CHAPTER 6

CAPITAL IMPROVEMENT PROGRAM

AIRPORT MASTER PLAN

The previous analyses outline airport development needs on both the airside and landside to meet projected aviation demand for at least the next 20 years based on forecast activity, facility needs, and operational efficiency. In this chapter, basic economic, financial, and management rationale is applied to each development item so that the feasibility of each item contained in the plan can be assessed.

The capital improvement program (CIP) has been organized into three parts. First, the airport's capital program needs are categorically recognized. Second, the CIP projects and their allocated cost estimates are itemized into planning horizons that extend through the planning period of the Master Plan. Finally, funding sources on the federal, state, and local levels are identified and discussed. The vision of the Master Plan is based on the airport achieving specific demand-based triggers such as growth in based aircraft and an increase in aviation business development.

DEMAND-BASED PLAN

The Coolidge Municipal Airport Master Plan Update has been developed according to a demand-based schedule. Demand-based planning establishes planning guidelines for the airport based upon airport activity levels instead of guidelines based upon subjective factors such as points in time. By doing so, the levels of activity derived from the demand forecasts can be related to the actual capital investments

needed to safely and efficiently accommodate the level of demand being experienced at the airport. More specifically, the intention of the Master Plan is that the facility improvements needed to serve new levels of demand should only be implemented when the levels of demand experienced at the airport justify their implementation.

For example, the aviation demand forecasts indicate based aircraft at Coolidge Municipal Airport can be expected to grow through the long term. The potential for increased aviation activity can be related to the expectation for a growing population within the City of Coolidge and surrounding area as well as projected facility development at the airport. Future based aircraft levels, however, will be dependent upon the actual growth in the airport service area's economy and population, as well as trends in the aviation industry. Factors affecting future based aircraft levels include, but are not limited to, aircraft storage hangar costs and the impact of oil prices on recreational aviation. Individually or collectively, these factors can slow or accelerate based aircraft levels differently. Since changes in these factors can affect the accuracy of time-based forecasts over time, it can be difficult to predict the exact time a given improvement may become justified for the out-years of the planning period.

For these reasons, the Master Plan for Coolidge Municipal Airport has been developed as a demand-based plan. The Master Plan projects an increase in based aircraft at the airport for the short term planning horizon. As such, the development plan and corresponding CIP should consider those needs necessary to accommodate these aircraft. When based aircraft levels in the short term planning horizon are realized, the Master Plan suggests planning begin to consider the intermediate term horizon levels. While the aviation demand forecasts suggest these levels could be reached in another five years, a varying economy and other factors could speed up or slow down when this horizon is reached.

Should the intermediate term horizon levels take longer to achieve than projected in the aviation demand forecasts, any related improvements to accommodate the next horizon would be delayed. Should this level be reached sooner, the schedule to implement the improvements could be accelerated. This provides a level of flexibility in the Master Plan.

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 Master Plan improvement would be examined against the demand levels prior to implementation. In many ways, this Master Plan is similar to a community's general plan. The Master Plan establishes a plan for the use of airport facilities consistent with the potential aviation needs and capital needs required to support that specific use. However, individual projects in the plan are not implemented until the need is demonstrated and the

project is approved for funding. **Table 6A** summarizes the key demand milestones for each of the three planning horizons.

TABLE 6A
Planning Horizon Summary
Coolidge Municipal Airport

	Current	Short Term	Intermediate Term	Long Term
ANNUAL OPERATIONS				
Total Itinerant	6,300	7,600	9,000	12,600
Total Local	14,500	16,800	19,900	25,300
Total Operations	**20,800**	**24,400**	**28,900**	**37,900**
BASED AIRCRAFT				
Single Engine Piston	22	30	40	57
Multi-Engine Piston	2	3	3	4
Turboprop	8	9	11	14
Jet	4	5	7	10
Rotorcraft	1	2	3	4
Other	1	1	1	1
Total Based Aircraft	**38**	**50**	**65**	**90**
TOTAL ANNUAL INSTRUMENT APPROACHES	**63**	**75**	**90**	**125**

AIRPORT DEVELOPMENT NEEDS

In an effort to identify capital needs at the airport, this section provides analysis regarding the associated development needs of those projects included in the CIP. While some projects will be demand-based, others will be dictated by design standards, safety, or rehabilitation needs. In putting together a listing of projects, an attempt has been made to include anticipated rehabilitation needs through the planning period and capital replacement needs. Each development need is categorized according to this schedule. The applicable category (or categories) included is presented in **Table 6B**.

