



## MASTER PLAN EXECUTIVE SUMMARY

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## Introduction

The Friedman Memorial Airport (SUN) is jointly owned by the City of Hailey and Blaine County, and operated by the Friedman Memorial Airport Authority (FMAA). In 1931, the Friedman family deeded a portion of their land to the City of Hailey for use as an airport. In the years since, the Airport has expanded and grown its facilities and traffic through investment from the City of Hailey, Blaine County, the State of Idaho, and the Federal Aviation Administration (FAA). Commercial passenger service at the Airport began in 1960, and since then passenger service has thrived.

The Airport is the primary airport providing commercial and general aviation air services for the Wood River Valley and South Central Idaho, including the communities of Hailey, Bellevue, Ketchum, Sun Valley, and Carey.

The Airport currently faces numerous design and reliability constraints, including but not limited to non-compliance with FAA design standards related to size of aircraft operating at the airport; surrounding mountainous terrain that limits aircraft approaches and departures; and an Airport property footprint that restricts its ability to meet potential long-term needs.







**FRIEDMAN MEMORIAL AIRPORT - HAILEY, IDAHO**

For several decades, the FMAA has studied the limitations of the current Airport site and explored the potential need to replace the Airport at an alternate site that poses fewer constraints. Partially because the runway safety area at the Airport does not meet FAA design standards, the FMAA has spent the last decade developing actionable plans for meeting the safety area standard, either at the existing site or an alternate site.

In 2006, a Site Selection and Feasibility Study concluded that the current airport site was no longer a viable option for future airport operations. Based on the results of this and previous planning studies, the FAA issued a Notice of Intent (NOI) in 2007 to prepare an Environmental Impact Statement (EIS) for a replacement airport. In 2011, the FAA suspended indefinitely any further work on the EIS, citing anticipated costs of the project and potential impacts to wildlife. Following suspension of the EIS, the FMAA led a public process to determine the appropriate path forward for the airport.

In 2013, a concept for improving the existing site was selected as the path forward for achieving temporary compliance with FAA standards at the existing site. Six Modification of Airport Design Standards (MOS) were approved by the FAA as part of this concept, stipulating specific airfield improvements while imposing restrictions on aircraft types and operating procedures.

The stipulations limit airport use to aircraft less than 95,000 pounds gross weight, and with wingspans less than 100 feet (unless an FAA-approved operational procedure is put into place to mitigate impacts related to wingspans greater than 100 feet). The 2013 public process resulted in the adoption of a “dual path” approach for future Airport facility planning.

The FAA is in support of this approach, which is focused on satisfying the operational requirements of existing and potential future airport users, whether at the existing Airport site or at a replacement site.

Given the renewed focus upon the existing Airport site, the FMAA identified the need to update its Master Plan. This Master Plan analyzes current and forecasted operational characteristics and facilities, to further evaluate the ability of the existing Airport site to meet the needs of its users. The focus of this Master Plan is on the total Airport facility and its environs, with the primary goal of developing an aviation facility that will allow air service to survive and thrive well into the future.

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**NOTE: The approval of this planning document by the Friedman Memorial Airport Authority (FMAA) does not constitute final approval of any of the improvements shown. This is a planning document showing potential improvements that may be necessary in the future, depending on demand at the Airport and appropriate project justification. Implementation of specific projects shall not occur without specific approval of the FMAA, in accordance with the Friedman Memorial Airport Joint Powers Agreement as amended, or a successor document.**



# MASTER PLAN OVERVIEW



This executive summary provides an overview of the various components of the Master Plan, which include the following:

- **CHAPTER A. INVENTORY OF EXISTING CONDITIONS**
- **CHAPTER B. AVIATION ACTIVITY FORECASTS**
- **CHAPTER C. FACILITY REQUIREMENTS**
- **CHAPTER D. EXISTING AIRPORT SITE ALTERNATIVES ANALYSIS**
- **CHAPTER E. SITING EVALUATION FOR REPLACEMENT AIRPORT**
- **CHAPTER F. FINANCIAL FEASIBILITY ANALYSIS**
- **CHAPTER G. ENVIRONMENTAL OVERVIEW AND LAND USE PLAN**

## CHAPTER A.

### INVENTORY OF EXISTING CONDITIONS

# INVENTORY

The Inventory chapter describes a broad spectrum of information related to the Airport's location and role, its historical aviation activity, and its facilities. The chapter focuses on three basic elements of existing conditions: 1) Airport facilities (runways, taxiways, aircraft parking aprons, terminal buildings, hangars, maintenance facilities, ground access, etc.); 2) the relationship of the Airport to the overall aviation and airspace systems; and 3) the Airport environs. Information presented in the Inventory chapter was collected from the Airport and its engineering consultant, relevant public plans and reports, on-site visual inspections, and interviews with Airport and tenant staff. The purpose of the Inventory chapter is to establish a sound basis for plan and program development through the assimilation and documentation of appropriate base-line information.

