INTRODUCTION

WHAT IS A MASTER PLAN?

The Federal Aviation Administration (FAA) recommends that airports update their long-term planning documents every seven to 10 years, or as necessary, to address local changes at the airport. The last master plan update for Sierra Vista Municipal Airport (FHU) was completed in 2014. The City of Sierra Vista, the municipal airport sponsor, received a grant from the FAA and Arizona Department of Transportation – Aeronautics Group (ADOT) to update this airport master plan.

FHU is a joint-use airport shared by the City of Sierra Vista, which operates on the north end of the airport, and Libby Army Airfield on Fort Huachuca. The City of Sierra Vista owns the civilian facilities on the north side of the airport, which are situated on approximately 75 acres of land. The city has a joint-use agreement with the United States Army for nonexclusive but unrestricted use of the runways and taxiways on Libby Army Airfield. The Army owns and operates the military facilities on the south side of the airport, the airport traffic control tower (ATCT), and the runways. The City of Sierra Vista has an easement to use and improve facilities and infrastructure in the joint-use area. The city is responsible for funding capital improvements on the civilian side, as well as obtaining FAA and ADOT development grants. In addition, the city oversees facility enhancements and infrastructure development conducted by private entities at the airport. This master plan update provides guidance for future development and justification for projects, for which the airport may receive funding through an updated capital improvement program (CIP), to demonstrate the future investment required by the city, as well as the FAA and ADOT.

The airport master plan follows a systematic approach outlined by the FAA to identify airport needs in advance of the actual need for improvements. This is done to ensure the city can coordinate environmental reviews, project approvals, design, financing, and construction to minimize the negative effects of maintaining and operating inadequate or insufficient facilities. An important outcome of the master plan process is a recommended development plan, which reserves sufficient areas for future facility needs. Such planning will protect development areas and ensure they will be readily available when required to meet future needs. The intended outcome of this study is a detailed on-airport land use concept that outlines specific uses for all areas of city-owned airport property, including strategies for revenue enhancement.

The preparation of this study is evidence that the city recognizes the importance of the airport to the surrounding region and the associated challenges inherent in providing for its unique operating and improvement needs, especially considering the important military and government presence at Libby Army Airfield. The airfield serves the missions of the 2-13th Aviation Regiment in training soldiers on unmanned aircraft system (UAS) operations and the 304th Military Intelligence Battalion Special Electronics Mission Aircraft. Other missions supported at the airfield include the U.S. Forest Service; the U.S. Department of Homeland Security (Customs and Border Protection); and the U.S. Air Force 355th Fighter Wing, 162nd Fighter Wing, 161st Air Refueling Wing, and 139th Airlift Wing.

The cost of maintaining an airport is an investment that yields impressive benefits to the local community. With a sound and realistic master plan, the airport can maintain its role as an important link to the regional, state, and national air transportation systems. Moreover, the plan will aid in supporting decisions for directing limited and valuable city resources for future airport development. Continued investments in the airport will ultimately allow the city to reap the economic benefits generated by historical investments.

Some common questions regarding what a master plan is / is not are answered in the graphic below.

An Airport Master Plan is:

- ✓ A comprehensive, long-range study of the airport and all air and landside components that describes plans to meet FAA safety standards and future aviation demand.
- ✓ Recommended by the FAA to be conducted every 7-10 years to ensure plans are up to date and reflect current conditions and FAA regulations. The last master plan was completed in 2014.
- ✓ Funded by the FAA through the Airport Improvement Program (AIP) and through ADOT's Aeronautics group. This study is 91.06% funded by the AIP, with the remainder funded equally between ADOT and the City of Sierra Vista.
- ✓ A local document that will ultimately be presented for approval from the City of Sierra Vista. The FAA approves only two elements of the master plan: the aviation demand forecasts and the airport layout plan (ALP) drawing set.
- ✓ An opportunity for airport stakeholders and the general public to engage with airport staff on issues related to the airport, its current and future operations, and its environmental and socioeconomic impacts. Three (3) public information workshops will be conducted during the master plan process to facilitate this public outreach effort.