The proposed projects can be categorized as follows:

1) **Safety/Security (SS)** – these are capital needs considered necessary for operational safety and protection of aircraft and/or people and property on the ground near the airport.

2) **Environmental (EN)** – these are capital needs which are identified to enable the airport to operate in an environmentally acceptable manner or meet needs identified in

the Environmental Overview outlined in Chapter Five.

3) **Maintenance (MN)** – these are capital needs required to maintain the existing infrastructure at the airport.

4) **Efficiency (EF)** – these are capital needs intended to optimize aircraft ground operations or passengers' use of the terminal building.

5) **Demand (DM)** – these are capital needs required to accommodate levels of aviation demand. The implementation of these projects should only occur when demand for these needs is verified.

6) **Opportunities (OP)** – these are capital needs intended to take advantage of opportunities afforded by the airport setting. Typically, this will involve improvements to property intended for lease to aviation-related commercial and industrial development.

The projects in the short term period mainly focus on airfield improvements that improve airfield safety/security and efficiency while also addressing pavement maintenance issues. Items include the reconstruction and rehabilitation of a large majority of existing airfield pavements as deemed necessary. In addition, several safety-related projects associated with the construction of taxiways and installation of weather, lighting, and approach aids are called for. These safety-related projects will also provide for more efficient use of the airfield. The short term program also includes improving airfield efficiency by constructing hold aprons at certain runway ends.

Intermediate term improvements focus on projects related to demand that are associated with the development of additional taxiways, taxilanes, and apron space serving hangar development and aviation-related businesses. In addition, access roads and utility infrastructure are proposed to allow for continued development of the airfield, further enhancing airport revenues. The first phase of extending Runway 5-23 is called for during this time in addition to bringing the airport into conformance with safety design standards. Safety/security projects continue to be implemented which include the installation of runway end identification lights (REILs) on Runway 17-35 as well as construction of security fencing. Finally, continued maintenance of airfield pavement is also included in the intermediate term.

Long term improvements continue to address demand-based projects such as the construction of additional taxiways and taxilanes leading to hangar development. Continued roadway and utility extensions on the east side of the airport are called and will be tied to actual demand. The Phase II runway extension on Runway 5-23 is also proposed during this timeframe. Toward the end of the long term, focus is given on developing portions of the west side of the airport, in particular, for general aviation operations.

TABLE 6B
Development Needs by Category
Coolidge Municipal Airport

	PROJECT DESCRIPTION	CATEGORY
Short Term Program (1-5 Years)		
1	Design Only: Automated Weather Observation System (AWOS)	SS/EF
2	Develop a Pavement Maintenance Management Program	MN
3	Design Only: 1,800' Southerly Extension to Taxiway A on East Side of Runway 17-35	SS/EF
4	Construct AWOS	SS/EF
5	Construct 1,800' Extension to Taxiway A and Install Medium Intensity Taxiway Lighting (MITL); Construct Hold Apron	SS/EF
6	Design Only: Airfield Improvements including Reconstruction/Rehabilitation of Runway 17-35 and Associated Taxiways, Medium Intensity Runway Lighting (MIRL), and Precision Approach Path Indicator Lights (PAPIs)	SS/MN
7	Reconstruct/Rehabilitate Runway 17-35 and Associated Taxiways; Widen Certain Taxiways to 75'	SS/MN
8	Design Only: Airfield Improvements including Reconstruction/Rehabilitation of Runway 5-23 and Associated Taxiways and Runway End Identification Lights (REILs)	SS/MN
9	Reconstruct/Rehabilitate Runway 5-23 and Associated Taxiways; Widen Certain Taxiways to 75'; Realign Entrance/Exit Taxiway Serving Runway 23 Threshold; Construct Hold Apron	SS/MN
10	Install MIRL and PAPI-2s on Runway 17-35	SS
11	Install REILs on Runway 5-23	SS
12	Install Security Fencing (Phase I)	SS
Intermediate Term Program (6-10 Years)		
1	Improve Roadway Access and Utility Infrastructure to Support Existing/Future Aviation Development on South Side of the Airport	DM/OP
2	Construct Taxiways Leading to Existing/Future Aviation Development	DM
3	Reconstruct/Rehabilitate Portions of Existing Aircraft Parking Apron	MN
4	Construct Joint-Use Fire/Rescue Facility	SS
5	Construct Additional Apron Space to Support Aircraft Parking and Aviation Development	DM
6	Construct Taxilanes Leading to Hangar Development	DM
7	Conduct Environmental Assessment for Runway 5-23 Extension	EN
8	Acquire Property on Northeast Side of Airport for Ultimate Runway Extension and Procurement of Safety Areas (78.5 Acres)	SS
9	Relocate Coolidge Airport Road on Northeast Side of Airport	SS
10	Extend Runway 5-23 and Associated Taxiway 1,538' Northeast (Phase I)	DM
11	Improve Object Free Area (OFA) Deficiency on Southwest Side of Runway 5-23; Realign Entrance/Exit Taxiway Serving Runway 5 Threshold; Construct Hold Apron	SS/EF
12	Acquire Avigation Easement for Approach Protection (21 Acres)	SS
13	Remove Intersection Taxiway; Construct Three Additional Taxiways Serving Runways 5-23 and 17-35	SS/EF
14	Conduct Environmental Assessment for Runway 17-35 Extension	EN
15	Extend Runway 17-35 400' North and Construct Associated Taxiway	SS