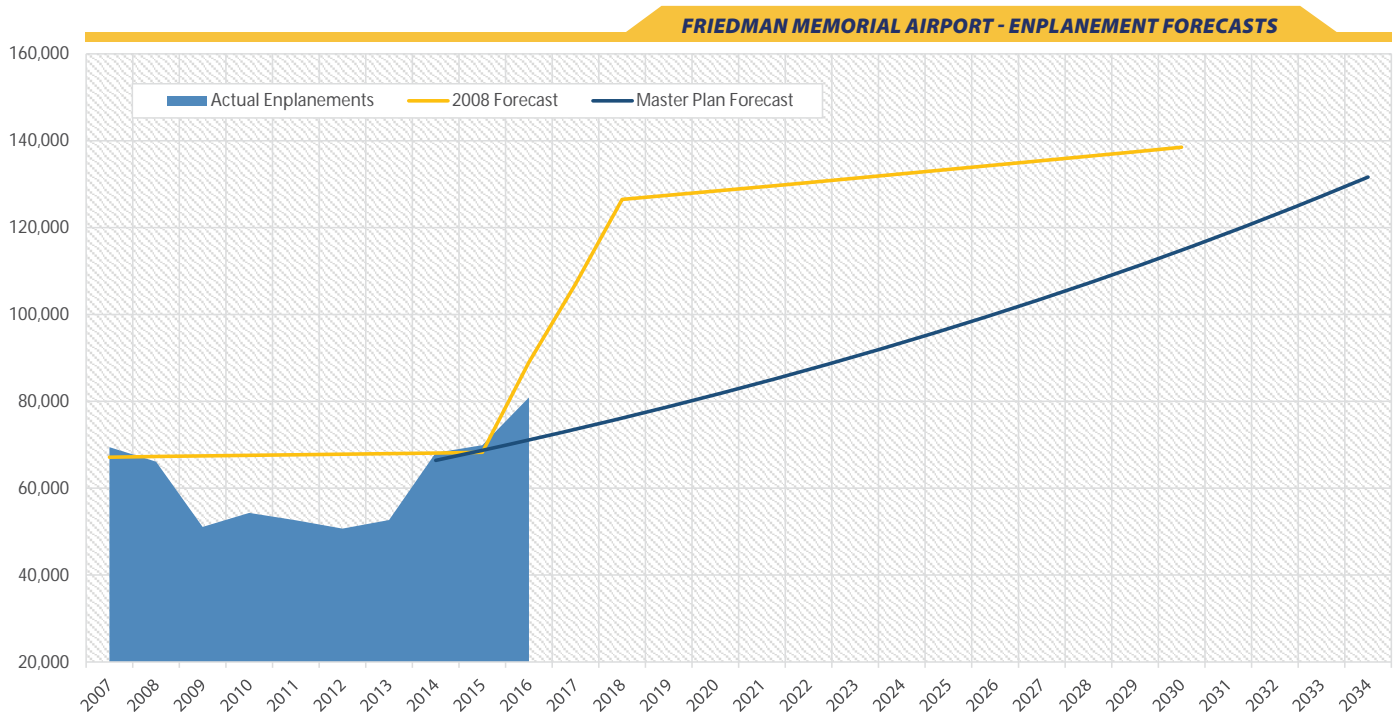
# FORECASTS

Forecasts provide a basis for airport facility planning and justification for future decisions, including analysis of long-term Airport needs and goals. This chapter identifies preferred 20-year forecasts selected from a variety of projections developed using different approaches, including time-series, market share, and socioeconomic methods. Existing conditions and potential future needs that are unique to SUN were analyzed and accounted for in the forecasts. Forecasts are a particularly important element of the master planning process for SUN, as they provide the basis for the following:

1. **Determining the future role of the Airport, with respect to the type of aircraft and operations to be accommodated, both for the existing airfield and for a future relocated airport.**
2. **Evaluating the capacity of existing Airport facilities and their ability to accommodate forecasted demand.**
3. **Estimating the extent of airside and landside improvements required in future years to accommodate projected demand at the current Airport site.**

The preferred Master Plan Forecast predicts that passenger enplanements will nearly double over the next 20 years (see chart for comparison to historical enplanements and the forecast developed for the replacement airport EIS). The Airport must prepare for passenger growth, especially given that enplanement growth in 2015 and 2016 has been stronger than anticipated by this forecast. Potential service to new destinations and additional service to existing destinations may result in stronger enplanement growth than this forecast reflects. Other variables not accounted for by this forecast include:

- **Possible future improvements to instrument approach procedures, which may reduce the frequency of flight cancellations/diversions;**
- **Planned future addition of hotels and other tourist accommodations in the Wood River Valley, which may increase demand for commercial aircraft seats; and**
- **Potential recapture of passenger leakage to Boise.**





Other conclusions from the Master Plan Forecast chapter can be summarized as follows:

- **Peak Hour Passengers.** Forecasts of annual passenger activity may not provide adequate data to determine demand for future airport facilities. With its seasonal schedule, SUN experiences peak periods during tourist seasons when activity far surpasses annual averages. The preferred forecast projects an increase from 204 peak hour enplaning/deplaning passengers in 2014 to 384 peak hour enplaning/deplaning passengers in 2034.
- **Commercial Fleet Mix and Operations.** Commercial aircraft size, performance, and operational levels are the basis for the design of airside facilities such as runways, taxiways, and aprons, as well as the passenger terminal building. The “dual path” nature of this Master Plan requires that existing operational constraints are accounted for, while simultaneously planning for the potential relocation of the Airport in the future. To this end, two separate forecasts were developed for commercial passenger fleet mix and operations to identify planning needs for each possible scenario. The “constrained” fleet mix scenario for SUN assumes that the Airport will continue to be limited to aircraft with a capacity of 88 seats or less throughout the 20-year planning period, and that aircraft in the 78-88 seat range will grow in importance at SUN as the CRJ-700 is phased out by the airlines. The “less constrained” fleet mix scenario assumes that the Airport will be reconfigured, expanded, or relocated during the 20-year planning period. It is important to note that the likelihood of this scenario is dependent on future community consensus that service by aircraft with greater than 88 seats and/or longer range is necessary for the Airport to function successfully. The “constrained” fleet mix scenario projects an increase from 2,840 passenger airline operations in 2014 to 4,453 operations in 2034, while the “less constrained” fleet mix scenario projects slightly slower growth to

4,220 passenger airline operations in 2034.

