. 4-241. Zones.

For the purposes of establishing acceptable heights of obstacles around Phoenix Sky Harbor International Airport, the following six height zones (A through F) have been designated.

The intent of this Article is to provide clear direction for calculating the airport height restrictions within the City. Beyond the City limits, the [this] Article serves as a guidance document to notify surrounding cities and towns of critical heights with regards to safety, efficiency and capacity at Phoenix Sky Harbor International Airport.

This Zoning Article does not replace any formal Federal or State review process of a specific project. Requests for building permits must include building coordinates and a Federal Aviation Administration determination letter if required per Federal Aviation Regulations Part 77.13. The findings of the Federal Aviation Administration are separate from the analyses performed to determine the height zones set forth in this Section. A *"determination of no hazard"* from the Federal Aviation Administration does not necessarily mean it complies with the height zones described below.

A. *Height Zone A—Airport Property.*

1. *Area definition:* Any parcel or land tract designated by the City as Phoenix Sky Harbor International Airport.

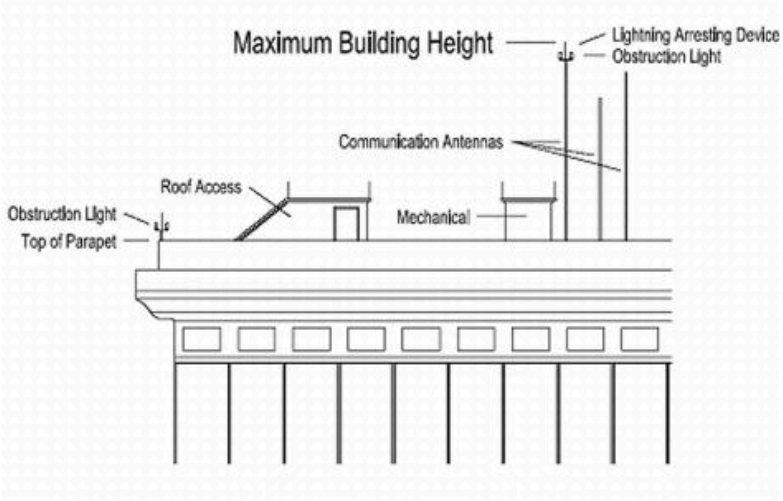
2. *Airport height restriction:* All proposals for new construction or alterations of existing obstacles are subject to additional analysis by the Federal Aviation Administration and the City Aviation Department.

B. *Height Zone B—Downtown Zone.* The Downtown Zone shall be subdivided into 16 contour areas as shown in the attached Downtown Zone Map.

1. No structure is permitted within the Downtown Zone that is of a greater height than the height provided in the Downtown Zone Map.

2. Each subdivided contour area within the Downtown Zone is defined below providing the maximum elevation above Mean Sea Level (MSL) for the development of structures or other objects. Boundary-defining coordinates are provided to precisely determine boundaries of each subdivided contour area within the Downtown Zone. All heights are given in North American Vertical Datum of 1988 (NAVD 88), and all coordinates are given in North American Horizontal Datum of 1983 (NAD 83).

3. Maximum building height includes all structures as shown below.



AREA 1:	1,275 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 26 40.69220	112 04 06.65491
	33 26 40.63130	112 03 53.94980
	33 26 31.51253	112 04 06.66181
	33 26 31.51430	112 03 54.39358

AREA 2:	1,300 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 26 41.63685	112 04 25.09522

AREA 2:	1,300 FEET MSL WITHIN THE COORDINATES:	
	33 26 40.10488	112 04 09.37186
	33 26 40.10839	112 04 07.89649
	33 26 40.69806	112 04 07.88019
	33 26 40.69220	112 04 06.65491
	33 26 31.51253	112 04 06.66181
	33 26 31.50924	112 04 25.10223

AREA 3A:	1,325 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 26 43.43276	112 04 43.53509
	33 26 41.63685	112 04 25.09522
	33 26 31.50924	112 04 25.10223
	33 26 31.50519	112 04 43.54265

AREA 4A:	1,350 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 26 44.81566	112 04 57.73970
	33 26 43.43276	112 04 43.53509
	33 26 31.50519	112 04 43.54265
	33 26 26.73561	112 04 57.73617

AREA 3B:	1,325 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 26 45.24463	112 04 11.14274
	33 26 43.39527	112 03 53.58613

AREA 3B:	1,325 FEET MSL WITHIN THE COORDINATES:	
	33 26 40.63130	112 03 53.94980
	33 26 40.69220	112 04 06.65491
	33 26 40.69806	112 04 07.88019
	33 26 40.10839	112 04 07.89649
	33 26 40.10488	112 04 09.37186
	33 26 40.27770	112 04 11.14526

AREA 4B:	1,350 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 26 47.18638	112 04 29.58385
	33 26 45.24463	112 04 11.14274
	33 26 40.27770	112 04 11.14526
	33 26 42.07419	112 04 29.58498

AREA 5:	1,375 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 26 49.01344	112 04 46.94250
	33 26 47.18638	112 04 29.58385
	33 26 42.07419	112 04 29.58498
	33 26 43.86992	112 04 48.02490

AREA 6:	1,400 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 26 50.14964	112 04 57.74074
	33 26 49.12737	112 04 48.02519

AREA 6:	1,400 FEET MSL WITHIN THE COORDINATES:	
	33 26 43.86992	112 04 48.02490
	33 26 44.81566	112 04 57.73970

AREA 7:	1,500 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 27 16.55968	112 03 59.13861
	33 27 16.54884	112 03 54.09829
	33 26 43.39527	112 03 53.58613
	33 26 43.98269	112 03 59.16201

AREA 8:	1,525 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 27 16.57671	112 04 07.10601
	33 27 16.55968	112 03 59.13861
	33 26 43.98269	112 03 59.16201
	33 26 44.82151	112 04 07.12532

AREA 9:	1,550 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 27 16.59360	112 04 15.07340
	33 27 16.57671	112 04 07.10601
	33 26 44.82151	112 04 07.12532
	33 26 45.66018	112 04 15.08867

AREA 10:	1,575 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 27 16.61034	112 04 23.04080
	33 27 16.59360	112 04 15.07340
	33 26 45.66018	112 04 15.08867
	33 26 46.49871	112 04 23.05206

AREA 11:	1,600 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 27 17.24395	112 04 31.00778
	33 27 17.23416	112 04 26.26505
	33 27 16.61492	112 04 25.23106
	33 27 16.61034	112 04 23.04080
	33 26 46.49871	112 04 23.05206
	33 26 47.33709	112 04 31.01550

AREA 12:	1,625 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 27 17.26029	112 04 38.97519
	33 27 17.24395	112 04 31.00778
	33 26 47.33709	112 04 31.01550
	33 26 48.17534	112 04 38.97898

AREA 13:	1,650 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 27 17.27648	112 04 46.94260

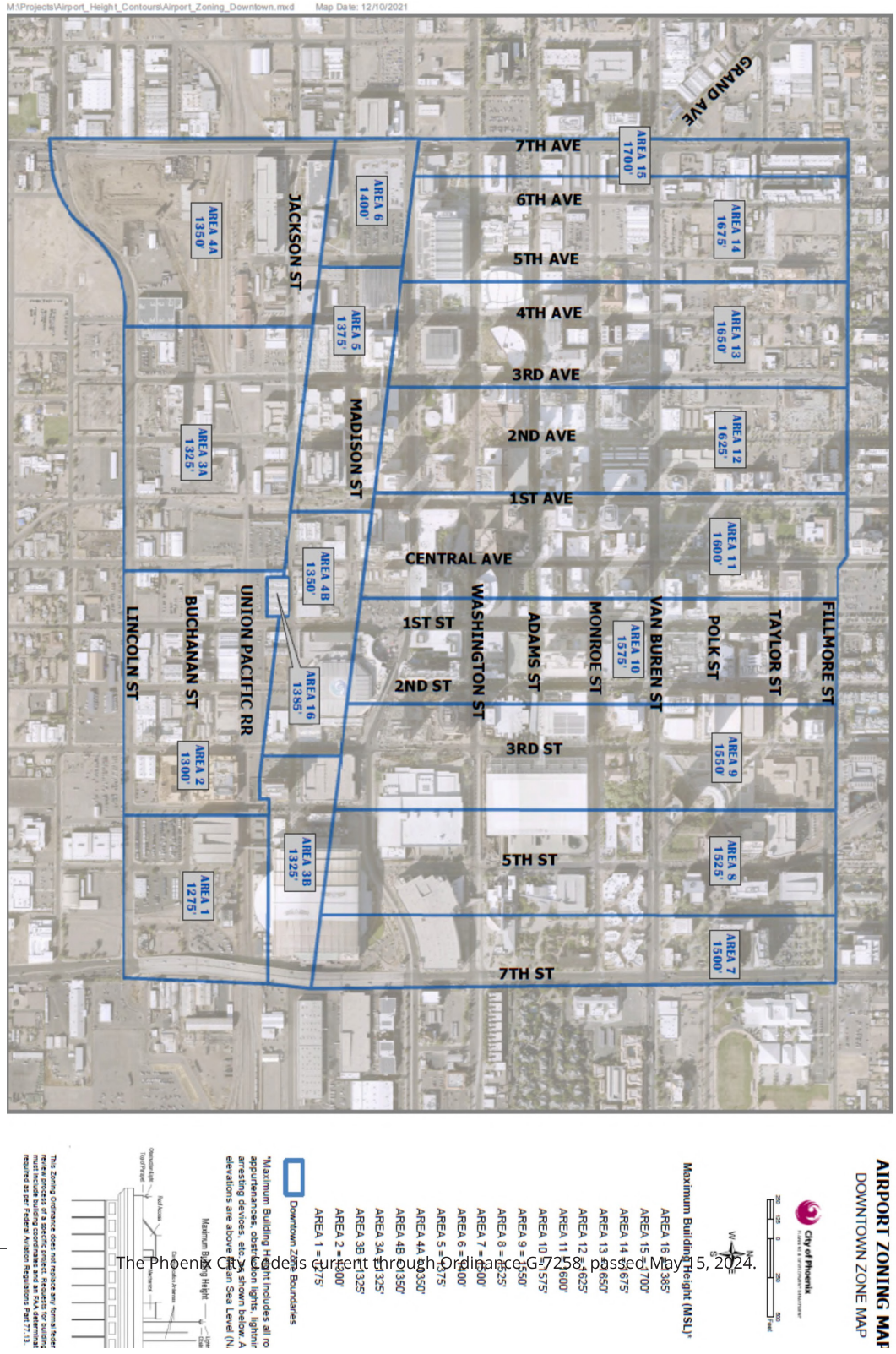
AREA 13:	1,650 FEET MSL WITHIN THE COORDINATES:	
	33 27 17.26029	112 04 38.97519
	33 26 48.17534	112 04 38.97898
	33 26 49.01344	112 04 46.94250

AREA 14:	1,675 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 27 17.29253	112 04 54.91001
	33 27 17.27648	112 04 46.94260
	33 26 49.01344	112 04 46.94250
	33 26 49.85140	112 04 54.90606

AREA 15:	1,700 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
	33 27 17.29821	112 04 57.74605
	33 27 17.29253	112 04 54.91001
	33 26 49.85140	112 04 54.90606
	33 26 50.14964	112 04 57.74074

AREA 16:	1,385 FEET MSL WITHIN THE COORDINATES:	
	Latitude	*Longitude*
NEC	33 26 41.7464	112 04 21.6795
SEC	33 26 40.3868	112 04 21.6816
SWC	33 26 40.3970	112 04 24.6317
NWC	33 26 41.7488	112 04 24.6291

Where an area is covered by more than one height limitation, the more restrictive limitation shall prevail. Any tree or structure which may be erected, or caused to be erected, by the City of Phoenix for public purposes, is hereby exempted from the height limitations of this article.



C. *Height Zone C—Aircraft Approach And Departure Zone.*

1. *Area definition:* The area used by aircraft for final descent during the approach phase of flight and initial climb during the departure phase of flight. For the purposes of this Article, Height Zone C is bound to the east by the Height Zone C Baseline as described below. The northern edge of Height Zone C originates at Point A as defined in this Section and splays at a ratio of 8 to 1 from the extended centerline of Runway 8/26 as shown on sheet 2 of 3, to a point where it reaches 3,000 feet from the extended centerline of Runway 8/26. From there, the northern edge of Height Zone C runs parallel with the extended centerline of Runway 8/26 to a point where the elevation of Height Zone C reaches 1,875 feet above mean sea level.

The southern edge of Height Zone C originates at Point B as defined in this Section and splays at a ratio of 8 to 1 from the extended centerline of Runway 7R/25L as shown on sheet 2 of 3, to a point where it reaches 3,000 feet from the extended centerline of Runway 7R/25L. From there, the southern edge of Height Zone C runs parallel with the extended centerline of Runway 7R/25L to a point where the elevation of Height Zone C reaches 1,875 feet above mean sea level.

2. *Airport height restriction:* No obstacle may exceed above a sloping surface originating at the Height Zone C Baseline as defined in this Section. This surface originates at the elevation of the Height Zone C Baseline and extends upward parallel with the extended centerline of Runway 8/26 at a slope of 62.5 to 1 (62.5 feet horizontally for every one foot vertically) to a point where the surface reaches an elevation of 1,875 feet above mean sea level.

3. *Height Zone C Baseline:* A baseline established for the purposes of defining airport height restrictions in Height Zone C. The baseline is a straight line between the two coordinates and elevations listed below, as shown [on the attached Zone Boundaries Map] on sheet 2 of 3.

	POINT 'A'	POINT 'B'
LATITUDE:	N 33° 26' 30.07"	N 33° 25' 39.91"
LONGITUDE:	W 112° 01' 47.25"	W 112° 01' 47.31"
ELEVATION:	1,111' MSL	1,111' MSL

D. *Height Zone D—Aircraft Approach And Departure Zone.*

1. *Area definition:* The area used by aircraft for final descent during the approach phase of flight and initial climb during the departure phase of flight. For the purposes of this Article, Height Zone D is bound to the west by the Height Zone D Baseline as described below. The northern edge of Height Zone D originates at Point 'C' as defined in this Section and splays at a ratio of 8 to 1 from the extended centerline of Runway 8/26 as shown on sheet 2 of 3, to a point where it reaches 3,000 feet from the extended centerline of Runway 8/26. From there, the northern edge of Height Zone D runs parallel with the extended centerline of Runway 8/26 to a point where the elevation of Height Zone D reaches 1,875 feet above mean sea level.

The southern edge of Height Zone D originates at Point 'D' as defined in this Section and splays at a ratio of 8 to 1 from the extended centerline of Runway 7R/25L as shown on sheet 2 of 3, to a point where it reaches 3,000 feet from the extended centerline of Runway 7R/25L. From there, the southern edge of Height Zone D runs parallel with the extended centerline of Runway 7R/25L to a point where the elevation of Height Zone D reaches 1,875 feet above mean sea level.