TABLE 6B *(Continued)*
Development Needs by Category
Coolidge Municipal Airport

	PROJECT DESCRIPTION *(Continued)*	CATEGORY
Intermediate Term Program (6-10 Years) *(Continued)*		
16	Install REILs on Runway 17-35	SS
17	Install Security Fencing (Phase II)	SS
18	General Pavement Maintenance	MN
Long Term Program (11-20 Years)		
1	Improve Roadway Access and Utility Infrastructure to Support Aviation and Non-Aviation Development on East Side of Airport	DM/OP
2	Construct Taxiway Extending to East Side of Airport to Support Aviation Development Parcels	DM
3	Construct Taxilanes Leading to Hangar Development and Aviation Support Facilities	DM
4	Construct Airport Maintenance Facility and Aircraft Wash Rack	EF/DM
5	Construct Additional Apron Space to Support Aircraft Parking and Aviation Development	DM
6	Extend Runway 5-23 and Associated Taxiway 1,100' Northeast (Phase II)	DM
7	Acquire Property on Southwest Side of Airport for Improved Instrument Approach Procedures (3.8 Acres)	SS
8	Install Medium Intensity Approach Lighting System (MALS) on Each End of Runway 5-23	SS/DM
9	Conduct Environmental Assessment for West Side Development (Taxiway and Terminal Area)	EN
10	Construct Parallel Taxiway on West Side of Runway 5-23	DM
11	Construct Roadway Access and Utility Infrastructure to Support Aviation Development on West Side of Airport	DM/OP
12	Construct General Aviation Terminal Facilities on Northwest Side of Airport	DM
13	General Pavement Maintenance	MN

Categories:
SS - Safety/Security
EN - Environmental
MN - Maintenance
EF - Efficiency
DM - Demand
OP - Opportunity

CAPITAL IMPROVEMENT SCHEDULE AND COST SUMMARIES

Once the specific needs for the airport have been established, the next step is to determine a realistic capital improvement schedule and associated costs for implementing the plan. This section will identify these projects and the overall costs of each item in the development plan. The program outlined on the following pages has been evaluated from a variety of perspectives and represents the culmination of a comparative analysis of basic budget factors, demand, and priority assignments.

The recommended improvements are grouped by the planning horizons: short term, intermediate term, and

long term. Each year, Coolidge Municipal Airport will need to re-examine the priorities for funding, adding or removing projects on the capital programming lists.

Exhibit 6A summarizes the CIP for Coolidge Municipal Airport through the planning period of this Master Plan. An estimate has been included with each project of federal and state funding eligibility, although this amount is not guaranteed. **Exhibit 6B** graphically depicts development staging. As a Master Plan is a conceptual document, implementation of these capital projects should only be undertaken after further refinement of their design and costs through architectural and engineering analyses.

The cost estimates presented in this chapter have been increased to allow for contingencies that may arise on the project. Capital costs presented here should be viewed only as estimates subject to further refinement during design. Nevertheless, these estimates are considered sufficiently accurate for planning purposes. Cost estimates for each of the development projects listed in the CIP are listed in current (2010) dollars. Adjustments will need to be applied over time as construction costs or capital equipment costs change.

