



Cottonwood Municipal Airport

MASTER PLAN UPDATE

December 2022

Amended May 2024

3.5.3. Aircraft Noise

As previously discussed, the Airport updated its noise abatement procedures in 2019. To minimize noise impacts on nearby residential areas, Runway 32 was designated as the preferred runway for takeoffs, and arrival and departure procedures were adapted to avoid frequent overflights. The Airport also discouraged certain training activities during dawn and dusk, and installed noise abatement procedure signage for pilots. While the FAA utilizes the DNL 65 dB threshold to define noise as a "significant impact," the 2019 study also considered residential areas exposed to lower noise levels at DNL 55 dB.

The management of noise exposure at airports is guided by Title 14 CFR Part 150, which includes provisions for a noise study producing noise exposure maps that identify areas affected by aviation noise. Additionally, the study establishes a Noise Compatibility Program (NCP) that proposes specific actions to reduce noise exposure in areas that are not compatible with certain noise levels (e.g., residential areas). These actions can then be implemented to mitigate noise pollution and promote land use compatibility. The completion of a Part 150 Study also makes airports eligible for certain FAA funding programs for noise mitigation. With these considerations, it is recommended the City conduct a Part 150 Study with the goal of reviewing and improving compatibility between airport operations and the surrounding communities.

3.6. LANDSIDE REQUIREMENTS

Landside facilities are considered those that are outside of the active airfield operating area. This section includes evaluations of aircraft parking aprons, aircraft storage hangars, and vehicle access and parking.

3.6.1. Aircraft Storage Hangar and Parking Apron Requirements

The requirements for aircraft storage hangar and aircraft parking apron space vary by aircraft type, numbers of based and itinerant aircraft, and the users of these aircraft. Spatial needs required per aircraft were calculated as follows:

- **Conventional hangar storage:** Based on the dimensions of a common aircraft for each type (single-engine piston, multi-engine piston, turboprop, jet, rotorcraft, other) and adding additional space for general hangar uses.
- **T-hangar storage:** Assumed to be 20 percent smaller in size than an equivalent conventional hangar.
- **Apron parking:** Determined by adding a factor of 75 percent to the conventional hangar space value to account for taxilane and movement areas.

Storage requirements by aircraft type are shown below in **Table 3.10**.

Table 3.10 - Storage Space Requirements by Aircraft Type (Square Feet)

Aircraft Type	Conventional Hangar	T-Hangar	Apron
Single-Engine Piston	1,200	960	2,100
Multi-Engine Piston	2,000	--	3,500
Turboprop	2,000	--	3,500

CHAPTER 5: IMPLEMENTATION PLAN AND FINANCIAL ANALYSIS

5.1. CHAPTER INTRODUCTION

Previous chapters of this Master Plan Update presented analyses that evaluated the Airport's facility needs based on existing infrastructure and forecasts of aviation demand. Various alternatives were then developed to address these facility needs, which were presented to members of the Master Plan Advisory Committee, the public, City staff, and the FAA. Based on feedback from these stakeholder groups, a Recommended Development Plan (RDP), presented in **Chapter 4 – Alternatives**, was developed to reflect a summation of all improvements to be made at Cottonwood Municipal Airport during the 20-year planning horizon.

This chapter summarizes projects as described in the RDP, environmental documentation requirements for various projects, anticipated funding sources, as well as an updated 5-year and 10-year airport Capital Improvement Program (CIP). Also included are opinions of probable costs (OPCs) for each project. OPCs should be re-evaluated and updated as projects transition from high-level planning to engineering and construction. Additionally, implementation of projects will depend on obtaining environmental clearance, the availability of public and private funds, FAA programming, City priorities, and attainment of forecast activity levels.

5.2. RECOMMENDED DEVELOPMENT PLAN

In addition to projects recommended based on analyses provided in this Master Plan Update, projects included in the Airport's previous CIP that are still valid and improvement projects identified within the Arizona Airport Pavement Management System (APMS) are described below. These projects are planned based upon anticipated demand and funding availability, and are grouped into the following phases:

5.2.1. Near Term Projects (0 - 5 Years)

- Reconstruct Taxiways A and C, and replace Taxiway D. Reconstruct two new connector taxiways. Includes LED taxiway signage.
- Seal coat and re-mark Rwy 14/32.
- Install LED lights for Runway 14/32. Upgrade electrical vault, install airfield lighting control system.
- Upgrade Runway 14/32 PAPIs and REILs.
- Upgrade Runway guidance signs to LED.
- Environmental Assessment for Runway 14/32 improvements.
- Construct new helicopter landing area/parking apron area. Includes standard markings/lighting.
- Install emergency generator.
- Design/Construct Runway 14/32 extension, strengthening, and reconstruction.
- Relocate Power Control Units for Rwy 14/32 PAPIs.
- Install wildlife anti-dig fencing.
- Vegetation obstacle removal.
- Construct two new hangars.
- [Conduct Part 150 noise study.](#)

