



CHAPTER 7

AIRPORT LAND USE COMPATIBILITY

7.0 INTRODUCTION

On-airport aviation-related development is typically compatible with aircraft operations. On-airport land uses are generally determined by FAA design and safety standards that are enforced by the airport sponsor. On-airport development is guided by the FAA-approved airport layout plan, so even non-aviation facilities located on airport property tend to be appropriately planned and sited. The ability of an airport to manage off-airport land uses is complicated by the interests of third-party property owners and land use regulations of local governments. Nationwide, the issue of land use compatibility is a growing concern and a matter that is evolving rapidly. The overall objective of aviation-related land use planning is to guide incompatible land uses away from the airport and to encourage compatible land use development. This section identifies the major factors influencing aviation compatibility planning, the role of government, and the resources in place to support compatible growth in the vicinity of GEG.

7.1 UNDERSTANDING THE SIGNIFICANCE

Historically, the focus of airport land use compatibility planning has been residential exposure to aircraft noise and residential encroachment. Although noise exposure is still a primary consideration for evaluating land use compatibility, improved engine and airframe technologies have reduced the noise footprint being generated by aircraft. As a result, the areas surrounding commercial service airports are generally quieter than they were 20 years ago. Airport land use compatibility planning has since transitioned to a more holistic and collaborative approach with safety, human environment, airport utility, and economic vitality driving policy guidelines.

7.1.1 Safety

A primary objective for land use compatibility planning is to maintain a safe operating environment by avoiding or mitigating certain types of land uses. At a minimum, airport land use compatibility planning should take into account federal regulations pertaining to development in the vicinity of an airport (C.F.R. Title 14, Part 77, *Obstructions to Navigation*) and other guidance developed by the FAA. Items of primary concern to the FAA include: the height of obstacles primarily along the extended runway centerline, minimizing and mitigating wildlife hazard attractants (i.e., birds), and avoiding or mitigating uses which could cause visual or electronic interference. Areas within the Runway Protection Zones (RPZ), are to be kept as clear as possible and should specifically avoid the storage of flammable/explosive material and uses that draw public assembly (e.g., community/religious centers, schools, etc.). State and local governments may establish additional safety-related criteria. While these are not uniform across the country, these are intended to further reduce the level of risk to people on the ground in the event of an accident. One common method of land use control is an airport overlay zone, which establishes use restrictions, population density limits, and building to open-space ratios that exceed underlying zoning.

7.1.2 Human Environment

This factor primarily relates to aircraft noise exposure. Noise contours, such as the ones developed in Chapter 6, should be used in establishing a range of permissible land uses. Generally, residential development is the most “noise sensitive” and industrial development and open space is the least. An evolving trend is to identify the “human environment” instead of noise specifically. Increasingly, land use compatibility planning has been incorporating elements related to visual nuisances associated with overflight and airport/aircraft lighting. Air quality, specifically aviation fuel odor, is increasingly being scrutinized.

7.1.3 Airport Utility

Certain types of development and activities can restrict the operating utility of an airport if they develop nearby. For example, the construction of a tall building or sports stadium in the vicinity of an airport could reduce the amount of weight an aircraft may depart with or could alter approach departure procedures to reduce efficiency. The emphasis is to protect, preserve, and enhance investments in the airport’s infrastructure to allow maximum utility to the travelling public and to support regional economic growth.

7.1.4 Sustaining Economic Vitality

Airports provide employment and economic benefits to communities through the movement of people and goods, promotion of tourism and trade, stimulation of business development, and the opportunity for a wide variety of jobs. Land use decisions that conflict with aviation activity and airport facilities can result in undue constraints being placed on airport operations and expansion, thereby limiting economic growth for the larger region.

7.2 ROLES AND RESPONSIBILITIES

This section describes the general roles and responsibilities of those involved in implementing actions to enhance off-airport land use compatibility.

7.2.1 Federal Aviation Administration (FAA)

The FAA is responsible for maintaining a safe and efficient air transportation system. Federal Aviation Regulations and FAA Orders and FAA Advisory Circulars (ACs) define metrics for evaluating impact, both positive and negative, on the nation's air transportation system. The FAA distributes funds to support the development of master plans, noise and land use studies, and environmental studies for airport development projects, and to expand and maintain airports in a safe and efficient condition.