2. *Airport height restriction:* No obstacle may exceed above a sloping surface originating at the Height Zone D Baseline as defined in this Section. This surface originates at the elevation of the Height Zone D Baseline and extends upward parallel with the extended centerline of Runway 8/26 at a slope of 62.5 to 1 (62.5 feet horizontally for every one foot vertically) to a point where the surface reaches an elevation of 1,875 feet above mean sea level.

3. *Height Zone D Baseline:* A baseline established for the purposes of defining airport height restrictions in Height Zone D. The baseline is a straight line between the two coordinates and elevations listed below, as shown [on the attached Zone Boundaries Map] on sheet 2 of 3.

	POINT 'C'	POINT 'D'
LATITUDE:	N 33° 26' 29.93"	N 33° 25' 37.31"
LONGITUDE:	W 111° 59' 31.68"	W 111° 59' 31.77"
ELEVATION:	1,135' MSL	1,135' MSL

E. *Height Zone E—Aircraft Maneuvering Zone.*

1. *Area definition:* The area used by aircraft maneuvering in the vicinity of Phoenix Sky Harbor International Airport. For the purposes of this Article, Height Zone E is bound by the limits shown on the attached Zone Boundaries Map (sheet 2 of 3).

2. *Airport height restriction:* No obstacle may exceed above a sloping surface originating at the Height Zone E Baseline as defined in this Section. This surface originates at the elevation of the Height Zone E Baseline and extends upward and outward at a slope of 30 to 1 (30 feet horizontally for every one foot vertically) to a point where the surface reaches an elevation of 1,875 feet above mean sea level.

3. *Height Zone E Baseline:* A baseline established for the purposes of defining airport height restrictions in Height Zone E. The baseline is a straight, sloping line between the two coordinates and elevations listed below, as shown [on the attached Zone Boundaries Map] on sheet 2 of 3.

	POINT 'E'	POINT 'F'
LATITUDE:	N 33° 26' 05.50"	N 33° 26' 05.39"
LONGITUDE:	W 112° 01' 47.27"	W 111° 59' 31.77"

	POINT 'E'	POINT 'F'
ELEVATION:	1,111' MSL	1,135' MSL

F. *Height Zone F—Aircraft Enroute Zone.*

1. *Area definition:* The remaining area within the City limits beyond the limits of those areas defined above by Zones A—E and shown on the attached Zone Boundaries Map (sheet 1 of 3).

2. *Airport Height Restriction:* The Federal Aviation Administration's obstacle evaluation process governs the airport height restriction in this area. If required to file a Federal Aviation Administration Form 7460-1 as per Part 77.13 of Title 14 of the Code of Federal Regulations no permit shall be issued unless and until a determination of no hazard has been issued by the Federal Aviation Administration. (Ord. No. G-5179, § 1, 2008; Ord. No. G-6969, § 1, 2022)

Sec. 4-242. Airport use restrictions.

Notwithstanding any other provisions of this Article, no use may be made of land or water within any zone established by this Article that will create electrical interference with navigational signals or radio communication between an airport and aircraft, make it difficult for pilots to distinguish between airport lights and others, result in glare in the eyes of pilots using an airport, impair visibility in the vicinity of an airport, wildlife hazards or otherwise in any way endanger or interfere with the landing, takeoff, or maneuvering of aircraft intending to use an airport. (Ord. No. G-5179, § 1, 2008)

Sec. 4-243. Nonconforming uses.

This Article is not retroactive. The regulations prescribed in this Article shall not be construed to require the removal, lowering or other changes to or alteration of any structure not conforming to the regulations as of the effective date of this Article, or otherwise interfere with the continuance of any nonconforming use. (Ord. No. G-5179, § 1, 2008)

Sec. 4-244. Enforcement.

A. *Zoning Administrator.* It shall be the duty of the Zoning Administrator, or their designee, to administer and enforce this Article with such duties and powers granted to them through the City of Phoenix Zoning Ordinance. A building permit shall not be issued by the City for any building or obstacle which does not comply with this Article unless a variance is first obtained. Applications for variances from this Article shall be made on a form available in the Office of the Zoning Administrator, and shall be transmitted to the Airport Board of Adjustment for hearing and decision.

B. *Variances.* Any person aggrieved by a decision or interpretation of the Zoning Administrator in enforcing this Ordinance, may appeal that decision or interpretation to the Board. (Ord. No. G-5179, § 1, 2008)

Sec. 4-245. Airport Board of Adjustment.

A. *Creation; composition; terms of members; vacancies; compensation of members.* There is hereby created an Airport Board of Adjustment to be known as "The Airport Board of Adjustment" or "Board." The Board shall be composed five members who shall be residents of Phoenix and who shall serve without pay. Members shall be appointed by the City Council of Phoenix. Each appointment shall be for a term of three years, except that in the event of a death or resignation of a member, the vacancy may be filled for the unexpired term.

The Board shall elect a Chair and a Vice-chair from among the members appointed by the City Council. The Chair and Vice-chair shall have power to administer oaths and take evidence.

The Board may adopt rules and procedures in keeping with the provisions and intent of this Article as are necessary to the conduct of its business. Such rules and procedures, together with the provisions of this Article, may be subject to continuing study to ensure that the interests of both the City and its citizens are being served.

Meetings of the Board shall be open to the public. The minutes of its proceedings, showing the vote of each member and records of its examinations and other official actions, shall be kept and filed in the Office of the City Clerk as a public record.

B. *Powers and duties; regulations.* It shall be the duty of the Board to:

a. Hear and decide appeals in which it is alleged there is an error in an order, requirement, or decision made by the Zoning Administrator in the enforcement of this Article.

b. Hear and decide appeals from the action of the Zoning Administrator in the granting or denying of variances, the issuance of use permits, or in the interpretation of the provisions of this Article.

c. Hear and decide all matters referred to the Board by the Zoning Administrator.

d. Reverse or affirm, wholly or in part, or modify the order, requirement, or decision of the Zoning Administrator appealed from, and make such order, requirement, decision, or determination as necessary.

The Board may not:

a. Make any changes in the uses permitted in any zoning classification or zoning district, or make any changes in the terms of the zoning article; provided that the restriction in this paragraph shall not affect the authority to grant variances.

b. Grant a variance if the special circumstances applicable to the property are self-imposed by the property owner.

c. Grant a variance that will negatively impact terminal or emergency aircraft procedures, or that will be materially detrimental to persons or aircraft operating in the vicinity, to adjacent property, or to the public welfare in general.

d. Consider an application for an expansion of a nonconforming structure, or any variance pertaining to a nonconforming structure.

Appeals from rulings and interpretations of the zoning administrator regarding nonconforming structures may be heard only to determine that an obstacle is, or is not, a legal non-conforming use.

C. *Procedure before the Airport Board of Adjustment.*

1. Appeals from an order, requirement, or decision made by the Zoning Administrator, may be made by any person or governmental agency, on forms provided by the Zoning Administrator, and shall specify the basis of the appeal.

2. Any appeal shall be heard by the Board. A quorum of the Board consisting of three members shall be necessary to hear any matter. The concurring vote of a majority of members present and not otherwise disqualified shall be necessary to reverse or modify an order, requirement, or decision of the Zoning Administrator, otherwise such order, requirement, or decision shall be affirmed.

3. The Board may grant variances from the terms of this Article when a literal enforcement of any provision of this Article would result in unnecessary property hardship; or, when evidence is presented to the satisfaction of the Board that all of the following conditions are met.

a. That special conditions and circumstances exist which are peculiar to the land or obstacle or use involved, and which are not applicable to other lands, or obstacles in the same zone.

b. That such special circumstances were not created by the owner or applicant.

c. That the authorizing of the variance is necessary for the preservation and enjoyment of substantial property rights.

d. That the authorizing of the application will not be materially detrimental to persons residing or working in the vicinity, to adjacent property, to the neighborhood, or to the public welfare in general.

4. In granting a variance the Board may stipulate certain requirements in order to fully carry out the provisions and intent of this Article, such as a limitation of the time for which the variance may be effective, or that the owner, at their expense, install, operate and maintain such markers and lights as may be deemed necessary by the aviation director to indicate the presence of an airport hazard.

A violation of any stipulation shall be considered a violation of this Article and such violation shall render the variance null and void.

5. An appeal may be reheard only when there has been a mistake of law or fact affecting the Board's action.

6. Any person aggrieved by any decision of the Board, or a taxpayer, or officer or department of the municipality affected by the decision, may within thirty days after the Board has rendered its decision, file a complaint for special action in the Superior Court to review the Board's decision. Filing the complaint does not stay proceedings on the decision sought to be reviewed, but the Court may, on application, grant a stay and on final hearing may affirm or reverse, in whole or in part, or modify the decision reviewed. (Ord. No. G-5179, § 1, 2008)

Sec. 4-246. Penalties.

Each violation of this Article or of any regulation, order or ruling promulgated hereunder shall constitute a Class 1 Misdemeanor, and each day a violation continues to exist shall constitute a separate offense. (Ord. No. G-5179, § 1, 2008)

Sec. 4-247. Conflicting regulations.

Where there exists a conflict between any of the regulations or limitations prescribed in this Article and any other regulations applicable to the same area, whether the conflict be with respect to the height of structures or trees, the use of land, or any other matter, the more stringent limitation, restriction or requirement shall govern and prevail. (Ord. No. G-5179, § 1, 2008)

The Phoenix City Code is current through Ordinance G-7258, passed May 15, 2024.

Disclaimer: The City Clerk's Office has the official version of the Phoenix City Code. Users should contact the City Clerk's Office for ordinances passed subsequent to the ordinance cited above.

City Website: www.phoenix.gov

Hosted by General Code.

Smaller City Example (Scottsdale Airport)

[Note to user: This example comes from the City of Scottsdale for the Scottsdale Airport. The primary mechanism the City of Scottsdale uses is its Airport Vicinity Development Regulations, contained at Article III.I of the City Code. Like Phoenix, these regulations are separate from the City Zoning Ordinance. This example calls for the restriction of object height in the vicinity of the Airport, and restriction of uses that would otherwise endanger or interfere with aircraft operations (e.g., create electrical interference, impair pilot visibility, etc.). This example also includes a specific emphasis on noise awareness and mitigation and reference to the FAA Part 150 Noise Compatibility Study.]

ARTICLE III.I. - AIRPORT VICINITY DEVELOPMENT REGULATIONS

Sec. 5-350. - Findings.

This article recognizes that obstructions to flights to and from the Scottsdale Airport may:

(1) Endanger the lives and property of airport users and persons in the vicinity of the airport;

(2) Affect existing and future instrument approach minimums to the airport; and

(3) Reduce the areas available for aircraft landing, takeoff, and maneuvering.

(Ord. No. 4024, § 2, 8-27-12)

Sec. 5-351. - Purpose.

This article regulates new development, natural growth and construction equipment in the Airport Influence Area, as shown in Figure 1, to:

(1) Avoid obstructions that may destroy or impair the airport's utility and the public investment therein;

(2) Comply with Federal Aviation Administration (FAA) standards for noise awareness and mitigation;

(3) Protect the viability of the airport as a general aviation facility; and

(4) Promote the public health, safety, and general welfare.

(Ord. No. 4024, § 2, 8-27-12; Ord. No. 4171, § 3, 10-21-14)

Sec. 5-352. - Applicability.

The requirements of this article apply to all new development, natural growth and construction equipment in the areas labeled AC-1, AC-2 and AC-3 shown on Figure 1, Airport Influence Area, below. The Airport Influence Area is adopted and amended in accordance with the FAA Part 150 Noise Compatibility Study.

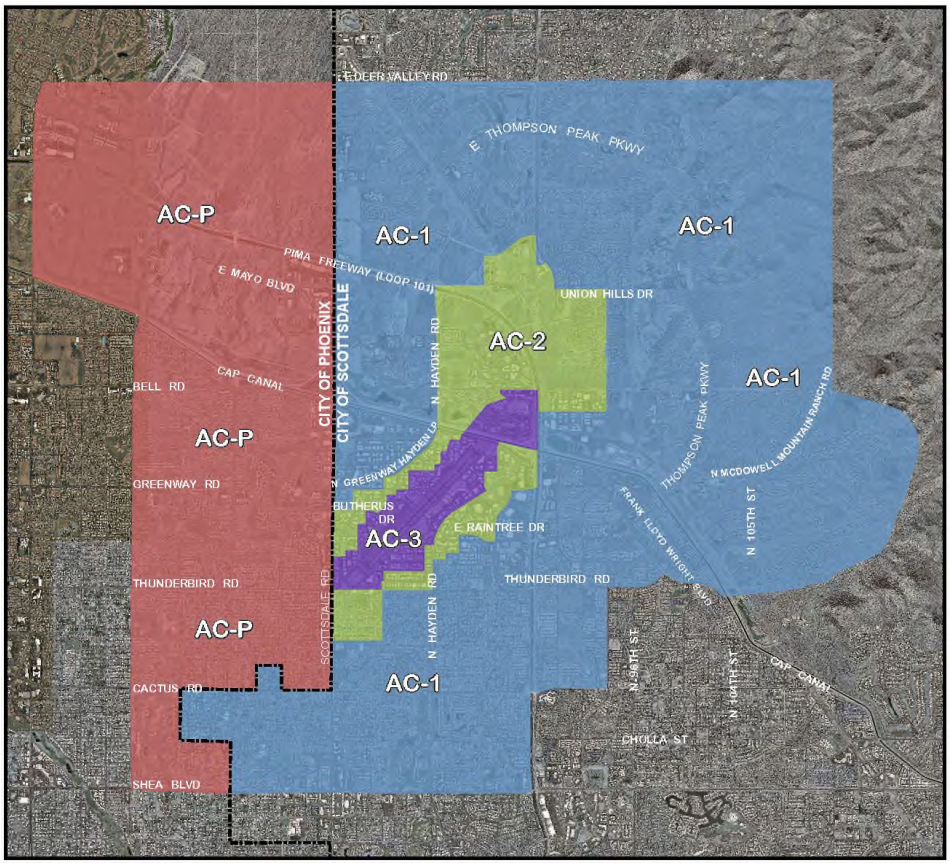


Figure 1. Airport Influence Area.

(Ord. No. 4024, § 2, 8-27-12; Ord. No. 4171, § 5, 10-21-14)

Sec. 5-353. - Conflicts.

(a) If a parcel is in two (2) or more areas labeled AC-1, AC-2 and AC-3 shown on Figure 1, Airport Influence Area, the entire parcel shall meet the requirements of the most restrictive area.

(b) In the case of conflict between this article and another provision of the Scottsdale Revised Code, the provision providing the higher standard for protection of the public health, safety and general welfare, as determined by the Aviation Director, shall apply.

(Ord. No. 4024, § 2, 8-27-12)

Sec. 5-354. - General requirements.

