

**Safford**   
**Regional Airport**  
**Master Plan**  
**Update 2000**  
**Safford, Arizona**

**Alternatives Analysis** 

**5.1 INTRODUCTION**

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The objective of the alternatives analysis is to determine the most suitable development to meet the needs of the Safford Regional Airport. The four primary steps in this process included:

- Identification of opportunities and constraints
- Identification of various airside/landside development alternatives to meet the existing and future needs of the Airport
- Evaluation and refinement of the development alternatives
- Selection of the most suitable development alternative (preferred alternative)

This process was conducted in close coordination with the Planning Advisory Committee (PAC). The PAC actually completed the alternatives analysis process at a February 1999 meeting when they selected and refined a “preferred alternative” for the 20-year planning period. A summary of this process, which concluded in February 1999, is summarized in Sections 5.1 through 5.3.

Since the City, Airport Board, and PAC recognized the need to address airport development beyond the 20-year planning period, a “50-Year Outlook” Development Plan was also identified. This Plan was also prepared in coordination with the PAC at the February 1999 meeting. However, in late 1999, the PAC requested changes to this plan based on evolving circumstances and modified long-term plans for the airport and its surrounding environs. Thus, the “50-Year Outlook” illustrated and discussed in Section 5.4, Beyond 2020, is the result of the late 1999 revisions.

**5.2 OPPORTUNITIES AND CONSTRAINTS**

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Opportunities and constraints that have the greatest influence on possible future development for Safford Regional Airport are presented here. Airport opportunities offer flexibility in the alternatives identification process by increasing the possibilities for development. Airport constraints are challenges or limitations to future airport development. While some constraints may limit or prohibit development in certain

areas, other constraints may be overcome by responding with mitigation and /or engineering solutions.

### ***Opportunities***

- Vacant lease areas east of the existing terminal area development with Runway 12-30 frontage
- Undeveloped/ underutilized property within the terminal area
- Undeveloped/ underutilized property on the north side of the airport with runway frontage
- Undeveloped/ underutilized property south and east of helicopter operations area
- Existing Infrastructure (roads, utilities)
- Clear approaches to runways

### ***Constraints***

- BLM, Phelps Dodge, State, and private property ownership immediately adjacent to the airport
- Lack of access and utilities on north side of airport
- Inadequate utility systems across airport including existing developed areas
- Terrain on southeast side of airport
- Drainage constraints (berm) on north side of airport
- Non-aviation use restrictions (non-aviation use permitted with FAA approval only)
- Military lease south of new helicopter operations area

## **5.3 ALTERNATIVES IDENTIFICATION**

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Following review of the Airport's opportunities and constraints as well as the facility requirements analysis, alternative development concepts were identified. These alternatives were identified using the following assumptions:

- Future development will be demand-driven as identified by aviation forecasts and facility requirements analysis
- Proposed development alternatives will include consideration for all current applicable FAA design standards and airspace regulations

- Proposed development alternatives will be identified with long-term (beyond 20-year master planning period) considered
- Some development projects proposed will include previous and ongoing planning and conceptual design efforts undertaken by the airport such as helicopter parking, new FBO hangar, etc.

The following sections present the airside and landside development alternatives.

### **5.3.1 Airside Alternatives**

Airside alternatives typically include development concepts for runway extensions, additional taxiways, helicopter operation areas, etc. Based on the facility requirements analysis and the development which has already occurred at Safford Regional Airport in recent years, no major airside development alternatives were identified. However, there were seven key airside requirements identified as follows:

1. Land acquisition for runway object free area off Runway 8-26 ends
2. Land acquisition for larger runway protection zones off Runway 12-30 ends
3. Airfield signage to comply with current FAA standards
4. New PAPI systems on Runways 12-30 and 8-26
5. Helicopter parking adjacent to existing helipad to accommodate demand
6. Relocation of Taxiway D to align with Taxiway C and accommodate future apron expansion to the west
7. Construction of Taxiway E (and associated taxilanes) to serve hangar area development east of the terminal area

The first four development needs noted above are “located by function.” In other words, their placement is dictated by other existing facilities. Consequently, various development alternatives do not exist for these facilities. Therefore, these four requirements are identified as “givens” or “additive projects” since they are necessary to meet FAA standards or maintain operation of existing facilities.

The fifth requirement, helicopter parking, represents the continuation of development in progress – the helipad has been constructed and associated parking has been conceptually designed. The relocation of Taxiway D, the sixth requirement, has been planned and programmed by the airport in the past. Further, the facility requirements

analysis reinforced the need to align this taxiway with Taxiway C and ultimately accommodate apron expansion. Finally, the construction of Taxiway E is identified to serve the existing and ongoing hangar area development east of the terminal area.

These three latter requirements have been combined and designated as the only airside development alternative for comparison to the "Do Nothing" alternative.

**Exhibit 5-1**, Airside Alternatives, lists the four additive projects and illustrates the possible development. The "Do Nothing" option is identified as Alternative A1 and the possible development is defined as Alternative A2.

It should be further noted that landside development, such as hangar construction, might drive the need for additional connecting taxiways (beyond that shown in the airside alternatives). Such needs are considered inherent in certain proposed development projects.

### ***Alternative A1 Advantages and Disadvantages***

This alternative is a "no development" alternative which translates to three primary advantages -- low cost, least environmental impact, and no disruption to airfield operations for construction. However, this approach presents a significant long-term problem for the airport. "No development" would magnify the facility deficiencies over time as based aircraft and operations demand increased. This would progressively impact both local and transient airport users and, thus, make the airport less desirable to business traffic. While the primary advantage is the low cost, inadequate facilities could negatively impact the airport's long-term economic viability and contribution to the community and regional airport system. Further, this alternative is not consistent with the ultimate goals and objectives of the City of Safford.