The FAA is also responsible for the utilization of airspace and control of aircraft through its air traffic control facilities; for the implementation of flight standards (airworthiness of aircraft and noise standards of aircraft, for example); for navigation aids and other facilities necessary to provide a safe and efficient air transportation system; and for ensuring that airports comply with grant assurances connected to the federal funding.

Most directly related to development in the vicinity of an airport, the FAA assesses project proposals that are subject to the notification/alteration requirements of CFR Title 14, Part 77, *Objects Affecting Navigable Airspace* (FAR Part 77). In these cases, the FAA studies and ultimately issues a determination (hazard or non-hazard). In the event of a hazard determination, the FAA will identify the aviation impacts and possible mitigation options. The local government having jurisdiction must ultimately use this information for deciding whether to approve, deny, or modify a specific development proposal.

Airport Grant Assurance #20, Hazard Removal and Mitigation – Airport sponsor will take appropriate action to assure that 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 removing, lowering, relocating, marking, or lighting, or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.

Airport Grant Assurance #21, Compatible Land Use – Airport sponsor will take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. In addition, if the project is for noise compatibility program implementation, it 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 upon which Federal funds have been expended.

General: The continued allocation of federal funds is dependent up on the airport sponsor's compliance with the grant assurance obligations. Most project-specific assurances are valid for 20 years. Unless released, federal assurances related to the acquisition or transfer of real property may be in force in perpetuity.

7.2.2 Local Land Use Controls

The role of local land use agencies is critical to the effective oversight of airport land use compatibility controls. In the case of GEG, there are three district local governments that directly influence airport land use compatibility surrounding the airport: City of Spokane, Spokane County, and City of Airway Heights. On January 1, 2012, the entire airport property (known as the West Plains Area) was annexed from the County by the City of Spokane. Simultaneously, the City of Airway Heights annexed an area east of Hayford Road, known as the East Area Annexation that abuts a small portion of the airport's boundary northwest of the passenger terminal.

City of Spokane

In 2012, the City of Spokane adopted Airport Overlay Zoning consistent with the WSDOT Airport and Compatible Land-Use Program Guidebook, including the equivalent compatibility zones identified in the preceding sub-section. The zoning ordinance detailing the Airport Overlay Zone (AOZ) is detailed in Chapter 17C.180, *Airfield Overlay Zones*, of the City's municipal code. The language is exemplary in both definition and process. The current code identifies 5 distinct overlay zones instead of the 6 exemplified by the State in the previous sub-section. The City combined two of the zones (State Zones 3 and 4) into one. For each of the five overlay zones, specific uses are classified as: permitted use (P), limited use (L), conditional use (CU), and not permitted (N). The use classifications included in the matrix are: residential, high intensity, vulnerable occupant, critical community infrastructure, hazardous use, and low intensity. The code allows for review determinations to be made by the airport director in certain circumstances.

In addition to the five overlay zones, the municipal code incorporates the airport imaginary surfaces identified in CFR Title 14, Part 77 [and any revisions to it] by reference as a height restriction, also referencing the FAA airspace notification and review procedures and required form submissions. The code also establishes an Airfield Noise Zone (ANZ) for those areas within one-eighth of a mile where it has been determined that existing or potential noise levels exceed 65 DNL (day-night average sound level), which is included in the use matrix for the same use classifications (residential, high intensity, etc.). The noise zone is updated periodically, combining the activity of GEG and the adjacent Fairchild Air Force Base (Fairchild AFB). **Figure 7.1** depicts the City's AOZ and ANZ.

Spokane County

Chapter 14.702 of the County Zoning Ordinance is titled Airport Overlay (AO) Zone. Its stated purpose is to reduce the potential for airport hazards and includes references to the State's Planning Enabling Act. Provisions apply to four airports in Spokane County: Spokane International Airport, Felt's Field, Fairchild AFB and Deer Park Airport. Airspace and safety protections are defined based on a three-dimensional conical area extending outward from the primary surface and an approach area defined by a trapezoidal area extending out from the runway ends. Accident Potential Zones (APZ) 1 and 2 are also defined in relation to the approach area. As part of the permit review process, the ordinance regulates hazards, may require an aviation easement and may require the filing of Form 7460-1. Ordinance language addresses height, noise and restricted uses in APZ 1 and 2 and has been revised recently to prevent residential subdivisions in APZ 2. The ordinance language does not correlate exactly with FAR Part 77 (*Objects Affecting Navigable Airspace*), FAR Part 150 (*Airport Noise Compatibility Planning*) or the safety zones presented in the State's Land Use Compatibility Guidebook but the intent is similar in each case.