(a) The owner of new development (and natural growth and construction equipment associated with new development) to be constructed in the areas labeled AC-1, AC-2 and AC-3 shown on Figure 1, Airport Influence Area, shall complete forms required by the city and the Scottsdale Airport to

comply with this chapter, and submit the completed forms with final plans. The owner shall comply with the requirements of the forms.

(b) The owner of new development (and natural growth and construction equipment associated with new development), to be located within the twenty-thousand-foot radius of the Scottsdale Airport, that penetrates the 100:1 slope from the nearest point of the runway shall submit to the FAA the appropriate forms for FAA review. See FAA Form 7460-1. Before final plan approval, the owner shall submit the FAA response to FAA Form 7460-1.

(c) The owner of new development (and natural growth and construction equipment associated with new development), and more than two hundred (200) feet high, shall submit to the FAA the appropriate forms for FAA review. See FAA Form 7460-1. Before final plan approval, the owner shall submit the FAA response to FAA Form 7460-1.

(d) The owner of construction equipment to be located within the twenty-thousand-foot radius of the Scottsdale Airport, that penetrates the 100:1 slope from the nearest point of the runway shall submit to the FAA the appropriate forms for FAA review. See FAA Form 7460-1. If the construction equipment is in violation of 14 CFR Part 77, the owner shall immediately remove the construction equipment as directed by the Aviation Director.

(e) All applications for natural growth and new development shall be processed in accordance with Appendix B of the Scottsdale Revised Code (Basic Zoning Ordinance).

(f) Natural growth, construction equipment and new development in the areas labeled AC-1, AC-2 and AC-3 shown on Figure 1, Airport Influence Area, shall avoid:

(1) Creating electrical interference with communications between the airport and aircraft.

(2) Making it difficult for pilots to distinguish between airport lights and other lights.

(3) Glare directed towards pilots using the airport.

(4) Impairing visibility near the airport.

(5) Creating bird strike hazards.

(6) Endangering or interfering with aircraft landings, takeoffs, and maneuverings.

(Ord. No. 4024, § 2, 8-27-12; Ord. No. 4171, § 5, 10-21-14; Ord. No. 4228, § 1, 12-2-15, eff. 1-1-16)

Sec. 5-355. - Fair disclosure requirements.

(a) As recommended by the FAA Part 150 Noise Compatibility Study, each owner of property located in the areas labeled AC-1, AC-2 and AC-3 shown on Figure 1, Airport Influence Area, shall make fair disclosure to each purchaser. If a development is subject to Covenants, Conditions and Restrictions (CC&Rs), the owner shall include the disclosure in the CC&Rs.

(b)

For development applications heard by the Development Review Board or Planning Commission, which are filed after October 1, 2012, the city may require the fair disclosure to be recorded against the property.

(c) The issuance of an occupancy permit may be subject to evidence that fair disclosure has been made and/or recorded, as applicable.

(Ord. No. 4024, § 2, 8-27-12)

Sec. 5-356. - Noise sensitive uses.

All land uses are regulated by the underlying zoning district in accordance with Appendix B of the Scottsdale Revised Code (Basic Zoning Ordinance). Noise sensitive land uses as part of new development are further regulated in the areas labeled AC-1, AC-2 and AC-3 shown on Figure 1, Airport Influence Area, pursuant to the following table. The Aviation Director may interpret and designate noise sensitive uses in conformance with the intent of the FAA to protect new development from aviation noise.

Table 5-356.A. Noise Sensitive Use Regulations.

Noise Sensitive Uses	AC-3	AC-2	AC-1
Cultural institution*	NP	P (1) (2)	P (1)
Civic and social organization	NP	P (1) (2)	P (1)
Day care*	NP	P (1) (2)	P (1)
Dwelling unit*	NP	P (1) (2)	P (1)
Elementary and secondary school*	NP	P (1) (2)	P (1)
Hospital*	NP	P (1) (2)	P
Manufactured home*	NP	P (1) (2)	P (1)
Place of worship	NP	P (1) (2)	P (1)
Residential health care facility	NP	P (1) (2)	P (1)
Travel accommodation*	NP	P (1) (2)	P

NP - Not Permitted

P - Permitted with Use Limitations:

(1) - Avigation easement required under Sec. 5-357 below.

(2) - Noise attenuation required under Sec. 5-358 below.

* The terms cultural institution, day care, dwelling unit, elementary and secondary school, hospital, manufactured home and travel accommodation are defined in the Basic Zoning Ordinance.

(Ord. No. 4024, § 2, 8-27-12; Ord. No. 4171, § 6, 10-21-14)

Sec. 5-357. - Avigation easement requirement.

Before final plan approval for any new development, the owner of a new development in the areas labeled AC-1 (for noise-sensitive uses only, except hotels, motels, resorts and hospitals), AC-2 and AC-3 shown on Figure 1, Airport Influence Area, shall grant the city, and record, an avigation easement satisfactory to the city attorney's office.

(Ord. No. 4024, § 2, 8-27-12; Ord. No. 4171, § 7, 10-21-14)

Sec. 5-358. - Noise attenuation requirements.

(a) All new developments that include noise-sensitive uses within the areas labeled AC-2 and AC-3 shown on Figure 1, Airport Influence Area, shall be constructed with noise attenuation measures in conformance with sound transmission requirements of the International Building Code (IBC).

(b) If noise sensitive uses occupy only a portion of a new development, only the noise sensitive uses are required to be protected.

(Ord. No. 4024, § 2, 8-27-12; Ord. No. 4171, § 8, 10-21-14)

Sec. 5-359. - Existing structures and natural growth.

(a) Nothing in this article requires any change in the construction or change in the intended use of any structure if the construction began before October 1, 2012.

(b) No use or natural growth established or structure begun before October 1, 2012 is permitted to become a greater hazard to air navigation than it was on October 1, 2012.

(c) The Aviation Director may require the owner of a structure, the construction of which began before October 1, 2012, to install markers and lights on the structure, if the Aviation Director deems them necessary for airport safety. The markers and lights shall be installed, operated, and maintained at the owner's expense.

(d) If a structure, the construction of which began before October 1, 2012, does not conform to the requirements in this article and is destroyed to the extent of fifty (50) percent or more of its value, then the reconstruction of the structure is subject to the requirements of this article.

(e) If natural growth is in violation of 14 CFR Part 77, the owner shall immediately remove the natural growth as directed by the Aviation Director.

(Ord. No. 4024, § 2, 8-27-12; Ord. No. 4171, § 9, 10-21-14)

Sec. 5-360. - Variances.

(a) If an owner cannot meet the requirements of this article, the owner may apply to the Airport Appeals Board for a variance from the requirements, in accordance with the procedures in section 5-362.

(b) The owner shall file an application with the Aviation Director, including a written FAA determination that the variance will not affect the airport's safety, efficiency and utility.

(c) A variance may be allowed if the Airport Appeals Board finds that:

(1) The owner did not create the circumstances requiring a variance;

(2) A literal application of the requirements will result in unnecessary hardship; and

(3) The variance will advance the public interest, avoid hazards to air navigation, do substantial justice, and comply with the spirit of this chapter.

(d) The Airport Appeals Board may impose conditions on a variance. A violation of a condition is a violation of this chapter, and renders the variance void.

(e) A variance is void if the use has not begun within one (1) year after the variance is granted. The Airport Appeals Board may permit extensions, if the request for the extension is filed with the Aviation Director before the one (1) year expires.

(f) The Airport Appeals Board may not permit noise-sensitive uses within area labeled AC-3 shown on Figure 1, Airport Influence Area.

(Ord. No. 4024, § 2, 8-27-12; Ord. No. 4171, § 10, 10-21-14)

Sec. 5-361. - Use determination, administration and enforcement.

(a) The Aviation Director's determination that a use is a noise-sensitive use may be appealed to the Airport Appeals Board, in accordance with the procedures in section 5-362.

(b) The Aviation Director shall administer and interpret this chapter.

(c) The Aviation Director shall enforce the requirements of this article, with the assistance, as requested, of the planning department and code enforcement.

(Ord. No. 4024, § 2, 8-27-12; Ord. No. 4171, § 11, 10-21-14)

Sec. 5-362. - Procedure—Application for a variance and appeal under Article III.I.

(a) Upon receipt of the following, the Airport Appeals Board shall set a hearing within ten (10) calendar days and give notice of the hearing:

(1) A variance application.

(2) An appeal of the Aviation Director's determination that a use is a noise-sensitive use.

(b) An appeal of the Aviation Director's determination that a use is a noise-sensitive use shall be taken by filing a written notice of appeal with the Aviation Director no later than ten (10) calendar days after the Aviation Director's determination. The right to appeal is waived if the notice of appeal is not timely filed.

(c) The Airport Appeals Board may grant continuances of the hearing, but hearings under this section shall be conducted no later than thirty (30) calendar days from the date on which the application was filed.

(d) All meetings shall be public, except as provided by Arizona Revised Statutes. Minutes of meetings shall be kept.

(e) The applicant and the city may be represented by counsel at the hearing. Formal rules of evidence shall not apply. The Airport Appeals Board may compel the attendance of witnesses. Both the applicant and the city may cross-examine witnesses and present evidence through testimony and exhibits. The Airport Appeals Board shall determine the order and manner of proof.

(f) The Airport Appeals Board shall make findings of fact and conclusions of law based on the evidence. The concurring vote of a majority of the members of the Airport Appeals Board is required for decision.

(g) The Airport Appeals Board shall rule on the matter and give notice of the ruling in writing within ten (10) calendar days, unless all parties stipulate that additional time is required to render a fair decision. The Airport Appeals Board may impose conditions on its ruling.

(h) The exhaustion of remedies at the city level does not preclude an aggrieved party from seeking any other remedies provided by law.

(Ord. No. 4171, § 12, 10-21-14)

Secs. 5-363—5-400. - Reserved.

Appendix G. Model Real Estate Disclosure and Examples

This appendix includes the following:

- Model Real Estate Disclosure
- National Example (Santa Rosa County, Florida, Peter Prince Field)
- Larger City Example (City of Phoenix, Phoenix Deer Valley Airport)
- Smaller City Example (City of Cottonwood, Cottonwood Municipal Airport)

Model Real Estate Disclosure

[Note to user: This model disclosure has been prepared as a reference for Arizona jurisdictions and airports. This is a basic form which does not contemplate all possible scenarios and may require modification for the user's intended purpose. Please consult with legal counsel prior to implementing this or any other model document in the Airport Land Use Manual. An editable version of this document is available at https://azdot.gov/planning/airport-development/links-and-resources-airport-development]

WHEN RECORDED RETURN TO:

[Municipality/Airport Sponsor]

[Address]

NOTICE TO PROSPECTIVE PURCHASERS OR LESSEES OF PROXIMITY TO AIRPORT

This Notice to Prospective Purchasers or Lessees of Proximity to Airport (this "Notice") is being recorded to notify prospective purchasers and lessees that the real property legally described in **Exhibit A** attached hereto (the "Property") lies within the boundaries of the Public Airport Disclosure area for _____ Airport (the "Airport").

The Public Airport Disclosure area is defined and prepared in accordance with A.R.S. §28-8486. The Public Airport Disclosure Map for the Airport is available from the Arizona Department of Real Estate's office at 100 N 15th Ave #201, Phoenix, Arizona 85007 or online at *https://azre.gov/public-airports*.

Prospective purchasers and lessees are hereby advised that property within the boundaries of a Public Airport Disclosure area will be subject to overflights of aircraft operating at the Airport. The volume, pitch, amount and frequency of overflight noise varies depending on the altitude of the aircraft, wind direction, other meteorological conditions, and the number or type of aircraft. Repeated aircraft overflights can cause irritation or annoyance regardless of the actual sound levels at the overflight site. In addition to the noise, the property may be subject to other annoyances or inconveniences including vibration and odors. Individual sensitivities to these annoyances can vary from person to person.

The operating hours of the Airport are _____. The volume of traffic at the Airport is unpredictable and likely to increase with time.

When residential or other noise sensitive buildings are constructed within the noise contours of 65 DNL or higher, steps should be taken to achieve reduced interior noise levels.

Any questions regarding the content of this Notice can be directed to the [Municipality/Department] at [phone number] or [email address].

Exhibit A.

Legal Description

National Example

[Note to user: Santa Rosa County in Florida is outside Pensacola, in the panhandle of the State. The County operates a small general aviation airport called Peter Prince Field. The County's Disclosure Notice is crafted to be applied to both sales and long-term lease documents.]

Instructions for the Airport Zone Disclosure Form

(1) Written notice that the residential property to be sold or leased is within an established Airport Zone shall be disclosed to the buyer/lessee as soon as possible after the start of the transaction. All advertising materials for the property should include the pertinent Airport Zone information, including all applicable zones, the name of the military airfield/installation or public airport, and references to where the buyer/lessee can find more information in relation to Airport Zones. Information about disclosure requirements in relation the Airport Zones, as well as other pertinent Airport Zone requirements, may be found in the Santa Rosa County Land Development Code, Chapter 8, by linking to the Santa Rosa County web page at https://www.santarosa.fl.gov/DocumentCenter/View/5815/Land-Development-Code----Chapter-8----Military-Airport-Zones.

(2) The determination as to whether the property lies within an Airport Zone or any other applicable zone may be made by using the Santa Rosa County Interactive GIS Mapping System (GoMAPS). The GoMAPS can check if any of the Airport Zones apply to a particular parcel of land through the "Report" function. First you must identify the property in question by either searching for the parcel using a street address, parcel number, or owner name, or by panning/zooming to the subject property in the main map view and using the "Identify" tool (make sure that "Parcel" is the layer set to identify). Then select "Reports" from the results window to pull up a list of available reports for the identified parcel. Then select the "Airfield Proximity Report" to have GoMAPS check if any Airport Zones apply to the property. You can check the Regulations for Airport Environs website for more detailed instructions.

Alternatively, the Santa Rosa County Department of Planning, Zoning, and Development may make the determination upon the written request of the property owner or agent. The request must include the street address of the subject property as well as the parcel identification number (tax identification number) for the property. Requests may be submitted via e-mail (PlanningandZoning@santarosa.fl.gov).

(3) For sales transactions, a copy of the fully executed Airport Zone Disclosure Form shall be attached to the contract for sale. For lease transactions, a copy of the fully executed Airport Zone Disclosure Form must be attached to the lease agreement. For both sale and lease transactions, the Seller or Lessor is responsible for providing a copy of the fully executed Airport Zone Disclosure Form after closing of the sale or commencement of the lease to the Naval Air Station Whiting Field Aviation Planning Office, Operations Code 31, Room 110, 7550 USS Essex Street, Milton, Florida 32570-6155. The completed form may also be faxed to 850-623-7804, or e-mailed to randy.roy@navy.mil.

