



## CHAPTER 6

# CAPITAL IMPROVEMENT PROGRAM

The recommended master plan concept presented in the previous chapter outlined airside and landside improvements for Sierra Vista Municipal Airport (FHU) that provide the City of Sierra Vista with a plan to preserve and develop the airport to meet future civilian aviation demands. Using this concept as a guide, this chapter will provide a description and overall cost for projects identified in the 20-year capital improvement program (CIP) and development schedule. The program has been evaluated from a variety of perspectives and represents a comparative analysis of basic budget factors, demand, and priority assignments.

The presentation of the capital program is organized into two sections. First, the airport's CIP and associated cost estimates are presented in both narrative and graphic formats. The CIP has been developed following Federal Aviation Administration (FAA) guidelines for master plans and primarily identifies those projects that are likely eligible for FAA and Arizona Department of Transportation – Aeronautics Group (ADOT) grant funding. Second, capital improvement funding sources on the federal, state, and local levels are identified and discussed.



## AIRPORT CAPITAL IMPROVEMENT PROGRAM

With the recommended concept and specific needs and improvements for the airport established, the next step is to determine a realistic schedule for project implementation and the associated costs for the plan. The capital program considers the interrelationships among the projects to determine an appropriate sequence of projects while remaining within reasonable fiscal constraints.

The CIP is programmed by planning horizons and has been developed to cover the short- (years 1-5), intermediate- (years 6-10), and long-term (years 11-20+) planning horizons. By using planning horizons instead of specific years, the City of Sierra Vista will have greater flexibility to adjust capital needs as demand dictates. **Table 6A** summarizes the key aviation demand milestones projected at the airport for each of the three planning horizons.

**TABLE 6A | Aviation Demand Planning Horizons**

	Base Year (2023)	Short Term (1-5 Years)	Intermediate Term (6-10 Years)	Long Term (11-20 Years)
<b>BASED AIRCRAFT</b>				
Single-Engine	51	53	55	60
Multi-Engine	5	4	3	1
Turboprop	0	1	2	4
Jet	0	1	2	3
Helicopter	1	1	2	3
Other <sup>1</sup>	4	4	4	4
<b>TOTAL BASED AIRCRAFT</b>	<b>61</b>	<b>64</b>	<b>68</b>	<b>75</b>
<b>ANNUAL OPERATIONS<sup>2</sup></b>				
<i>General Aviation</i>				
General Aviation, Itinerant	1,411	1,480	1,560	1,730
General Aviation, Local	26,800	28,200	29,670	32,840
After-Hours Adjustment	3,526	3,710	3,904	4,321
<i>Total General Aviation</i>	<i>31,737</i>	<i>33,400</i>	<i>35,100</i>	<i>38,900</i>
<i>Air Taxi</i>				
Air Carrier	0	0	0	0
Air Taxi	5,394	5,620	5,850	6,350
After-Hours Adjustment	270	281	293	318
<i>Total Air Taxi</i>	<i>5,664</i>	<i>5,900</i>	<i>6,100</i>	<i>6,700</i>
<i>Military</i>				
Military, Itinerant	3,878	4,700	4,700	4,700
Military, Local	73,685	89,775	89,775	89,775
After-Hours Adjustment	1,939	2,362	2,362	2,362
<i>Total Military</i>	<i>79,502</i>	<i>96,800</i>	<i>96,800</i>	<i>96,800</i>
<b>TOTAL OPERATIONS</b>	<b>116,903</b>	<b>136,100</b>	<b>138,000</b>	<b>142,400</b>

<sup>1</sup> Other includes gliders, experimental aircraft, light sport aircraft, etc.

<sup>2</sup> Total operations have been rounded

Source: Coffman Associates analysis

A key aspect of this planning document is the use of demand-based planning milestones. The short-term planning horizon contains items of highest need and/or priority, some of which have been previously defined by airport management. As short-term horizon activity levels are reached, it will then be time to program for the intermediate term based on the next activity milestones. Similarly, when the



intermediate-term milestones are reached, it will be time to program for the long-term activity milestones. A demand-based master plan does not specifically require the implementation of any of the demand-based improvements. Instead, it is envisioned that implementation of any improvements would be examined against the demand levels prior to implementation. As such, the master plan establishes a plan for the use of airport facilities that is consistent with the potential aviation needs and capital needs required to support that use. Individual projects in the plan are not implemented until the need is demonstrated and the project is approved for funding.

Many development items included in the recommended concept will need to follow these demand indicators. For example, the plan includes utility infrastructure expansion and site preparation for constructing new landside facilities to support aircraft activity. Demand for new based aircraft will be a primary indicator for these projects. If based aircraft growth occurs as projected, additional hangars should be constructed to meet the demand. If growth slows or does not occur as forecast, some projects may be delayed. As a result, capital expenditures are planned to be made on an as-needed basis, leading to more responsible use of capital assets. Some development items do not depend on demand, such as airfield improvements to meet FAA design standards. These projects need to be programmed in a timely manner, regardless of changes in demand indicators, and should be monitored regularly by airport management.

At Sierra Vista Municipal Airport, most hangars are owned and managed by the city and leased to individual tenants. Because of economic realities, many airports rely on private developers to construct new hangars. In some cases, private developers can keep construction costs lower, which lowers the monthly lease rates necessary to amortize a loan. The CIP for Sierra Vista Municipal Airport assumes site preparation and development for landside facilities will be constructed privately. As such, cost estimates for hangar construction are not included. Ultimately, the City of Sierra Vista will determine whether to self-fund landside facility development or rely on private developers based on demand and the specific needs of a potential developer.

Because a master plan is a conceptual document, implementation of the capital projects should only be undertaken after further refinement of their design and costs through architectural or engineering analyses. Moreover, some projects may require additional infrastructure improvements (i.e., drainage improvements, extension of utilities, etc.) that may increase the estimated cost of the project or increase the timeline for completion.