City of Airway Heights

The City of Airway Heights adopted an identical Airport Overlay (AO) as Spokane County and corresponding language within Chapter 17.15 of its municipal code. The AO Zone provides additional development standards to the base zone pertaining to use and height restrictions, establishes airspace and accident potential areas, restricts hazards to aviation, requires aviation easements and prohibits some uses in noise impact areas. The language is brief and does not directly correspond to FAA standards for Part 77 or the safety zones defined in the State's Land Use Compatibility Guidebook. The language generally addresses aviation land use compatibility issues but relies in several cases on the ability of the administrator to identify unspecified hazards such as wildlife attractants or confirm height limits. The addition of a reference to Form 7460-1 could help fill the gap between the two airspace definitions. A more specific list of design and operational hazards could aid in the review process. Communication between the City and the Airport could also be included in the permit review process to aid in the evaluation process. The City of Airway Heights indicated that it will likely adopt the overlay zone recently approved by the City of Spokane in the near future.

Figure 7.2 identifies the airport overlay zones currently in place for Spokane County and the City of Airway Heights, including the future runway identified in this master plan.

Airport Sponsor and Airport Management

The airport sponsor and management have primary responsibility for the development of on-airport facilities, including efforts to reduce wildlife interaction. Airport owners and operators are responsible for the development of information to support the off-airport compatibility effort. This support includes the preparation of master plans, noise and land use studies, community involvement programs, and interaction with local planners and elected officials related to land use compatibility.

GEG is jointly owned by the City of Spokane and Spokane County and is operated by an independent Airport Board of seven appointees. Airport management performs the expected tasks related to land use compatibility and as required for FAA grant assurance compliance that protect federal and local investment in airport infrastructure. All three local municipalities include provisions for airport management reviews and determinations, which further enhance the ability to maintain compatible development. Finally, GEG and Fairchild AFB management generally coordinate concerns related to airport land use compatibility items and operational procedures given the overlapping airspace, flight corridors, and noise zones. The relationship and coordination efforts should be enhanced in pursuit of common initiatives, some of which are identified in the recent Joint Land Use Study (JLUS) completed by Fairchild AFB.