- **Air Taxi and Commuter Operations.** Knowledge regarding air taxi and commuter operations is used primarily to ensure that proper apron space is available to accommodate parking of these aircraft during peak times. The preferred forecast projects an increase from 5,185 air taxi and commuter operations in 2014 to 5,450 air taxi and commuter operations in 2034.
- **Based Aircraft.** The based aircraft forecast was used to estimate future demand for facilities such as aprons, hangars, and FBO services. However, this forecast does not necessarily represent the number of based aircraft that may be attainable or desirable, due to limiting factors such as airport physical features, availability of land, and community desires and expectations. The preferred forecast projects an increase from 157 based aircraft in 2014 to 213 in 2034. Based aircraft fleet mix proportions are projected to remain relatively constant at 2014 levels, with approximately 58% single-engine, 11% multi-engine, 30% jet, and 1% helicopter aircraft.
- **General Aviation (GA) Operations.** GA operations have generally declined at SUN in recent years. This decline reflects national travel behavior trends with respect to GA. The cost of operation and ownership of aircraft has increased, which has impacted operations and hours flown nationally. GA operations at SUN are limited by airspace capacity given the surrounding terrain and resulting weather conditions, as well as limited available aircraft storage space. The preferred forecast projects an increase from 20,310 GA operations in 2014 to 27,564 GA operations in 2034.
- **Peak Month Operations.** The peak period at SUN for airport activity overall, as well as for GA and air taxi activity specifically, is the annual Allen & Company conference, which is held in Sun Valley during the second week of July. During this peak event, a large number of GA and air taxi aircraft must be accommodated at SUN. The aircraft must be parked on the aprons on the south end of the Airport, which typically overflow and create congestion during this event. Other periods during the year that tend to have high levels of activity are generally during the other summer months, and to a lesser degree during the winter months. The preferred forecast projects an increase from 4,557 peak month operations in 2014 to 6,018 peak month operations in 2034; peak day operations are projected to increase from 319 in 2014 to 421 in 2034; and peak hour operations are projected to increase from 32 in 2014 to 42 in 2034.

# AVIATION ACTIVITY FORECASTS

## CHAPTER C.

### FACILITY REQUIREMENTS

# FACILITY

This chapter considers the ability of existing Airport facilities to accommodate existing and projected activity. In accordance with the “dual path” approach, planning thresholds were identified to indicate the practicality or necessity of either significantly reconfiguring the existing site or relocating the Airport within the next 20 years. Dual path planning thresholds are generally related to facilities that will be severely constrained in the future at the current site, and are defined in terms of potential future aviation activity levels, regulatory changes, changes in community needs, and land use considerations.

**RUNWAY LENGTH.** An airport’s recommended runway length is determined by the performance characteristics of the most demanding aircraft in its operational fleet. As airlines consider establishing additional scheduled air service at the Airport, a wide variety of aircraft could ultimately end up serving the community. This chapter identifies a likely range of runway length requirements for each commercial aircraft type that may serve the Airport in the future. The following thresholds were identified pertaining to runway length:

- **Airline Fleet Transition.** A significant change in airline fleet mix that cannot be accommodated by the existing runway length in accordance with airline needs will challenge the Airport’s ability to adapt to changing market conditions and airline trends. The most likely such scenario at SUN would be the airlines’ eventual retirement of CRJ700 regional jets. It is not known exactly when this may occur, nor what type of aircraft airlines would prefer to replace the CRJ700. The CRJ900 would ordinarily be consid-



**BOMBARDIER CRJ700**



**EMBRAER 175**

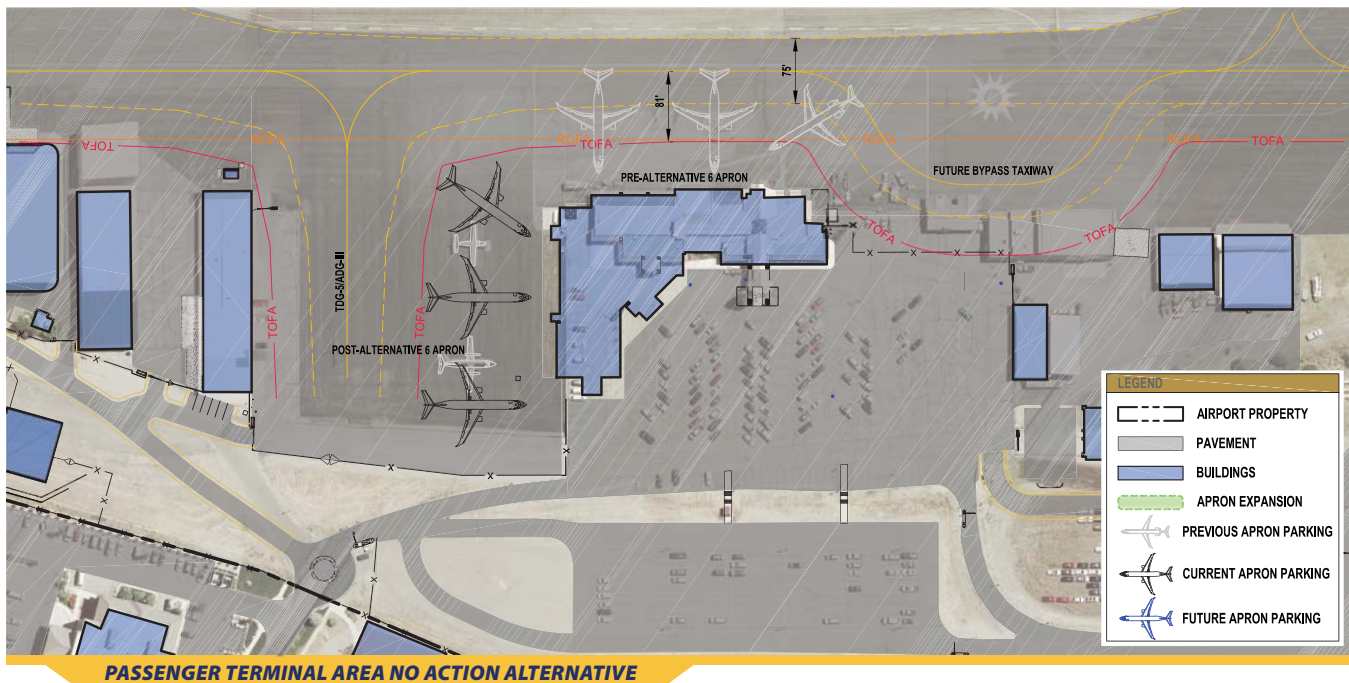
ered a likely replacement, but it typically performs poorly at airports in mountainous environments; furthermore, the CRJ900 is expected to require approval from the FAA to operate at SUN based on its performance characteristics. Other potential replacement aircraft such as the E170 or E175 are expected to incur weight penalties at SUN that may be unacceptable to airlines serving the Airport.