Once a list of necessary projects was identified and refined, project-specific cost estimates were prepared. These estimates include design, construction administration, and contingency costs that may arise on the project. ***Capital costs presented here should be viewed only as “order-of-magnitude” estimates subject to further refinement during engineering/architectural design.*** Nevertheless, they are considered sufficient for planning purposes. Cost estimates for each of the development projects in the CIP are based on present-day construction, design, and administration costs. Adjustments will need to be applied over time to account for inflation and changes in construction and capital equipment costs. Cost estimates for these projects were provided by C&S Companies, who is providing engineering support for the master plan and is familiar with FHU, having been involved with the design and construction of capital projects on the airfield. Cost estimates for each of the development projects in the CIP are in current (2025) dollars.



**Exhibit 6A** presents the proposed 20-year CIP for Sierra Vista Municipal Airport. It should be stated clearly that the proposed CIP is a point-in-time analysis that will change annually based on actual demand and changing needs. An estimate of grant (FAA and/or ADOT) funding eligibility has been included, although actual funding is not guaranteed. For those projects that would be eligible for federal funding, Airport Improvement Program (AIP) reauthorization provides for 91.06 percent of the total project cost for FHU. The remaining amount (8.94 percent) would be equally shared between ADOT and the City of Sierra Vista (4.47 percent each). This eligibility breakdown is based on the airport's classification, in addition to the amount of public land within the State of Arizona. Other projects, such as the implementation of certain landside facilities (roadways), are typically not eligible for AIP grants (outside of non-primary entitlements) or would rank low on the priority scale. As a result, these projects may need to be planned for airport sponsor funding or funding through specific ADOT programs. It should be noted that for FAA's fiscal years 2025 and 2026, FAA-eligible projects are funded at 95 percent of the total project cost, with ADOT and the City of Sierra Vista each being responsible for 2.5 percent of the project total.

As detailed in the CIP, all projects listed may be eligible for federal and state funding, but some may be given a lower priority ranking. Demand and justification for these projects must be provided prior to a grant being issued by either the FAA and/or ADOT. The FAA utilizes a national priority rating system to help objectively evaluate potential airport projects. Projects are weighted toward safety, infrastructure preservation, meeting design standards, and capacity enhancement. The FAA may participate in the highest priority projects before considering lower priority projects, even if a lower priority project is considered a more urgent need by the local sponsor. Nevertheless, such a project should remain a priority, and funding support should continue to be requested in subsequent years.

Some projects identified in the CIP will require environmental documentation. The level of documentation necessary for each project must be determined in consultation with the FAA and ADOT. There are three major levels of environmental review to be considered under the *National Environmental Policy Act* (NEPA): categorical exclusion (CatEx), environmental assessment (EA), and environmental impact statement (EIS). Each level requires more time to complete and more detailed information than the previous level. Guidance on what level of documentation is required for a specific project is provided in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*. The environmental overview presented in Chapter Five addresses NEPA and provides an evaluation of various environmental categories for FHU.

The following sections will describe, in greater detail, the projects identified for the airport over the next 20 years. The projects are grouped based on a detailed evaluation of existing and projected demand, safety, rehabilitation needs, and local priority. While the CIP identifies the priority rankings of the projects, the list should be evaluated and revised on a regular basis. It is also important to note that certain projects, while listed separately for purposes of evaluation in this study, could be combined with other projects at the time of construction/implementation.



Fiscal Year	Project No.	PROJECT DESCRIPTION	Total Project Cost Estimate	AIP / Federal	ADOT	Airport Sponsor
<b>SHORT TERM (Years 1-5)</b>						
2026	1	Install new AWOS sensors	\$400,000	\$0	\$0	\$400,000
2026	2	Design and construct a pavement rehabilitation project on the main apron	\$950,000	\$902,500	\$23,750	\$23,750
2027	3	Design a pavement preservation project on Runway 12-30 and construct a connector taxiway to Runway 30	\$170,000	\$154,802	\$7,599	\$7,599
2028	4	Construct a pavement preservation project on Runway 12-30 and construct a connector taxiway to Runway 30	\$1,500,000	\$1,365,900	\$67,050	\$67,050
2028	5	Mark apron with no-taxi island at Taxiway D entrance	\$150,000	\$136,590	\$6,705	\$6,705
2030	6	Environmental study for property acquisition	\$300,000	\$0	\$0	\$300,000
<b>SHORT TERM TOTAL</b>			<b>\$3,470,000</b>	<b>\$2,559,792</b>	<b>\$105,104</b>	<b>\$805,104</b>

<b>INTERMEDIATE TERM (Years 6-10)</b>						
	7	Extend utilities to spaceport reserve area	\$660,000	\$0	\$0	\$660,000
	8	Repurpose Runway 3-21 as a taxiway	\$3,150,000	N/A	N/A	N/A
	9	Acquire 203 acres north of the airport	\$100,000	\$0	\$0	\$100,000
	10	Install MALSF on Runway 8	\$1,000,000	\$910,600	\$44,700	\$44,700
	11	Install REILs on Runways 26, 12, and 30	\$1,950,000	\$1,775,670	\$87,165	\$87,165
	12	Construct taxilane and apron to support north side development area - Phase 1	\$4,370,000	\$3,979,322	\$195,339	\$195,339
	13	Construct taxilane and apron to support north side development area - Phase 2	\$6,700,000	\$6,101,020	\$299,490	\$299,490
	14	Close portion of Taxiway J and remove pavement	\$2,880,000	\$2,622,528	\$128,736	\$128,736
	15	Construct access roads to serve non-aeronautical development area	\$10,830,000	\$0	\$0	\$10,830,000
	16	Construct taxilane and apron	\$1,500,000	\$1,365,900	\$67,050	\$67,050
	17	Routine pavement maintenance	\$2,500,000	\$2,276,500	\$111,750	\$111,750
<b>INTERMEDIATE TERM TOTAL</b>			<b>\$35,640,000</b>	<b>\$19,031,540</b>	<b>\$934,230</b>	<b>\$12,524,230</b>