7.3 AIRPORT LAND USE POLICY RECOMMENDATIONS

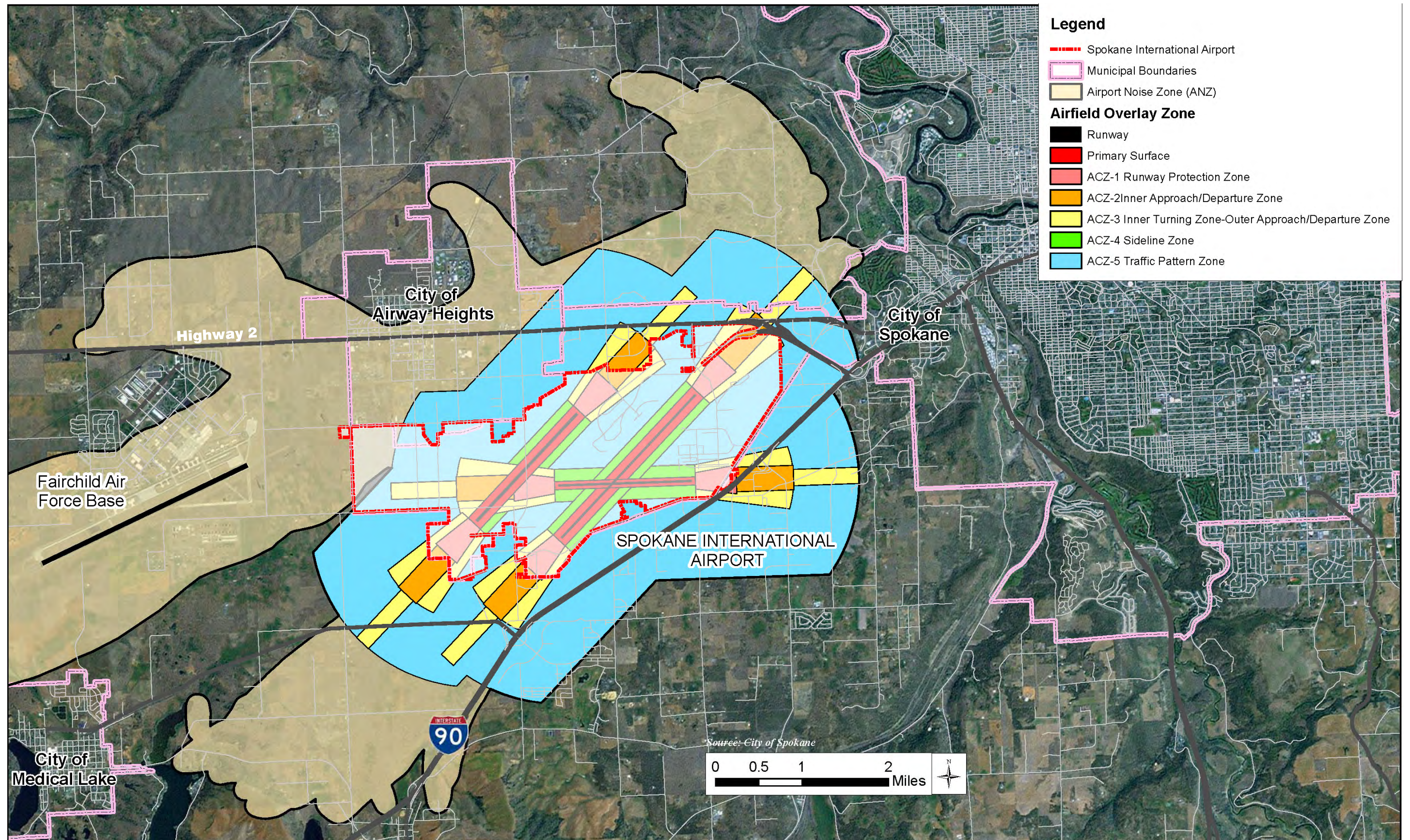
1. Modify the City of Airway Heights Zoning Ordinance to be consistent with the City of Spokane and State guidelines. Incorporate specific references to Part 77 airspace definitions, Form 7460-1 submission requirements and airspace review by the FAA and coordination with GEG staff during the permit review process.
2. Spokane County to update zoning ordinances to be consistent with City of Spokane and State guidelines. Incorporate specific references to Part 77 airspace definitions, Form 7460-1 submission requirements and airspace review by the FAA and coordination with GEG staff during the permit review process.
3. Airport management to maintain and enhance coordination with FAFB and support their overlapping efforts, most recently identified in the JLUS study, including: representation on the JLUS Coordinating Committee (strategy 29), development of public education materials (strategy 38) and providing technical support for the local decision making process (strategy 40).
4. Airport management to review all development proposals within the airport zones and promote a standardized review process with the local municipalities. Airport to consider or otherwise implement an airline review element to this process to account for airline-specific airspace needs, such as the one-engine inoperative routes maintained by the individual airlines for each aircraft type in use.

7.4 CONCLUSIONS

Land use compatibility planning is strategically vital to the airport and neighboring communities. GEG has been proactive in this regard in that it directly controls the real property that is most critical to its operation and growth. The airport should expect that development incursion pressure will continue and likely become more persistent over time. For this reason, airport management should work to develop a streamlined process that supports municipal efforts in completing development and permitting reviews.

For their part, the municipalities have been at the forefront of land use compatibility planning. The major and emerging issues now incorporated into the State Guidebook have long been a part of local ordinance and there has also been across the board consistency for many years. Spokane County and the City of Airway Heights should maintain the consistency by updating the zoning policy to be identical to the one in use by the City of Spokane. Appropriate references to federal regulations (Part 77) for providing notice and review determinations should also be included. In general, this plan recommends that airport management be provided with an opportunity to review all development within the locally established airport zones and to coordinate a streamlined review process that is workable.