- **Longer Airline Routes.** If the community determines it is necessary to serve destinations much further afield from those currently served, larger commercial passenger aircraft may be required to serve these destinations.

**RUNWAY/TAXIWAY DESIGN STANDARDS.** The current C-III design aircraft for Runway 13/31 is not expected to change during the 20-year planning period. However, the following thresholds were identified pertaining to runway/taxiway design standards, should conditions change during the planning period:

- **Airline Fleet Transition.** The CRJ900 must be certificated as an Aircraft Approach Category (AAC) D aircraft, which means that FAA approval may be required for CRJ900 operations at SUN. Therefore, future air service options are limited if Runway 13/31 remains a C-III runway.
- **MOS Invalidation.** The Airport currently operates under several Modifications of Standards (MOSs) that support the safety of operations at the Airport, but may limit the Airport’s future air service options. FAA reviews MOSs every five to ten years; if one or more of the MOSs were invalidated by the FAA in the future, the current site will likely be unable to achieve full compliance with C-III standards without significant reconfiguration or expansion beyond its current footprint.

# FACILITY REQUIREMENTS



**PASSENGER TERMINAL AREA NO ACTION ALTERNATIVE**

**RUNWAY CAPACITY.** The 20-year operations forecast does not exceed the FAA-recommended capacity planning threshold for the existing single runway at the Airport. However, the capacity of the existing runway is likely more limited than the analysis indicates due to required air traffic control procedures and clearances for both arrivals and departures, given the challenging terrain and head-to-head operating procedures at the Airport.

**PASSENGER TERMINAL FACILITIES.** The ability of passenger terminal facilities to accommodate future demand will be primarily dependent on peak passenger enplanements and the commercial air service schedule. The terminal building renovation and expansion, aircraft parking apron relocation, and parking lot expansion projects completed in 2015 are designed to accommodate immediately foreseeable passenger demand. However, significant increases in passenger enplanements or changes in the airline departure schedule (such as an increase in the number of flights or multiple flights having similar arrival or departure times) may necessitate further improvements at some point within the 20-year planning period. Thus, significant increases in

peak hour enplanements and commercial operations represent thresholds indicating that a relocated airport site may accommodate the activity more effectively. The following thresholds were identified for passenger terminal facilities:

- **Four or More Peak Hour Airline Departures.** A commercial passenger service schedule in which there are four or more near-simultaneous commercial flights is expected to require more air carrier apron space adjacent to the terminal building, and/or revisions to the airline schedule, to allow for passenger loading and unloading during peak periods. Four or more commercial remain overnight (RON) operations would require some form of tug-in/tug-out aircraft maneuvering and management, and may be more efficiently addressed with additional air carrier apron near the terminal.



- **More than 200 Peak Hour Enplanements.** A peak hour consisting of 200 or more passenger enplanements may require further expansion of certain functional areas within the terminal building to alleviate congestion.
- **Inadequate Automobile Parking Capacity.** Additional automobile parking is expected to be needed, with approximately 100 additional parking spaces required every five years to meet peak month forecast demand.
- **Improvements Requiring Reconfiguration of the Roadway System.** Alternate ground access points may need to be considered in conjunction with other potential improvements which affect the existing roadway layout, such as potential parking lot and commercial aircraft apron improvements.

**AIRPORT TRAFFIC CONTROL TOWER (ATCT).** The ATCT at SUN provides critical safety and efficiency benefits given the surrounding terrain and typical weather patterns, and the FAA has indicated that an ATCT must remain at SUN in order for commercial air service to continue. Assuming a viable ATCT location is identified within the existing Airport property boundary, the relocated ATCT is expected to resolve issues related to the existing facility.



**GA AND AIR TAXI AIRCRAFT PARKING AREA**

**GENERAL AVIATION (GA) FACILITIES.** Continued strain on GA facilities during peak events is expected throughout the 20-year planning period. The following thresholds were identified for GA facilities:

- **Ten Percent Increase in Based Aircraft.** An increase of greater than 10 percent over current based aircraft numbers will likely require some new hangar facilities.
- **Inadequate GA and Air Taxi Aircraft Parking .** The two GA aprons are currently undersized for peak events. Aircraft parking capacity issues are expected to worsen over time, as the number of aircraft looking to park during peak events increases along with peak event operations.

**OTHER FACILITIES.** Recent air cargo, snow removal equipment (SRE) and maintenance, and aircraft rescue and firefighting (ARFF) facility projects are expected to provide adequate capacity throughout the 20-year planning period. Existing snow storage capacity is limited and any future increases in overall airside or landside pavements (e.g., runway, aprons, and parking lots) will result in a corresponding increase in snow storage needs that further constrain development options at the existing Airport site.

**OTHER THRESHOLD CONSIDERATIONS.** Two other threshold considerations relate to external factors and do not fit neatly into the facility groupings above. The implications of these considerations for the identification of airport relocation thresholds are currently undefined. However, it is likely that these considerations will become critical at some point in the future, possibly within the 20-year planning period, and may prove to be a deciding factor in the dual path planning process.

- **Commercial Passenger Service.** Growth in the commercial passenger service market at SUN could be inhibited by physical constraints at the existing Airport site. Lack of flexibility to meet airline needs may result in a negative impact on the local economy over time.
- **Land Use and Noise.** Non-airport development has encroached closer to the Airport boundary in recent years. This increases the potential for noise issues and compromises the Airport's ability to meet future needs. The Airport should work cooperatively with the communities it serves to prevent the creation of new incompatible land uses in the Airport vicinity and avoid increases in average aircraft noise levels. Encroachment of development around the Airport will continue to create tension between the Airport and its neighbors. It is much easier to prevent incompatible uses than to resolve issues after development has occurred.