<b>LONG TERM (Years 11-20)</b>						
	18	Construct taxilane and apron to support north side development area - Phase 3	\$4,000,000	\$3,642,400	\$178,800	\$178,800
	19	Construct north side partial-parallel taxiway serving Runway 8-26 and connector	\$14,500,000	\$13,203,700	\$648,150	\$648,150
	20	Extend Runway 12 and related projects	\$9,300,000	\$8,468,580	\$415,710	\$415,710
	21	Construct infrastructure to serve vertiport and helicopter facilities on the north side	\$5,340,000	\$4,862,604	\$238,698	\$238,698
	22	Routine pavement maintenance	\$7,200,000	\$6,556,320	\$321,840	\$321,840
<b>LONG TERM TOTAL</b>			<b>\$40,340,000</b>	<b>\$36,733,604</b>	<b>\$1,803,198</b>	<b>\$1,803,198</b>
<b>TOTAL CIP</b>			<b>\$79,450,000</b>	<b>\$58,324,936</b>	<b>\$2,842,532</b>	<b>\$15,132,532</b>





## SHORT-TERM PROGRAM

The short-term projects are those anticipated to be needed during the first five years of the 20-year CIP. The projects listed are subject to change based on federal and state funding priorities. Projects related to safety and maintenance generally have the highest priority. This applies to many of the projects identified in the short-term CIP that are associated with maintaining/rehabilitating existing airfield pavements/infrastructure and improving airfield safety. The short-term program considers seven projects for the planning period, as presented on **Exhibits 6A** and **6B**. The following provides a detailed breakdown of each project.

### Project #1: Install New AWOS Sensors

- *Description* | The automated weather observation system (AWOS) located near the Runway 12 threshold is not functional or has limited functionality with some of its sensors. As such, this project includes replacement/upgrade of the weather-reporting sensors. The cost estimate listed below includes the cost to replace parts, but may change depending on the location of an adequate power supply.
- *Cost Estimate* | \$400,000
- *Funding Breakdown* | FAA – 0 percent / ADOT – 0 percent / Airport Sponsor – 100 percent

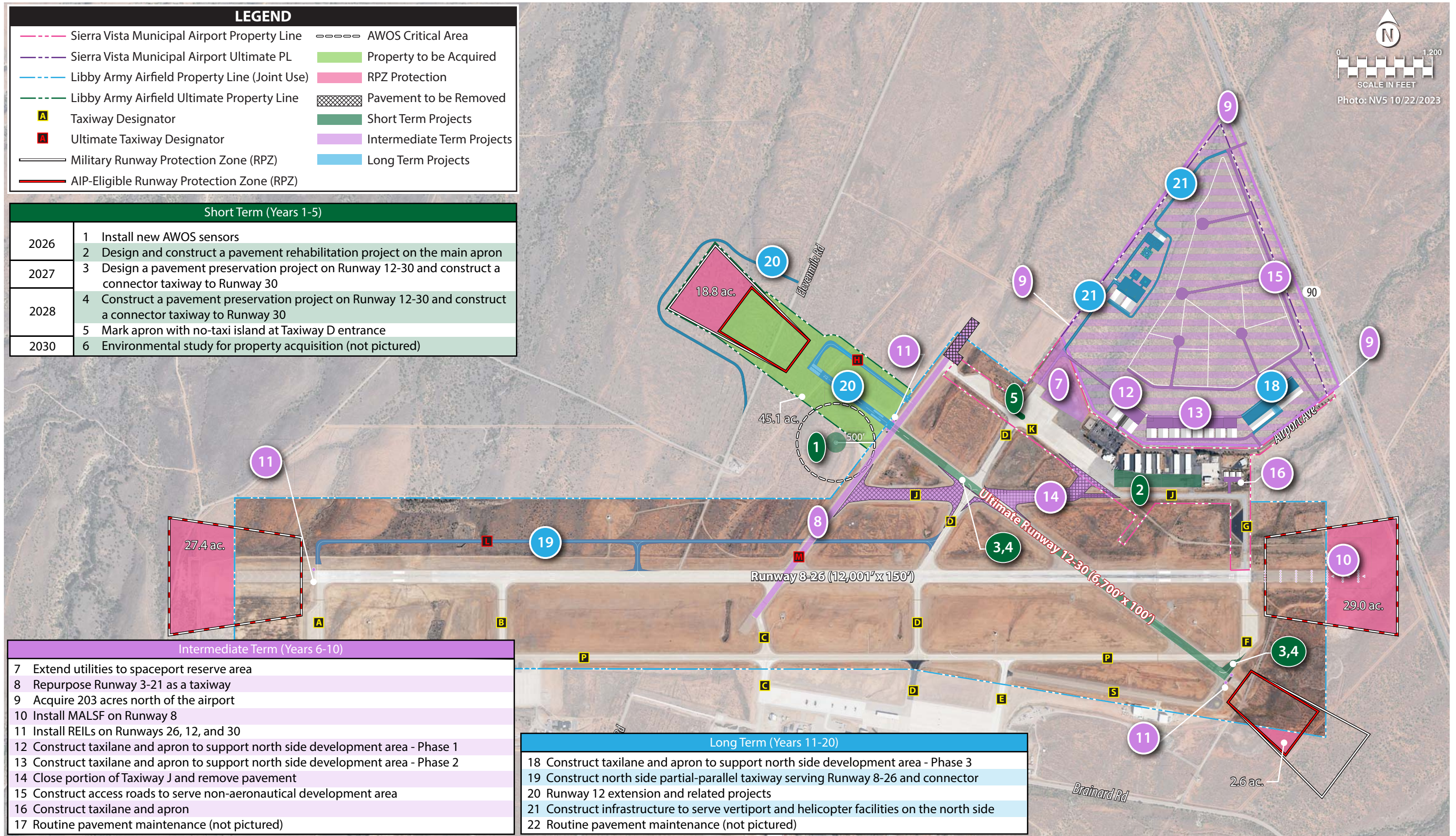
### Project #2: Design and Construct a Pavement Rehabilitation Project on the Main Apron