### ***Alternative A2 Advantages and Disadvantages***

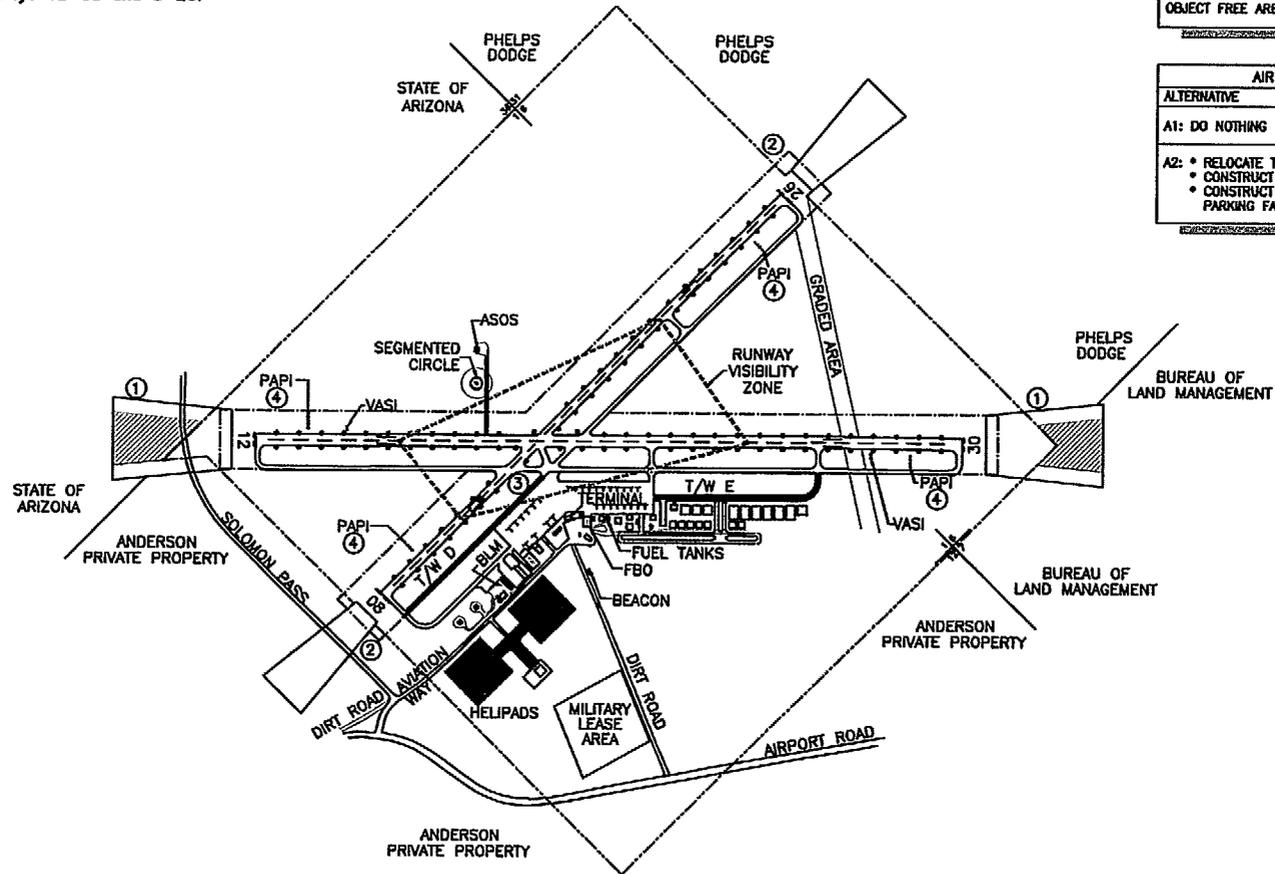
Alternative A2 costs approximately \$2.5 million for all airside development proposed. While this is a substantial cost for the City and represents the largest disadvantage, the federal and state funding assistance available to the City coupled with the long-term economic benefits to the community make this the most desirable alternative. Further, it is anticipated that the possible environmental impacts will be minimal since the

**Additive Projects:**

- ① Runway protection zones (RPZs) shown supersede previous Master Plan clear zones identified. Area outside former clear zones should be acquired in fee simple or easement.
- ② Runway object free area (OFA) extends outside airport boundary. Per FAA, OFA should be controlled in fee simple.
- ③ New signage required throughout airfield.
- ④ New PAPIs required on Runways 12-30 and 8-26.

LEGEND	
DESCRIPTION	KEY
EXISTING EASEMENT	
PROPERTY LINE	
RUNWAY VISIBILITY ZONE	
OBJECT FREE AREA	

AIRSIDE ALTERNATIVES	
ALTERNATIVE	KEY
A1: DO NOTHING	
A2: <ul style="list-style-type: none"> <li>• RELOCATE TAXWAY D</li> <li>• CONSTRUCT TAXWAY E</li> <li>• CONSTRUCT HELICOPTER PARKING FACILITIES</li> </ul>	



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Master Plan Update

**EXHIBIT 5-1**  
**Airside Alternatives**

proposed airside development does not include any development outside the existing airport boundary nor on any significant area of undisturbed land. Disruption to airfield operations is also minimal since the majority of the improvements are taxiway-related and can be constructed without disruption to fixed wing and rotorcraft air operations. Finally, the City's goals and objectives for this airport are well-served by this alternative.

