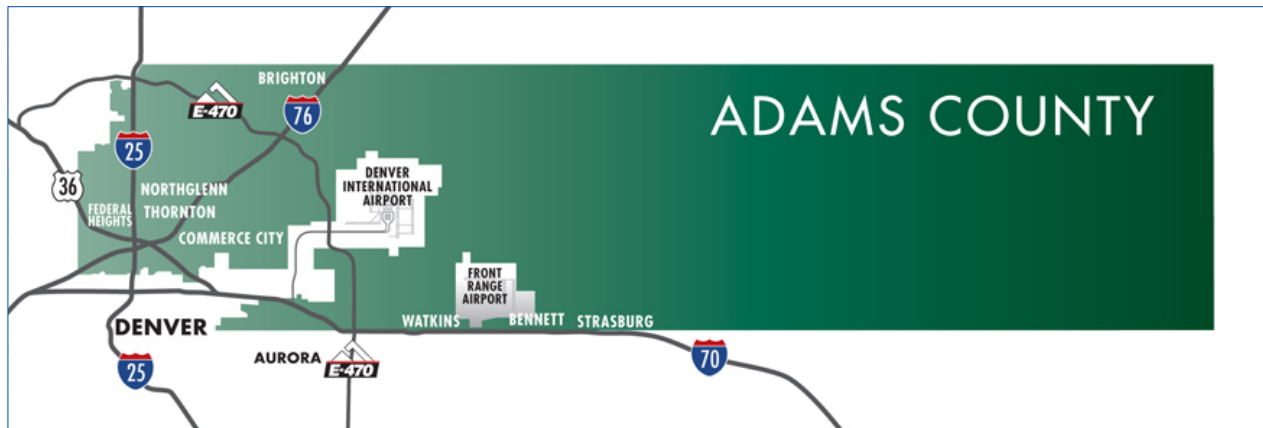


## APPENDIX B – LAND USE PLAN

### B.1 Existing Airport Location

Front Range Airport (FTG or the Airport) is situated in the southwestern portion of Adams County (**Figure B-1**), six miles southeast of Denver International Airport and four miles north of State Route 36 - East Colfax Avenue and I-70. Both roads are oriented east-west. Adams County is the airport sponsor, and is also responsible for land use control through the adoption and enforcement of land use plans, zoning ordinances, site plan review, and the issuance of building permits.

FIGURE B-1 – ADAMS COUNTY



Source: Adams County Economic Development (ACED), <https://www.adamscountyed.com/>

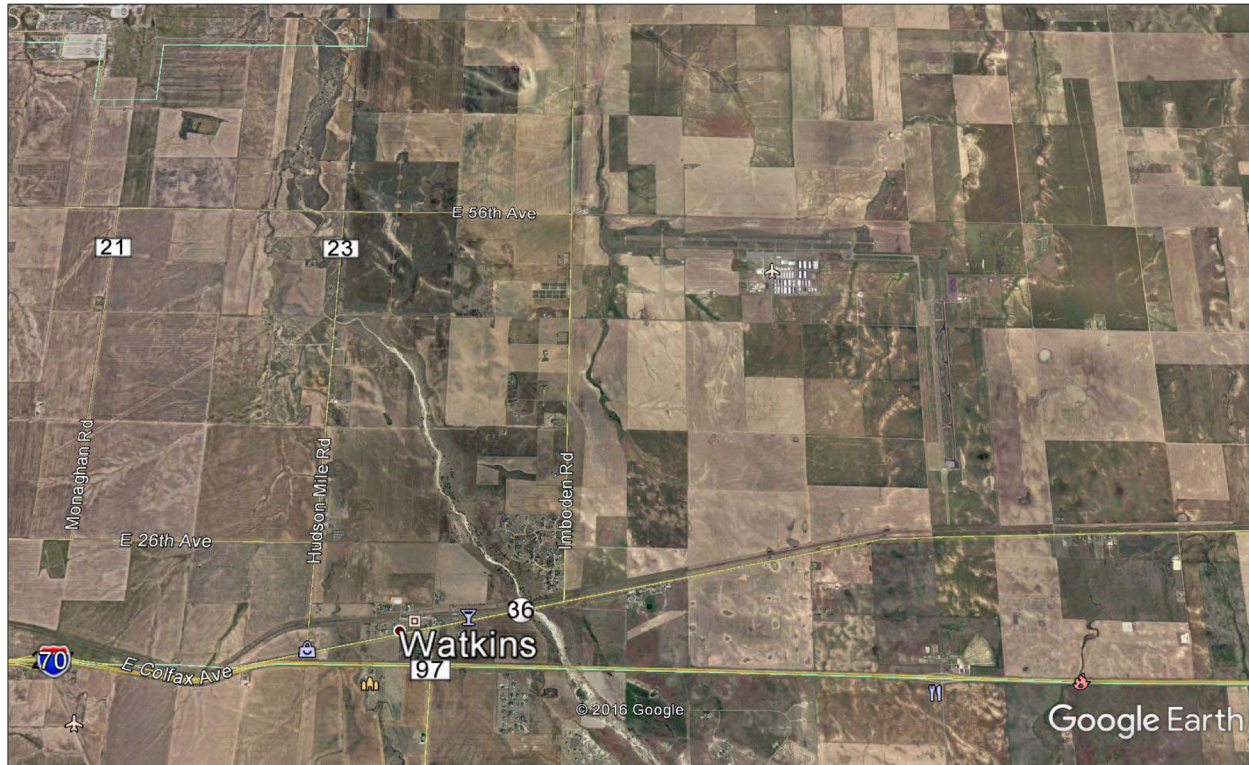
As noted in the Adams County Comprehensive Plan:

“Adams County contains a total of 1,185 square miles (759,000 acres). Land uses range from intensive urban activities in the western portions of the County, to crop and razing land in the central and eastern portions of the County. Eight incorporated cities and two towns are wholly or partially located in Adams County, including the cities of Arvada, Aurora, Brighton, Commerce City, Federal Heights, Northglenn, Thornton, and Westminster and the towns of Bennett and Lochbuie. Together, they comprise 15% of the County’s total land area. Agricultural activities are the single largest land use throughout the County, accounting for more than three quarters of the land area. An extensive network of canals in the northwest part of the County supports most of the irrigated farmland.”<sup>1</sup>

The predominant existing land use in the vicinity of Front Range Airport is open space, primarily agricultural (**Figure B-2**).