- *Description* | The apron fronting the linear box hangars east of the terminal building is in need of rehabilitation. The 2022 ADOT Pavement Management System estimates a pavement condition index (PCI) of 64 for this area, indicating that pavement preservation, such as a surface treatment or joint resealing, is necessary.
- *Cost Estimate* | \$950,000
- *Funding Breakdown* | FAA – 95.00 percent / ADOT – 2.50 percent / Airport Sponsor – 2.50 percent

### Project #3: Design a Pavement Preservation Project on Runway 12-30 and Construct a Connector Taxiway to Runway 30

- *Description* | Runway 12-30 was constructed in 2010 and is in need of a preservative treatment. This project plans for the engineering design for this treatment, as well as the design for the construction of a new connector taxiway extending from Taxiway F to the Runway 30 threshold. This connector will enable civilian pilots departing on Runway 30 to taxi directly from the north side of the airport to Runway 30 without having to first cross Runway 12-30 or taxi on Taxiway P and S to access the runway threshold from the south.
- *Cost Estimate* | \$170,000
- *Funding Breakdown* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent





Capital Improvement Program | DRAFT



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#### **Project #4: Construct a Pavement Preservation Project on Runway 12-30 and Construct a Connector Taxiway to Runway 30**

- *Description* | This project plans for the construction of Project #3.
- *Cost Estimate* | \$1,500,000
- *Funding Breakdown* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent

#### **Project #5: Mark Apron with a No-Taxi Island**

- *Description* | Taxiway D serves as a direct access point where it extends from the apron to Runway 12-30. This is not an FAA-preferred condition, so this project plans for the inclusion of a no-taxi island at the entrance to the taxiway. A no-taxi island is a marking on the pavement that provides a visual indicator to pilots to taxi around it, essentially forcing a turn prior to entering an active runway environment.
- *Cost Estimate* | \$150,000
- *Funding Breakdown* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent

#### **Project #6: Conduct Environmental Study for Property Acquisition**

- *Description* | The City of Sierra Vista plans to acquire 203 acres north of airport property to be used for future aeronautical and non-aeronautical development. Prior to acquisition, some level of environmental review, likely an Environmental Assessment (EA), will be required. This project plans for this study to be prepared as part of the acquisition process.
- *Cost Estimate* | \$300,000
- *Funding Breakdown* | FAA – 0 percent / ADOT – 0 percent / Airport Sponsor – 100 percent

#### **Short-Term Program Summary**

The short-term CIP includes projects that enhance the overall safety, efficiency, and maintenance of the airfield. The total investment necessary for the short-term CIP is approximately \$3.5 million, as detailed in **Table 6B**. Of the overall short-term CIP total, approximately \$2.7 million is eligible for federal and state funding assistance. Approximately \$800,000 is to be provided through airport sponsor funding outlets if all of these projects are pursued in the short term.

#### **INTERMEDIATE-TERM PROGRAM**

The intermediate-term projects are those that are anticipated to be necessary in years six through 10 of the master plan. These projects are not tied to specific years for implementation; instead, they have been prioritized so airport management has the flexibility to determine when they need to be pursued, based on current conditions. It is not unusual for certain projects to be delayed or advanced based on changing conditions, such as funding availability or changes in the aviation industry. This



planning horizon includes 11 projects for the five-year timeframe, as detailed on **Exhibits 6A** and **6B**. The following section includes a description of each project.

#### **Project #7: Extend Utilities to Spaceport Reserve Area**

- *Description* | As detailed in Chapter Five, a portion of the airport property northeast of the terminal apron is intended to support future spaceport facilities. As this property is currently undeveloped, utility infrastructure will be necessary to support these operations.
- *Cost Estimate* | \$660,000
- *Funding Breakdown* | FAA – 0 percent / ADOT – 0 percent / Airport Sponsor – 100 percent

#### **Project #8: Repurpose Runway 3-21 as a Taxiway**

- *Description* | Runway 3-21 is planning to be decommissioned. Rather than removing the runway pavement, the intent is to repurpose it to be used as a taxiway to access the existing Runway 12 threshold. This project plans for pavement rehabilitation as necessary, removal of runway markings and the addition of taxiway marking, updated signage, and installation of medium intensity taxiway lighting (MITL). This project falls under the purview of the U.S. Army and will likely be funded by the Army in its entirety. A cost estimate is provided for informational purposes only.
- *Cost Estimate* | \$3,150,000
- *Funding Breakdown* | N/A

#### **Project #9: Acquire 203 Acres North of the Airport**

- *Description* | As discussed previously, the City of Sierra Vista is planning to acquire approximately 203 acres of property north of the airport currently owned by Fort Huachuca. This property is intended to be used for both aeronautical and non-aeronautical development, with hangars and helicopter facilities proposed along the western and southern portions of the property. The central and eastern portions are planned to support non-aeronautical development. The land is being conveyed to the city from the U.S. Army at no cost. The cost estimate provided below is related to anticipated administrative fees for the conveyance of the property.
- *Cost Estimate* | \$100,000
- *Funding Breakdown:* | FAA – 0 percent / ADOT – 0 percent / Airport Sponsor – 100 percent

#### **Project #10: Install MALSF on Runway 8**

- *Description* | A medium intensity approach lighting system with sequenced flashers (MALSF) is planned to support the instrument landing system (ILS) approach to Runway 26. Project #10 includes the cost and installation of this system.
- *Cost Estimate* | \$1,000,000
- *Funding Breakdown* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent

**Project #11: Install REILs on Runways 26, 12, and 30**

- *Description* | In the absence of a more advanced approach lighting system (ALS), the FAA recommends the inclusion of runway end identifier lights (REILs). As Runways 26, 12, and 30 are not currently equipped with an ALS and not planned to be, this project plans for the installation of REILs for each of these runways.
- *Cost Estimate* | \$1,950,000
- *Funding Breakdown* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent

**Project #12: Construct Taxilane and Apron to Support North Side Development Area – Phase 1**

- *Description* | A new taxilane is planned to be constructed to support future hangar development on the 203-acre parcel. Phase 1 of this development includes an extension of the taxiway stub on the northeast side of the terminal apron and construction of a new taxilane that extends to the east to support two conventional hangars. The cost estimate includes taxilane and apron pavement construction, earthwork, utility expansion, and access from Airport Avenue.
- *Cost Estimate* | \$4,370,000
- *Funding Breakdown:* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent

**Project #13: Construct Taxilane and Apron to Support North Side Development Area – Phase 2**

- *Description* | Phase 2 of the north side development plan includes further extension of the taxilane described in Project #12, as well as construction of additional apron pavement, utility expansion, and a vehicle access road connecting to Airport Avenue.
- *Cost Estimate* | \$6,700,000
- *Funding Breakdown* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent

**Project #14: Close Portion of Taxiway J and Remove Pavement**

- *Description* | The intersection of Runway 12-30 with Taxiways J and D does not follow the three-path concept, as described in Chapter Three, and creates a potentially confusing intersection for pilots. To resolve this, the plan calls for the closure of Taxiway J, which also intersects the runway at an acute angle, rather than the 90-degree angle preferred by the FAA. Project #15 includes the removal of Taxiway J pavement where it extends off the apron to its termination at Runway 3-21.
- *Cost Estimate* | \$2,880,000
- *Funding Breakdown* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent



### Project #15: Construct Access Roads to Serve Non-Aeronautical Development

- *Description* | Vehicle access roads are planned to support non-aeronautical development north of the airport. As depicted on Exhibit 6B, there are three access points from existing roads: two from State Highway 90 and one from Airport Avenue. These roads are planned to connect the existing roadways to interior roads (as pictured). This project includes construction of these roads and extension of utilities so the central portion of the property can ultimately be developed for non-aeronautical businesses.
- *Cost Estimate* | \$10,830,000
- *Funding Breakdown* | FAA – 0 percent / ADOT – 0 percent / Airport Sponsor – 100 percent

### Project #16: Construct Taxiway and Apron

- *Description* | The existing helicopter parking area south of the Civil Air Patrol facility is planned to be redeveloped as a new hangar area. This project includes the construction of a new taxiway extending north from Taxiway J and an aircraft parking apron to support three executive box hangars. Utility extension is included in the cost estimate.
- *Cost Estimate* | \$1,500,000
- *Funding Breakdown* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent

### Project #17: Routine Pavement Maintenance

- *Description* | As airfield pavements deteriorate over time, it is necessary to undergo overlay/rehabilitation/reconstruction projects. Multiple projects could be anticipated to cover routine pavement maintenance during the intermediate planning period.
- *Cost Estimate* | \$2,500,000
- *Funding Breakdown* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent

### Intermediate-Term Program Summary

The total costs associated with the intermediate-term program are estimated at \$35.6 million, as presented on **Exhibit 6A**. Of this total, approximately \$20.0 million could be eligible for federal/state funding, and the airport sponsor share is projected at approximately \$12.5 million. The U.S. Army is anticipated to incur costs of approximately \$3.2 million for the Runway 3-21 decommissioning and taxiway conversion project.

### LONG-TERM PROGRAM

The long-term planning horizon considers five projects for the 11-20+ year period that are mainly demand-driven. The projects and their associated costs are listed in **Exhibit 6A** and graphically depicted on **Exhibit 6B**, as appropriate.



## Project #18: Construct Taxilane and Apron to Support North Side Development Area – Phase 3

- *Description* | Phase 3 of the north side development plan includes further extension of the taxilane described in Projects #12 and #13, as well as construction of additional apron pavement, utility expansion, and a vehicle access road connecting to Airport Avenue.
- *Cost Estimate* | \$4,000,000
- *Funding Breakdown* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent

## Project #19: Construct North Side Partial-Parallel Taxiway Serving Runway 8-26

- *Description* | Runway 8-26 is supported by a single parallel taxiway, Taxiway P, located south of the runway and adjacent to the military facilities. In this location, civilian pilots departing on Runway 8, as well as those arriving on Runway 26 who are unable to exit on Taxiway D, are required to turn south, utilizing Taxiway P. In an effort to better segregate military and civilian aircraft movements, a partial-parallel taxiway is planned north of Runway 8-26, eliminating the need for civilian pilots to operate on Taxiway P. Project #19 includes the construction of 50-foot-wide taxiway pavement, including a connector, as well as installation of MITL and signage.
- *Cost Estimate* | \$14,500,000
- *Funding Breakdown* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent

## Project #20: Runway 12 Extension and Related Projects

- *Description* | Runway 12-30 is currently 5,366 feet long. The plan includes a 1,334-foot extension to the northwest, bringing the ultimate runway length to 6,700 feet. This is the length recommended by the FAA for FHU to accommodate 75 percent of the large aircraft fleet at 60 percent useful load. In addition to construction of new runway pavement, the project includes property acquisition to protect the ultimate AIP-eligible safety areas; environmental review; construction of a partial-parallel taxiway serving the extended runway threshold; installation of medium intensity runway lighting (MIRL), MITL, and signage; and a reroute to Elevenmile Road around the ultimate RPZ.
- *Cost Estimate* | \$9,300,000
- *Funding Breakdown* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent

## Project #21: Construct Infrastructure to Serve Vertiport and Helicopter Facilities

- *Description* | The western portion of the 203-acre parcel planned to be acquired by the city is intended to support future rotorcraft and advanced air mobility (AAM) operations utilizing unmanned aircraft systems (UAS). As these aircraft operate differently than fixed wing aircraft, best practice is to separate these operations, as feasible, to enhance safety and efficiency on the airfield. For this reason, the west side of the parcel has been earmarked for helicopter activity and construction of a vertiport, as demand dictates. This project includes roadway and utility extension to support these operations, as well as extension of the stub taxiway to connect these areas to the airfield.