(4) Failure to complete this form and follow the provisions of Ordinance 2005-07 and the Santa Rosa County Land Development Code could subject a property owner and/or sales agent to penalties or fines as set forth in the laws and ordinances of Santa Rosa County. For more information regarding the designated areas listed above, the possible impacts due to the proximity of public or military airports, and the requirements of Ordinance 2005-07, please contact the Santa Rosa County Department of Community Planning, Zoning, and Development at 850-981-7075 or visit the website at https://www.santarosa.fl.gov/149/Development-Services

Revised 10/12/2023

STATE OF FLORIDA

COUNTY OF SANTA ROSA

Airport Zone Disclosure Form

ATTENTION: Pursuant to Santa Rosa County Ordinance 2005-07, any owner of residential property who sells or leases that property is required to disclose to buyers or lessees (for leases that run for more than seven (7) months) if the property is located, in whole or in part, within a Public Airport Notification Zone or a Military Airport Notification Zone, and any other designated areas, as defined by the Santa Rosa County Comprehensive Plan and Land Development Code, and that said property may be subject to varying degrees of accident potential, noise, and other impacts from operations conducted at or above military airfields, airports, or installations, or public airports. **This disclosure must be attached to the contract of sale or the lease agreement. The Seller or Lessor must provide a completed copy of this disclosure after closing of the sale or commencement of the lease to the Naval Air Station Whiting Field Aviation Planning Office, Operations Code 31, Room 110, 7550 USS Essex Street, Milton, Florida 32570-6155 (fax: 850-623-7804, e-mail: randy.roy@navy.mil).**

****

To be completed by Sellor/Lessor

Street Address of Property:_____

Parcel Identification Number of Property: __ __-__ __-__ __-__ __ __ __-__ __ __ __ __-__ __ __ __

Public or Military Airfield:_____

This property also lies, in whole or in part, within an area(s) designated as a(n):

Public/Military Airport Zone	_____	Accident Potential Zone 1	_____
Clear Zone/Runway Protection Zone	_____	Accident Potential Zone 2	_____
Noise Zone 55 decibels or greater	_____	Public/Military Airport Influence Area	_____
Eglin Notification Zone	_____		

****

CERTIFICATION

As to Seller/Lessor:

Seller/Lessor:_____ Printed Name:_____ Date:_____

Seller/Lessor:_____ Printed Name:_____ Date:_____

Sales Agent:_____ License Number:_____
(Sales Agent/Realtor must sign if involved in the transaction)

As to Buyer/Lessee:

Buyer/Lessee:_____ Printed Name:_____ Date:_____

Buyer/Lessee:_____ Printed Name:_____ Date:_____

Sales Agent:_____ License Number:_____
(Sales Agent/Realtor must sign if involved in the transaction)

This form must be affixed to the contract of sale or lease agreement.
Failure to complete this form and follow the provisions of Ordinance 2005-07 and the Santa Rosa County Land Development Code could subject a property owner and/or sales agent to penalties or fines as set forth in the laws and ordinances of Santa Rosa County. For more information regarding the designated areas listed above, the possible impacts due to the proximity of public or military airports, and the requirements of Ordinance 2005-07, contact the Santa Rosa County Department of Community Planning, Zoning, and Development at 850-981-7075 (web site: https://www.santarosa.fl.gov/149/Development-Services).

Revised 10/12/2023

Larger City Example (City of Phoenix)

[Note to user: This example comes from the City of Phoenix for the Phoenix Deer Valley Airport. In order to protect Phoenix's commercial and general aviation airports, the City routinely requires new projects going through the City's zoning process to agree to record a Disclosure Notice. Those stipulations read as follows (in this example, for Phoenix Deer Valley Airport):

> *The property owner shall record documents that disclose the existence and operational characteristics of Deer Valley Airport to future owners or tenants of the property. The form and content of such documents shall be according to the templates and instructions provided which have been reviewed and approved by the City Attorney.*

Once recorded, the Disclosure Notice remains in the chain of title in perpetuity, so subsequent purchasers also receive the Disclosure Notice.]

WHEN RECORDED MAIL TO: CITY OF PHOENIX PLANNING & DEVELOPMENT DEPT. 200 West Washington Street, 3rd Floor Phoenix, Arizona 85003 Attn: Remigio Cordero	AI: Ho:
17 North	SPACE ABOVE THIS LINE FOR RECORDERS USE

CAPTION HEADING: NOTICE TO PROSPECTIVE PURCHASERS OF PROXIMITY TO AIRPORT

THIS PAGE RESERVED FOR RECORDING INFORMATION

DO NOT REMOVE: THIS IS PART OF AN OFFICIAL DOCUMENT

KIVA Project Number _____

Zoning Case Number _____

When recorded, mail to:
CITY OF PHOENIX
PLANNING AND DEVELOPMENT DEPARTMENT
200 West Washington Street, 3rd Floor
Phoenix, Arizona 85003
Attn: Remigio Cordero

NOTICE TO PROSPECTIVE PURCHASERS OF PROXIMITY TO AIRPORT

All of the real property (the "Property") described in "Exhibit A" attached to this Notice, said Property also to be known as 17 North, lies within the boundaries of the Public Airport Disclosure area for Phoenix Deer Valley Airport. The Property is located approximately 3.7 miles from Phoenix Deer Valley Airport.

The disclosure notice to prospective purchasers follows State guidelines regarding the properties in the City of Phoenix underlying the flight patterns of Phoenix Deer Valley Airport. The Public Airport Disclosure area is defined and prepared in accordance to Arizona Revised Statute, Section 28-8486, and generally depicts areas of numerous aircraft overflights or aircraft operations. As of the date of this filing and attached as "Exhibit B" is the current Public Airport Disclosure Map which provides noise and overflight information. Updated copies of pertinent Airport Disclosure Maps are available from the Arizona Department of Real Estate's main office in Phoenix – 2910 N. 44th St., Suite 100, Phoenix, AZ 85018, or from their web site https://azre.gov/public-airports.

Properties located within the boundaries of a Public Airport Disclosure Area will be subject to overflights of aircraft operating at the airport. People are often irritated by repeated overflights regardless of the actual sound level at the overflight site.

> **Phoenix Sky Harbor International Airport** is considered a busy large-hub airport, and one of the busiest airports in the nation. The airport is open twenty-four hours each day so takeoffs and landings may occur at any hour of the day or night. There are a significant number of takeoffs and landings at the airport and the volume of traffic is expected to increase with time. Altitudes of individual aircraft will vary with meteorological conditions, aircraft performance and pilot proficiency.
>
> **Phoenix Deer Valley Airport, Phoenix Goodyear Airport, Glendale Municipal Airport, and Scottsdale Municipal Airport** are considered busy general aviation/reliever airports. Operating hours vary for each airport; takeoffs and landings may occur at any hour of the day or night. Altitudes of individual aircraft will vary with meteorological conditions, aircraft performance and pilot proficiency.

The above-mentioned airports have been at their present locations for many years. Future demand and airport operations are anticipated to increase significantly in the future.

Flight tracks and traffic patterns may extend several miles beyond the Airport boundary. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to these annoyances can vary from person to person.

When residential and other noise sensitive buildings are constructed within noise contours of 65 DNL or higher, steps should be taken to achieve reduced interior noise levels.

Any questions regarding the content of this Notice can be directed to the City of Phoenix, Aviation Department, Planning and Environmental Division, at (602) 273-3340.

EXHIBIT "A"

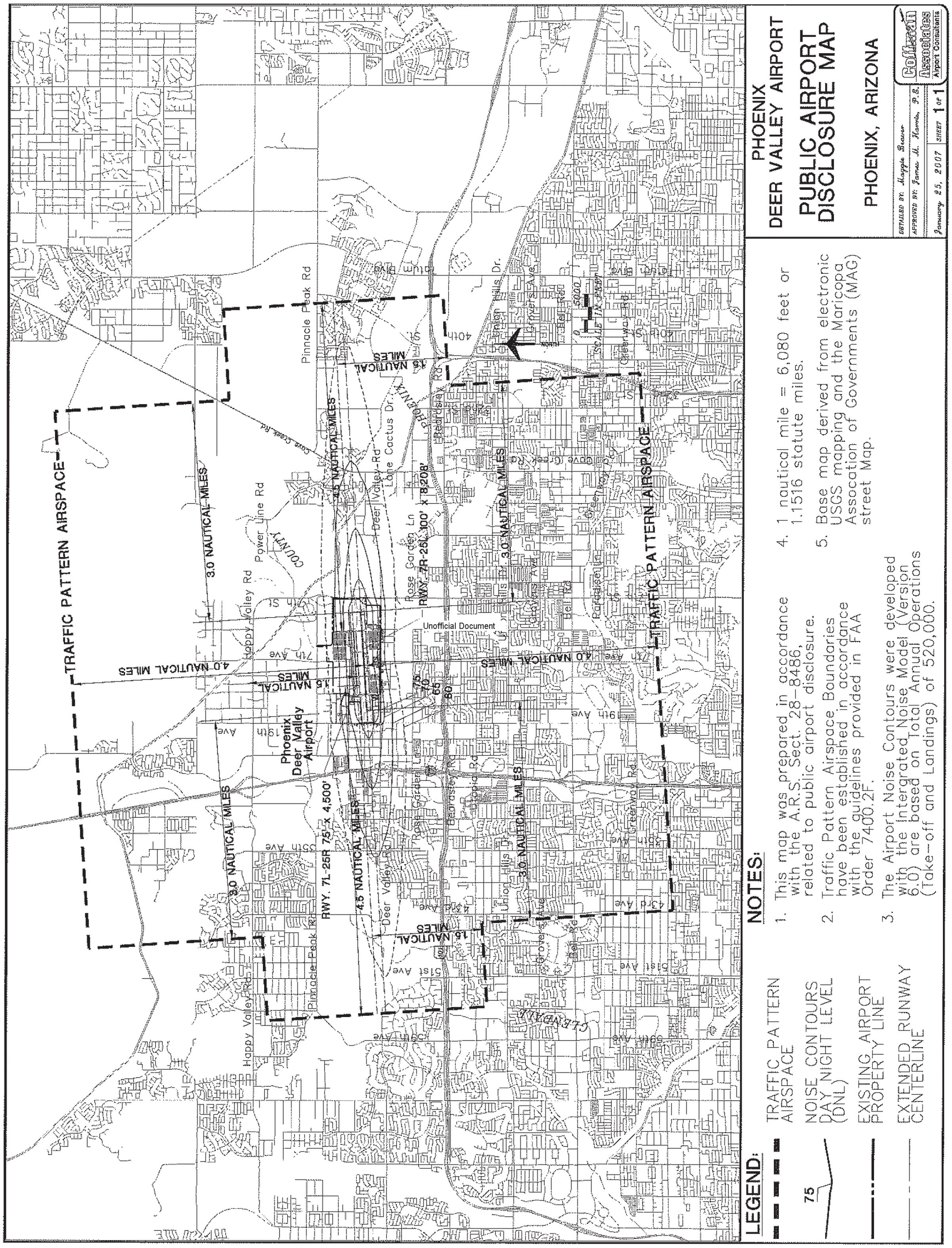
Legal Description
(w/out ADOT R/W)

Printed Name	Date
Title	Company/Organization
Signature	

EXHIBIT "B"

Public Airport Disclosure Map

Unofficial Document


PHOENIX
DEER VALLEY AIRPORT
PUBLIC AIRPORT
DISCLOSURE MAP
PHOENIX, ARIZONA
LEGEND:
TRAFFIC PATTERN AIRSPACE
NOISE CONTOURS DAY NIGHT LEVEL (DNL)
EXISTING AIRPORT PROPERTY LINE
EXTENDED RUNWAY CENTERLINE
NOTES:
1. This map was prepared in accordance with the A.R.S. Sect. 28-8486, related to public airport disclosure.
2. Traffic Pattern Airspace Boundaries have been established in accordance with the guidelines provided in FAA Order 7400.2F.
3. The Airport Noise Contours were developed with the Integrated Noise Model (Version 6.0) are based on Total Annual Operations (Take-off and Landings) of 520,000.
4. 1 nautical mile = 6,080 feet or 1.1516 statute miles.
5. Base map derived from electronic USGS mapping and the Maricopa Association of Governments (MAG) street Map.
TRAFFIC PATTERN AIRSPACE
3.0 NAUTICAL MILES
4.0 NAUTICAL MILES
4.5 NAUTICAL MILES
1.6 NAUTICAL MILES
Phoenix Deer Valley Airport
RWY. 7L-25R 75' x 4,500'
RWY. 7R-25L 100' x 8,208'
Pinnacle Peak Rd
Happy Valley Rd
Deer Valley Rd
Rose Garden Ln
Beardsley Rd
Union Hills Dr.
Bell Rd
Greenway Rd
Cave Creek Rd
Power Line Rd
Lone Cactus Dr.
Unofficial Document
Airport Consultants
January 25, 2007
SHEET 1 of 1

Smaller City Example (City of Cottonwood)

[Note to user: This example comes from the City of Cottonwood for the Cottonwood Municipal Airport. The City has developed a form of disclosure notice that it encourages all owners of real estate to use in disclosure efforts, including both selling and renting. The disclosures are recorded so they are a part of the chain of title in the vicinity of the Airport.]

Exhibit C

COTTONWOOD MUNICIPAL AIRPORT DISCLOSURE OF THE COTTONWOOD AIRPORT TRAFFIC AREA – JULY 2021

The City of Cottonwood ("City") seeks to provide prospective buyers or renters of property near the Cottonwood Municipal Airport ("Airport") with notice and information regarding the potential to experience airport noise within the Cottonwood Municipal Airport Traffic Area ("ATA"). In addition, the Airport currently provides recommended noise abatement procedures to all pilots. These procedures are posted at the airport; in various FAA and other aviation-related publications; and are broadcast on the Airport's Automated Weather Observation System in an attempt to decrease the amount and impact of airport noise on surrounding residential areas whenever possible. The City is sensitive to aeronautical noise over residential areas; however, noise is an inevitable effect of operating a public airport, and cannot be fully eliminated.

In accordance with Arizona Revised Statutes Sections 28-8485 and 28-8486, the City is recording this Notice and the attached Municipal Airport Traffic Area and Noise Contour Maps in the Official Records of Yavapai County, and has also submitted them to the AZ Department of Real Estate for posting on its website.

Prospective buyers and/or renters of property within the Cottonwood Municipal Airport Traffic Area are hereby advised that:

(a) Cottonwood Municipal Airport is located approximately 1.3 miles southwest of the center of the City of Cottonwood. The Airport is generally located between Route 89A to the north, Mesquite Drive to the south, Willard Street to the east, and Mingus Avenue to the west. The Cottonwood Municipal Airport Traffic Area map indicates the estimated current noise levels, in decibels, of certain areas of the Traffic Area.