## CHAPTER D.

### EXISTING AIRPORT SITE ALTERNATIVES

# ALTERNATIVES

Alternatives and recommendations determine airport development and improvement at the existing Airport site over the next 20 years. The result is a conceptual development plan that illustrates the recommended layout of future airport facilities. Several types of alternatives were considered, including alternatives that are achievable within the existing site footprint and those that involve expansion of the existing site. Not all existing and/or forecasted demand associated with the dual path planning thresholds identified by the Facility Requirements analysis can be fully accommodated at the existing site, and were considered separately in Chapter E. Existing airport site alternatives identified by the Master Plan include the following:

**AIR TRAFFIC CONTROL TOWER (ATCT).** The recently approved MOS related to the Airport's Runway Object Free Area (ROFA) is conditioned on removal of the existing ATCT located on the east side of the runway and within the ROFA, by 2023. Multiple alternate ATCT sites were analyzed based on FAR Part 77 criteria, sight distance and shadowing effects, orientation and glare, and physical consideration such as infrastructure development, zoning, security, access, topography, general location, and facility construction costs. This Master Plan does not include the entire FAA siting process, but rather provides a preliminary assessment of potential alternative ATCT sites. Three of the sites are recommended for further analysis under the FAA's formal ATCT siting process.

**PASSENGER TERMINAL BUILDING.** The current terminal layout can support three peak hour flights; would be strained at four peak hour flights; and would likely require expansion above four peak hour flights. The recent terminal building expansion project included built-in options for expanding and/or renovating existing space to accommodate future increases in passenger activity. These expansion/renovation options are expected to provide adequate capacity throughout the 20-year planning period. Development of additional ATO space, covered outbound baggage make-up space, a second security screening lane, and expanded secured holdroom on the east side of the building would accommodate a more demanding flight schedule. Commercial apron capacity limits the number of departures within the peak hour, and therefore

apron expansion will likely be required prior to building expansion. Terminal expansion could be achieved without significant impacts on surrounding uses; however, any automobile parking displaced by this concept would need to be replaced elsewhere.

**COMMERCIAL AIRCRAFT PARKING APRON.** The current commercial apron can only accommodate three parked aircraft simultaneously. The preferred alternative identified by the Master Plan includes apron expansion to the west to accommodate one additional aircraft parking position in the near-term, as well as expansion to the north to accommodate up to three more parking positions in the long-term. Expansion of the apron to the west would impact the existing circular access road, and expansion to the north would require removal of two hangars. The north parking positions would likely be only RON positions; however, identification of safe walkway access to allow ground boarding of passengers could be studied. Based on feedback from the FMAA, this concept is preferable to towing aircraft to remote staging locations. Any hangars, automobile parking, and/or access roads displaced by this alternative would need to be replaced elsewhere.

**AUTOMOBILE PARKING.** Automobile parking expansion options are limited within the existing Airport boundary. Two alternatives were identified for adding marginal parking capacity within the existing boundary, as well as several possibilities for acquiring adjacent land for parking space. The number of additional parking spaces that could be created via land acquisition options ranges from 222 to 412 spaces, which would meet 59% to 109% of projected 20-year demand for additional parking.

**GENERAL AVIATION (GA) FACILITIES.** Construction of new GA facilities within the existing Airport boundary would have to take place at the expense of other facilities. The following conclusions regarding future GA improvements were identified:

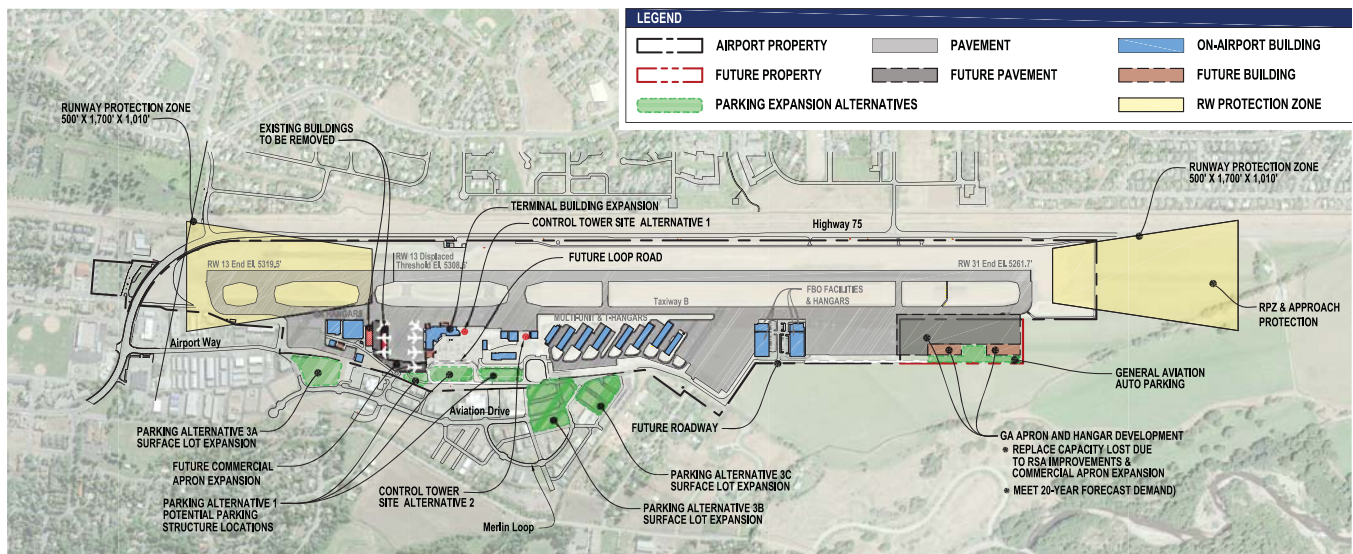
- **Land acquisition will be required if additional GA hangars and/or aircraft parking area is to be accommodated.**
- **The primary consideration regarding provision of space for new GA facilities involves replacing hangars and aircraft parking that were lost as a result of the RSA improvements that were complete in 2015.**
- **Secondarily, it is also important to replace hangars lost as a result of other alternatives, such as the hangars displaced by the preferred commercial aircraft parking apron concept.**
- **Finally, the Airport should reserve space for additional GA facilities to accommodate forecasted demand.**

# EXISTING AIRPORT SITE ALTERNATIVES

The preferred alternative identified by the Master Plan takes a phased approach to first “recapture” previous GA facility capacity lost due to the RSA improvements, followed by long-term expansion to meet 20-year needs, south of the existing FBO apron.