<sup>1</sup> Source: Adams County Comprehensive Plan, Chapter 4, Economic Development, December 2012

FIGURE B-2 – OPEN SPACE IN THE VICINITY OF FRONT RANGE AIRPORT



Source: Google Earth, 2017

## B.2 Adams County Comprehensive Plan

The policy document driving the existing County zoning and land use is the Adams County Comprehensive Plan, last adopted in December 2012. It is the official policy document of the Adams County Planning Commission and Board of County Commissioners, and provides a concise statement of the County's objectives for future development within unincorporated areas of the County and in municipal growth areas. Specifically, it establishes goals, policies, and strategies to:

- Guide day-to-day decision making regarding future growth and public investment in the County over the next ten to twenty years;
- Promote intergovernmental coordination at a local and regional level;
- Guide future growth and promote public and private investment;
- Coordinate activities and investment with other County Plans including the Transportation Plan; Open Space, Parks and Trails Master Plan; Hazard Identification and Risk Assessment, and other neighborhood and subarea plans;
- Protect the health, safety, and welfare of Adams County's inhabitants; and
- Promote a more sustainable and resilient Adams County.

The six goals of the Adams County Comprehensive Plan include the following:

1. Promote Coordinated and Connected Growth;
2. Protect the Health, Safety, and Welfare of Adams County's Inhabitants;
3. Foster Regional Collaboration and Partnerships;

4. Reduce the Fiscal Impact of Growth;
5. Promote Economic Vitality; and
6. Preserve the County’s Natural Resources.

Of the multiple policies presented in the Plan, Front Range Airport is only specifically mentioned with respect to Economic Development. Specifically, the Airport is recognized in the following two strategies:

“Strategy 4.1.a - Supply of Suitable Land – Through zoning and other land use authority, provide an adequate supply of both serviced and raw land suitable for commercial and industrial development and redevelopment, especially at key E-470 interchanges, along the I-70, I-25, I-76, I-270, US 85 corridors and other major highway corridors, at Front Range Airport, and in the vicinity of Denver International Airport.”<sup>2</sup>

“Strategy 4.1.e - Leverage County Assets – Market and invest in the existing economic assets the County possesses. Determine how the County can best leverage existing assets, such as Front Range Airport, DIA, future transit stations, and major transportation corridors, to attract new employers and strengthen the existing businesses related to these assets. Determine the potential for economic growth in the County from the proposed Aerotropolis/Airport City plans for DIA and from the development of a spaceport at Front Range Airport to ensure land use plans adequately plan for these significant projects.”<sup>3</sup>

Additionally, the County’s Comprehensive Plan also notes that:

“It (Front Range Airport) is also planned as a mixed use/employment area, particularly for aviation-dependent industries. It is one of the only multi-modal locations in the United States with onsite access to major road, rail, and air facilities. . . The State of Colorado and the County are advocating for a spaceport at Front Range Airport, which could become an important hub of economic development and growth, first for private cargo or research flights and then eventually as launching grounds for space tourism.”<sup>4</sup>

This resulted in the establishment of the following policies and strategies associated with FTG:

**“POLICY 11.4: INFORM DEVELOPMENT OF POTENTIAL AIRPORT-RELATED IMPACTS**

*Alert future residents of Estate Residential development of any potential airport-related impacts.*

Strategy 11.4.a. Easements of Notice — Continue to require aviation easements and/or notice to prospective purchasers of residential property located within two miles (or other appropriate distance) of the 60 Ldn noise contour associated with the full build out of Front Range and Denver International Airports.

**POLICY 18.1: SUPPORT THE EXPANSION OF THE FRONT RANGE AIRPORT**

*Continue to support and develop the Front Range Airport to accommodate large aircraft, as a general aviation and intermodal cargo hub for the state and region.*

Strategy 18.1.a. Zoning Provisions – Review zoning provisions to ensure that aviation-related and supporting commercial and employment uses are permitted by right within the Airport

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<sup>2</sup> Adams County Comprehensive Plan, Chapter 3, Countywide Policies & Strategies, December 2012

<sup>3</sup> Adams County Comprehensive Plan, Chapter 3, Countywide Policies & Strategies, December 2012

<sup>4</sup> Adams County Comprehensive Plan, Chapter 4, Area-Specific Policies and Strategies, December 2012

Influence Zone. Require all uses within the Front Range Airport Overlay to go through the special use permit process to ensure interim uses do not limit or preclude the long-term expansion of the airport.

Strategy 18.1.b. Airport Master Plan – Review and update the Airport Master Plan at least every 5 years. Require aviation easements and disclosure statements as a condition of development in the Airport Influence Area. Along with Arapahoe County, the Town of Bennett and the City of Aurora adopt a coordinated plan for Front Range Airport and its Influence Zone.