(b) The Airport is operated as a general aviation airport for City of Cottonwood and is used mostly for single engine and twin-engine airplanes, corporate jets, helicopters, unscheduled service of turboprop and jet aircraft, helicopter medical evacuation, and charter services that use both helicopters and fixed wing aircraft of various sizes.

(c) Aircraft leaving or approaching the Airport may fly over nearby residential areas at varying altitudes depending on meteorological conditions, aircraft type, aircraft performance, and pilot proficiency.

(d) The Airport encourages aviators to follow the published noise abatement procedures, which may change from time to time. However, the Airport is open 24 hours / 7 days per week per Federal Aviation Administration requirements — which means takeoffs and landings may occur at any hour.

(e) The average number of takeoffs and landings at the Airport as published in 2019, is approximately 19,000 per year. The estimated number of operations in 2021 is 38,000. However, that number varies, and has steadily increased in correlation with the population growth of the City of Cottonwood and surrounding Verde Valley.

(f) Flights over properties within the ATA may generate noise. The volume, pitch, amount, and frequency of such noise varies depending the altitudes at which the aircraft fly, wind direction and other meteorological conditions, and the number or type of aircraft.

(g) The Airport has, and will continue to implement noise abatement procedures. These procedures include informing aviators of the procedures that may help reduce or minimize aircraft noise within the ATA. These noise abatement procedures are published in various FAA and other aviation publications, and they are also on the Airport's website.

The Arizona Department of Real Estate – https://azre.gov/public-airports

Appendix H. Using Building Codes

In scenarios where land acquisition is not feasible and changes in zoning may be contentious, local governments may consider adding or changing local building codes to implement a series of development standards (such as requirements for down shielded lighting and noise insulation) intended to increase the compatibility of new uses in proximity to an airport.

Building codes are a set of regulations that set minimum requirements for how structural components, plumbing, heating, ventilation, air conditioning (HVAC), lighting, accessibility, and other elements should be designed and constructed for residential and commercial buildings. These codes are established to preserve the health and safety of the public. While some requirements are set at the federal level (e.g., accessibility requirements from the Americans with Disabilities Act [ADA] and safety requirements from the Occupational Safety and Health Administration [OSHA]), building codes generally fall under the purview of state and local governments. Since Arizona is a home rule state, codes are adopted and enforced by local governments.

Establishing and/or Updating Building Codes

Most local governments rely on model codes and standards that are established and made available by the International Code Council (ICC). The ICC produces 15 sets of modern building safety codes including the International Building Code (IBC) which is commonly used as a base from which local governments tailor standards based on local needs. Other sets of codes created by the ICC include the International Residential Code (IRC) and the International Mechanical Code (IMC), as examples.

Since building codes dictate the design and construction of development, local governments may choose to use them as the vehicle in which to require specific design elements that would increase the level of compatibility that a certain building or development would have with a nearby airport. As detailed in **Chapter 1. Airport Land Use Compatibility and Why It Is Important**, there are five key characteristics to consider when assessing the level of compatibility that a particular use or development may have. A discussion of if, and how, each factor can be addressed with building codes is provided in the following sections; characteristics that can be addressed with building codes are presented first. Since local building codes vary widely from one location to another, this appendix does not provide model building codes, rather information on how building codes may be useful and examples of their use, where available.

Noise

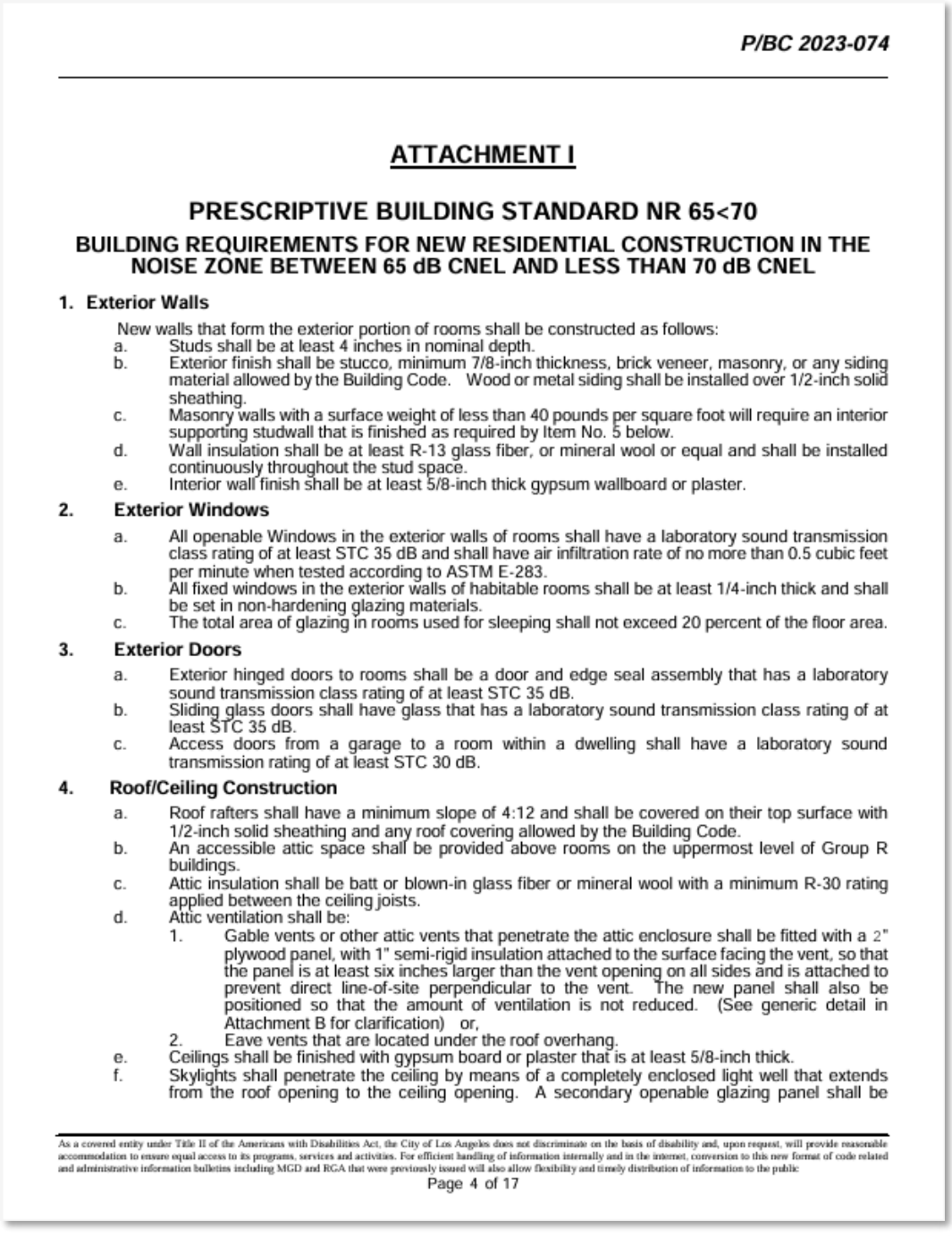
Ideally, zoning would be used prevent or reduce the development of noise-sensitive uses within areas exposed to significant aircraft noise; however, building codes can be used to increase compatibility of noise-sensitive uses near airports when they aren't otherwise prohibited. This is done by setting prescriptive building standards that specify the exact materials or methods of installation for specific building components, such as exterior walls, windows, doors, roofs, floors, ventilation, and fireplaces. As an example, a wall assembly may require a specified type of glass fiber insulation, thickness of gypsum board, exterior wall type and thickness, and more.

Building codes aimed at reducing noise may reference Sound Transmission Class (STC) ratings. This rating system is used to understand how much sound will be blocked from going through specific STC rated materials. Codes can specify materials or structure assembly of a certain STC rating be used to minimize the impact of aircraft noise, where appropriate. This includes windows, doors, and more.

If a community decides to adopt building codes to address aircraft noise, special considerations should be made for defining areas of significant aircraft noise, determining standards for building components to reduce noise exposure, and evaluating the costs and practicality for developers and builders to comply with construction standards. Options for defining areas of significant aircraft noise include using noise contours (if available) from an airport's latest master plan or noise compatibility study and the traffic pattern airspace

depicted on an airport's public airport disclosure map (available from the Arizona Department of Real Estate) as examples. **Figure H-1** includes an excerpt of the building requirements for new residential uses around Los Angeles International Airport (LAX) which are subject to noise levels between 65 and 70 decibels (dB) using the Community Noise Equivalent Level (CNEL).

Figure H-1. Building Requirement for New Residential Construction in the Noise Zone Between 65 dB and 70 dB CNEL



P/BC 2023-074

ATTACHMENT I

PRESCRIPTIVE BUILDING STANDARD NR 65<70

BUILDING REQUIREMENTS FOR NEW RESIDENTIAL CONSTRUCTION IN THE NOISE ZONE BETWEEN 65 dB CNEL AND LESS THAN 70 dB CNEL

1. Exterior Walls

New walls that form the exterior portion of rooms shall be constructed as follows:

a. Studs shall be at least 4 inches in nominal depth.
b. Exterior finish shall be stucco, minimum 7/8-inch thickness, brick veneer, masonry, or any siding material allowed by the Building Code. Wood or metal siding shall be installed over 1/2-inch solid sheathing.
c. Masonry walls with a surface weight of less than 40 pounds per square foot will require an interior supporting studwall that is finished as required by Item No. 5 below.
d. Wall insulation shall be at least R-13 glass fiber, or mineral wool or equal and shall be installed continuously throughout the stud space.
e. Interior wall finish shall be at least 5/8-inch thick gypsum wallboard or plaster.

2. Exterior Windows

a. All openable Windows in the exterior walls of rooms shall have a laboratory sound transmission class rating of at least STC 35 dB and shall have air infiltration rate of no more than 0.5 cubic feet per minute when tested according to ASTM E-283.
b. All fixed windows in the exterior walls of habitable rooms shall be at least 1/4-inch thick and shall be set in non-hardening glazing materials.
c. The total area of glazing in rooms used for sleeping shall not exceed 20 percent of the floor area.

3. Exterior Doors

a. Exterior hinged doors to rooms shall be a door and edge seal assembly that has a laboratory sound transmission class rating of at least STC 35 dB.
b. Sliding glass doors shall have glass that has a laboratory sound transmission class rating of at least STC 35 dB.
c. Access doors from a garage to a room within a dwelling shall have a laboratory sound transmission rating of at least STC 30 dB.

4. Roof/Ceiling Construction

a. Roof rafters shall have a minimum slope of 4:12 and shall be covered on their top surface with 1/2-inch solid sheathing and any roof covering allowed by the Building Code.
b. An accessible attic space shall be provided above rooms on the uppermost level of Group R buildings.
c. Attic insulation shall be batt or blown-in glass fiber or mineral wool with a minimum R-30 rating applied between the ceiling joists.
d. Attic ventilation shall be:
   1. Gable vents or other attic vents that penetrate the attic enclosure shall be fitted with a 2" plywood panel, with 1" semi-rigid insulation attached to the surface facing the vent, so that the panel is at least six inches larger than the vent opening on all sides and is attached to prevent direct line-of-site perpendicular to the vent. The new panel shall also be positioned so that the amount of ventilation is not reduced. (See generic detail in Attachment B for clarification) or,
   2. Eave vents that are located under the roof overhang.
e. Ceilings shall be finished with gypsum board or plaster that is at least 5/8-inch thick.
f. Skylights shall penetrate the ceiling by means of a completely enclosed light well that extends from the roof opening to the ceiling opening. A secondary openable glazing panel shall be

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities. For efficient handling of information internally and in the internet, conversion to this new format of code related and administrative information bulletins including MGD and RGA that were previously issued will also allow flexibility and timely distribution of information to the public

Page 4 of 17

Source: Los Angeles Department of Building and Safety, Sound Insulation Requirements for Noise Sensitive Structures Near Los Angeles International Airport, effective 01-01-2023.

Visual, Electronic, and Atmospheric Interference

Building codes can help protect against visual obstructions that impede the vision of a pilot or air traffic controller, particularly related to the creation of glare and light emissions.

The extensive use of reflective materials on the exterior of a building or structure can produce glare which can limit a pilot's visibility. This is particularly concerning when located within the air traffic pattern. To avoid hazards associated with glare, building codes could be established which prohibit the use of a completely reflective façade, such as that of mirrored glass. They could also be used to require non-reflective equivalent materials be used, such as non-reflective panels in solar panel installations. The intent is not to prohibit the use of a reasonable number of windows, doors, etc. but rather restrict large-scale use of reflective materials. In most cases, non-reflective materials can be sourced and used.

Several elements of light emissions can be addressed through building codes. Examples include requiring exterior lighting to be down shielded, limiting lighting intensity and flashing, and/or requiring the placement of lights in non-linear patterns near runways in order to not mimic runway lighting or other airport operational areas. Building codes often reference the Illuminating Engineering Society of North America (IESNA) when defining exterior lighting styles, such as full cutoff styles. Although not established for the protection of pilot vision, the Town of Huachuca City, AZ has established building codes which require exterior lighting be down shielded and prohibit searchlights, as shown in **Figure H-2**.

Figure H-2. Excerpts from Huachuca City Outdoor Lighting Regulations

18.125.030 General requirements.

A. Shielding. All exterior illuminating devices, except those exempt from this code and those regulated by Section 18.125.040(C), shall be fully or partially shielded as required in subsection C of this section.

1. "Fully shielded" shall mean that those fixtures shall be shielded in such a manner that light rays emitted by the fixture, either directly from the lamp or indirectly from the fixture, are projected below a horizontal plane running through the lowest point on the fixture where light is emitted.

2. "Partially shielded" shall mean that those fixtures shall be shielded in such a manner that the bottom edge of the shield is below the plane centerline of the light source (lamp), minimizing light above the horizontal.

18.125.040 Prohibitions.

A. Searchlights. The operation of searchlights for advertising purposes is prohibited.

Source: Huachuca City Municipal Code, Chapter 18.125 Outdoor Lighting Regulations, effective 04-27-2023.

Tall Structures

While building codes may address structure height, it is typically in reference to occupancy and how fire restrictive a building is. They are not typically used to define allowable heights of land uses like local zoning does. Zoning establishes maximum allowable height of structures in a defined area, but the design of the development (including height) is still subject to the local building and fire codes. In some cases, there may be overlap between building codes and zoning codes in the limitation of structure height, in such cases the most restrictive code should apply. Local government could explore the creation of building codes to restrict the height of ancillary uses, such as roof-mounted antennas or wind turbines, but ultimately the allowable height on a given parcel will be subject to the allowable height established by local zoning. Since structure height is primarily controlled through zoning, no example code(s) are provided.

Population Density

While building codes could potentially be used to reduce the number of people exposed to aircraft noise or accident risk by setting reduced maximum occupancy levels for a building and requiring additional egress points for emergency use, controlling the population density of uses near airports is traditionally addressed through zoning, not building codes. Local governments across the state are required to meet the Arizona State Fire Code which is based on the 2018 International Fire Code (IFC). The IFC and building codes are used to set building occupancy and meet requirements for fire flow, fire department access, emergency lighting, fire protection systems, and occupant egress. Since population density is primarily controlled through zoning, no example code(s) are provided.