A primary assumption in the CIP is that all future hangar construction will be completed privately as has occurred at the airport in recent history. The capital plan does provide for the airport to construct apron, taxiway, and taxilane improvements leading to proposed hangar development which is eligible for Federal Aviation Administration (FAA) and Arizona Department of Transportation (ADOT)-Aeronautics Group grant funding. This reduces the overall development costs for the private hangar construction.

SHORT TERM IMPROVEMENTS

The short term planning horizon considers 12 projects for the five-year planning period as presented on **Exhibit 6A** and illustrated on **Exhibit 6B**. The short term planning period is the only planning horizon separated into single years. This is to allow the CIP to be coordinated with the five-year planning cycle of the FAA and ADOT-Aeronautics Group programs. In later planning periods, actual demand levels will dictate implementation.

The first year of the CIP considers projects that may be accomplished in the 2011 federal funding cycle (October 2010 to September 2011). It should be noted that the short term CIP as called for in this report mirrors the five-year CIP that was submitted to FAA and ADOT-Aeronautics Group in November 2009. Projects called out during this timeframe are very specific in terms of actual design and construction. As proposed, most projects are initially put through a design phase and then followed up with actual construction the following year. This is evident with two of the first three projects listed in the short term. The design for constructing an auto-

mated weather observation system (AWOS) and an extension to Taxiway A are called for. In addition, a Pavement Maintenance Management Program (PMMP) is to be developed which would provide thorough analyses on existing airport pavement conditions in order to plan for future pavement maintenance.

The next two projects involve actual construction of the AWOS and taxiway extension. The AWOS will provide accurate weather reporting for the airport and is planned immediately south of the existing segmented circle and wind cone in the midfield area of the airport. Extending Taxiway A approximately 1,800 feet to the south will provide a full-length parallel taxiway serving Runway 17-35 and allow for aircraft access to potential development areas along the east side of the runway.

It should be noted that portions of existing runway and taxiway pavement at the airport have failed and considerable foreign object debris (FOD) is present on active surfaces. Projects are planned in the short term CIP to address these issues and include major reconstruction and/or rehabilitation of existing runway and taxiway pavements. In addition, certain taxiways should be widened to 75 feet in order to accommodate airplane design group (ADG) IV aircraft, in particular, the C-130. Hold aprons serving Runways 23 and 35 should be considered during this time to allow a designated area for aircraft to prepare for departure. These would also provide more efficient taxiing operations as aircraft can bypass those waiting for departure without delay. Additional hold aprons serving Runways 5 and 17 are programmed later in the CIP in an effort to accommodate related projects.

Further airfield enhancements planned for the short term are the installation of airfield signage and assignment of taxiway designations at the airport to increase airfield operational safety and awareness. Medium intensity taxiway lighting (MITL) is also programmed into the short term CIP for all active taxiways currently located at Coolidge Municipal Airport.

As previously discussed, Runway 17-35 is currently not provided with medium intensity runway lighting (MIRL) and is therefore limited to daytime use only. The short term plan proposes improving the operational efficiency of this runway by providing MIRL and two-box precision approach path indicators (PAPI-2s). In an effort to better serve larger and faster aircraft that currently use and are projected to frequent the airport more regularly, a four-box precision approach path indicator (PAPI-4) is considered for Runway 5-23. In addition, REILs are called for on each end of Runway 5-23 to provide improved identification of the runway thresholds during nighttime and/or poor weather conditions. Finally, the installation of security fencing is planned for specific areas on the airport to provide overall security and further separate airside and landside operations.