#### POLICY 18.2: SUPPORT COMPATIBLE COMMERCIAL AND INDUSTRIAL DEVELOPMENT

*Support compatible commercial and industrial development around the Front Range Airport.*

Strategy 18.2.a. Airport Overlay Zone District – Review and update the underlying A-3 zone's permitted uses and the use restrictions contained in the Airport Overlay Zone District to ensure they adequately encourage the development of a wide range of commercial and industrial uses within the Front Range Airport Influence Zone, while assuring adequate mitigation of any adverse impacts.

Strategy 18.2.b. Incentives – Provide economic incentives that attract new commercial and industrial businesses or that redevelop or expand existing businesses that pay wages higher than the current county average when the economic advantages to the County are greater than the costs of the incentives.

Strategy 18.2.c. Infrastructure Improvements – Invest in infrastructure required to attract and support new industrial and commercial developments when necessary to attract desired new commercial or industrial development including but not limited to roadway improvements, such as paving Manilla Road between I-70 and SH 36; paving remaining unpaved segments of Imboden Road; and the eventual extension of 56th Avenue along the north boundary of the Airport to Peterson Road.

#### POLICY 18.3: ENSURE COMPATIBLE SURROUNDING USES

*Ensure that land uses outside the Airport Influence Zone surrounding the Front Range Airport are compatible with airport operations and impacts.*

Strategy 18.3.a. Airport Influence Zone – Review the current boundaries of the Airport Influence Zone and amend as appropriate.

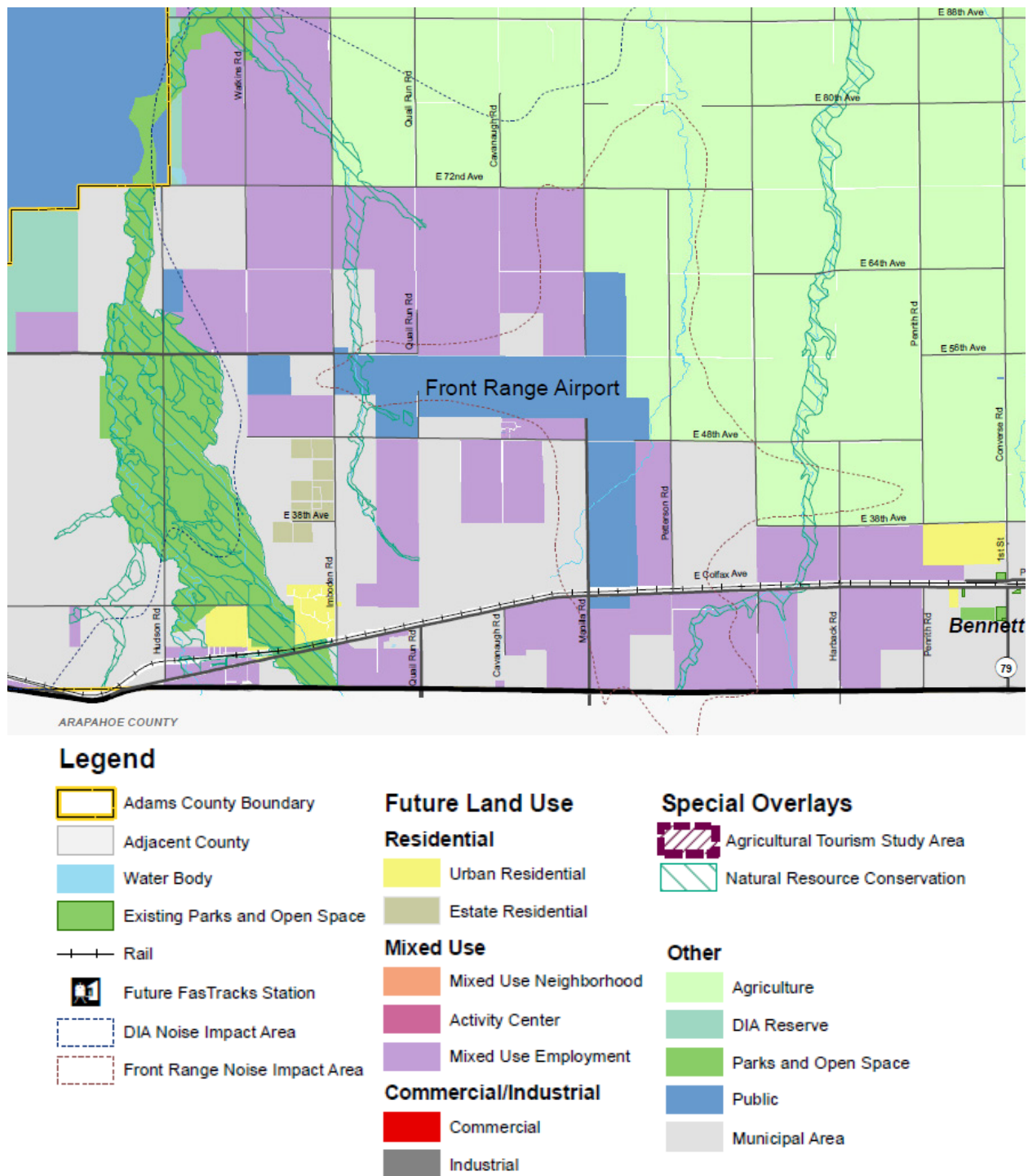
Strategy 18.3.b. Referrals — Require proposed development within the Airport Influence Zone to be reviewed by Front Range Airport prior to approval.”<sup>5</sup>

Future land uses as proposed by the Adams County Comprehensive Plan for areas around Front Range Airport are shown below in **Figure B-3**.