Wildlife Attractants

Regulating the characteristics of a land use which would make it attractive to wildlife (providing a source of water, food, or shelter) is best accomplished through local zoning. Requirements such as trash containment (e.g., lids on dumpsters), limiting the species of vegetation allowed for landscaping (e.g., fruit bearing trees and dense shrubbery), and limiting manmade bodies of water are achieved via zoning or another local ordinance. Since these regulations are primarily controlled through zoning, no example code(s) are provided.

Appendix I. Model Right of First Refusal

Model Right of First Refusal

[Note to user: This model document has been prepared as a reference for Arizona jurisdictions and airports. This is a basic form which does not contemplate all possible scenarios and may require modification for the user's intended purpose. Please consult with legal counsel prior to implementing this or any other model document in the Airport Land Use Manual. An editable version of this document is available at https://azdot.gov/planning/airport-development/links-and-resources-airport-development]

WHEN RECORDED RETURN TO:

[Municipality/Airport Sponsor]

[Address]

RIGHT OF FIRST REFUSAL

This Right of First Refusal is made and entered into as of the ____ day of _____, 20____, by and between [Property Owner] ("**Grantor**"), and [Municipality/Airport Authority] ("**Grantee**") with respect to Grantor's property described on **Exhibit A** attached hereto (the "**Restricted Property**").[1]

1. Grantor hereby grants to Grantee a right of first refusal to purchase or ground lease the Restricted Property, or any portion thereof, upon the terms set forth herein (each, a "**ROFR**"). In the event Grantor receives an Offer (as hereinafter defined) to sell or ground lease the Restricted Property, or any portion thereof (a "**Proposed Sale Parcel**") to a third party buyer, and Grantor desires to accept or accepts the terms and conditions of such a sale as set forth in a letter of intent, term sheet, purchase agreement or otherwise from a third party buyer (an "**Offer**"), then Grantor shall, before entering into a binding purchase agreement, ground lease or other agreement with such third party buyer, provide Grantee written notice of the Offer (the "**Offer Notice**") and Grantee shall thereafter have the right to purchase or ground lease the Proposed Sale Parcel at the same purchase price and rental, and on the same terms and conditions as set forth in the Offer, except as provided herein. At a minimum, the Offer must contain the purchase price or rental, whether there is any applicable deposit, the expiration of any due diligence or feasibility period, the closing date, and whether the third party buyer is assuming any loans or financing encumbering the Restricted Property. **[Furthermore, and notwithstanding anything to the contrary contained herein, if Grantor receives an Offer for the sale, transfer or conveyance of over fifty percent (50%) of the ownership interests in the Grantor and/or an Offer which would effect a transfer of ownership interest resulting in a change of control of such Grantor, then Grantee shall have a ROFR with respect to such sale, transfer or conveyance of such ownership interests.]**

2. Grantee shall have **[thirty (30)]** days after its receipt of the Offer Notice to exercise its ROFR by providing written notice to Grantor. If Grantee does not elect to exercise its ROFR within said [30]-day period, or fails to respond to the Offer Notice within the **[30]**-day period, then Grantor may proceed to consummate the transaction contemplated by the Offer to the third party buyer that submitted the Offer at a purchase price of at least **[ninety-five percent (95%)]** of the purchase price contained in the Offer Notice. If Grantor fails to close the transaction contemplated by the Offer with such third party buyer at a purchase price of at least **[ninety-five percent (95%)]** of the purchase price contained in the Offer Notice, and within **[eighteen (18) months]** following the date of the Offer Notice, then the Proposed Sale Parcel or other transaction shall again be subject to the ROFR.

1 Bold provisions are generally negotiable.

3. In the event that Grantee elects not to exercise its ROFR or is deemed to have elected not to exercise its ROFR with respect to an Offer Notice, and Grantor enters into a binding purchase agreement, ground lease, or other agreement with the third party buyer that submitted such Offer but, prior to consummating the transaction contemplated by the Offer, Grantor agrees to reduce the applicable purchase price thereunder to an amount less than **[ninety-five percent (95%)]** of the purchase price set forth in the Offer Notice, then Grantor shall give Grantee notice of such reduction, and Grantee shall have an additional **[thirty (30)]** days after the receipt of Grantor's notice to again exercise this ROFR on such modified terms.

4. If Grantee exercises its ROFR, then the parties shall execute a purchase agreement, ground lease, or other appropriate agreement reflecting the applicable terms contained within the Offer Notice (as may be modified as provided above) within **[thirty (30)]** days following Grantee's acceptance of such terms. Notwithstanding the terms contained within the Offer Notice, (1) Grantee will have at least a **[forty-five (45)]** day due diligence / feasibility period, with a closing date at least **[thirty (30)] days]** thereafter and (2) Grantee will not be required to assume any loans or financings encumbering the Restricted Property (provided that the purchase price or rental is adjusted accordingly to take into account that the Grantee has elected not to assume any such loans or financings).

5. If, after Grantor has complied with the terms of this ROFR, Grantor consummates the transaction contemplated by the Offer to the third party buyer who originally submitted the Offer, then this ROFR will automatically terminate with respect to the applicable portion of the Restricted Property, whereupon such applicable portion of the Restricted Property shall be forever released and discharged from the ROFR and this Agreement. Grantee hereby covenants and agrees that, if this ROFR terminates automatically pursuant to the provisions of this Paragraph 5, then if requested by Grantor, Grantee shall execute a termination of this ROFR in recordable form with respect to such applicable portion of the Restricted Property to be recorded concurrently with the closing to the third party buyer.

6. Grantee may enforce its rights under this agreement by obtaining a court order for specific performance, or damages, or both, and shall be entitled to an award of its costs of suit, including attorneys' fees, in addition to any other relief which the court awards.

7. This agreement, the ROFR, and all other terms, covenants and conditions herein, shall inure to the benefit of and shall be binding upon the parties hereto, and their respective heirs, executors, administrators, and successors, and shall run with the Restricted Property and be binding on all future owners of all or any portion of the Restricted Property (subject to termination as provided in Paragraph 5). Without limiting the foregoing, Grantee may assign its rights under this agreement to _____ or any owner of the _____ Airport. The singular number includes the plural and the masculine gender includes the feminine and neuter.

8. Unless otherwise canceled or terminated, including without limitation, a termination pursuant to Paragraph 5 above, all of the rights granted in this ROFR shall continue for a period not to exceed the lesser of (i) 99 years or (ii) the maximum duration then permitted by applicable law.

9. This ROFR shall be governed by and construed in accordance with the law of the State of Arizona.

10. Neither Grantor, nor any other owner of the Restricted Property shall have the right to modify, change, waive or vary the terms of this ROFR without the prior written consent of the Grantee.

IN WITNESS WHEREOF, Grantor and Grantee have executed this ROFR as of the dates set forth in their respective acknowledgments.

GRANTOR:

[Property Owner]

By: _____

Name: _____

Its: _____

STATE OF _____)

) ss.

County of _____)

The foregoing instrument was acknowledged before me this _____ day of _____, _____ by _____ _____, the _____ of _____ _____, a _____, on behalf of the _____.

_____

Notary Public

My commission expires:

_____

IN WITNESS WHEREOF, Grantor and Grantee have executed this ROFR as of the dates set forth in their respective acknowledgments.

GRANTEE:

[Municipality/Airport Sponsor]

By: _____

Name: _____

Its: _____

STATE OF _____)

) ss.

County of _____)

The foregoing instrument was acknowledged before me this _____ day of _____, _____ by _____ _____, the _____ of _____ _____, a _____, on behalf of the _____.

_____

Notary Public

My commission expires:

_____

Exhibit A

Legal Description of Restricted Property

Appendix J. Model Avigation Easement and Examples

This appendix includes the following:

- Model Avigation Easement
- National Example (City of Paso Robles, California, Paso Robles Municipal Airport)
- Larger City Example (City of Phoenix, Phoenix Sky Harbor International Airport)
- Smaller City Example (City of Prescott, Prescott Regional Airport)

Model Avigation Easement

[Note to user: This model easement has been prepared as a reference for Arizona jurisdictions and airports. This is a basic form which does not contemplate all possible scenarios and may require modification for the user's intended purpose. Please consult with legal counsel prior to implementing this or any other model document in the Airport Land Use Manual. An editable version of this document is available at https://azdot.gov/planning/airport-development/links-and-resources-airport-development]

WHEN RECORDED RETURN TO:

[Municipality/Airport Sponsor]

[Address]

Exempt under A.R.S. § 11-1134(A)(2)

AVIGATION EASEMENT AND RESTRICTIVE COVENANT

This Avigation Easement and Restrictive Covenant (Easement) is made, entered into, and effective this _____ day of _____, 20__ by and between the [Municipality/Airport Authority] (Grantee) and [Property Owner] (Grantor). Grantee and Grantor may be referred to herein each as a "Party" or collectively as the "Parties".

RECITALS

A. Grantor owns the real property, including the airspace above it, located at [address] (Property), which is in close proximity to the Airport identified below. The legal description of the Property is attached and marked **Exhibit A**. A map depicting the location of the Property is attached and marked **Exhibit B**.

B. Grantee owns and operates _____ Airport, located at [address] (Airport).

C. Grantee desires to obtain and preserve for the use and benefit of Grantee and the general public a right of free and unobstructed flight for Aircraft, as defined below, landing at, taking off from, or maneuvering about the Airport.

D. Grantor desires to grant to Grantee and the general public an avigation easement and burden the Property with certain restrictive covenants for the benefit of Grantee and the general public.

EASEMENT

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby mutually acknowledged, the Parties agree as follows:

1. Incorporation. The Recitals and attached Exhibits are a material part of this Easement and are incorporated herein by this reference.

2. Definitions. The following words have the following meanings:

A. *Aircraft* means any device that is used or intended to be used, now and in the future, for flight in the air, including jet airplanes, propeller-driven airplanes, helicopters, gliders, ultra-lights, drones, model airplanes, hot air balloons, and blimps.

B. *Airport Operations* means any and all existing and future activities that are inherent in the operation of the Airport and Aircraft using the Airport, including landing at, taking off from, and

maneuvering about the Airport

C. *Airspace* means the airspace above and within the boundaries of the Property beginning at [number, e.g., 100, 200, etc.] feet above the surface of the ground.

D. *Grantee* means the [Municipality] and its officials, officers, representatives, agents, and employees.

3. Term. This Easement is effective on the date set forth above. The term of this Easement is perpetual.

4. Termination. This Easement will terminate only (A) when the Airport is no longer used for airport purposes, (B) when Grantee terminates this Easement for any reason or no reason in its sole discretion, or (C) when the Parties mutually agree to terminate this Easement. The termination of this Easement shall be in writing, executed by the Parties, and recorded in the Office of the _____ County Recorder. Grantee may cancel this Easement pursuant to A.R.S. § 38-511.

5. Successors. This Easement binds Grantor and Grantor's heirs, successors, and assigns and operates in perpetuity for the benefit of Grantee and the general public. This Easement is a covenant that binds and runs with the Property. This Easement is appurtenant to and a direct benefit of the Airport and is in gross for the benefit of Grantee and the general public.

6. Recordation. Grantee shall record this Easement in the Office of the _____ County Recorder.

7. Easement Rights. Grantor hereby grants, conveys, and transfers to Grantee and the general public an avigation easement and the following rights:

(a) the free and unobstructed right to use of the Airspace for Aircraft Operations,

(b) to cause noise and other negative impacts in the Airspace related to Aircraft Operations, including the imposition of light, smoke, dust, noise, sleep loss, air currents, electronic and other emissions, vibrations, discomfort, inconvenience, and interference with the use and quiet enjoyment of the Property, as such negative impacts may increase or worsen over time,

(c) to operate any Aircraft in, through, across, and about the Airspace, including Aircraft landing at, taking off from, and maneuvering about the Airport,

(d) to enter and remain on the Property as long as necessary to enforce Grantee's rights under this Easement at Grantor's expense,

(e) to enter and remain on the Property as long as necessary to install one or more permanent markers, beacons, or lights related to Aircraft Operations,

(f) to enter and remain on the Property as long as necessary to eliminate or abate the source of any interference with radio communications between the Airport and any Aircraft or with radar operations at the Airport or by any Aircraft,

(g) to enter and remain on the Property as long as necessary to eliminate or abate anything that interferes with Airport Operations or that may constitute a hazard to any Aircraft or the Airport, and

(h) to enter and remain on the Property as long as necessary to remove any obstacle from and to keep the Airspace free of any obstructions of any kind, including but not limited to plants and trees or any portion thereof. Grantee shall give Grantor at least five days' notice of Grantee's intent to remove any obstruction.

8. Restrictive Covenants. Grantor hereby agrees to the following restrictive covenants, which bind and run with the Property:

(a) Grantor, now and in the future, shall keep the Airspace free and clear of all objects of any kind or

nature, including buildings, trees, towers, tethered objects, smoke, drones, and other things,

(b) Grantor shall not construct, cause, or allow any object of any kind or nature to be located in the Airspace,

(c) Grantor shall not use or allow others to use the Property in any manner that obstructs or interferes with Grantee's rights under this Easement,

(d) Grantor shall not install, cause, or allow any device to be located on the Property that causes any electrical or electronic interference with radio communications or radar operations between the Airport and any Aircraft,

(e) Grantor shall not use the Property in any manner that impairs the visibility of the Airport or endangers Aircraft taking off from, landing at, or maneuvering about the Airport,

(f) Grantor shall not use the Property in any manner that interferes with Airport Operations or constitutes a hazard to the Airport or any Aircraft, including landfills, water retention ponds, wetlands, or any activity that may attract birds, and

(g) Grantor shall not use the Property in any manner that is inconsistent with this Easement or that may be incompatible with Airport Operations, including causing glare or making it difficult for pilots to identify or land at the Airport.

9. Release. Grantor hereby releases Grantee and all Aircraft operators using the Airport from all claims, losses, liabilities, and expenses (collectively, Losses) that Grantor has now or may have in the future arising from the burdens imposed upon the Property and Grantor by this Easement, including noise and other negative impacts. Grantor hereby waives the right to sue for damages suffered in connection with Losses and covenants not to attempt to enjoin the burdens imposed upon the Property and Grantor by this Easement. Grantor hereby waives the right to object to, enjoin, or interfere with any Aircraft Operations in the Airspace and waives any claim for any diminution in the value of the Property resulting from this Easement or Airport Operations.

10. No Waiver. Grantee's failure to insist on Grantor's strict performance of any provision of this Easement shall not be construed as a waiver of Grantee's right to enforce the provision breached or any other provision of this Easement. Grantor's waiver of or consent to Grantor's breach of any provision of this Easement shall not be construed as a waiver of or consent to any other or subsequent breach of the same provision or any other provision hereof.