### ***Preferred Airside Alternative***

Alternative A2 is the preferred airside alternative. The City, Airport Board, and the PAC do not view Alternative A1 "No Development" as an acceptable option for this airport based on the goals and objectives established for this community asset.

### **5.3.2 Landside Alternatives**

Landside alternatives address airport development with respect to aircraft storage (hangars), terminal facilities, surface access, vehicle parking, and aviation support facilities. The *facility requirements analysis* for Safford Regional Airport identified the need for additional hangar space, additional terminal building space, and relocated airport access. Development defined as "givens" or "additive projects" include utility improvements and FBO hangar replacement.

**Exhibit 5-2**, Landside Alternatives, graphically depicts the proposed development concepts for future hangars, the terminal building, and the primary airport access road. The following sections describe and evaluate these alternatives.

### ***Hangar Development***

Two alternative development concepts were identified to address future hangar needs. These alternatives, H1 and H2, depict the general location of possible hangar development. Specific size and location of each hangar are not identified since this may vary slightly for individual tenants. Alternatives H1 and H2 are defined as follows:

H1: *Hangar development east of the existing terminal area facilities.* This is the same lease area identified by the City for future expansion and illustrated in the 1990 Master Plan.

H2: Hangar Development on the north side of the airport near Runway 12 end. This area of the airport is not currently developed.

Both development concepts can accommodate the nine hangar spaces needed during the master planning period as well as additional hangar demand beyond this plan.

### **Hangar Alternatives Evaluation**

During the alternatives evaluation process, advantages and disadvantages of each alternative were outlined for discussion at the Planning Advisory Committee (PAC) and public meetings. Then, each alternative was evaluated based on the airport's issues, goals and objectives. This process guided the selection of the preferred alternative.

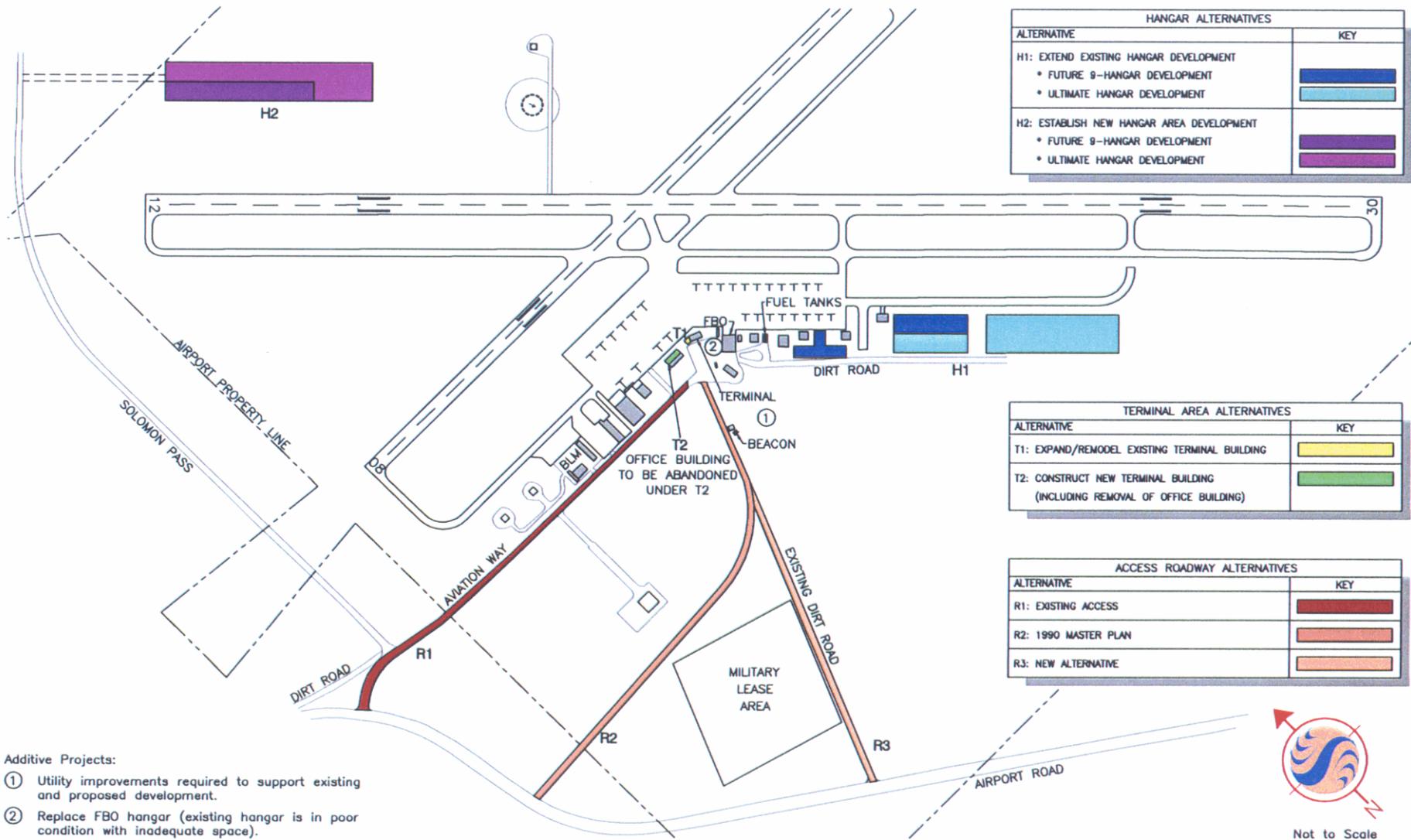
### **Alternative H1 Advantages and Disadvantages**

Alternative H1's advantages include its close proximity to the existing terminal building and apron area, fueling facilities, airport access road, and existing auto parking areas. In addition, this area is near midfield and has prime runway frontage. Development costs would be lower for this area as a result of the existing infrastructure.