- *Cost Estimate* | \$5,340,000
- *Funding Breakdown* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent

### Project #22: Routine Pavement Maintenance

- *Description* | As airfield pavements deteriorate over time, it is necessary to undergo overlay/rehabilitation/reconstruction projects. Multiple projects could be anticipated to cover routine pavement maintenance during the 10-year planning period.
- *Cost Estimate* | \$7,200,000
- *Funding Breakdown* | FAA – 91.06 percent / ADOT – 4.47 percent / Airport Sponsor – 4.47 percent

### Long-Term Program Summary

The total investment necessary for the long-term CIP detailed on **Exhibit 6A** is approximately \$40.3 million. Approximately \$38.5 million is eligible for federal/state funding assistance. The airport's share of long-term projects is projected at approximately \$1.8 million.

### CAPITAL IMPROVEMENT PROGRAM SUMMARY

The CIP is intended as a road map of improvements to help guide the City of Sierra Vista, the FAA, and ADOT. The plan, as presented, will help accommodate increases in forecast demand at Sierra Vista Municipal Airport over the next 20 years and beyond. The sequence of projects may change due to availability of funds or changing priorities, based on an annual review by airport management, the FAA, and ADOT. Nevertheless, this is a comprehensive list of capital projects the airport should consider in the next 20+ years.

The total CIP proposes approximately \$79.5 million in airport development needs. Of this total, approximately \$61.2 million could be eligible for federal/state funding assistance. The local funding estimate for the proposed 20-year CIP is \$15.1 million.

### CAPITAL IMPROVEMENT FUNDING SOURCES

There are generally four sources of funds used to finance airport development, which include:

- Airport cash flow
- Revenue and general obligation bonds
- Federal/state/local grants
- Passenger facility charges (PFCs), which are reserved for commercial service airports





Access to these sources of financing varies widely among airports. Some large airports maintain substantial cash reserves, and smaller commercial service and general aviation airports often require subsidies from local governments to fund operating expenses and finance modest improvements.

Financing capital improvements at Sierra Vista Municipal Airport will not rely solely on the financial resources of the City of Sierra Vista. Capital improvement funding is available through various grant-in-aid programs on both the federal and state levels. Historically, the airport has received federal and state grants. While more funds could be available some years, the CIP was developed with project phasing to remain realistic and within the range of anticipated grant assistance. The following discussion outlines key sources of funding potentially available for capital improvements at the airport.

## FEDERAL GRANTS

Through federal legislation over the years, various grant-in-aid programs have been established to develop and maintain the system of public-use airports across the United States. The purpose of this system and its federally based funding is to maintain national defense and promote interstate commerce. Recently, the *FAA Reauthorization Act of 2024* (enacted on May 16, 2024) authorized the FAA's AIP at \$4.0 billion for fiscal years 2025 through 2028. Section 708 of the law increases the federal share of allowable AIP-funded project costs at nonhub and nonprimary airports to 95 percent for FY 2025 and FY 2026. After FY 2026, the federal share reverts to 91.06 percent for AIP-funded projects for general aviation airports in Arizona.

The source for AIP funds is the Aviation Trust Fund, which was established in 1970 to provide funding for aviation capital investment programs (aviation development, facilities and equipment, and research and development). The Aviation Trust Fund also finances the operation of the FAA. It is funded by user fees, including taxes on airline tickets, aviation fuel, and various aircraft parts.

Several projects identified in the CIP are eligible for FAA funding through the AIP, which provides entitlement funds to airports based, in part, on their annual enplaned passengers and pounds of landed cargo weight. Additional AIP funds that are designated as discretionary may also be used for eligible projects, based on the FAA's national priority system. Although the AIP has been reauthorized several times and the funding formulas have been periodically revised to reflect changing national priorities, the program has remained essentially the same. Public-use airports that serve civil aviation, like FHU, may receive AIP funding for eligible projects, as described in the FAA's *Airport Improvement Program Handbook*. The airport must fund the remaining project costs using a combination of other funding sources, as discussed in the following sections.

Funding for AIP-eligible projects is undertaken through a cost-sharing arrangement in which the FAA share varies by airport size: generally, 75 percent for large- and medium-hub airports, and 90 percent for all other airports. Since the early days of federal participation in airport infrastructure projects, Congress has provided a higher federal share for airports located in states with more than five percent of their geographic acreage comprised of public lands and nontaxable tribal lands. For states that qualify, such as Arizona, the federal share is increased depending on the airport classification. As a general aviation airport, the federal share of eligible capital improvement projects for Sierra Vista Municipal Airport is 91.06 percent. In exchange for this level of funding, the airport sponsor is required to meet various grant assurances, including maintaining the improvement for its useful life (usually 20 years).

Another source for federal grants is the *Infrastructure Investment and Jobs Act* (IIJA), which was signed into law in 2022 and plans for \$25 billion to be invested into America's airports over the next five years. IIJA funds are sourced from the U.S. Treasury General Fund and are split into two funding buckets: \$20 billion for Airport Infrastructure Grants (AIG) and \$4.85 billion for the Airport Terminal Program (ATP). Under the IIJA, FHU will receive allocated AIG funding each year for the next five years<sup>1</sup>. For FY 2022 through 2024, a total of \$585,000 was allocated. Funding amounts for 2025 and 2026 have not been announced at the time of this writing (May 2025).