11. Severability. If a court finds any provision of this Easement invalid or unenforceable, then the remaining provisions hereof shall remain unaffected and in full force and effect.

12. Amendment. This Easement may not be modified or amended except by a writing duly executed by Grantor and Grantee.

13. Governing Law and Cancellation. This Easement shall be interpreted and enforced in accordance with Arizona law.

Dated this _____ day of _____, 20__.

GRANTOR:

[Property Owner]

By: _____

Name: _____

Its: _____

STATE OF _____)

) ss.

County of _____)

This Avigation Easement and Restrictive Covenant dated _____, 20__, and consisting of ____ pages, was acknowledged before me this _____ day of _____, 20__ by [Property Owner].

(seal)

_____

Notary Public

GRANTEE:

[Municipality/Airport Sponsor]

By: _____

Name: _____

Its: _____

ATTEST:

_____

[City/Town/County] Clerk

APPROVED AS TO FORM:

_____

[City/Town/County] Attorney

Exhibit A

Legal Description

Exhibit B

Map

National Example

[Note to user: The City of Paso Robles, California, provides a simple form of Avigation Easement on its website. This Easement expressly defines potential hazards to flight operations, and expressly provides for entry onto property by the City to take enforcement actions. https://www.prcity.com/DocumentCenter/View/14482/Aviation-Easement-PDF.]

Recording Requested by and When
Recorded Return to:

City of Paso Robles
Community Development
1000 Spring Street
Paso Robles, CA 93446

Attn.: City Engineer

FOR RECORDER USE ONLY

GRANT OF AVIGATION EASEMENT

No Fee Document
(Public Entity Grantee,
Govt. Code Section 27383)

For a valuable consideration, receipt of which is hereby acknowledged, _____.(owner) ,hereinafter referred to as "Grantor(s)", HEREBY GRANT(S) TO the City of Paso Robles, a General Law City in the State of California, hereinafter referred to as "City", for the use and benefit of the public, a perpetual and assignable easement and right-of-way, and certain rights appurtenant to said easement as hereinafter set forth, in, on and over the following described real property situated in the County of San Luis Obispo, State of California in which Grantor(s) hold(s) a fee simple estate, lying above, in whole or in part, the horizontal limits of the civil airport imaginary surfaces described in Federal Aviation Regulations, Part 77.25 (14 CFR 77.25), as applicable to the *Paso Robles Municipal Airport*, situated in the City of Paso Robles, County of San Luis Obispo, State of California, hereinafter referred to as "Airport", which parcel of real property is described as follows:

Lot ____ , of Tract _____ in the incorporated area of the City of Paso Robles, State of California, according to map recorded _____[date], in Book _____ [#], Page _____ [#], of MAPS, in the office of the County Recorder of the County of San Luis Obispo, State of California.

That portion of said real property lying below the Imaginary Surfaces described above is attached hereto as Exhibit 'A' and incorporated herein as though set forth in full.

IT IS AGREED by Grantor(s) that he/they shall not hereafter erect, enlarge or grow, or permit the erection, enlargement or growth of, or permit or suffer to remain, any building, structure, or other object, or any tree, bush, shrub or other vegetation, within or into the airspace above said Imaginary Surfaces overlying said real property.

IT IS FURTHER AGREED by Grantor(s) that the easement and rights hereby granted to City are for the purpose of ensuring that occupants of the real property burdened by this easement are aware that the quiet enjoyment of this real property may be interrupted by noise generated by over-flying aircraft and by aircraft operations at the Airport, and for the additional purpose of ensuring that said Imaginary Surfaces shall remain free and clear of any building, structure or other object, and of any tree, bush, shrub or other vegetation, which is or would constitute an obstruction or hazard to the flight of aircraft landing at and/or taking off from said Airport. These rights shall include, but not be limited to the following:

1. The continuing and perpetual right of City, at Grantor(s)' sole cost and expense, to cut off, trim, and/or prune those portions of any tree, bush, shrub and/or other vegetation extending, projecting or infringing into or upon the airspace above said Imaginary Surfaces.

2. The continuing and perpetual right of City, at Grantor(s)' sole cost and expense, to remove, raze or destroy those portions of any building, structure or other object, infringing, extending or projecting into or upon said Imaginary Surfaces.

3. The right of City, at Grantor(s)' sole cost and expense, to mark and light, as obstructions to air navigation, any building, structure or other object, any tree bush, shrub or other vegetation, that may at any time infringe, project or extend into or upon said Imaginary Surfaces.

4. The right of City for ingress to, egress from, and passage on or over said real property of Grantor(s) for above purposes. City shall exercise said right of ingress and egress only after City gives Grantor(s) twenty-four (24) hours notice of City's intent to enter Grantor(s) property. City shall not be precluded from exercising its right of ingress and egress by the failure of Grantor(s) to receive notice if City has made a reasonable effort to notify Grantor(s). If, in the opinion of the Airport Manager, an obstruction or hazard exists within or upon said Imaginary Surfaces overlying said real property, which creates an immediate danger to the flight of aircraft landing and/or taking off from the Airport such that immediate action is necessary, City may exercise its right of ingress and egress for the above purposes without notice to Grantor(s).

5. The right of flight for the unobstructed passages of aircraft, for the use and benefit of the public, in the airspace above said Imaginary Surfaces, together with the right to cause in or about said airspace such noise, lights, electromagnetic emissions, vibrations, fumes, dust, fuel particles, and all other effects as may be inherent in the navigation or flight of aircraft now or hereafter used or known, using said airspace for landing at, taking off from, or operating from, to, at, on, or over said Airport.

   Note: Noise from over flying aircraft and from aircraft operations on the airport may be considered to persons residing and/or working on this real property.

6. The continuing and perpetual right of the City to allow aircraft flight and ground operations at the Municipal Airport at all times.

IT IS FURTHER AGREED by Grantor(s) that he/they fully realize that any negative effects of aircraft operations at the Municipal Airport, as they pertain to this real property, are not expected to diminish from the level at the time of granting this easement.

The easement granted herein and all rights appertaining thereto are granted unto the City, its successors and assigns, until said Airport shall be abandoned and ceased to be used for airport purposes.

If any item, covenant, condition or provision of this easement is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the provisions hereof shall remain in full force and effect and shall in no way be affected, impaired or invalidated thereby.

IT IS UNDERSTOOD AND AGREED by Grantor(s) that this easement and the covenants and restrictions contained herein shall run with the land described above and shall be binding upon the heirs, successors and assigns of Grantor(s). For purposes of this instrument, the above-described property shall be the servient tenement and the Airport shall be the dominant tenement.

Dated: _____

GRANTOR (S):

x _____
Print Name:

TRUST DEED BENEFICIARIES
and/or MORTGAGEES

x _____
For:

[Signatures must be notarized]

ACKNOWLEDGMENT

State of _____
County of _____ } ss.

On _____, before me, _____, a Notary Public, appeared _____
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity(ies) upon behalf of which the person(s) acted, executed the instrument.

Witness my hand and official seal.

_____
Signature of Notary Public

ACKNOWLEDGMENT

State of _____
County of _____ } ss.

On _____, before me, _____, a Notary Public, appeared _____
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity(ies) upon behalf of which the person(s) acted, executed the instrument.

Witness my hand and official seal.

_____
Signature of Notary Public

ACKNOWLEDGMENT

State of _____
County of _____ } ss.

On _____, before me, _____, a Notary Public, appeared _____
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity(ies) upon behalf of which the person(s) acted, executed the instrument.

Witness my hand and official seal.

_____
Signature of Notary Public

ACCEPTANCE OF AVIGATION EASEMENT ~ _____

This is to certify that the interest in real property conveyed by the deed or grant deed from _____ to the City of Paso Robles, a political corporation and/or government agency is hereby accepted by Resolution No. _____, adopted by the City Council on _____, and the grantee consents to recordation thereof by its duly authorized officer.

Dated_____ By_____
Frank R. Mecham, Mayor

ATTEST:_____
Sharilyn M. Ryan, Deputy City Clerk

ACKNOWLEDGMENT

State of California
} ss.
County of San Luis Obispo

On _____, before me, Sharie A. Scott, a Notary Public for the State of California, appeared Frank R. Mecham, Mayor of the City of Paso Robles, personally known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person or the entity upon behalf of which the person acted, executed the instrument.

Witness my hand and official seal.

_____
Signature of Notary Public

[SEAL]

Larger City Example (City of Phoenix)

[Note to user: This example comes from the City of Phoenix for the Phoenix Sky Harbor International Airport. The City of Phoenix Avigation Easement for the Phoenix Sky Harbor International Airport is sweeping in its scope, despite its brevity. As a specific example, Section 8.A expressly limits trees and tethered objects as items an owner cannot keep on their property if they interfere with aviation activities. The easement also gives the City the right to enter an Owner's property to cure such interference.]

WHEN RECORDED, RETURN TO:

City of Phoenix
Aviation Department
2485 East Buckeye Road
Phoenix, Arizona 85034-4301
Attn: Law Department

Exempt under A.R.S. § 11-1134(A)(2)

AVIGATION EASEMENT AND RESTRICTIVE COVENANT

This Avigation Easement and Restrictive Covenant (Easement) is made, entered into, and effective this __ day of _____, 2022 by and between _____, its agents, affiliates, successors and assigns (collectively "Grantor"), and the City of Phoenix, an Arizona municipal corporation ("Grantee"). Grantor and Grantee are collectively referred to herein as the "Parties" and individually as a "Party."

RECITALS

A. Grantor owns the real property, including the airspace above it, located at _____ (Property), which is in close proximity to the Airport identified below. The **Legal Description** of the Property is attached and marked **Exhibit A**. A **Site Map** depicting the location of the Property is attached and marked **Exhibit B**.

B. Grantee owns and operates Phoenix Sky Harbor International Airport located at 3400 East Sky Harbor Boulevard, Phoenix, Arizona (Airport).

C. Grantee desires to obtain and preserve for the use and benefit of Grantee and the general public a right of free and unobstructed flight for Aircraft, as defined below, landing at, taking off from, or maneuvering about the Airport.

D. Grantor desires to grant to Grantee and the general public an avigation easement and burden the Property with certain restrictive covenants for the benefit of Grantee and the general public.

EASEMENT

THEREFORE, the Parties agree as follows:

1. Incorporation. The Recitals and attached Exhibits are a material part of this Easement and are incorporated herein by this reference.

2. Definitions. The following words have the following meanings:

A. *Aircraft* means any device that is used or intended to be used, now and in the future, for flight in the air, including jet airplanes, propeller-driven airplanes, helicopters, gliders, ultra-lights, drones, model airplanes, hot air balloons, and blimps.

B. *Airport Operations* means any and all existing and future activities that are inherent in the operation of the Airport and Aircraft using the Airport, including landing at, taking off from, and maneuvering about the Airport.

C. *Airspace* means the airspace above and within the boundaries of the Property beginning at 100 feet above the surface of the ground.

3. Term. This Easement is effective on the date set forth above. The term of this Easement is perpetual.

4. Termination. This Easement will terminate only (A) when the Airport is no longer used for airport purposes, (B) when Grantee terminates this Easement for any reason or no reason in its sole discretion, or (C) when the Parties mutually agree to terminate this Easement. The termination of this Easement shall be in writing, executed by the Parties, and recorded in the Office of the Maricopa County Recorder. Grantee may cancel this Easement pursuant to A.R.S. § 38-511.

5. Successors. This Easement binds Grantor and Grantor's heirs, successors, and assigns and operates in perpetuity for the benefit of Grantee and the general public. This Easement is a covenant that binds and runs with the Property. This Easement is appurtenant to and a direct benefit of the Airport and is in gross for the benefit of Grantee and the general public.

6. Recordation. Grantee may record this Easement in the Office of the Maricopa County Recorder.

7. Easement Rights. Grantor hereby grants, conveys, and transfers to Grantee and the general public an avigation easement and all the following rights:

A. The free and unobstructed right to use of the Airspace for Aircraft Operations.

B. To cause noise and other negative impacts in the Airspace related to Aircraft Operations, including the imposition of light, smoke, dust, noise, sleep loss, air currents, electronic and other emissions, vibrations, discomfort, inconvenience, and interference with the use and quiet enjoyment of the Property.

C. To operate any Aircraft in, through, across, and about the Airspace, including Aircraft landing at, taking off from, and maneuvering about the Airport.

D. To enter and remain on the Property as long as necessary to enforce Grantee's rights under this Easement at Grantor's expense,

E. To enter and remain on the Property as long as necessary to install one or more permanent markers, beacons, or lights related to Aircraft Operations.

F. To enter and remain on the Property as long as necessary to eliminate or abate the source of any interference with radio communications between the Airport and any Aircraft or with radar operations at the Airport or by any Aircraft.

G. To enter and remain on the Property as long as necessary to eliminate or abate anything that interferes with Airport Operations or that may constitute a hazard to any Aircraft or the Airport.

H. To enter and remain on the Property as long as necessary to remove any obstacle from and to keep the Airspace free of any obstructions of any kind. Grantee shall give Grantor at least five days' notice of Grantee's intent to remove any obstruction.

8. Restrictive Covenants. Grantor hereby agrees that all the following restrictive covenants bind and run with the Property:

A. Grantor, now and in the future, shall keep the Airspace free and clear of all objects of any kind or nature, including buildings, trees, towers, tethered objects, smoke, drones, and other things.

B. Grantor shall not construct, cause, or allow any object of any kind or nature to be located in the Airspace.

C. Grantor shall not use or allow others to use the Property in any manner that obstructs or interferes with Grantee's rights under this Easement.

D. Grantor shall not install, cause, or allow any device to be located on the Property that causes any electrical or electronic interference with radio communications or radar operations between the Airport and any Aircraft.

E. Grantor shall not use the Property in any manner that impairs the visibility of the Airport or endangers Aircraft taking off from, landing at, or maneuvering about the Airport.

F. Grantor shall not use the Property in any manner that interferes with Airport Operations or constitutes a hazard to the Airport or any Aircraft, including landfills, water retention ponds, wetlands, or any activity that may attract birds.

G. Grantor shall not use the Property in any manner that is inconsistent with this Easement or that may be incompatible with Airport Operations, including causing glare or making it difficult for pilots to identify or land at the Airport.

9. Release. Grantor hereby releases Grantee and all Aircraft operators using the Airport from all claims, losses, liabilities, and expenses (collectively, Losses) that Grantor has now or may have in the future arising from the burdens imposed upon the Property and Grantor by this Easement, including noise and other negative impacts. Grantor hereby waives the right to sue for damages suffered in connection with Losses and covenants not to attempt to enjoin the burdens imposed upon the Property and Grantor by this Easement. Grantor hereby waives the right to object to, enjoin, or interfere with any Aircraft Operations in the Airspace and waives any claim for any diminution in the value of the Property resulting from this Easement or Airport Operations.