06MP12-6A-1/26/11

	PROJECT DESCRIPTION	TOTAL PROJECT COST	FAA ELIGIBLE	ADOT ELIGIBLE*	LOCAL SHARE
	SHORT TERM PROGRAM (1-5 years)				
	2011				
1	Design Only: Automated Weather Observation System (AWOS)	$30,000	$28,500	$750	$750
2	Develop a Pavement Maintenance Management Program	50,000	47,500	1,250	1,250
3	Design Only: 1,800' Southerly Extension to Taxiway A on East Side of Runway 17-35	136,000	129,200	3,400	3,400
	2011 SUBTOTAL	***$216,000***	***$205,200***	***$5,400***	***$5,400***
	2012				
4	Construct AWOS	$173,000	$164,350	$4,325	$4,325
5	Construct 1,800' Extension to Taxiway A and Install Medium Intensity Taxiway Lighting (MITL); Construct Hold Apron	969,000	920,550	24,225	24,225
6	Design Only: Airfield Improvements including Reconstruction / Rehabilitation of Runway 17-35 and Associated Taxiways, Medium Intensity Runway Lighting (MIRL), and Precision Approach Path Indicator Lights (PAPIs)	347,000	329,650	8,675	8,675
	2012 SUBTOTAL	***$1,489,000***	***$1,414,550***	***$37,225***	***$37,225***
	2013				
7	Reconstruct/Rehabilitate Runway 17-35 and Associated Taxiways; Widen Certain Taxiways to 75'	$2,380,000	$2,261,000	$59,500	$59,500
8	Design Only: Airfield Improvements including Reconstruction / Rehabilitation of Runway 5-23 and Associated Taxiways and Runway End Identification Lights (REILs)	825,000	783,750	20,625	20,625
	2013 SUBTOTAL	***$3,205,000***	***$3,044,750***	***$80,125***	***$80,125***
	2014				
9	Reconstruct/Rehabilitate Runway 5-23 and Associated Taxiways; Widen Certain Taxiways to 75'; Realign Entrance/Exit Taxiway Serving Runway 23 Threshold; Construct Hold Apron	$6,211,000	$5,900,450	$155,275	$155,275
	2014 SUBTOTAL	***$6,211,000***	***$5,900,450***	***$155,275***	***$155,275***
	2015				
10	Install MIRL and PAPI-2s on Runway 17-35	$281,000	$266,950	$7,025	$7,025
11	Install REILs on Runway 5-23	110,400	104,880	2,760	2,760
12	Install Security Fencing (Phase I)	150,000	142,500	3,750	3,750
	2015 SUBTOTAL	***$541,400***	***$514,330***	***$13,535***	***$13,535***
	TOTAL SHORT TERM PROGRAM	**$11,662,400**	**$11,079,280**	**$291,560**	**$291,560**
	INTERMEDIATE TERM PROGRAM (6-10 YEARS)				
1	Improve Roadway Access and Utility Infrastructure to Support Existing / Future Aviation Development on South Side of the Airport	$926,300	$185,250	$4,900	$736,150
2	Construct Taxiways Leading to Existing/Future Aviation Development	916,500	870,675	22,913	22,913
3	Reconstruct/Rehabilitate Portions of Existing Aircraft Parking Apron	195,000	185,250	4,875	4,875
4	Construct Joint-Use Fire / Rescue Facility	329,200	--	--	329,200
5	Construct Additional Apron Space to Support Aircraft Parking and Aviation Development	1,001,700	951,615	25,043	25,043
6	Construct Taxilanes Leading to Hangar Development	282,100	267,995	7,053	7,053
7	Conduct Environmental Assessment for Runway 5-23 Extension	250,000	237,500	6,250	6,250