**COMPLIANCE WITH FAA STANDARDS.** If one or more of the Airport’s six MOSs were invalidated and the Airport took no action, the Airport would be at risk of closing temporarily until the MOS(s) could be met. It is unlikely that the MOS(s) could be met in such an event, as they were approved because the Airport could not meet those standards within its boundary and in consideration of surrounding physical constraints. The expected consequence of taking no action following invalidated MOSs would be that the runway would be unable to accommodate most regional commercial service aircraft. To remain open, use of the Airport could be restricted to much smaller aircraft whose design standards could be fully met within the current Airport boundary. It would only be possible to fully meet design standards at the existing Airport site if land acquisition and facility relocation were considered.

**RUNWAY PROTECTION ZONE & APPROACH SURFACES.** To comply with current FAA guidance, this Master Plan recommends land acquisition, creation of perpetual easements, or other lawful measures, for the area south of the Airport, to protect the Airport from potential encroachment by incompatible land uses and approach/departure obstructions. Removal of trees in this area is also recommended to provide clearer approach and departure zones. This may require additional land acquisition beyond what is contained within the RPZ. The actual lot lines of the property to be acquired will be dependent upon negotiations with the land owner.



**20-YEAR CONCEPTUAL DEVELOPMENT PLAN**



## CHAPTER E.

# SITING EVALUATION FOR REPLACEMENT AIRPORT

# SITING EVALUATION

This chapter documents and re-evaluates (as needed) previously identified potential replacement sites for SUN, once the Airport outgrows its current footprint. This did not include the identification of any new replacement airport sites, which were not identified in the EIS.

A total of 18 sites were identified in the 2008 EIS Phase I Planning Study, including the existing Airport site. Sixteen of the 18 sites were originally identified by the 2006 Feasibility Study (nine of which were modified as part of the EIS Phase I Study), and the remaining two sites (10A and 17) were developed as part of the EIS Phase I Study. A three-tiered screening process was used by the EIS Phase I Study to narrow down the list of replacement sites to the most viable options, utilizing a total of 14 evaluation criteria.

Tier One identified nine of the 18 sites as fatally flawed (Sites 2, 3, 7, 8, 11, 14, 15, and 16) based on inadequate instrument approach capability and excessive driving distance from Ketchum, Hailey, Bellevue, and Carey. Tier Two further narrowed the sites based on constructability, expandability, and accessibility, as well as Airport sponsorship considerations and conformity with local, State, and Federal land use regulatory requirements. Three of the nine remaining sites rated significantly higher than the other six using these criteria: Sites 4, 10A, and 12. These three sites can be described as follows:

- **Site 4 is located in Blaine County at the southern end of the Bellevue Triangle, parallel to and immediately north of U.S. Highway 20.**
- **Site 10A is a modified version of Site 10 from the 2006 Feasibility Study, located approximately two miles south-southeast of Wedge Butte and one mile east of State Highway 75. This site takes advantage of the large expanse of high mountain desert that lies between the Blaine County/Lincoln County boundary to the south and Wedge Butte and the Timmerman Hills to the north.**
- **Site 12 is located just east of the Camas County/Blaine County boundary. The EIS Phase I Study adjusted the location of Site 12 to address the potential impact of Moonstone Mountain on the viability of runway approaches. Originally located approximately one half mile north of U.S. Highway 20, the proposed site was shifted south, requiring future realignment of U.S. Highway 20. The site was also shifted east to keep the entire airport site and its associated RPZs within Blaine County.**

Tier Three evaluated these three sites based on their ability to accommodate multiple CAT I approaches/missed approaches (200-foot ceiling and ½-mile visibility minimums), as well as a CAT II approach/missed approach should such capability ever be necessary. All three sites survived this evaluation process and were recommended for further evaluation during the EIS. However, based on additional analysis conducted by the FAA Flight Procedures Office (FPO) after the EIS Phase I Study, only Sites 10A and 12 would have full CAT I approach capability. As a result, of the 18 airport sites, only Sites 10a and 12 have the ability to meet FAA design standards, criteria, and orders; are capable of having a viable sponsor; have the ability to accommodate future demand; and provide for CAT I approaches/missed approaches.