IIJA funds can be used for repair and maintenance of existing infrastructure or construction of new facilities (i.e., airfield pavement, NAVAIDs, lighting, terminal buildings, etc.). ATP grants are competitive in nature and can be used for multimodal terminal development, as well as for relocating, reconstructing, repairing, or improving an airport traffic control tower. The federal share for AIG is the same as an AIP grant (91.06 percent with a local 8.94 percent match), while the federal share for ATP grants is 95 percent for non-primary airports. The same grant assurances that apply to AIP grants will also apply to IIJA grants. IIJA and AIP grants cannot be combined/mingled into a single grant.

### Apportionment (Entitlement) Funds

The AIP provides funding for eligible projects at airports through an apportionment (entitlement) program. Primary commercial service airports receive a guaranteed minimum level of federal assistance each year, based on their enplaned passenger levels and Congressional appropriation levels. A primary airport is defined as any commercial service airport enplaning at least 10,000 passengers annually. If the threshold is met, the airport receives \$1 million annually in entitlement funds. Other entitlement funds are distributed to cargo service airports, states and insular areas (state apportionment), and airports in Alaska.

General aviation airports included in the *National Plan of Integrated Airport Systems* (NPIAS) can receive up to \$150,000 each year in non-primary entitlement (NPE) funds. These funds can be carried over and combined for up to four years, thereby allowing for completion of a more expensive project. Sierra Vista Municipal Airport is eligible for and receives NPE funds.

The FAA also provides a state apportionment based on a federal formula that takes area and population into account. The FAA then distributes these funds for projects at various airports throughout the state.

### Small Airport Fund

If a large- or medium-hub commercial service airport chooses to institute a passenger facility charge (PFC), which is a fee of up to \$4.50 on each airline ticket for funding of capital improvement projects, then their apportionment is reduced. A portion of the reduced apportionment goes to the small airport fund. The small airport fund is reserved for small-hub primary commercial service airports, non-hub commercial service airports, reliever airports, and general aviation airports. As a general aviation airport, Sierra Vista Municipal Airport is eligible for funds from this source.

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<sup>1</sup> <https://www.faa.gov/ijja/airport-infrastructure>



## Discretionary Funds

An airport may face major projects that will require funds in excess of the airport's annual entitlements; thus, additional funds from discretionary apportionments under the AIP become desirable. The primary feature of discretionary funds is that they are distributed on a priority basis. The priorities are established by the FAA, utilizing a priority code system, under which projects are ranked by their purpose. Projects ensuring airport safety and security are ranked as the most important priorities, followed by maintaining current infrastructure development, mitigating noise and other environmental impacts, meeting standards, and increasing system capacity.

It is important to note that competition for discretionary funding is not limited to airports in the State of Arizona or those within the FAA's Western-Pacific Region. The funds are distributed to all airports in the country, thus making them more difficult to obtain. High priority projects will often fare favorably, while lower priority projects may not receive discretionary grants.

## Set-Aside Funds

Portions of AIP funds are set-asides designed to achieve specific funding minimums for noise compatibility planning and implementation, select former military airfields (Military Airports Program), and select reliever airports. Sierra Vista Municipal Airport does not qualify for set-aside funding.

## FAA Facilities and Equipment (F&E) Program

The Airway Facilities Division of the FAA administers the Facilities and Equipment (F&E) Program. This program provides funding for the installation and maintenance of various navigational aids and equipment of the national airspace system. Under the F&E program, funding is provided for FAA airport traffic control towers (ATCTs), enroute navigational aids, on-airport navigational aids, and approach lighting systems.

While F&E still installs and maintains some navigational aids, on-airport facilities at general aviation airports have not been a priority; therefore, airports often request funding assistance for navigational aids through the AIP and then maintain the equipment on their own<sup>2</sup>. As a joint-use facility, most of the navigational aids on the airport are owned and maintained by Fort Huachuca; as such, FHU is unlikely to receive funding through the F&E program for new or improved equipment.

## STATE AID TO AIRPORTS

ADOT recognizes the valuable contribution that airports make to the state's transportation economy and administers several programs to aid in maintaining airports in the state. The source for state airport improvement funds is the Arizona State Aviation Fund. Taxes levied by the state on aviation fuel, flight property, aircraft registration tax, and registration fees (as well as interest on these funds) are deposited

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<sup>2</sup> Guidance on the eligibility of a project for federal AIP grant funding can be found in FAA Order 5100.38D, *Airport Improvement Program Handbook*.





in the Arizona State Aviation Fund. The state transportation board establishes the policies for the distribution of these state funds.

### **AIP Grant Match and Stand-Alone State Grants**

Under the State of Arizona’s grant program, an airport can receive funding for one half of the local share of projects receiving federal AIP and IIJA funding, amounting to 4.47 percent of the total project cost. The AIP grant match program for an individual airport sponsor is limited to no more than 10 percent of the average revenue in the Arizona State Aviation Fund for a three-year period. Sierra Vista Municipal Airport is eligible for matching funds from this source. It is important to note that at the time of this writing (May 2025), ADOT’s federal/state/local grant program is currently suspended for the state’s fiscal year 2026. It is anticipated that this program will be made available again starting in FY 2027.

The state also provides 90 percent funding for projects that have not received federal funding. This includes projects related to maintenance; safety and/or capacity enhancement; or environmental studies, planning, or land acquisition. Sierra Vista Municipal Airport is eligible for this funding source.

The maximum funding available from ADOT for Sierra Vista Municipal Airport has traditionally been approximately \$3.0 million per fiscal year. In FY 2027, it is projected that the cap will be reduced to approximately \$1.9 million.

### **Pavement Maintenance Program**

The airport system in Arizona is a multimillion-dollar investment of public and private funds that must be protected and preserved. State aviation fund dollars are limited, and the state transportation board recognizes the need to protect and extend the maximum useful life of the airport system’s pavement. The Arizona Pavement Management System (APMS) has been established to assist in the preservation of Arizona airports’ system infrastructure.