8	Acquire Property on Northeast Side of Airport for Ultimate Runway Extension and Procurement of Safety Areas (78.5 Acres)	903,000	857,850	22,575	22,575
9	Relocate Coolidge Airport Road on Northeast Side of Airport	2,250,000	2,137,500	56,250	56,250
10	Extend Runway 5-23 and Associated Taxiway 1,538' Northeast (Phase I)	4,507,500	4,282,125	112,688	112,688
11	Improve Object Free Area (OFA) Deficiency on Southwest Side of Runway 5-23; Realign Entrance/Exit Taxiway Serving Runway 5 Threshold; Construct Hold Apron	944,200	896,990	23,605	23,605
12	Acquire Avigation Easement for Approach Protection (21 Acres)	193,200	183,540	4,830	4,830
13	Remove Intersection Taxiway; Construct Three Additional Taxiways Serving Runways 5-23 and 17-35	1,137,200	1,080,340	28,430	28,430
14	Conduct Environmental Assessment for Runway 17-35 Extension	100,000	95,000	2,500	2,500
15	Extend Runway 17-35 400' North and Construct Associated Taxiway	678,000	644,100	16,950	16,950
16	Install REILs on Runway 17-35	124,800	118,560	3,120	3,120
17	Install Security Fencing (Phase II)	150,000	142,500	3,750	3,750
18	General Pavement Maintenance	500,000	475,000	12,500	12,500
	TOTAL INTERMEDIATE TERM PROGRAM	**$15,388,700**	**$13,611,790**	**$358,230**	**$1,418,680**
	LONG TERM PROGRAM (11-20 YEARS)				
1	Improve Roadway Access and Utility Infrastructure to Support Aviation and Non-Aviation Development on East Side of Aiport	$1,657,500	$463,125	$12,188	$1,182,188
2	Construct Taxiway Extending to East Side of Airport to Support Aviation Development Parcels	788,500	749,075	19,713	19,713
3	Construct Taxilanes Leading to Hangar Development and Aviation Support Facilities	1,479,400	1,405,430	36,985	36,985
4	Construct Airport Maintenance Facility and Aircraft Wash Rack	400,000	237,500	141,250	21,250
5	Construct Additional Apron Space to Support Aircraft Parking and Aviation Development	488,800	464,360	12,220	12,220
6	Extend Runway 5-23 and Associated Taxiway 1,100' Northeast (Phase II)	3,281,200	3,117,140	82,030	82,030
7	Acquire Property on Southwest Side of Airport for Improved Instrument Approach Procedures (3.8 Acres)	43,700	41,515	1,093	1,093
8	Install Medium Intensity Approach Lighting System (MALS) on Each End of Runway 5-23	1,000,000	950,000	25,000	25,000
9	Conduct Environmental Assessment for West Side Development (Taxiway and Terminal Area)	150,000	142,500	3,750	3,750
10	Construct Parallel Taxiway on West Side of Runway 5-23	3,857,100	3,664,245	96,428	96,428
11	Construct Roadway Access and Utility Infrastructure to Support Aviation Development on West Side of Airport	325,000	30,875	813	293,313
12	Construct General Aviation Terminal Facilities on Northwest Side of Airport	2,278,800	1,452,360	38,220	788,220
13	General Pavement Maintenance	1,000,000	950,000	25,000	25,000
	TOTAL LONG TERM PROGRAM	**$16,750,000**	**$13,668,125**	**$494,689**	**$2,587,189**
	TOTAL PROGRAM COSTS	***$43,801,100***	***$38,359,195***	***$1,144,479***	***$4,296,679***