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<sup>5</sup> Adams County Comprehensive Plan, Chapter 4, Area-Specific Policies and Strategies, December 2012

FIGURE B-3 – ADAMS COUNTY COMPREHENSIVE PLAN FUTURE LAND USE (EXCERPT)



Source: Adams County, CO (<http://www.adcogov.org/sites/default/files/2012%20Comprehensive%20Plan.pdf>)

From an implementation perspective, these policies and strategies have been codified in the current *Adams County Development Standards and Regulations*.

### B.3 Adams County Zoning

Per the current *Adams County Development Standards and Regulations* (last updated August 14, 2017), County zoning (see **Figure B-4**) for the existing Front Range Airport property is classified as Aviation (AV), which is designed to “provide for non-residential land uses associated with aviation operations while minimizing risks to public safety and hazards to aviation users including those employed at public aviation facilities.”<sup>6</sup> Permitted uses in the AV district include the following (subject to the plans, terms, and conditions of the Airport Layout Plan and subject to building permit review and approval):

1. Air cargo terminals and freight forwarding facilities
2. Air passenger terminal buildings, hangars, and air traffic control facilities
3. Aircraft sales, repair, service, storage
4. Aviation related manufacturing and distribution uses
5. Farming, no structures
6. Flight kitchens and related facilities
7. Ground transportation facilities such as taxi and bus terminals
8. Noise and weather monitoring devices, navigational aids
9. Outside storage of non-hazardous materials not to exceed 10% of the building area
10. Parking areas for employees and passengers
11. Public and quasi-governmental buildings, structures, and uses essential to the operations including fire stations, pump stations, water tanks, and public utility facilities
12. Ranching, no structures
13. Retail and personal service outlets catering to aviation passengers and employees
14. Runways, taxiways, takeoff and landing areas, aprons, clear zones, and; aircraft tie-down areas
15. Snack shops, restaurants, and lounges for airport clientele
16. Support facilities essential for aviation operations such as fuel storage, hangar use, and associated offices
17. Training schools relating to aircraft operations and service work
18. Underground fuel tanks
19. Traditional Farming, No structures

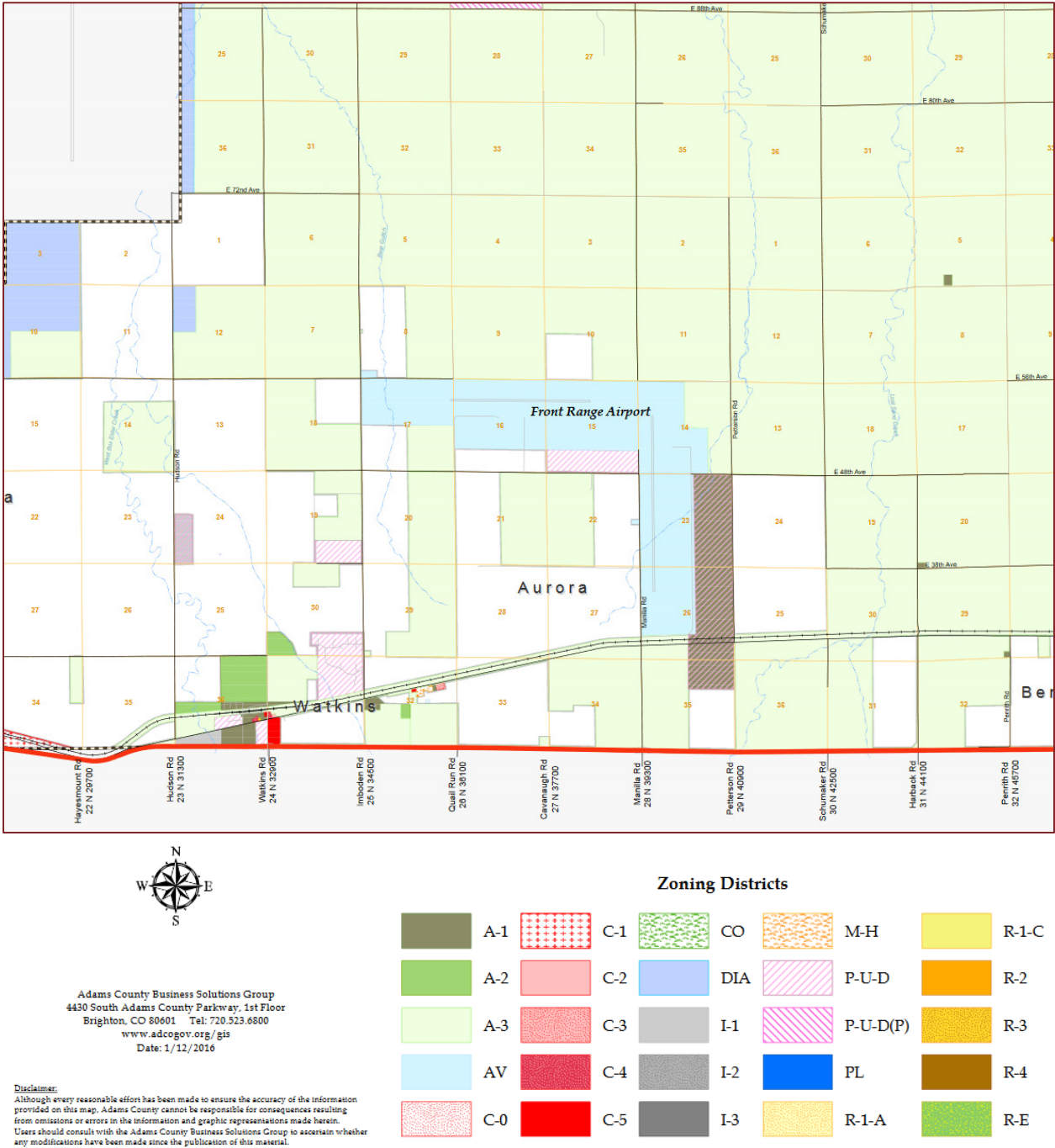
Prohibited uses in the AV zone include all uses not expressly identified as permitted uses in the previously listed 19 accepted uses; those determined not to be prohibited by the Director of Community and Economic Development pursuant to Section 3-05-01 of the Adams County Zoning Regulations; or those not permitted by the Airport Layout Plan. Additionally, there are a range of additional minimum lot size requirements, setbacks, and general design standards associated with this zoning designation, all of which generally require conformance to the existing Airport Layout Plan, and other County standards.