Table 5.1 - Project NEPA Documentation Requirements

Project	NEPA Documentation
Taxiway A reconstruction	CatEx
Runway 14/32 lighting improvements	CatEx
Runway 14/32 PAPI and REIL updates	CatEx
Upgrade Runway guidance signs to LED	CatEx
New helicopter landing area/parking apron area	CatEx
Install emergency generator	CatEx
Runway 14/32 extension and reconstruction	EA
Relocate PCUs for Rwy 14 and 32 PAPIs.	CatEx
Install wildlife anti-dig fencing	CatEx
Apron reconfiguration and new connector taxiways	CatEx
East taxilane improvements	CatEx
Site preparation for hangar development	CatEx
New vehicle parking and access road extension	CatEx
Relocate fuel tanks	CatEx
Install new Jet A fuel tank	CatEx
Replace rotating beacon	CatEx
Remove Mingus Ave. Access Gate, AOA Fence	CatEx
Relocate T-shade	CatEx
New hangar construction	CatEx
Part 150 noise study	N/A

Source:

FAA Order 1050.1F Environmental Impacts: Policies and Procedures

Notes:

CatEx: Categorical Exclusion

EA: Environmental Assessment

5.4. FUNDING PLAN

The funding plan identifies likely funding sources for RDP projects. To support the development of the funding plan, a Capital Improvement Program (CIP) was developed concurrent with the RDP. The CIP identifies funding sources that are expected to be available through the planning period for RDP projects.

5.4.1. Assumptions

The funding plan was developed using information and assumptions that provide a reasonable foundation for analysis on the level of an airport master plan update. It is important to note that some of the assumptions used to project funding sources may not come to fruition as unanticipated circumstances and events may take place. Therefore, there will be variance between forecast and actual results, and the difference between the two could be material.

Table 5.2 - 10-Year Airport Capital Improvement Program

Project	Fiscal Year	Funding Source	Project Cost	Federal Share	State Share	Private/ Third Party Share	Local Share
FY 2024-2028 Projects							
Taxiway A reconstruction	2024	FSL	\$1,270,700	\$1,157,099	\$56,800	-	\$56,800
Seal Coat and remark RWY 14/32	2024	FSL	\$221,417	\$201,622	\$9,897	-	\$9,897
Install LED lights on RWY 14/32. Upgrade electrical vault & airfield lighting control system	2024	SL	\$1,000,000	-	\$900,000	-	\$100,000
Upgrade RWY 14/32 PAPIs and REILs	2024	SL	\$200,000	-	\$180,000	-	\$20,000
Upgrade guidance signs to LED	2024	SL	\$400,000	-	\$360,000	-	\$40,000
Environmental Assessment for RWY 14/32 improvements	2025	FSL	\$300,000	\$273,180	\$13,410	-	\$13,410
New helicopter landing area (includes marking and lighting)	2025	FSL	\$78,795	\$71,751	\$3,522	-	\$3,522
Install emergency generator	2025	SL	\$50,000	-	\$45,000	-	\$5,000
Vegetation obstacle removal	2026	FSL	\$215,400	\$196,143	\$9,628	-	\$9,628
Conduct Part 150 noise study	2026	FSL	\$500,000	\$455,300	\$22,350	-	\$22,350
Runway 14/32 extension, strengthening, and reconstruction (design in FY 2026, construction FY 2027)	2026/2027	FSL	\$1,672,905	\$1,523,347	\$74,779	-	\$74,779
Relocate power control units for PAPIs	2027	FSL	\$65,000	\$59,189	\$2,906	-	\$2,906
Install wildlife anti-dig fencing	2028	FSL	\$381,160	\$347,084	\$17,038	-	\$17,038
Construct 2 new hangars	2028	L/P	\$1,209,200	-	-	\$604,600	\$604,600
FY 2029-2033 Projects							
Apron reconfiguration and new connector taxiways	-	FSL	\$1,228,700	\$1,118,854	\$54,923	-	\$54,923
East taxiway improvements	-	L/P	\$132,220	-	-	\$66,110	\$66,110
Site preparation for hangar development	-	L/P	\$6,310,700	-	-	\$3,155,350	\$3,155,350
New vehicle parking and access road extension	-	L/P	\$520,300	-	-	\$260,150	\$260,150
Relocate fuel tanks	-	L	\$53,000	-	-	-	\$53,000
Install new Jet A fuel tank	-	L	\$305,000	-	-	-	\$305,000
Lower AOA fence (obstacle)	-	SL	\$1,680	-	\$1,512	-	\$168
Replace rotating beacon	-	SL	\$178,080	-	\$160,272	-	\$17,808
Remove Mingus Ave. access gate and AOA fence	-	L	\$61,600	-	-	-	\$61,600

IMPLEMENTATION PLAN AND FINANCIAL ANALYSIS

Project	Fiscal Year	Funding Source	Project Cost	Federal Share	State Share	Private/ Third Party Share	Local Share
Relocate T-shade	-	L	\$81,000	-	-	-	\$81,000
Purchase Airport vehicle	-	FSL	\$44,800	\$40,795	\$2,003	-	\$2,003
Master Plan Update/ ALP Update	-	FSL	\$560,000	\$509,936	\$25,032	-	\$25,032
	0-5- Year Subtotal		\$7,564,577	\$4,284,716	\$1,695,330	\$604,600	\$979,930
	6-10 Year Subtotal		\$9,477,080	\$1,669,585	\$243,741	\$3,481,610	\$4,082,143
	Grand Total		\$17,041,657	\$5,954,301	\$1,939,072	\$4,086,210	\$5,062,074

Sources:

Kimley-Horn, 2022.

Airport Management.

Notes:

All construction projects include design and construction costs unless otherwise noted.

FSL: Federal/State/Local

SL: State/Local

L: Local

P: Private