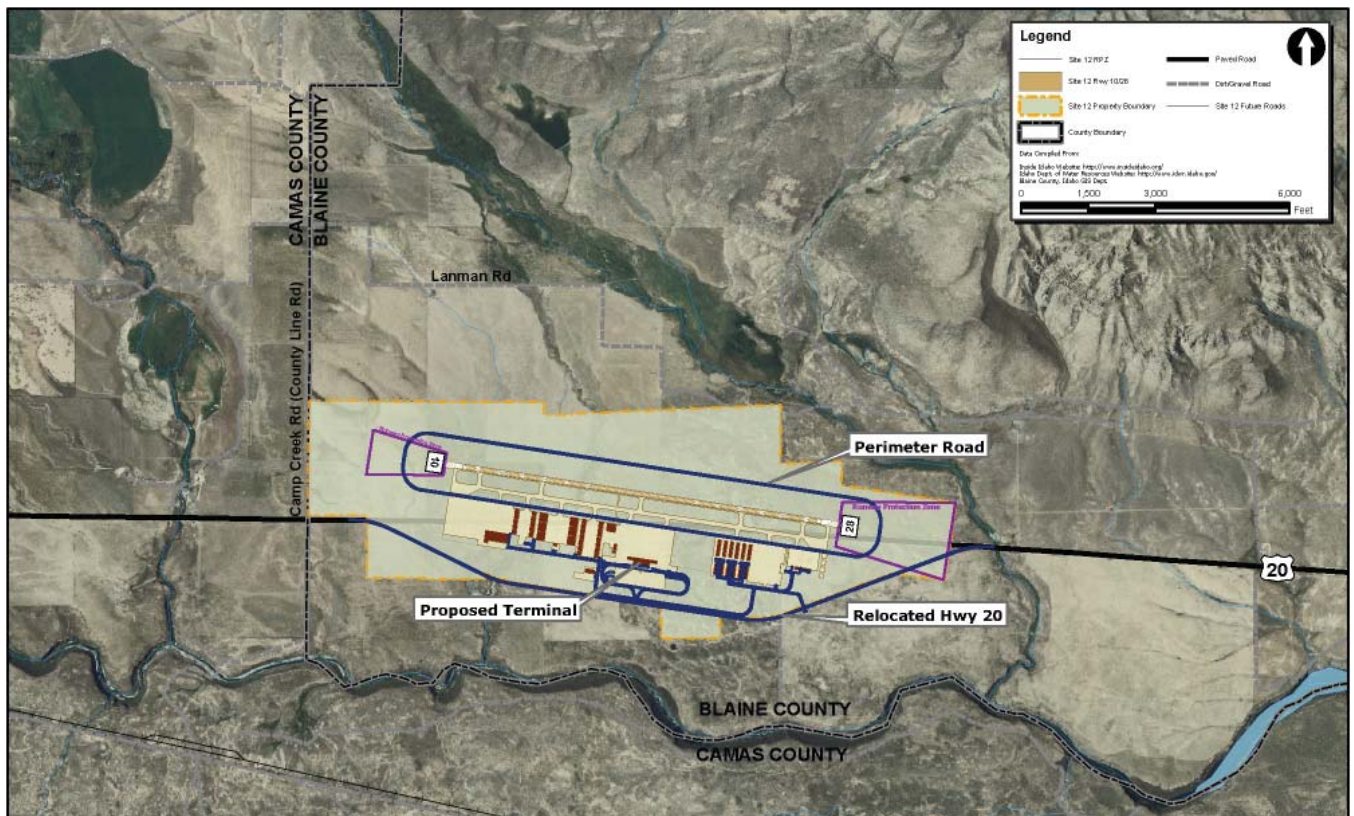
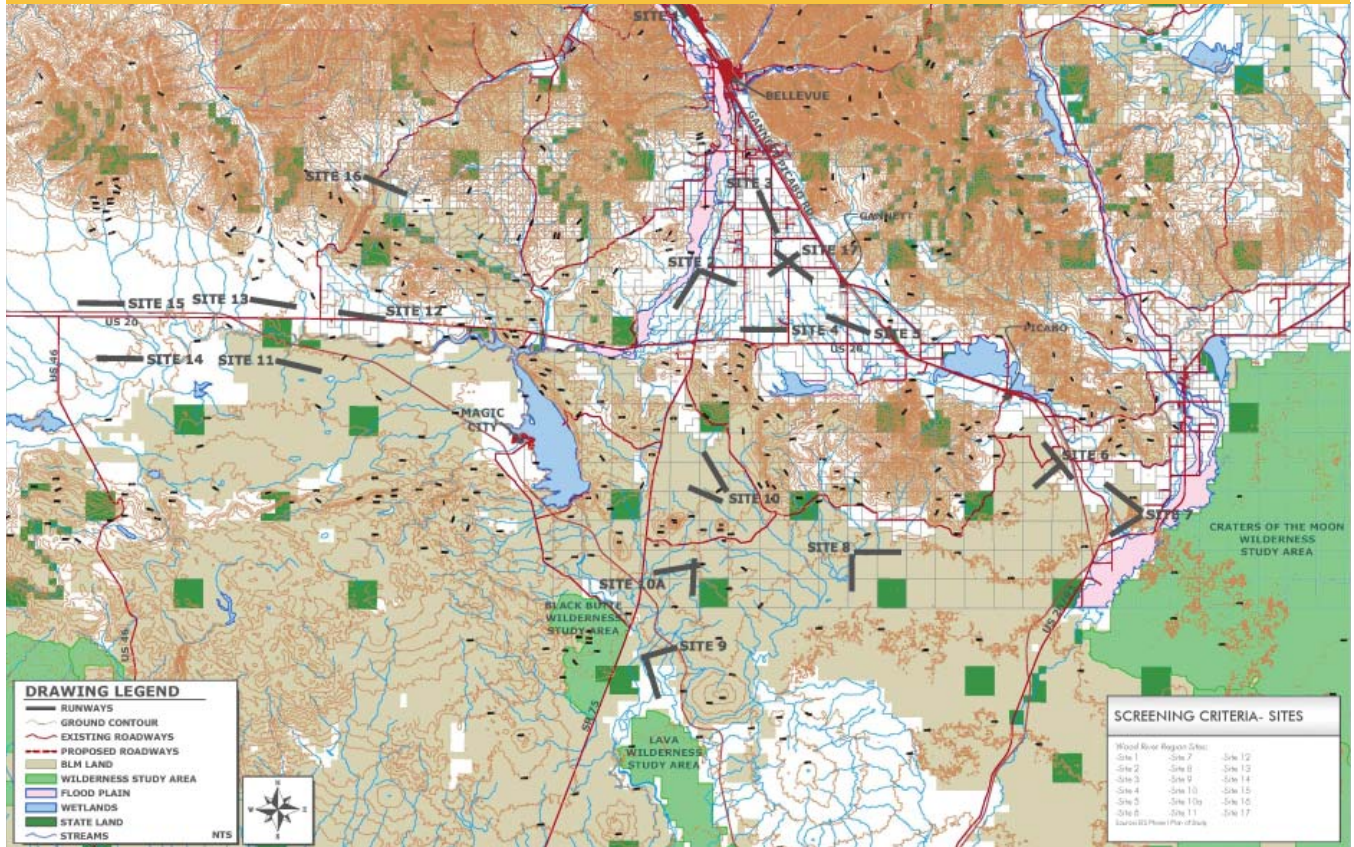
Four of the screening criteria were re-visited/updated by the Master Plan to acknowledge current conditions and design standards. The following four screening criteria were used to re-evaluate each of the 18 alternative sites:

- 1. Ability to meet updated facility requirements (as identified by the Master Plan)**
- 2. Ability to prove sponsorship/location within Blaine County**
- 3. Expansion opportunity**
- 4. Ability to meet CAT I approach requirements**

Additionally, all sites were reconsidered with regard to their ability to survive regulatory review; the acceptability of less than full CAT I approach capability; and the acceptability of re-orienting the runway at Site 17 to make it a feasible site. Finally, the limitations of all these criteria at the time of writing were identified. The Master Plan ultimately concluded that, when combining these evaluation criteria and accounting for the limitations, only Site 12 is a viable replacement airport site located within Blaine County. It is possible that if, or when, conditions change, a fresh look at the replacement airport sites – or a regional airport concept – may be warranted.