The majority of the property adjacent to Front Range Airport is either nonzoned, or zoned as Agricultural District (A-3), as well as several Planned Unit Development (P.U.D.) districts. Generally, with regard to airport compatible land use development, conditional use of agricultural and industrial development is deemed to be consistent with current federal and industry standards, but not that of residential districts.

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<sup>6</sup> Adams County, *Adams County Development Standards and Regulations*, Chapter 3 - Zone District Regulations Public Lands, Parks, Open Space, and Facilities District (PL), August 2017.

FIGURE B-4 – ADAMS COUNTY 2016 ZONING MAP (EXCERPT)



Additionally, the Adams County Development Standards and Regulations includes use charts that summarize the permitted, conditionally permitted, and prohibited uses in each zone district. With respect to airports, landings strips and heliports, the Adams County use tables are reflected in **Figure B-5**.

FIGURE B-5 – ADAMS COUNTY 2016 ZONING USE CHART (EXCERPT)

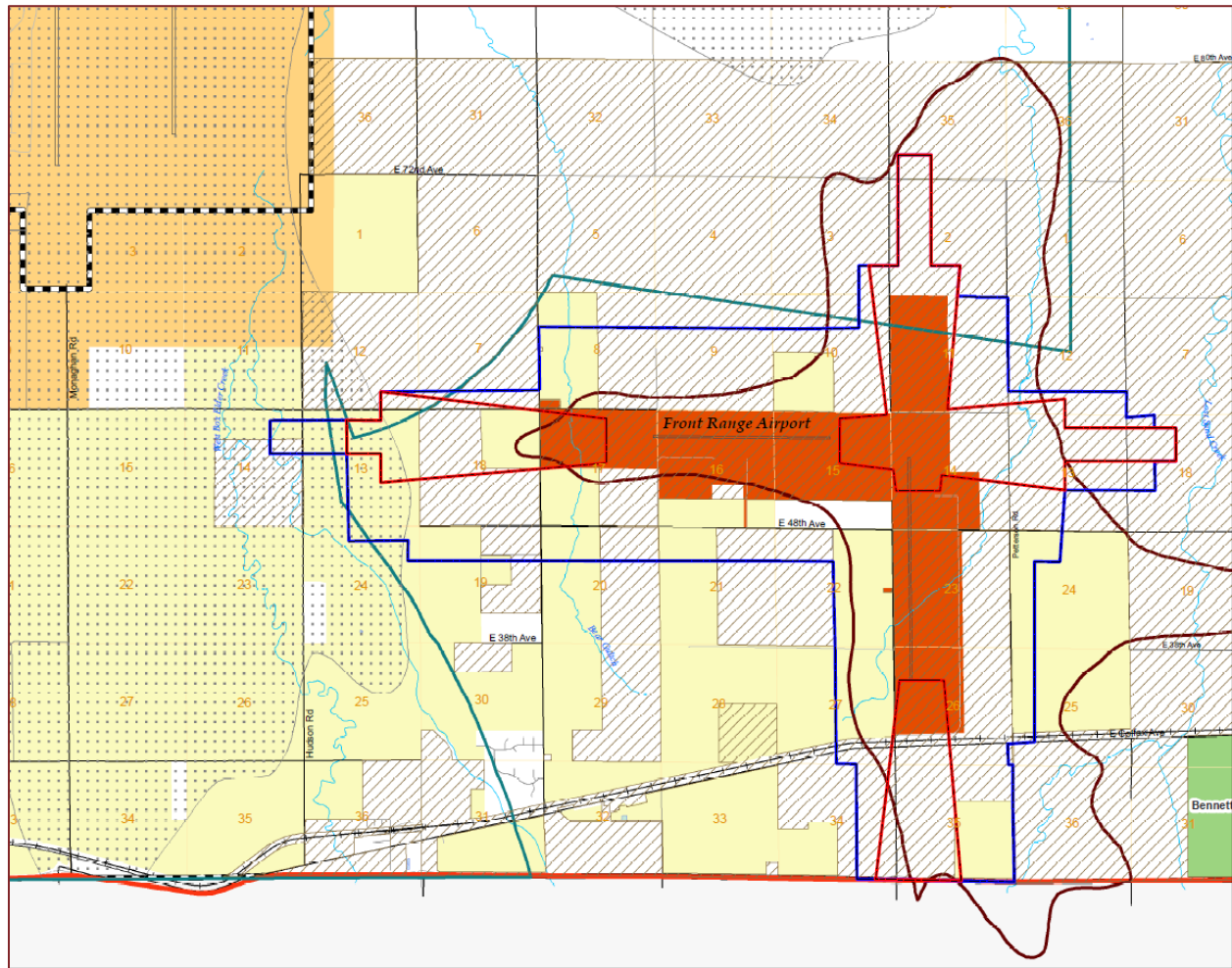
USE CATEGORIES	ZONE DISTRICT								
	A-1	A-2	A-3	RE	R-1-C	R-2			
COMMERCIAL USES									
USE CATEGORIES	ZONE DISTRICT								
	A-1	A-2	A-3	RE	R-1-C	R-2			
Airports, Landing Strips and Heliports	C	C	C	-	-	-			
USE CATEGORIES	ZONE DISTRICT								
	R-3	R-4	MH	C-0	C-1	C-2	C-3		
COMMERCIAL USES									
Airports, Landing Strips and Heliports	-	-	-	-	-	-	-		
USE CATEGORIES	ZONE DISTRICT								
	C-4	C-5	I-1	I-2	I-3	CO	P-L		
COMMERCIAL USES									
Airports, Landing Strips and Heliports	-	-	C	C	C	-	C		
(P) Permitted							(C) Conditional	(S) Special Use Permit	(-) Prohibited