The primary disadvantage of Alternative H1 is that the long-term development potential of the airport may be somewhat constrained if private hangar development is allowed along this runway frontage in lieu of future aviation-related commercial/ corporate development. This can be remedied by the City's current plan, which reflects commercial hangars along the runway frontage and private hangars south of them. This would mean that general aviation and commercial/corporate aviation land uses would be mixed.

### **Alternative H2 Advantages and Disadvantages**

Alternative H2's advantages include its long-term GA development potential in an area separate from growing commercial/corporate development. Its close proximity to Runway 12 end is beneficial for takeoffs in the summer when prevailing winds are from the southeast. Additional facilities constructed to support this GA area have more than adequate space for expansion in this undeveloped part of the airport. Increased activity in the helicopter operations area may also make the north side more attractive to existing and future GA tenants.



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**EXHIBIT 5-2  
Landside Alternatives**

The disadvantages of Alternative H2 are opposite of those advantages outlined for Alternative H1. The area is much farther from the existing terminal building, fueling facilities, airport access road, auto parking areas, and other existing general aviation development. It also requires that aircraft cross Runway 12 to access the parallel taxiway for takeoffs on Runway 30 (primarily during the winter when winds are from the northwest). For crosswind Runway 8 departures, a less direct taxiing route is available. A second access road would need to be constructed to serve this side of the airport and other infrastructure would need to be made available (i.e. utilities). Further, the drainage (berm area) along the north side of the airport would need to be evaluated and modified to redirect current drainage patterns. Costs associated with this alternative would be significantly higher than Alternative H1.

### **Preferred Hangar Development Alternative**

The PAC selected Alternative H1 as the preferred development for the airport. This selection was based primarily on the preference to reserve the north side for aviation-related industrial park development and the desire to continue the City-established lease lot development to the east of the existing terminal area. In addition, future hangar needs can be accommodated in this area sooner and at a lower cost to the City and/or tenant.

### ***Terminal Building Development***

Safford requires a terminal building significantly larger than the existing building. Although a terminal building study/design is planned to address the specific details of terminal configuration and size, the alternatives analysis process identified two general development concepts defined as:

- T1: *Expand/Remodel Existing Terminal Building.* This consists of expanding the existing 1,100-square foot building to 2,640 square feet.
- T2: *Construct New Terminal.* This alternative requires the removal of the office building (former house) to the west of the existing terminal building and constructing a new 2,640-square foot terminal facility.

### **Terminal Building Alternatives Evaluation**

Like the hangar alternatives evaluation process, advantages and disadvantages of each alternative were identified and the evaluation of both alternatives resulted in the selection of the preferred development. However, the majority of this effort evolved from the Planning Advisory Committee (PAC) and public meetings following the identification and publication of the hangar development and access road alternatives.

Here, the advantages and disadvantages are documented based on discussions at the meetings as well as discussions with the airport board and airport-related staff:

#### **Alternative T1 Advantages and Disadvantages**

The most apparent advantage of T1 is the lower cost (compared to Alternative T2) for construction since this alternative assumes that the existing facility will make up 1,000 to 1,100 square feet of the new 2,640-square foot facility. In addition, T1 remains more centrally located on the aircraft apron providing greater airfield visibility.

The primary disadvantage of T1 is the necessity to work with a facility offering little flexibility in design configuration to meet the individual space and layout needs. In addition, the construction period would disrupt terminal operations -- potentially requiring temporary terminal facilities.

#### **Alternative T2 Advantages and Disadvantages**

Alternative T2 provides the opportunity to develop a more efficient and effective use of terminal space. In addition, the original facilities would be modernized as part of construction rather than remodeled as required with T1. The construction of T2 would also allow terminal operations to go uninterrupted with a relocation to the new facility once construction was completed. The existing terminal building could also be converted to other uses dependent on potential tenant and airport needs in the future.

Alternative T2's location is a disadvantage since the location is west of the more centralized existing facility - reducing total airfield visibility, particularly to Runway 30 end. Further, the cost of a new facility will surpass the cost of a terminal expansion and require the initial removal of the existing office building (former house) in the same location.

### **Preferred Terminal Building Development Alternative**

T2 was selected as the preferred terminal building development alternative. The PAC's position is that the inflexibility of the existing terminal building makes it impractical to consider expansion. Further, the long-term costs associated with T1 (terminal expansion) may near the short-term costs of T2 (new terminal) depending on maintenance and remodeling requirements.

While the terminal building study/design will further address this development project, a preliminary cost estimate is provided in Chapter 9, Implementation.

### **Primary Airport Access Development**

Three development concepts for the primary airport access roadway were identified in the early stages of the alternatives analysis process. They included:

- R1: *Existing east-west access just north of new helicopter operations area and south of BLM facilities. This access road is programmed for future improvements to bring it up to roadway design standards.*
- R2: *Relocated east-west access just south of new helicopter operations area. This relocation was proposed in the 1990 Master Plan.*
- R3: *Relocated access to run north-south through the airport directly to the terminal area along east side of new helicopter operations area. This proposed location generally runs along an existing dirt road proposed for abandonment in the 1990 Master Plan.*

### **Airport Access Alternatives Evaluation**

Advantages and disadvantages of these three roadway alternatives were presented to the PAC and public for consideration. Similar to the evaluation process for the other proposed development, the airport's issues, goals and objectives guided the discussion surrounding these alternatives and the resultant selection.