10. No Waiver. Grantee's failure to insist on Grantor's strict performance of any provision of this Easement shall not be construed as a waiver of Grantee's right to enforce the provision breached or any other provision of this Easement. Grantor's waiver of or consent to Grantor's breach of any provision of this Easement shall not be construed as a waiver of or consent to any other or subsequent breach of the same provision or any other provision hereof.

11. Severability. If a court finds any provision of this Easement invalid or unenforceable, then the remaining provisions hereof shall remain unaffected and in full force and effect.

12. Amendment. This Easement may not be modified or amended except by a writing duly executed by the Parties.

13. Governing Law. This Easement shall be interpreted and enforced in accordance with Arizona law.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK
SIGNATURE PAGES TO FOLLOW]

GRANTOR
_____
_____

By:_____
[Name]
[Title]

Date: _____

STATE OF ARIZONA)
)
County of Maricopa)

This Avigation Easement and Restrictive Covenant was acknowledged before me this _____ day of _____, 2022 by _____ in his/her representative capacity as _____ of _____.

(seal)

_____
Notary Public

Title or type of the document	Aviation Easement and Restrictive Covenant
Date of the document	, 2022
Number of pages	Seven (7)
Additional signers other than those named in the notarial certificate	Chad R. Makovsky, C.M., Director of Aviation Services for the City of Phoenix Aviation Department

GRANTEE
CITY OF PHOENIX, an Arizona municipal corporation
JEFFREY BARTON, City Manager

By:_____
Chad R. Makovsky, C.M.
Director of Aviation Services

Date:_____

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:

By: _____
Carolina Potts
Assistant Chief Counsel

AVIGATION EASEMENT AND RESTRICTIVE COVENANT
EXHIBIT A

Legal Description

AVIGATION EASEMENT AND RESTRICTIVE COVENANT
Exhibit B

SITE MAP

Smaller City Example (City of Prescott)

[Note to user: This example comes from the City of Prescott for the Prescott Regional Airport. The City's Avigation easement takes a less direct approach and is vague on the issue of enforcement and does not expressly allow entrance onto property to, for example, cut back trees.]

WHEN RECORDED, PLEASE RETU
INTEROFFICE TO:

Prescott City Clerk's Office
201 S. Cortez
City Hall

Caption: Avigation and Hazard Easement and Right-of-Way For Airport Purposes

Previously Recorded :

COURTESY RECORDING

NO TITLE LIABILITY

DO NOT REMOVE
THIS IS PART OF THE OFFICIAL DOCUMENT

RECORDING REQUESTED BY:)
)
_____)
)
AND WHEN RECORDED MAIL TO:)
)
_____)
_____)
_____)

(Space Above for Recorder's Office Use)

CITY OF PRESCOTT
AVIGATION AND HAZARD EASEMENT AND RIGHT OF WAY
FOR AIRPORT PURPOSES

WHEREAS, an Arizona limited liability company, hereinafter called the Grantors, are the owner(s) in fee of that certain parcel of land situated at Prescott, Arizona, in the County of Yavapai, State of Arizona, more particularly described in the attached Exhibit A hereinafter called "the Property", and outlined on the attached map Exhibit A-1;

WHEREAS, Grantor has been advised and is of the opinion that a portion of the Grantors' property is located in an Airport Influence Area and may be subject to influences including but not limited to noise, vibrations, fumes, deposits of dust or other particulate matter, fuel particles (which are incidental to the normal operation of said aircraft), fear, interference with sleep and communication; that these present and future influences might be annoying to users of the land for its stated purpose and might interfere with the unrestricted use and enjoyment of the Grantors' property in its intended use; that these influences might change over time by virtue of greater numbers of aircraft, louder aircraft, seasonal variations, and time-of-day variations; that changes in airport, aircraft, and air traffic control operating procedures or in airport layout could result in increased influences; and that Grantor's or the user's own personal perceptions of the noise exposure could change and that his or her sensitivity to aircraft noise could increase;

WHEREAS the City of Prescott, hereinafter called "City", is the owner and operator of the Prescott Municipal Airport, Ernest A, Love Field, and has developed, implemented and maintains documents guiding and regulating land use and development in the vicinity of the Prescott Municipal Airport, Ernest A. Love field for the safety, welfare and benefit of the public, including but not limited to the Airport Master Plan, Airport Specific Area Plan, and the Land Development Code, as they may exist or be amended from time to time, hereinafter called "City Regulations".

NOW, THEREFORE, FOR ONE DOLLAR ($1.00) and other good and valuable consideration received, Grantor grants to the City ("Grantee"), a perpetual, non-exclusive easement upon, over and across the Property"). The purpose of the easement is for a right of flight for aircraft in the airspace above the Property.

1. "Aircraft" means any manned or unmanned device that flies.

2. Without limitation, the right of flight includes the right to operate aircraft over and near the Property, and cause any noise, vibration, fumes, light, exhaust, odors, fuel vapor particles, electronic interference, dust, annoyances, nuisances, emissions, and any other effects relating to operating aircraft (collectively "Aircraft Effects").

3. All Aircraft Effects are included within the scope of the easement, including without limitation those that reach or affect the Property or improvements to the Property, interfere with other uses of the Property, annoy users of the Property, and are caused or made worse by any changes in the following:

3.1 The size, number, method of propulsion, weight, noisiness, design, fuel, category, type or other characteristics of aircraft, and in any aircraft practices, laws, rules, policies, circumstances, customs, protocols or procedures.

3.2 The airport size, orientation, configuration, location, runway length, improvements or other characteristics, and in any airport practices, laws, rules, policies, circumstances, customs, protocols or procedures.

3.3 The flight paths, flight frequency, flight timing, airport operations, climbing and descending, altitudes, takeoff and landing, air traffic control, and in any related aircraft and airport practices, laws, rules, policies, circumstances, customs, protocols or procedures.

3.4 Grantor's or others' personal perceptions of Aircraft Effects or sensitivity to Aircraft Effects.

4. Grantor shall not cause or allow the Property to be used to discharge fumes; smoke; dust; or electronic, light, laser or other emissions, which may obstruct visibility or adversely affect or interfere with the operation of aircraft or any navigational facilities. No building, mast, tree, vegetation, or other thing upon the Property shall exceed Federal Aviation Administration approved height restrictions.

5. Grantor has been advised and understands that:

5.1. All or a portion of the Property is located in a noise-influence area.

5.2. Aircraft Effects might be annoying to users of the Property and might interfere with the unrestricted use and enjoyment of the Property.

5.3. Aircraft Effects will likely increase over time.

6. Grantor waives all rights and claims that Grantor may ever have against, and agrees not to sue, Grantee regarding Aircraft Effects. Grantor makes its waivers and agreements for itself, its successors and assigns, in favor of Grantee, and all Grantee's officers, officials, employees, agents, lessees, permittees, invitees, successors and assigns. Grantor warrants and covenants to Grantee and its successors and assigns that Grantor is lawfully seized and possessed of the Property; that Grantor has a good and lawful right to make the conveyance described herein; and that Grantee shall have title and quiet possession against the claims of all persons. The person executing this document on behalf of a corporation, trust or other organization warrants his or her authority to do so and that all persons necessary to bind Grantor have joined in this document.

7. This document runs with the land in favor of Grantee's successors and assigns. It being understood and agreed that the aforesaid covenants and agreements shall run with the land and shall be binding upon the heirs, administrators, executors, successors and assigns of the Grantors until said Prescott Municipal Airport, Ernest A. Love Field shall be abandoned and cease to be used for public airport purposes.

8. Grantor agrees to include in all fair disclosure documents and CC&Rs a notice reasonably similar to the form of notice attached hereto as Exhibit B.

9. Nothing contained herein shall be construed as a waiver by GRANTORS, their successors or assigns, of any right provided by law for redress due to the unlawful or negligent flying over, upon or across the land herein described by aircraft landing at, taking off from, or operating at, from or on the Prescott Municipal Airport, Ernest A. Love Field.

10. If Prescott Municipal Airport, Ernest A. Love Field shall be abandoned and shall cease to be used for public airport purposes then this easement and right of way shall automatically terminate and revert to the Grantors, their successors and assigns, and the easement herein granted shall no longer exist as an easement upon, over and across the Grantors' property.

Grantor:

Grantee; City of Prescott, an Arizona municipal corporation

Grantor
STATE OF ARIZONA)
)
COUNTY OF Yavapai)

On _____ before me, _____ Notary Public. personally appeared _____ the Manager for _____ an Arizona limited liability company, personally known to me (or provided to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal _____

Grantee:
STATE OF ARIZONA)
)
COUNTY OF Yavapai)

On _____, before me, _____ Notary Public, personally appeared _____ personally known to me (or provided to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal

EXHIBIT A and A-1

LEGAL DESCRIPTION

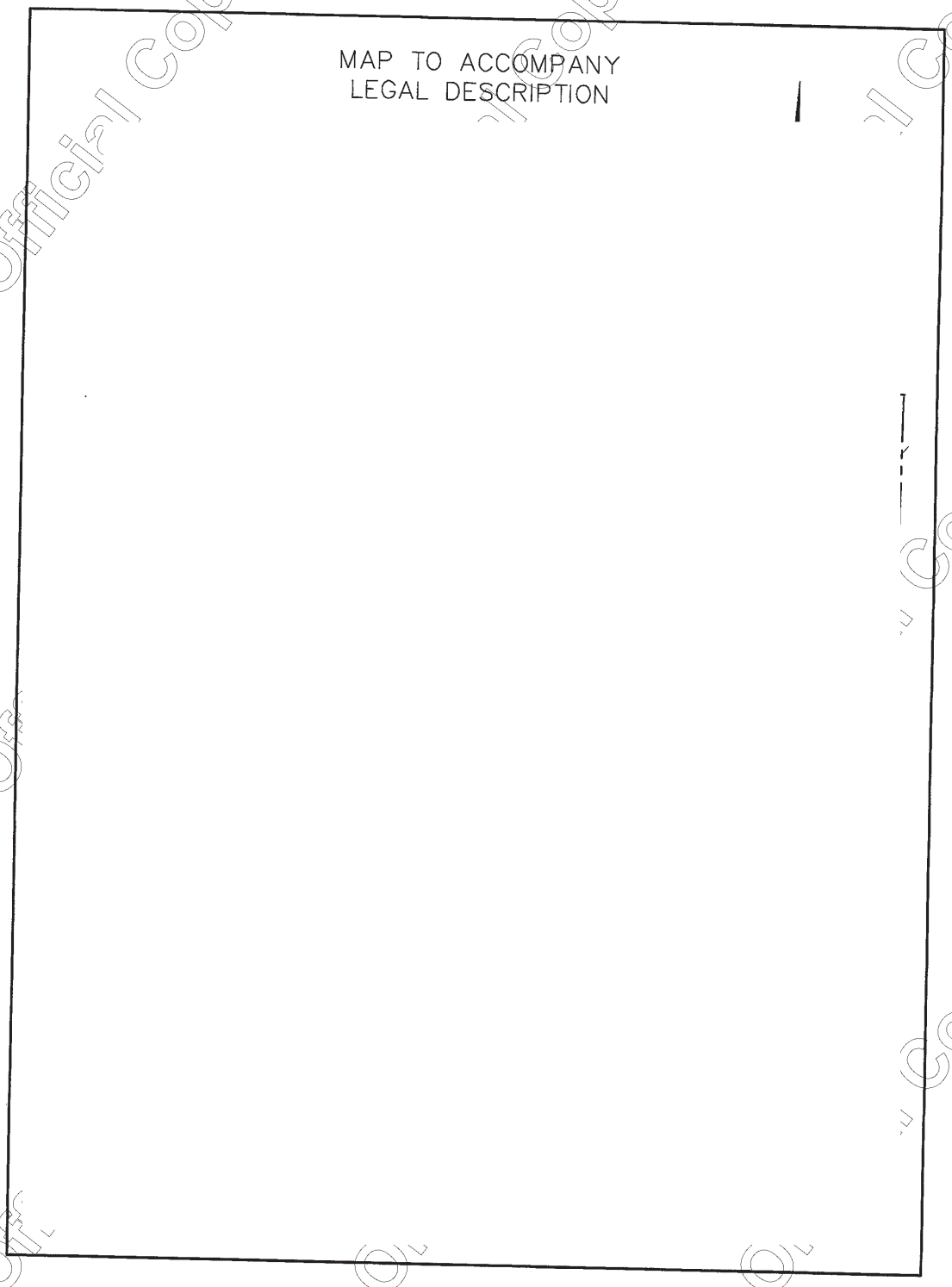


EXHIBIT B

DISCLOSURE FOR DEVELOPMENT AROUND PRESCOTT AIRPORT

NOTICE TO PURCHASERS OF PROXIMITY TO THE PRESCOTT AIRPORT

To include in CC&R's or disclosure notice:

Proximity to Airport.
Each Owner of a Lot in the Airport Influence Area identified in _____ of the Prescott City Code acknowledges that, as of the date of this notice:

(a) The Lot is close to the Prescott Municipal Airport (the "Airport"), located generally east of SR 89 and north of the Pioneer Parkway (SR 89A).

(b) The Airport is operated as a general aviation /commercial service airport for Prescott and Yavapai County, and used generally for airplanes, jets and helicopters.

(c) Aircraft using the Airport may fly over the Lot and adjacent properties at altitudes that vary for several reasons, including weather conditions, aircraft type, aircraft performance and pilot proficiency.

(d) The majority of takeoffs and landings occur between 6:00 a.m. and 11:00 p.m., but the Airport is open 24 hours each day, so takeoffs and landings may occur at any time.

(e) The number of takeoffs and landings at the Airport average approximately _____ each day, but that number varies and may increase.

(f) Aircraft using the Airport will generate noise, the volume, pitch, amount and frequency of which will vary for several reasons, including weather conditions, aircraft type, aircraft altitude and aircraft number.

(g) Airport management attempts to minimize aircraft noise and its influence on Lots in the Airport Influence Zone, but there is no guarantee that such attempts will be effective or remain in place.

The Owner accepts and assumes any and all risks, burdens and inconvenience caused by or associated with the Airport and its operations (including noise), and agrees not to assert or make any claim arising out of the Airport and its operations against the City of Prescott, its elected and appointed officials, officers, directors, commissioners, representatives, employees, and agents.

Any questions regarding the operation of the Airport can be directed to the Airport Administration office at _____.

ARIZONA DEPARTMENT OF TRANSPORTATION

ARIZONA AIRPORT LAND USE MANUAL *(ALUM)*

December 2024

Manual prepared by Kimley»Horn

Expect More. Experience Better.

Contact

Aeronautics Group
1801 W. Jefferson St.
MD 426M
Phoenix, AZ 85007

Website: azdot.gov/planning/airport-development

Phone: 602.712.8333