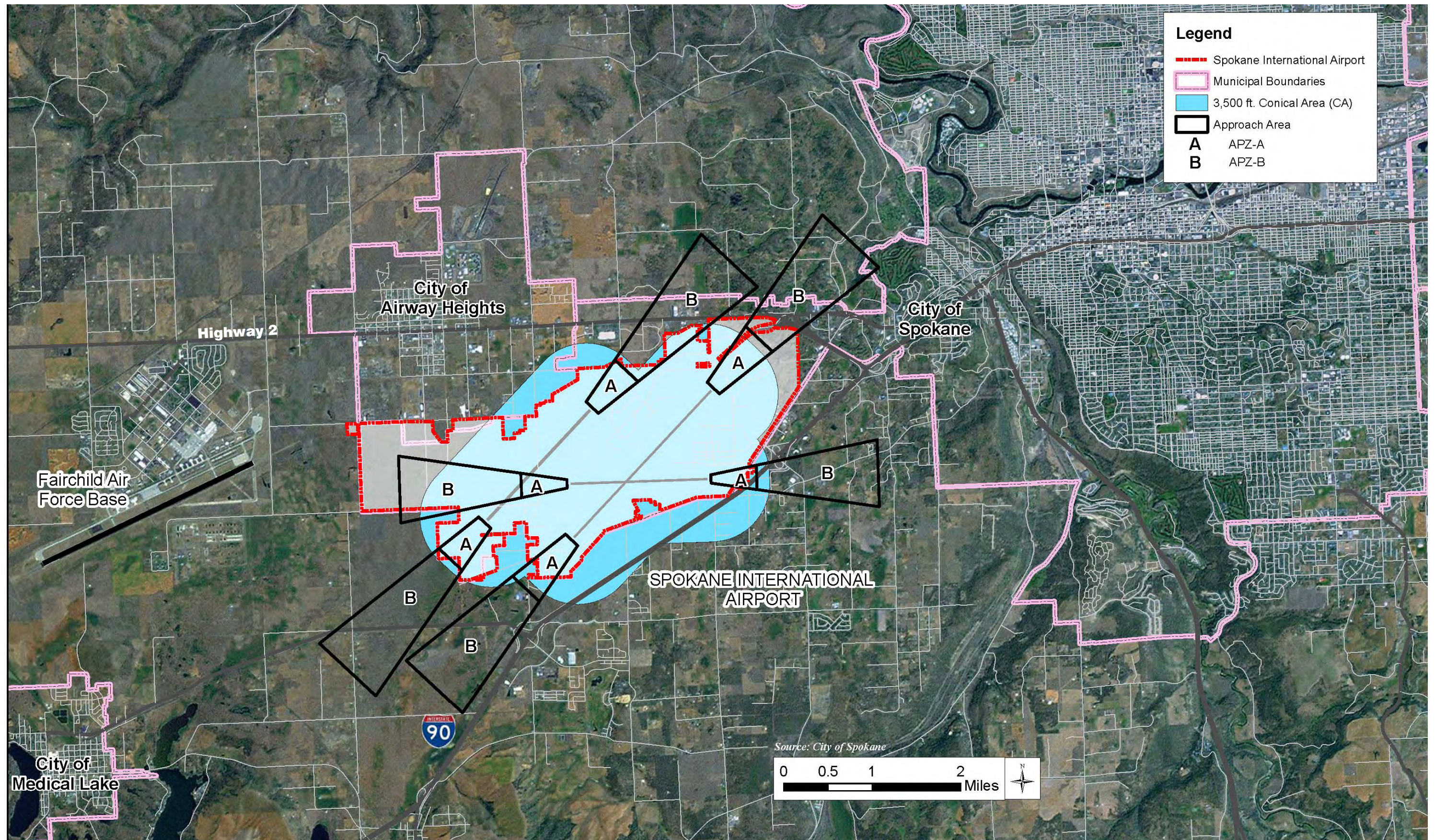
Lastly, communication and outreach is often the key to successful aviation-compatible development strategy. GEG has a somewhat unique opportunity to share or otherwise coordinate efforts and resources with neighboring FAFB in achieving these objectives. The primary compatibility issues as they relate to the surrounding area overlap significantly between the two airfields.



Source: Airport Overlay Zone, City of Spokane

FIGURE 7.1

Airport Overlay Zone – City of Spokane



Source: All Protection Zone dimensions developed from Spokane County Zoning Code, Chapter 14.702 "Airport Overlay Zone"

FIGURE 7.2

Airfield Overlay Zones – Spokane County