Source: Adams County, CO ([http://www.adcogov.org/sites/default/files/Chapter%2003%20-%20Zone%20District%20Regulations\\_1.pdf](http://www.adcogov.org/sites/default/files/Chapter%2003%20-%20Zone%20District%20Regulations_1.pdf))

Beyond zoning, Adams County has adopted three overlay zones pertaining airport activity in the County (see **Figure B-6**). Note that the County requires all land uses within an overlay zone to go through the special use permit process to ensure interim uses do not limit or preclude the long-term expansion of the airports.

- Airport Influence Zone (AIZ)** - Established for all lands impacted by the location of the Front Range Airport and the noise created by low-flying aircraft. The AIZ is a nine-mile by nine-mile area around FTG generally bounded by 80th Avenue on the north, Interstate 70 (County line) on the south, Harback Mile Road on the east, and Hayesmount Mile Road on the west. The AIZ is intended to provide areas within Adams County suitable for the economical development and safe operation of air carrier and/or general aviation airports for public use without adversely affecting the activities upon surrounding properties. It is also intended to provide for notice and disclosure of the airport location to owners of residential and non-residential properties in areas which may be subjected to aircraft activities of such duration and frequency which would constitute a nuisance to residential and other uses. The AIZ also contains two Restriction Areas, which further restrict the land uses within the overlay zone district, particularly with respect to residential development. The geographic extent of the Airport Influence Zone and the Restriction Areas are delineated on the official Adams County Zoning Map (Figure 7-3).

FIGURE B-6 – ADAMS COUNTY AVIATION OVERLAYS (EXCERPT)



**Legend**



County Boundary

**Airport Boundary**

FRA

DIA

**Front Range Restriction Areas**

Restriction Area 1

Restriction Area 2

**Aviation Overlay**

AIZ

DIA Noise

Front Range Noise

Height

**City**

Arvada

Aurora

Bennett

Brighton

Commerce City

Federal Heights

Lochbuie

Northglenn

Thornton

Westminster

**Disclaimer:**

Although every reasonable effort has been made to ensure the accuracy of the information provided on this map, Adams County cannot be responsible for consequences resulting from omissions or errors in the information and graphic representations made herein. Users should consult with the Adams County Business Solutions Group to ascertain whether any modifications have been made since the publication of this material.

Source: Adams County, CO ([http://www.adcogov.org/sites/default/files/Aviation\\_Overlay\\_22x34.pdf](http://www.adcogov.org/sites/default/files/Aviation_Overlay_22x34.pdf))

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[www.adcogov.org/gis](http://www.adcogov.org/gis)  
Date: 1/31/2017

- **Airport Height Overlay (AHO)** - Intended to provide for protection of residential and non-residential land uses in areas which may be subjected to frequent overflights by aircraft flying low to the ground upon an approach to landing, upon takeoff, or operating in a traffic pattern at an aviation facility. Within this area, the hazards of natural and man-made objects may create severe hazards to aviation and must be regulated accordingly. The Airport Height Overlay area includes all land where the height of structures, or natural features may obstruct or otherwise influence aviation activities. The extent of the AHO is determined by applying the standards and criteria listed in Title 14 of the Code of Federal Regulations, Subchapter E, FAR Part 77, *Objects Affecting Navigable Airspace*. Applicants requesting zone changes, conditional uses, temporary and special uses, certificates of designation, site plans, site specific development plans, and building permits must complete an FAA aeronautical study on obstructions to determine if the proposed development could be a hazard to air navigation. If no hazard is determined, the proposed development may proceed, pending compliance with other County requirements.
- **Airport Noise Overlay (ANO)** - Intended to provide for protection of residential and non-residential land uses in areas which may be subjected to noise levels of such duration and frequency which would constitute a nuisance to residential and other uses. The ANO includes all land heavily impacted by the noise created by low-flying aircraft, and lying within the sixty (60) Ldn or greater noise contour area. These computations are based upon the fleet mix that forms the “worst case scenario” for the type and volume of aircraft activity proposed at full build-out of the facility. The geographic extent of the noise overlay for each aviation facility affecting Adams County is delineated on the official Adams County Zoning Map (Figure 7-3). Prohibited land uses within the ANO include all uses not expressly identified as permitted uses in the underlying zone district; or determined to be permitted by the Director of Planning and Development. In addition, specifically prohibited uses in an Airport Noise Overlay Zone include neighborhood indoor uses, institutional care, and universities.

## B.4 Future Land Use Considerations

In the Fall of 2015, voters in Adams County approved amendments to the Intergovernmental Agreement (IGA) between Adams County and the City of Denver to create a 1,500-acre pilot program on Denver International Airport (DIA) to allow a wider spectrum of commercial uses than is currently permitted under the original 1988 IGAs. For example, the pilot program clearly would allow uses such as retail, office parks, warehouses and manufacturing even if they are not directly related to airport operations or aviation.