### **Alternative R1 Advantages and Disadvantages**

The obvious advantage of leaving the existing access road where it is today is the minimal cost and disruption to current traffic flows. This location is also the most direct route to the terminal area off the main road when coming from the City of Safford. Further, this road provides direct access to airport tenants and users operating on the west side of the airport.

The primary disadvantage of Alternative R1 is its potential safety hazard in the long-term when helicopter activity and vehicle traffic increases. Safety is enhanced when a well-established boundary is drawn between airside and landside operations. Other disadvantages include the limitations associated with development options for a “distinctive” entrance to the airport since development has already occurred on both sides of this existing roadway. Vehicle traffic desiring to go directly to the terminal building will have to travel between two helicopter traffic areas (BLM and public use helipads) and existing hangar development before visual contact with the terminal building (on the left side of the road) is made. This may appear confusing to first-time visitors looking for the terminal building.

### **Alternative R2 Advantages and Disadvantages**

The primary benefit associated with Alternative R2 is that it moves the road so it no longer runs down the middle of the helipads. Vehicle and helicopter traffic are more separate with very little time added to the vehicle trip to get to the terminal or other airport areas. Further, a more distinctive airport entrance could be constructed.

The primary disadvantage of Alternative R2 is that it does not provide a “clean” direct route. In addition, the road is still fairly close to the public use helipad and cannot be located any further south without crossing the military lease area. R2’s connection to the main road is near a curve that could present line-of-site concerns for vehicles turning left into the airport. The construction of R2, a new road, would also cost more than R1 with a portion constructed outside the airport’s official property boundary.

### **Alternative R3 Advantages and Disadvantages**

The advantages of Alternative R3 build on those in R2 since it also moves the road away from the helicopter area. However, R3's advantage over both R1 and R2 is that it offers a centered and direct entrance to the terminal facilities with a greater opportunity to develop a "distinctive" entrance. Further, any additional future development can occur on either side of this north-south roadway and access to such development is reasonable for all tenants. R3 would be fully constructed within the airport's official property boundary.

The primary disadvantage of Alternative R3 is that the turnoff for the airport is farthest from the existing access road -- increasing travel by nearly a half-mile from the City. R3's development costs would be similar to that associated with R2.

### **Preferred Airport Access Development Alternative**

The PAC selected R3 as the preferred airport access based on its long-term development benefits such as its clean separation from other airport functions, its direct and potentially distinctive future entrance, and its centralized location in the south part of the airport providing access to and a distinctive boundary for the proposed aviation-related industrial development. Its central location also offers a distinct separation of helicopter operations and future landside development for fixed wing aircraft (i.e. hangars).

### **5.3.3 Preferred Airport Development**

**Exhibit 5-3** provides an illustration of the combination of the preferred airside and landside development projects selected for the Safford Regional Airport. This development includes the acquisition of several small parcels (in fee and avigation easement) off Runway 26, 12, and 30 ends for object free area and runway protection zone surfaces. In addition, two large parcels are proposed for acquisition which lie along the west and south boundaries of the airport. These parcels, also shown in Exhibit 5-3, total approximately 272 acres with the westerly parcel consisting of 152 acres and the southerly parcel consisting of 120 acres. Further, the potential acquisition of a 640-acre parcel owned by the State is under consideration. This parcel is west of the 152-acre parcel. Like both the 152-acre and 120-acre parcels along the existing airport boundary,

the 640-acre parcel would be acquired to protect the airport for ultimate development plans.

These proposed acquisitions were added after the alternatives analysis was completed as a result of recent events and further discussion of the City's ultimate development plans for the airport. Currently, the City and the Airport Authority are undertaking an aggressive marketing and economic development program that will have a marked impact on development priorities for the Airport.

While current forecasts do not justify it at this time, the economic development movement will make it imperative for the City to move forward at the earliest possible time with acquisition of the 272 acres of land (adjacent to the airport boundary) for two paramount reasons.

First, the acquisition will prevent encroachment and incompatible development to occur on this land (see Chapter 7, Section 7.4). Secondly, it will accommodate the Beyond 2020 development (see Section 5.4 below) which includes the lengthening of Runway 8-26 and its redesignation as the primary runway in order to accommodate larger aircraft and provide instrument capability required for these operations.

As this land continues to appreciate in value, early acquisition will result in substantial cost savings and ultimately contribute to the airport's ability to achieve financial independence as economic development efforts come to fruition.

Plans are currently under way to promote such economic development in the short-term on a 78-acre parcel south of the terminal area for commercial/industrial use (as noted on Exhibit 5-3). The City is in the process of submitting an application to the FAA to release this parcel for non-aviation use since ultimate development plans (Section 5.4) propose significant aviation development along the Runway 8-26 extension.