An Airport Master Plan is not:

- ✗ A guarantee that the airport will proceed with any planned projects. Master plans are guides that help airport staff plan for future airport development; however, the need/demand for certain projects may not materialize.
- ✗ A guarantee that the City of Sierra Vista, ADOT, or the FAA will fund any planned projects. Project funding is considered on a project-by-project basis and requires appropriate need and demand. Certain projects may require the completion of a benefit-cost analysis.
- ✗ Environmental clearance for any planned projects. The master plan includes an environmental overview that identifies potential environmental sensitivities per the *National Environmental Policy Act of 1969* (NEPA); however, most planned projects will require a separate NEPA study (environmental impact statement/environmental assessment/categorical exclusion) prior to construction.

WHO IS PREPARING THE MASTER PLAN?

The city has contracted with Coffman Associates, Inc. to undertake the airport master plan. Coffman Associates is an airport planning and consulting firm that specializes in master planning and environmental studies. Coffman Associates will lead the planning team, with support from the following firms:

- C&S Companies | Airport development cost estimate preparation and utility infrastructure analysis
- NV5 Geospatial | Aerial photography, ground survey, and Geographic Information Systems (GIS) products to meet FAA 5300-18B requirements for Airports GIS data submittal
- SWCA Environmental Consultants | Field surveys and reports in support of the environmental elements of the plan

The airport master plan is being prepared in accordance with FAA requirements, including Advisory Circular (AC) 150/5300-13B, *Airport Design*, and AC 150/5070-6B, *Airport Master Plans* (as amended). The plan will be closely coordinated with other planning studies relevant to the area and with aviation plans developed by the FAA and ADOT. The plan will also be coordinated with the City of Sierra Vista, Libby Army Airfield, and Fort Huachuca, as well as other local and regional agencies, as appropriate.

GOALS AND OBJECTIVES

The primary goal of this master plan is to develop and maintain a financially feasible, long-term development program that will satisfy aviation demand in the region; be compatible with community development, other transportation modes, and the environment; enhance employment and revenue for the local area; and carefully consider and support the missions of Libby Army Airfield and Fort Huachuca. Accomplishing this goal requires an evaluation of the existing airport to decide what actions should be taken to maintain a safe, adequate, and reliable facility.

Specific objectives of the study include the following:

- Document the issues proposed development will address.
- Justify the proposed development through the technical, economic, and environmental investigation of concepts and alternatives.
- Provide an effective graphic presentation of the development of the airport and anticipated land uses in the vicinity of the airport.
- Establish a realistic schedule for the implementation of the development proposed in the plan, particularly the short-term CIP.
- Provide sufficient project definition and detail for subsequent environmental evaluations that may be required before a project is approved.