Denver and Adams County communities will also create a regional entity to jointly market these new commercial business opportunities at DIA and the region – and possibly plan, fund and develop regional infrastructure over time.

Land-use restrictions also will be lifted on property on the edges of DIA. These “clear zones” were initially created as a buffer around DIA but there is now consensus that the restrictions are no longer needed. Adams County and overlapping municipalities would receive 100 percent of the tax revenue from new development in the clear zones, while DIA would retain the lease revenue.

The changes to the IGA will strengthen the on-going expansion of the greater Denver metropolitan region to the east, into Adams County. As noted in Adams County Comprehensive Plan: “Adams County’s location within the Denver Metropolitan Area and proximity to major economic generators such as Denver International Airport, Front Range Airport, and the I-70, E-470, I-25, I-76, US 85, and I-270 corridors and other highway corridors present numerous opportunities from an economic and community development perspective. The County should continue to work with its economic development partners to increase awareness of opportunities for infill and redevelopment in the Southwest Area of the County; to preserve opportunities for

longer-term growth in the central portions of the County; and to increase awareness of the opportunity for businesses to benefit from the County’s lower tax rate.”<sup>7</sup>

## **B.5 Airport Land Use Compatibility**

### **B.5.1 What is airport compatible land use?**

Airport compatible land uses can be defined as “those uses that can co-exist with an airport without constraining the safe and efficient operation of the airport or exposing people living or working nearby to unacceptable levels of noise or hazards.” This definition is intentionally broad since there are many variables that must be factored when considering whether a given land use is compatible with in an airport operational environment. For example, variables that can influence the compatibility of a given land use include how the land is managed; the location of the land use relative to the airport, and specifically, its runways; the attributes of the land use; and the potential ancillary impacts associated with the land uses. Consequently, it is reasonable to infer that airport land use compatibility is highly fluid and very dependent on the individual circumstances present in any given environment. However, regardless of those variabilities, the underlying premise that must be addressed to identify and assess the degree of compatibility of the land use rests in two general questions:

1. What conditions are required for the airport to operate safely and efficiently? (Conversely, what land use characteristics can adversely affect airport operations?)
2. What airport attributes could potentially compromise the safety and setting of people living or working in neighborhoods surrounding the airport?

These two questions form the foundation of any evaluation of land use compatibility near airports. At the local level, answers to these questions should guide the development and implementation of compatible land use planning tools and techniques to promote both the safety of aircraft operations and the well-being of persons on the ground near an airport.

### **B.5.2 Why is airport land use compatibility important?**

Incompatible land use is considered to be an issue of high importance for the FAA in its efforts to maintain the capacity and safety of the nation’s aviation system. As the federal agency charged with the oversight of the nation’s aviation system, the FAA recognizes that airport land use compatibility is not a new subject for airport planners and managers. Over the years the subject has been well-discussed and well-researched – it continues to be a growing and evolving issue for the aviation industry and the airport community.

Historically, many airports were built in undeveloped and unwanted areas located well away from population centers. Those airports that were constructed near or in towns were often done to stimulate local economies by leveraging the burgeoning aviation industry. As economies developed, often related to airport activities, towns expanded and naturally grew around their centers of economic activity, including those same airports. Inevitably, conflicts over airport noise, safety, and airspace protection arose. Oftentimes these conflicts have resulted in operational and developmental limitations being directly or indirectly imposed on the airports as a result of encroaching incompatible land use development. Unfortunately for airports, these limitations can significantly retard their effectiveness as a transportation asset and their value to the community.

The pattern of an airport essentially being suffocated by the very community development that it had initially helped to spur is one that has been repeatedly experienced throughout the country. What has changed on a

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<sup>7</sup> Adams County Comprehensive Plan, Chapter 4, Area-Specific Policies and Strategies, December 2012

national level is that most airports are no longer open fields and turf landing strips – many are now multi-billion-dollar transportation assets that are essentially irreplaceable.

Viable development sites where a new airport could be built are simply becoming much more difficult to find. As the number of federal, state, and local regulations and environmental restrictions continues to increase significantly, the cost of building becomes more prohibitive and the availability of buildable properties continues to decline. Moreover, communities themselves have become increasingly resistant to hosting airports, regardless of their economic value.

Beyond those difficulties, even when a new site is found and a new airport constructed, one of the fundamental qualities of an airport is that it will ultimately become an economic generator – attracting industries, development and people. Without proper land use management to ensure appropriate compatibility, the cycle likely will ultimately repeat itself. Essentially, without proper land use compatibility planning, a new airport is almost guaranteed to experience the same development patterns that may have caused their relocation in the first place. These conflicts play out across the nation daily—within large urban areas as well as the smaller rural towns—as communities and airports struggle to find a balance between airport operations and compatible land use.

In order to help avoid these cycles, federal legislation and regulations related to compatible land use planning were initially developed with the advent of jet aircraft in the 1960s. As air travel continued to evolve into a primary mode of travel, federal interest in appropriate land use management has only increased. Specifically, noise and safety are two of the most important considerations in determining the effect of airport operations on the surrounding land use and vice versa. Since that time, the federal initiative to assure compatibility between airport operations and the surrounding environment has been promoted and advanced by the FAA.