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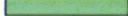
#### **5.4 BEYOND 2020**

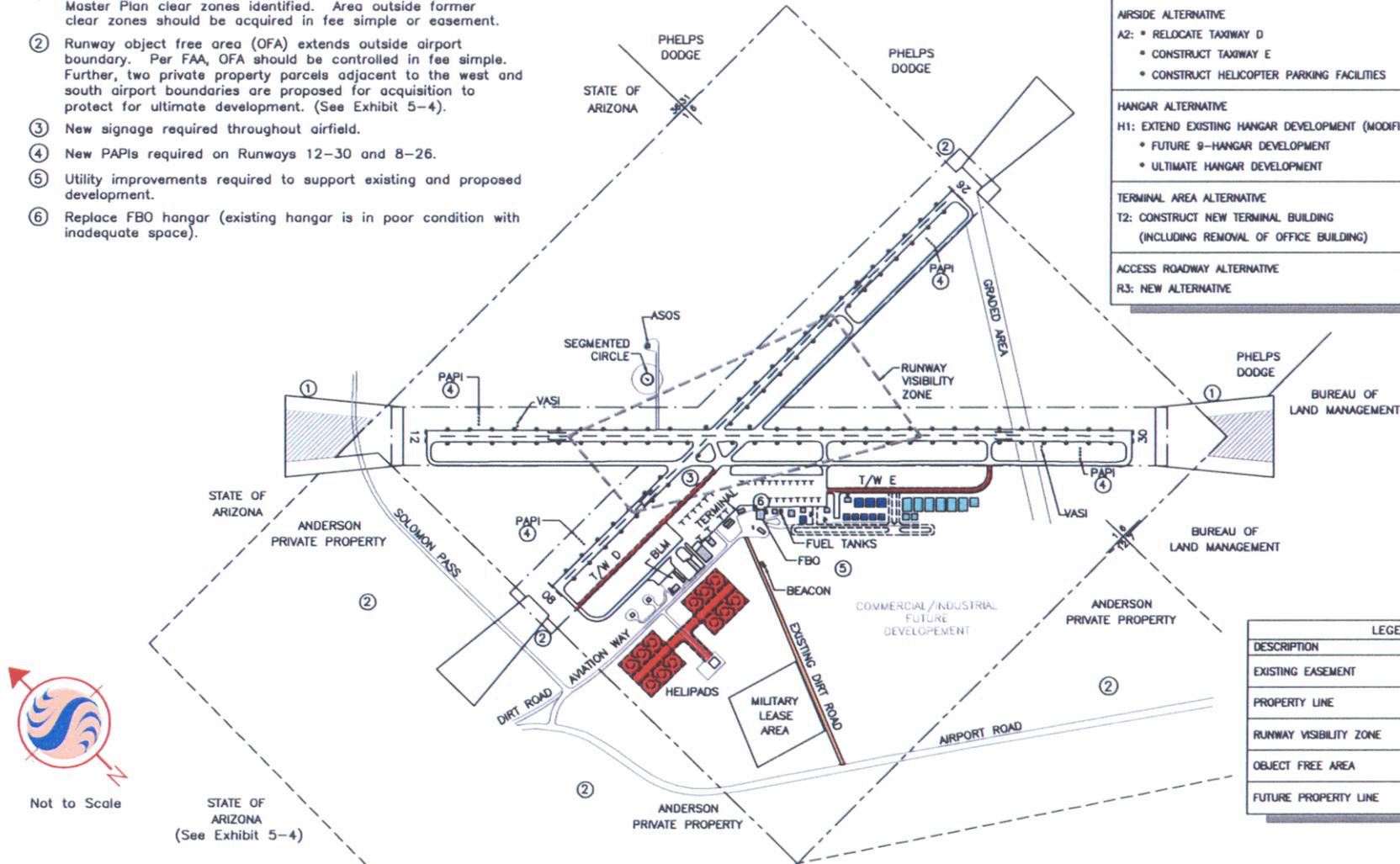
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While the airport master planning window addresses 20 years of airport development, planning beyond this is critical since airport improvements seek to serve the community well beyond 20 years. This section briefly addresses the issues surrounding the need to plan beyond 2020.

Additive Projects:

- ① Runway protection zones (RPZs) shown supersede previous Master Plan clear zones identified. Area outside former clear zones should be acquired in fee simple or easement.
- ② Runway object free area (OFA) extends outside airport boundary. Per FAA, OFA should be controlled in fee simple. Further, two private property parcels adjacent to the west and south airport boundaries are proposed for acquisition to protect for ultimate development. (See Exhibit 5-4).
- ③ New signage required throughout airfield.
- ④ New PAPIs required on Runways 12-30 and 8-26.
- ⑤ Utility improvements required to support existing and proposed development.
- ⑥ Replace FBO hangar (existing hangar is in poor condition with inadequate space).

PREFERRED ALTERNATIVE	
ALTERNATIVE	KEY
<b>AIRSIDE ALTERNATIVE</b> A2: • RELOCATE TAXIWAY D • CONSTRUCT TAXIWAY E • CONSTRUCT HELICOPTER PARKING FACILITIES	
<b>HANGAR ALTERNATIVE</b> H1: EXTEND EXISTING HANGAR DEVELOPMENT (MODIFIED) • FUTURE 9-HANGAR DEVELOPMENT • ULTIMATE HANGAR DEVELOPMENT	 
<b>TERMINAL AREA ALTERNATIVE</b> T2: CONSTRUCT NEW TERMINAL BUILDING (INCLUDING REMOVAL OF OFFICE BUILDING)	
<b>ACCESS ROADWAY ALTERNATIVE</b> R3: NEW ALTERNATIVE	



Not to Scale

STATE OF ARIZONA  
(See Exhibit 5-4)

LEGEND	
DESCRIPTION	KEY
EXISTING EASEMENT	
PROPERTY LINE	
RUNWAY VISIBILITY ZONE	
OBJECT FREE AREA	
FUTURE PROPERTY LINE	



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EXHIBIT 5-3  
Preferred Alternative

As previously discussed in the Facility Requirements Chapter, the airport's current and projected design aircraft in the 20-year planning period is the B-II aircraft group. The airport is currently serving C-II aircraft, too, but these aircraft do not conduct at least 500 annual operations (threshold for identifying critical aircraft).