- Present a plan that adequately addresses the issues at the airport and satisfies local, state, and federal regulations.
- Analyze the potential acquisition and utilization of approximately 203 acres of property adjacent to the airport (currently Fort Huachuca property) and its impact on future growth and development opportunities for the airport.
- Review future use and zoning of airport property and approaches to each runway end for future protection. This will involve the development of new noise exposure contours.
- Analyze the runway system and impacts to appropriate approach and departure surfaces, as recognized by the FAA.
- Set the stage and establish the framework for a continuing planning process, which should monitor key conditions and permit changes in plan recommendations, as required.
- Research and evaluate socioeconomic factors likely to affect the air transportation demand in the City of Sierra Vista and the regional area over the next 20 years, including the development of forecasts for general aviation operations and based aircraft.
- Determine the projected facility needs of airport users for the next 20 years, taking into consideration recent revisions to FAA design standards, the airport's conformance requirements, and the impact of general aviation fleet transitions on design standards.
- Recommend improvements that will enhance the airport's safety capabilities to the maximum extent possible.
- Recommend improvements that will enhance airport capacity to the maximum extent possible.
- Prepare landside development options to maximize revenue streams on city-owned airport property, including both aviation- and non-aviation-related activities.
- Produce current and accurate airport base maps, airport layout plan (ALP) drawings, and an Exhibit A Airport Property Map consistent with FAA Standard Operating Procedure (SOP) No. 2.00, SOP No. 3.00, and AC 150/5300-13B, *Airport Design*.
- Establish a schedule of development priorities and a program for the improvements proposed in the master plan, consistent with FAA and ADOT CIP planning.
- Develop productive public involvement throughout the planning process, including the formulation of a planning advisory committee (PAC) and public information workshops.
- Conduct an aeronautical survey that is compliant with Airports Geographic Information Systems (AGIS) standards and includes airspace and obstruction information submitted to and approved by the FAA. Data will be submitted in the FAA's Airport Data and Information Portal (ADIP) systems as an airspace evaluation.

BASELINE ASSUMPTIONS

A long-range planning study requires several baseline assumptions that will be used throughout this analysis. The baseline assumptions for this study are as follows:

- FHU will continue to operate as a local general aviation and joint-use military airport through the 20-year planning period;
- FHU will continue to accommodate general aviation tenants, as well as itinerant and/or local aircraft operations by air taxi, general aviation, and military operators;
- The aviation industry will develop through the planning period as projected by the FAA (specifics of projected changes in the national aviation industry are described in Chapter Two – Forecasts);
- The socioeconomic characteristics of the region will generally change as forecast (see Chapter Two); and
- A federal and state airport improvement program will be in place through the planning period to assist in funding future capital development needs.

MASTER PLAN ELEMENTS AND PROCESS

The master plan includes 10 elements that are intended to assist in the evaluation of future facility needs and provide the supporting rationale for their implementation. **Figure iA** provides a graphical depiction of the process involved with the study.

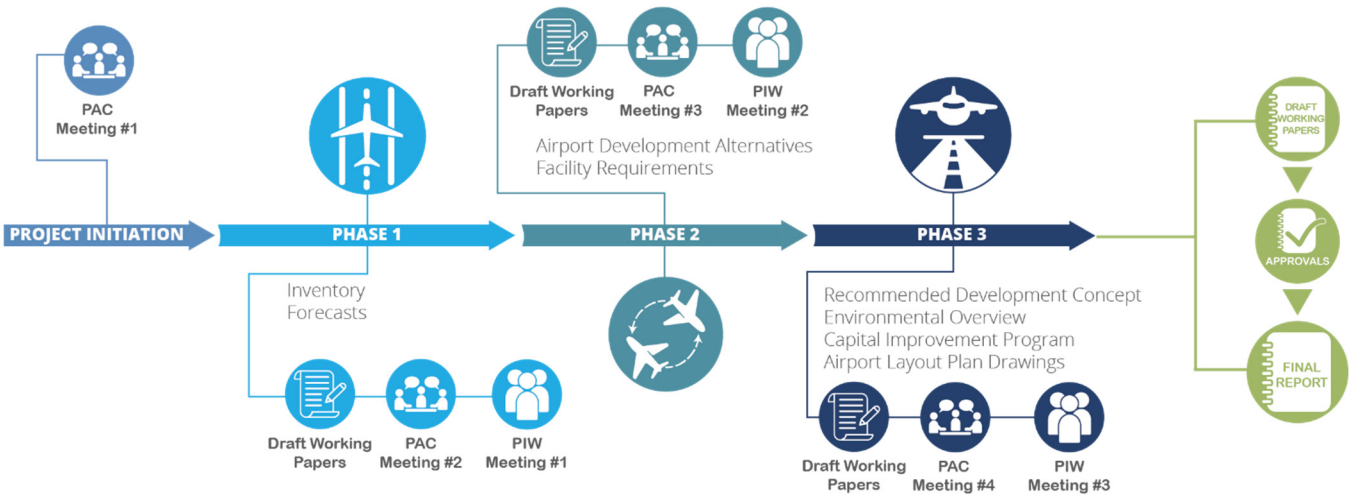

Figure iA – Master Plan Process and Elements

Element 1 – Initiation includes the development of the scope of services and schedule, as well as the establishment of a PAC. General background information will be established that includes outlining the goals and objectives to be accomplished during the master plan.