Public Law 103-305 requires that airports requesting federal AIP funding for pavement rehabilitation or reconstruction have an effective pavement maintenance program system. To this end, the ADOT – Aeronautics Group maintains the APMS.

The Arizona APMS uses the U.S. Army Corps of Engineers’ MicroPaver program as a basis for generating a five-year Arizona Pavement Preservation Program (APPP). The APPP consists of visual inspections of all airport pavements. Evaluations are made of the pavement types and severities observed, and these evaluations are then entered into a computer program database. Pavement condition index (PCI) values are determined through the visual assessment of pavement conditions in accordance with the most recent FAA AC 150/5380-7, *Pavement Management System*, and range from 0 (failed) to 100 (excellent). Every three years, a complete database update with new visual observations is conducted. Individual airport reports from the update are shared with all participating system airports. ADOT ensures the APMS database is kept current, in compliance with FAA requirements.



Every year, ADOT utilizes the APMS to identify airport pavement maintenance projects that are eligible for funding for the upcoming five years. These projects will appear in the state's five-year airport development program. Once a project has been identified and approved for funding by the state transportation board, the airport sponsor may elect to accept a state grant for the project and not participate in the APPP, or the sponsor may sign an intergovernmental agreement (IGA) with ADOT to participate in the APPP. Sierra Vista Municipal Airport participates in this program.

## LOCAL FUNDING

After consideration has been given to grants, the balance of project costs must be funded through local resources. A goal for any airport is to generate enough revenue to cover all operating and capital expenditures, if possible. There are several local financing options to consider when funding future development at airports, including airport revenues, issuance of a variety of bond types, leasehold financing, implementing a customer facility charge (CFC), pursuing non-aviation development potential, and collecting from special events. These strategies could be used to fund the local matching share or complete a project if grant funding cannot be arranged. Below is a brief description of the most common local funding options.

### Airport Revenues

An airport's daily operations are conducted through the collection of various rates and charges. These airport revenues are generated specifically by airport operations. There are restrictions on the use of revenues collected by the airport. All receipts, excluding bond proceeds or related grants and interest, are irrevocably pledged to the punctual payment of operating and maintenance expenses, payment of debt service for as long as bonds remain outstanding, or for additions and improvements to airport facilities.

All airports should establish standard basis rates for various leases. All lease rates should be set to adjust to a standard index, such as the consumer price index (CPI), to ensure fair and equitable rates continue to be charged into the future. Many factors will impact what the standard lease rate should be for a particular facility or ground parcel. For example, ground leases for aviation-related facilities should have a different lease rate than for non-aviation leases. When an airport owns a hangar, a separate facility lease rate should be charged. The lease rate for any individual parcel or hangar can vary due to availability of utilities, condition, location, and other factors. Nevertheless, standard lease rates should fall within an acceptable range.

### Bonding

Bonding is a common method of financing large capital projects at airports. A bond is an instrument of indebtedness of the bond issuer to the bond holders; thus, a bond is a form of loan or IOU. While bond terms are negotiable, the bond issuer is typically obligated to pay the bond holder interest at regular intervals and/or repay the principal at a later date.



## Leasehold Financing

Leasehold financing refers to a private developer or tenant financing improvements under a long-term ground lease. The advantage of this arrangement is that it relieves the airport of the responsibility of having to raise capital funds for the improvement. As an example, a fixed base operator (FBO) might consider constructing hangars and charging fair market lease rates while paying the airport for a ground lease.

## Customer Facility Charge (CFC)

A CFC is the imposition of an additional fee charged to customers for the use of certain facilities. The most common example is when an airport constructs a consolidated rental car facility and imposes a fee for each rental car contract. That fee is then used by the airport to pay down the debt incurred from building the facility.

## Non-Aviation Development

In addition to generating revenue from traditional aviation sources, airports with excess land can permit compatible non-aviation development. Generally, an airport will extend a long-term lease for land not anticipated to be needed for aviation purposes in the future. The private developer then pays the monthly lease rate and constructs and uses the compatible facility. As detailed in Chapter Five, the City of Sierra Vista is in the process of acquiring approximately 203 acres north of the airport, with much of this property intended to be developed with revenue-generating non-aeronautical uses.

## Special Events

Another common revenue-generating option is permitted use of airport property for temporary or single events. For example, some airports host open house or fly-in events that attract thousands of spectators from around the region. Airports can also permit portions of their facilities to be utilized for non-aviation special events, such as car shows or video production of commercials. This type of revenue generation must be approved by the FAA.

## MASTER PLAN IMPLEMENTATION

To implement the master plan recommendations, it is key to recognize that planning is a continuous process and does not end with approval of this document. The airport should implement measures that allow it to track various demand indicators, such as based aircraft, hangar demand, and operations. The issues on which this master plan is based will remain valid for a number of years. The primary goal is for the airport to best serve the air transportation needs of the region while achieving economic self-sufficiency.

The CIP and the phasing program presented will change over time. An effort has been made to identify and prioritize all major capital projects that would require FAA and ADOT grant funding. Nevertheless, the airport and the FAA review the five-year CIP on an annual basis.

The value of this study is that it keeps the issues and objectives at the forefront of decision-makers' minds. In addition to adjustments in aviation demand, decisions on when to undertake the improvements recommended in this master plan will impact how long the plan remains valid. The format of this plan reduces the need for formal and costly updates by simply adjusting the timing of project implementation. Updates can be done by airport management, thereby improving the plan's effectiveness. Nonetheless, airports are typically encouraged to update their master plans every seven to 10 years, or sooner if significant changes occur in the interim.

In summary, the planning process requires the City of Sierra Vista to consistently monitor the progress of the airport. The information obtained from continually monitoring activity will provide the data necessary to determine if the development schedule should be accelerated or decelerated.