While this dictates that the airport be developed to the associated B-II design standards in this 20-year period, it does not mean that the airport will not require an upgrade to C-II standards thereafter when C-II operations do exceed 500 annual operations. In other words, the airport may begin serving aircraft that require greater separation standards and pavement widths than aircraft served up to the year 2020. It's important to consider this issue when developing facilities to ensure that an upgrade to another set of design standards is not precluded, limited, or too costly.

For Safford Regional Airport, it is anticipated that the airport will serve C-II aircraft regularly after 2020. This translates to increased runway to taxiway separation standards as well as other airport design changes. Examples of these increased dimensions for C-II aircraft were presented in Chapter 4.

Further, the City of Safford, in coordination with the PAC in late 1999, expressed a desire to ultimately (beyond 2020) make the existing crosswind Runway 8-26 the primary runway at a total length of 10,000 feet. Existing primary Runway 12-30 would become the crosswind runway remaining at its current length of 6,000 feet. The new 10,000-foot long Runway 8-26 would accommodate a large portion of the C-II aircraft fleet (such as the Gulfstream III) as well as many aircraft in the C-III aircraft fleet (such as the Boeing 737). However, this aircraft fleet as well as the airport's projected instrument approach needs require an increased separation from other facilities such as aircraft parking and parallel taxiways. Thus, ultimate development at the Safford Regional Airport would require a relocation of Runway 8-26 to the north by 400 feet to provide this increased separation required by the projected runway instrument approach and aircraft operation needs. **Exhibit 5-4** illustrates a possible 50-Year development outlook for the Airport to include the relocated and extended Runway 8-26. As shown, the existing Runway 8-26 becomes a parallel taxiway (fully extended) for the new Runway 8-26. The 50-Year Outlook represents a land use development plan that incorporates the City's long-term goals and preliminary development plans for the

airport to increase the airport's economic benefit to the community as well as protect its long-term viability.

As shown in Exhibit 5-4, 50-year Outlook, long-term development plans are illustrated using 10 separate land uses to include:

- Airfield Operations Area
- Helicopter Operations Area
- Terminal Area, FBO, and Support Facilities
- Corporate and Private General Aviation (GA)
- Bureau of Land Management (BLM)
- Military
- Aviation Reserve
- Aviation- or Non-aviation-related Industrial Development
- Open
- Commercial/Industrial Development

These land uses are described in detail in Chapter 7, Land Use Analysis, which addresses the importance of land use planning. Land uses shown provide for a distinct separation of airport functions. It is also important to point out that if and when the 50-Year Outlook development plan is implemented, there are four critical issues inherent in the proposed development that will require further consideration. A summary of these issues follows:

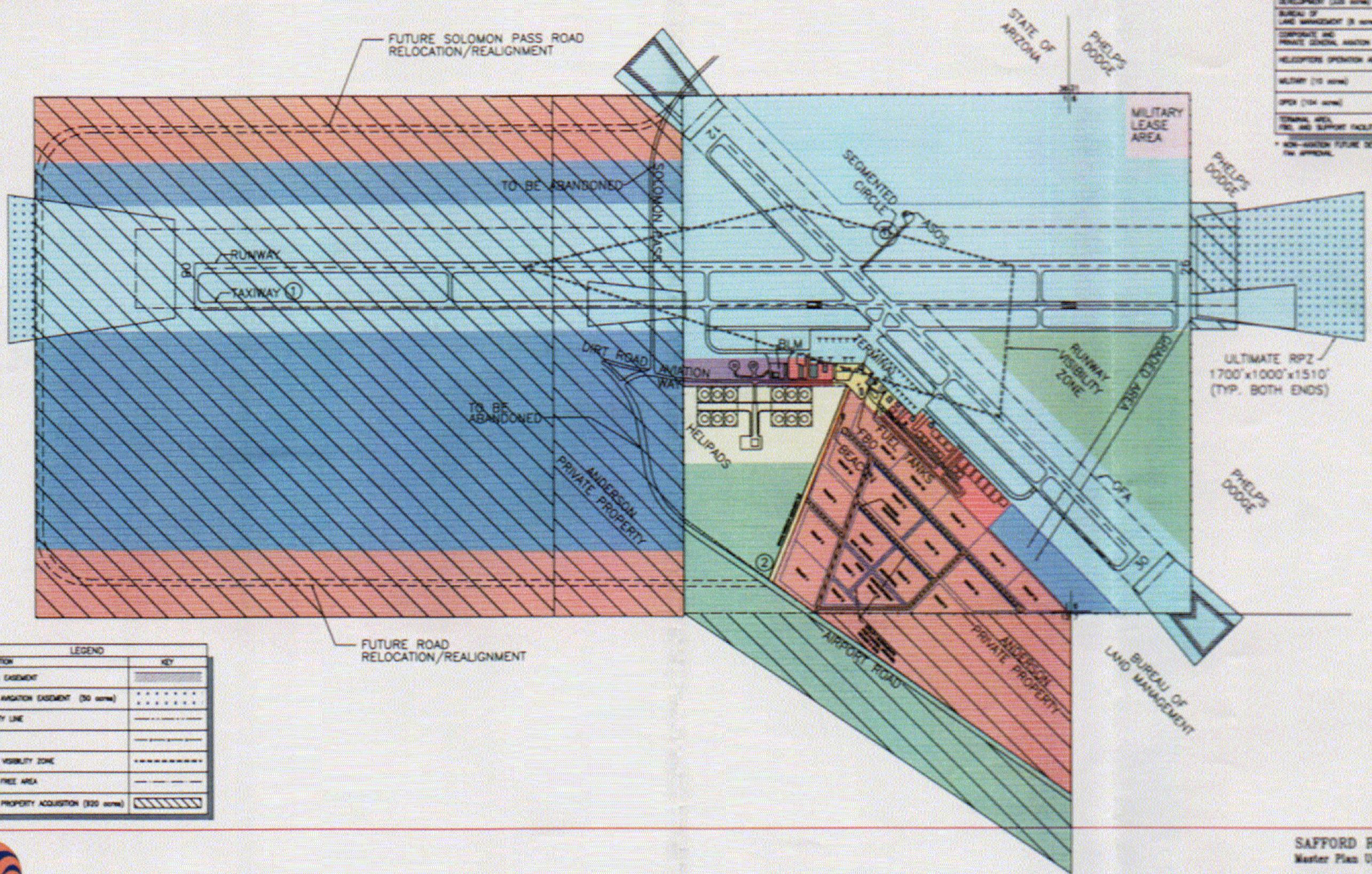
*Modified Airport Influence Area (AIA) after 2020:* The current AIA is based on the existing airfield configuration to include Runway 12-30 as the primary runway and Runway 8-26 as the crosswind runway. These designations assume that the majority of air traffic (up to aircraft in the C-II fleet) will operate on Runway 12-30 and that only smaller aircraft (up to aircraft in the B-II fleet) will operate on Runway 8-26 when crosswinds deem this necessary. However, the 50-year outlook changes the primary and crosswind runway designations and lengths and thus implies a change to the AIA which is based on runway lengths, traffic patterns, and types of traffic on specific runways.