Today, the FAA is an instrumental force in encouraging and promoting compatible land use planning, which it does through direct guidance and multiple support programs. However, the FAA by itself cannot specifically mandate appropriate land use around airports. Several of the most important airport-related regulations and design requirements produced by the FAA and other industry resources that influence airport land use compatibility include the following:

- The FAA Advisory Circular 150-5300-13A, *Airport Design*, defines setback requirements and Runway Protection Zones (RPZ).
- The FAA Advisory Circular 150-5070-6, *Airport Master Plans*, defines guidelines in preparing and airport master plan, including land use planning.
- The Aviation Safety and Noise Abatement Act of 1979 requires establishment of a single noise metric system to measure cumulative aircraft noise exposure and identification of compatible land uses.
- The Federal Aviation Regulation Part 150 Noise Compatibility Program is the primary federal regulation regarding noise related land use compatibility on and around airports.
- The Airport and Airway Improvement Act of 1982 is the funding mechanism utilized by the FAA for improvement projects and which requires grant recipients to meet grant assurances.
- The Airport Noise and Capacity Act of 1990 established the national aviation-related noise policy.
- The National Environmental Policy Act (NEPA) of 1969 has a variety of environmental impacts related to airport land use and noise compatibility.
- Airport Cooperative Research Program (ACRP) Report 27 - *Enhancing Airport Land Use Compatibility* (2010).
- Washington State Department of Transportation (WSDOT) *Airports and Compatible Land Use Guidebook* (2011).

The preservation of airports from the encroachment of incompatible land uses must be a priority for airports and their host communities. But in order to ensure the success of land use compatibility planning, it is critical that airports and local communities take active roles to develop, implement, and maintain land use compatibility programs at their airports. More than ever, it is imperative that a cooperative approach to airport land use compatibility planning be embraced. For that reason, the FAA actively encourages airport owners, state aviation officials, and local jurisdictions to work together to develop compatible land uses around airports to protect these important transportation and economic assets.

### **B.5.3 What are the most common land use compatibility concerns?**

While there are many specific concerns related to airport land use compatibility, they can be grouped into two broad categories: noise-related concerns and safety-related concerns. Each category is generally described below.

#### *Noise-Related Concerns*

Aircraft noise is a primary concern when addressing airport compatible land uses and is an important consideration that has the potential to significantly affect airport operations. Aircraft operations can create sound levels that produce annoyance in populated areas near airports, as well as additional effects such as speech interference, sleep disturbance, and affected classroom learning. These quality-of-life impacts are often directly related to the presence and location of population densities near an airport.

It should also be noted that noise-related concerns are most frequently associated with larger, commercial air service airports due to the size of their typical aircraft, the frequency of their operations, and their resultant noise signatures. General aviation airports do not typically experience the same level of noise-related concerns. This is due to the smaller aircraft that typically operate at these types of airports and the lower frequency of their normal operations.

#### *Safety-Related Concerns*

Addressing the safety-related aspects of airport land use compatibility can pose a greater challenge than noise issues. Dealing with safety is primarily preventing possible problems, whereas noise is a mitigation of existing conditions. Safety-related concerns are particularly relevant for smaller general aviation airports since many lack the resources and support required to appropriately address these concerns. For land use compatibility planning purposes, safety-related concerns can be divided into two broad classes.

#### **Land use characteristics that constitute hazards to flight and can cause or contribute an aircraft accident**

Land use conditions can contribute to aircraft accidents. Protecting against potential conflicts is essential to airport safety. Land use conditions that are hazards to flight impact the viability of airport operations and limit the ability of an airport to operate as designed. Examples of the most prominent adverse land use conditions include tall structures, visual obstructions, electronic interference, and wildlife/bird attractants

#### **Land use characteristics that can add to or limit the severity of aircraft accidents if they were to occur**

The ideal circumstance for any airport is to maintain open lands in its immediate vicinity, particularly with respect to its runway ends. Open lands can serve two principle functions with respect to impacting the severity of an aircraft accident:

- Open land uses generally have few occupants, thus limiting the number of people potentially placed in harm's way; and
- Open land areas can potentially reduce the amount of aircraft damage and enhance the survivability for the occupants of an aircraft forced to make an emergency landing away from a runway.

If sufficiently large and clear of obstacles, open land areas can be valuable for aircraft anywhere near an airport. When open lands are not available, the two typical land use characteristics that can most significantly impact the severity of an aircraft incident or accident near an airport include high concentrations of people, and high risk sensitive uses (e.g., schools, hospitals, etc.).

#### **B.5.4 Implications and Recommendations for Front Range Airport**

As noted in the previous section, the three most common airport land use compatibility issues experienced by airports throughout the United States are related to airport-related noise (particularly with respect to residential development areas), height-related issues of off-airport development, and preservation of appropriate land uses around the airport. In all three of these critical areas, Adams County has already established appropriate airport land use compatibility controls for Front Range Airport in the form of the following:

- Recognition, inclusion and integration of FTG into the Adams County Comprehensive Plan
- Establishment of an appropriate zoning district for FTG and the areas surrounding the Airport.
- Inclusion of an airport-related use category in the Adams County Zoning Use charts.
- Establishment of an Airport Influence Zone for FTG.
- Establishment of an Airport Noise Overlay for FTG.
- Establishment of an Airport Height Overlay for FTG.
- Maintaining a current Airport Master Plan.
- Maintaining a current Airport Layout Plan (ALP).

All of these controls are consistent with best management practices as currently recognized by the FAA and the airport industry. These land use controls provide Adams County with a wide range of effective tools that will allow the County to ensure that Front Range Airport will not be constrained by non-compatible land uses into the future. Recommendations for Front Range Airport and Adams County would be simply to be diligent in monitoring current industry and federal best management practices for compatible airport land use development. This will be particularly important as the pace and range of development migrating east from the Denver metro area and DIA creates pressures on the Airport and County to adjust those controls based on individual requests and circumstances.