## POTENTIAL REPLACEMENT SITES EVALUATED FOR FRIEDMAN MEMORIAL AIRPORT



**SITE 12: POTENTIAL RELOCATION SITE FOR FRIEDMAN MEMORIAL AIRPORT**



## CHAPTER F.

### FINANCIAL FEASIBILITY ANALYSIS

# FINANCIAL

This chapter provides an overview of the Airport's financial and ownership structure; presents a funding plan for completion of recommended capital projects through FY 2034; and assesses the ability of the FMAA to financially undertake this plan. In accordance with the "dual-path" approach, funding plans were developed for two development scenarios: the Existing Airport Scenario and the Replacement Airport Scenario. Estimated costs, potential funding sources, proposed project phasing, and a projection of operating revenues and expenses were developed to demonstrate the financial feasibility of each scenario.

**EXISTING AIRPORT SCENARIO.** Under this scenario, the Airport would continue to be operated, maintained, and improved, in its existing location, to

meet applicable standards and demand requirements through the 20-year planning period. The estimated total cost of the FY2017-2034 capital improvement program (CIP) under this scenario is \$50.2 million. Projected funding sources for this CIP include \$33.6 million of federal Airport Improvement Program (AIP) grants, including \$18.5 million of entitlement grants and \$15.1 million of discretionary grants; \$0.85 million passenger facility charge (PFC) revenues; and \$15.8 million local funds. Overall, the financial analysis shows that the funding plan developed for the Existing Airport Scenario is generally feasible.

**REPLACEMENT AIRPORT SCENARIO.** Under this scenario, critical maintenance and improvement projects would be undertaken at the existing Airport, while construction of a replacement airport would begin in FY 2022 and be completed in FY 2034. The estimated total cost of the FY2017-2034 CIP under this scenario is \$338.1 million. This estimate is not specific to a particular replacement airport site, but is a generic estimate based on blending the planning-level cost estimates developed in 2011 for Sites 10A and 12, and escalating the costs to account for inflation. Projected funding sources for this CIP include \$113.8 million of AIP grants, including \$18.9 million of entitlement grants and \$95.0 million of discretionary grants; \$5.0 million PFC revenues; \$136.3 million local funds; \$80.0 million third party funds; and \$3.0 million of customer facility charge (CFC) revenues and/or rental car company rent. Based on the cash flow analysis as well as anticipated projects and corresponding eligibility for AIP and PFC funding, the analysis projects a local funding shortfall of \$127.8 million for this scenario. Achieving a financially viable Replacement Airport Scenario would require major decreases in capital cost requirements, significant additional federal participation, and/or significant local and possibly third-party financial resources.

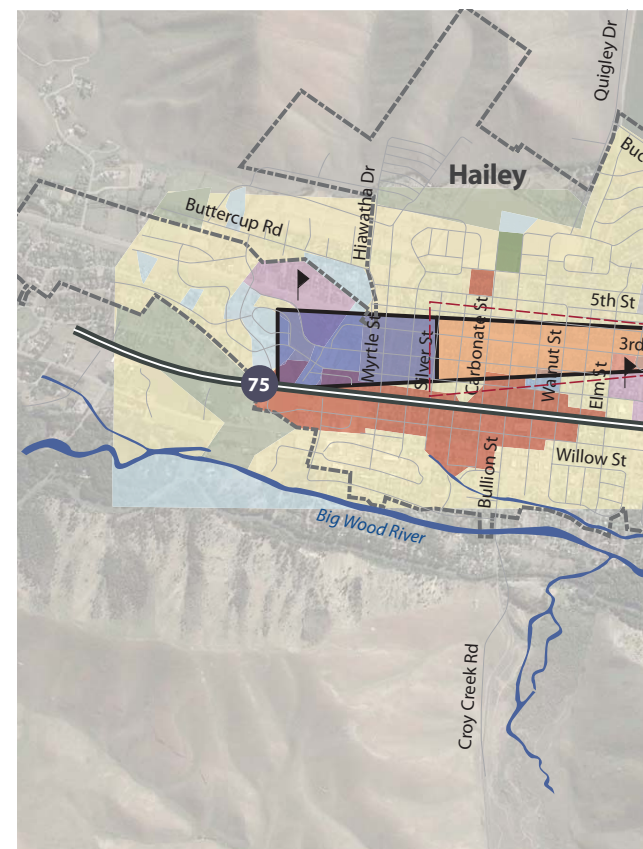
## CHAPTER G.

### ENVIRONMENTAL OVERVIEW & LAND USE PLAN

# ENVIRONMENTAL

This chapter provides guidance on future environmental studies that will be required prior to implementing improvement recommendations described in the Master Plan. The chapter also presents existing and future aircraft noise contours associated with forecasted operational levels presented in Chapter B, and identifies existing and recommended land use restrictions in areas substantially affected by aircraft noise.

**AIRPORT LAYOUT PLAN UPDATE.** An Airport Layout Plan (ALP) update was completed at the conclusion of the planning process, to incorporate changes resulting from the preferred



20-YEAR LAND USE PLAN



concepts presented in the Master Plan for the existing Airport site. An ALP is a blueprint for airport development that depicts existing airport facilities and proposed improvements, and must be kept up-to-date at all times. The five primary functions of an ALP are as follows:

1. An FAA-approved ALP is necessary for the airport to receive federal financial assistance and collect passenger facility charges.
2. An ALP helps the FMAA ensure that airport design standards and safety requirements are maintained, and that proposed development is consistent with airport and community land use plans.
3. An ALP serves as a public record of aeronautical requirements both present and future, and as a reference for community deliberations on land use proposals and budget resource planning.
4. An ALP allows the FAA to plan for budgetary, procedural, and airspace needs.
5. An ALP is a working tool for the airport sponsor, including its development and maintenance staff.