Notes:

- Existing Runway 08-26 becomes parallel taxiway. New Runway 08-26 is constructed to the north to accommodate increased separation requirements for instrument approach and C-II aircraft. Runway 12-30 (currently designated as the primary runway) will become the secondary/crosswind runway serving B-I aircraft.
- Airport/Industrial Park main entrance.

LAND USE TABLE	
LAND USE	KEY
AIRFIELD OPERATIONS AREA (247 acres)	[Light Blue Hatched]
AIRPORT RESERVE (115 acres)	[Blue Hatched]
AIRPORT OR NON-AIRPORT RELATED DEVELOPMENT (34 acres)	[Light Blue]
COMMERCIAL, INDUSTRIAL, DEVELOPMENT (235 acres)	[Orange Hatched]
BUREAU OF LAND MANAGEMENT (31 acres)	[Purple Hatched]
CORPORATE AND PRIVATE GENERAL AVIATION (15 acres)	[Red Hatched]
HELICOPTER OPERATOR AREA (27 acres)	[Yellow Hatched]
MILITARY (15 acres)	[Pink Hatched]
SPR (124 acres)	[Green Hatched]
TERMINAL AREA, FUEL AND SUPPORT FACILITIES (7 acres)	[Yellow]

\* NON-AIRPORT FUTURE DEVELOPMENT WILL REQUIRE THE APPROVAL



LEGEND	
DESCRIPTION	KEY
EXISTING EASEMENT	[Diagonal Hatched]
FUTURE AVIATION EASEMENT (20 acres)	[Dotted]
PROPERTY LINE	[Dashed]
FENCE	[Dash-dot]
RUNWAY VISIBILITY ZONE	[Dashed-dot]
OBJECT FREE AREA	[Dash-dot-dot]
FUTURE PROPERTY ACQUISITION (320 acres)	[Diagonal Hatched]



Not to Scale



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EXHIBIT 5-4  
50-Year Outlook

*Modified Runway Visibility Zone (RVZ):* The runway visibility zone (RVZ) on an airport is an imaginary boundary that should remain clear to provide pilots with an unobstructed view of other runways at specified distances from runway intersections to avoid conflicts with aircraft operating on other runways. This is especially important at uncontrolled airports. While the RVZ boundary for the existing and 2020 airfield configuration is generally clear, the proposed Runway 8-26 extension beyond 2020 enlarges the RVZ, which cuts across the majority of the aircraft apron area and a portion of the buildings in the terminal area.

*Land Acquisition:* Two small parcels of land just east of the airport are required to accommodate the future Runway 26 object free area. In addition, two large parcels of land to the west of the airport and one large parcel to the south of the airport are required to accommodate the Runway 08 extension to 10,000 feet, future aviation development (identified as aviation reserve), and future commercial/industrial development along the relocated/realigned roadways around the airport. Finally, aviation easements for portions of the runway protection zones (RPZs) for the future 10,000-foot Runway 8-26 are required. As described earlier, it is imperative that the City acquire property necessary to accommodate the City's ultimate development plans as soon as possible to ensure that such development is not precluded, limited, or too costly when it's time for construction. Thus, Chapter 9, Implementation, includes property acquisition in Phase I of the Capital Improvement Program (CIP) for the airport.

*Relocated Roadways:* Based on the City's proposed land acquisition for the airport and subsequent aviation and commercial/industrial development, Airport Road and Solomon Pass Road will require realignment and relocation (as shown in Exhibit 5-4). The City has already discussed the preliminary feasibility of this roadway project with Graham County and no significant concerns have been identified.

In addition, the City will need to coordinate with the FAA and ADOT Aeronautics Division prior to changing the primary runway designation from Runway 12-30 to Runway 8-26 and implementing the proposed development. The majority of the issues surrounding the implementation of the 50-Year Outlook development can be addressed in the next Master Plan Update or to some extent in an airport layout plan (ALP) drawing update.