Element 2 – Inventory focuses on collecting and assembling relevant data pertaining to the airport and the area it serves. Information is collected on existing facilities and operations. Local economic and demographic data are collected to define the local growth trends, and environmental information is gathered to identify potential environmental sensitivities that might affect future improvements. Planning studies that may have relevance to the master plan are also collected.

Element 3 – Forecasts examines the potential aviation demand at the airport. The analysis utilizes local socioeconomic information and national air transportation trends to quantify the levels of aviation activity that can reasonably be expected to occur at FHU over a 20-year period. An existing and ultimate critical design aircraft – based on AC 150/5000-17, *Critical Aircraft and Regular Use Determination* – are also established to determine future planning design standards. The results of this effort are used to determine the types and sizes of facilities that will be required to meet the projected aviation demand at the airport through the planning period. This element is one of two elements of the study that are submitted to the FAA for approval.

Element 4 – Facility Requirements determines the available capacities of various facilities at the airport, whether they conform with FAA standards, and what facility updates or new facilities will be needed to comply with FAA requirements and/or the projected 20-year demand.

Element 5 – Airport Alternatives considers a variety of solutions to accommodate projected airside and landside facility needs through the long-term planning period. An analysis is completed to identify the strengths and weaknesses of each proposed development alternative, with the intention of determining a single direction for development.

Element 6 – Recommended Master Plan Concept and Capital Financial Plan provides both a graphic and narrative description of the recommended plan for the use, development, and operation of the airport. A CIP is established to define the schedules, costs, and funding sources for the recommended development projects.

Element 7 – Airport Plans is the preparation of the official ALP drawings based on the recommended development concept. The ALP set is used by the FAA and ADOT in determining grant eligibility. This element is the second element of the study that is submitted to the FAA for approval.

Element 8 – Environmental Evaluation involves providing environmental information to assist in the evaluation of airport alternatives and recommended development concepts and help expedite subsequent environmental review under the *National Environmental Policy Act* (NEPA). A recycling plan is developed based on an assessment of the airport's existing waste management program and recommendations for improving on-airport recycling. This element also includes an update to the public airport disclosure map that reflects operational forecasts, noise contours, airfield facilities, and the airport traffic pattern airspace.

Element 9 – Public Coordination and Communication includes tasks related to PAC meetings as the master plan develops, as well as periodic public information workshops with the aim of engaging the community in the study process. A study website is also developed for the purpose of distributing study materials and notices of public meetings.

Element 10 – Final Reports and Approvals provides documents that depict the findings of the study effort and present the study and its recommendations to appropriate local organizations. The final document incorporates the revisions to previous working papers, which were prepared under earlier elements, into a usable master plan document.

COORDINATION AND OUTREACH

The Sierra Vista Municipal Airport Master Plan is of interest to many within the local community and region, including local citizens, local businesses, community organizations, town officials, airport users/tenants, and aviation organizations. As a component of the regional, state, and national aviation systems, FHU is of importance to both state and federal agencies responsible for overseeing the air transportation system.

To assist in the development of the master plan, a PAC was established to act in an advisory role during the preparation of the study. Committee members will meet four times at designated points during the study to review study materials and provide comments to help ensure the development of a realistic, viable plan.

Draft working paper materials will be prepared at various milestones in the planning process. The working paper process allows for timely input and review during each step within the master plan to ensure all issues are fully addressed as the recommended program develops.

Three open-house public information workshops will also be conducted as part of the study coordination and outreach efforts. Workshops are designed to allow all interested persons to become informed and provide input concerning the master plan process. Notices of meeting times and locations will be advertised through local media outlets; all working papers, meeting notices, and materials will be made available to the public on the project website at https://sierravista.airportstudy.net/.

SWOT ANALYSIS

A SWOT analysis is a strategic business planning technique used to identify **S**trengths, **W**eaknesses, **O**pportunities, and **T**hreats associated with an action or plan. The SWOT analysis involves identifying an action, objective, or element, and then identifying the internal and external forces that are positively and negatively impacting that action, objective, or element in a given environment. A SWOT analysis will be conducted with the PAC in December 2023. A summary of this exercise and discussion is included as **Exhibit iA**.

S STRENGTHS

- FHU has multiple runways that are long enough to accommodate diverse users
- There is a large terminal with FBO services available
- Plenty of apron space to accommodate aircraft movements and parking
- Airport traffic control tower (ATCT) serves both military & civilian operators and is helpful from a pilot's perspective
- Restricted airspace/ease of use for sensitive or high-profile users
- City and Fort Huachuca have a good relationship and common vision and goals
- Climate and natural terrain contribute to city's attractiveness
- Terrain serves as a natural compatibility buffer for FHU
- Cochise College has an aviation program
- City is able to support larger jet operations
- Airport personnel have experience with diverse aircraft

W WEAKNESSES

- FHU has limited property available for future development
- Aging airport traffic control tower
- Lack of continuity in airfield signage
- Restricted airspace can be a deterrant to some general aviation users
- Lack of understanding from the community on airport funding
- Lack of understanding from the community on importance and benefits of an airport
- Drainage problems on airfield results in standing water that attracts birds and other wildlife
- Vegetation encroaching onto runway/taxiway shoulder pavement
- Lack of commercial passenger service and demand for such service
- Lack of aircraft service infrastructure (lavatory, water)
- Loose gravel and pavement issues present on general aviation apron
- Hangars are at capacity and there is a waitlist for hangar space
- No aircraft are assigned to Fort Huachuca, so Department of Defense (DOD) funding is not available

O OPPORTUNITIES

- Potential for expansion onto adjacent vacant property
- Safety/security projects to detract wildlife
- Future economic growth; airport is an asset to job growth for aeronautical and non-DOD personnel
- Sierra Vista is a nice place to live and work
- Air taxi service to Tucson (Advanced Air Mobility); FHU is an ideal candidate for vertiport development
- Bipartisan Infrastructure Law (BIL) funding available
- Clarification of joint-use language and introduction into FAA funding opportunities (i.e., approach lighting system and other projects that would benefit both military and civilian users)

T THREATS

- Rising cost of maintenance
- Pilot shortage
- Wildlife access to airfield (deer, javelina, etc.)
- Environmental litigations
- Aircraft emissions (public perception)
- FAA changing its stance on project funding eligibility
- Alternative fuels and equipment/facility needs
- Limited/lack of DOD funding

SWOT DEFINITIONS

This SWOT analysis groups information into two categories:

- **Internal –** attributes of the airport and market area that may be considered strengths or weaknesses to the action, objective, or element
- **External –** attributes of the aviation industry that may pose as opportunities or threats to the action, objective, or element

The SWOT further categorizes information into one of the following:

- **Strengths –** internal attributes of the airport that are helpful to achieving the action, objective, or element
- **Weaknesses –** internal attributes of the airport that are harmful to achieving the action, objective, or element
- **Opportunities –** external attributes of the industry that are helpful to achieving the action, objective, or element
- **Threats –** external attributes of the industry that are harmful to achieving the action, objective, or element

It is important to note that some attributes may fit into multiple categories; for example, an attribute can be considered both a strength and a weakness, depending on the perspective of the person or entity describing it.