*The funding of projects will be subject to the Arizona Revised Statutes, Arizona Transportation Board Policies, and administrative policies as well as funds available.

COOLIDGE MUNICIPAL AIRPORT

Exhibit 6A
CAPITAL IMPROVEMENT PROGRAM

06MP12-6B-01/26/11

SHORT TERM PROGRAM (1-5 years)

2011

1. Design Only: Automated Weather Observation System (AWOS) ***(NP)***
2. Develop a Pavement Maintenance Management Program ***(NP)***
3. Design Only: 1,800' Southerly Extension to Taxiway A on East Side of Runway 17-35 ***(NP)***

2012

4. Construct AWOS
5. Construct 1,800' Extension to Taxiway A and Install Medium Intensity Taxiway Lighting (MITL) Construct Hold Apron
6. Design Only: Airfield Improvements including Reconstruction / Rehabilitation of Runway 17-35 and Associated Taxiways, Medium Intensity Runway Lighting (MIRL), and Precision Approach Path Indicator Lights (PAPIs) ***(NP)***

2013

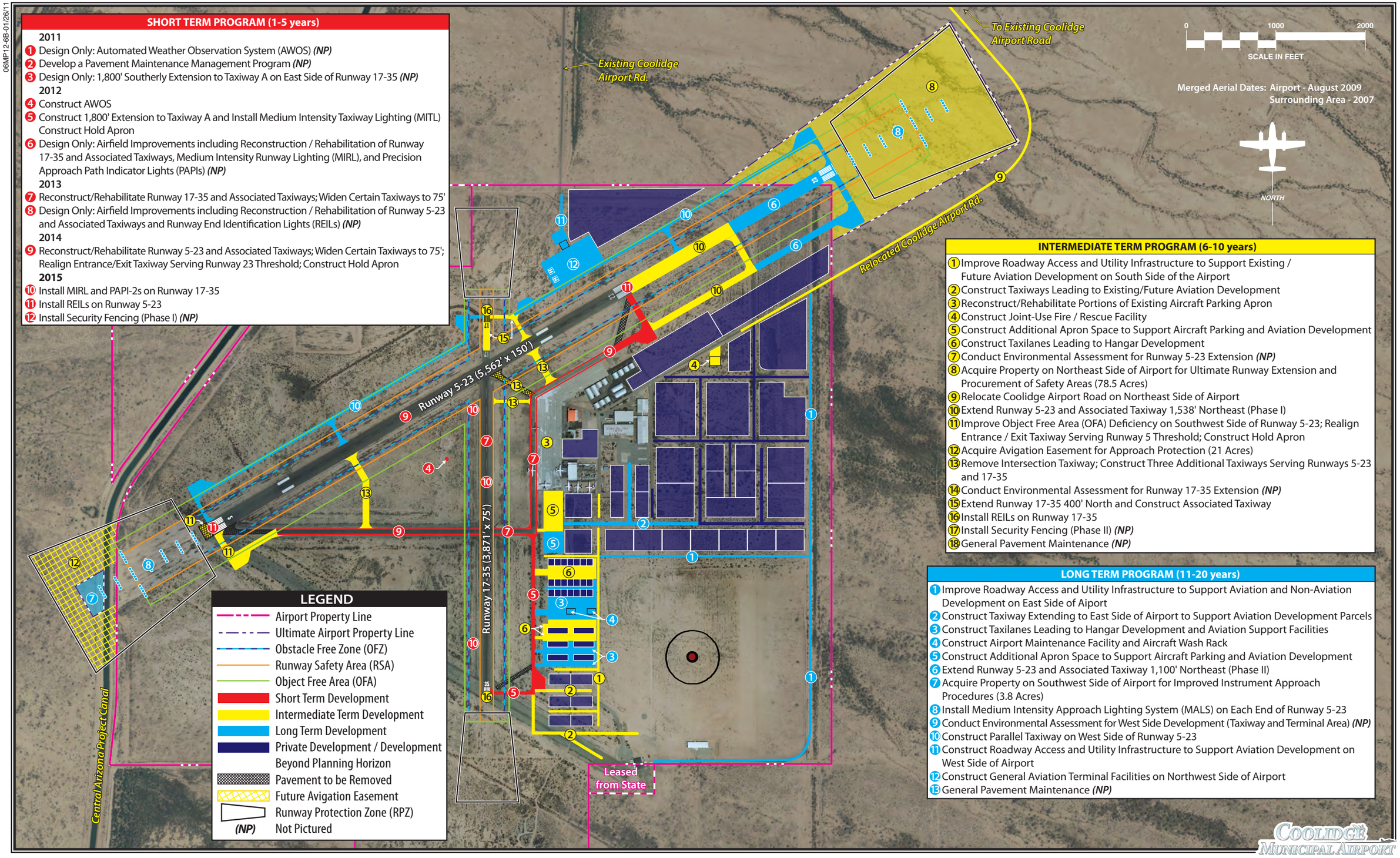
7. Reconstruct/Rehabilitate Runway 17-35 and Associated Taxiways; Widen Certain Taxiways to 75'
8. Design Only: Airfield Improvements including Reconstruction / Rehabilitation of Runway 5-23 and Associated Taxiways and Runway End Identification Lights (REILs) ***(NP)***

2014

9. Reconstruct/Rehabilitate Runway 5-23 and Associated Taxiways; Widen Certain Taxiways to 75'; Realign Entrance/Exit Taxiway Serving Runway 23 Threshold; Construct Hold Apron

2015

10. Install MIRL and PAPI-2s on Runway 17-35
11. Install REILs on Runway 5-23
12. Install Security Fencing (Phase I) ***(NP)***



LEGEND

- Airport Property Line
- Ultimate Airport Property Line
- Obstacle Free Zone (OFZ)
- Runway Safety Area (RSA)
- Object Free Area (OFA)
- Short Term Development
- Intermediate Term Development
- Long Term Development
- Private Development / Development Beyond Planning Horizon
- Pavement to be Removed
- Future Avigation Easement
- Runway Protection Zone (RPZ)
- ***(NP)*** Not Pictured

INTERMEDIATE TERM PROGRAM (6-10 years)

1. Improve Roadway Access and Utility Infrastructure to Support Existing / Future Aviation Development on South Side of the Airport
2. Construct Taxiways Leading to Existing/Future Aviation Development
3. Reconstruct/Rehabilitate Portions of Existing Aircraft Parking Apron
4. Construct Joint-Use Fire / Rescue Facility
5. Construct Additional Apron Space to Support Aircraft Parking and Aviation Development
6. Construct Taxilanes Leading to Hangar Development
7. Conduct Environmental Assessment for Runway 5-23 Extension ***(NP)***
8. Acquire Property on Northeast Side of Airport for Ultimate Runway Extension and Procurement of Safety Areas (78.5 Acres)
9. Relocate Coolidge Airport Road on Northeast Side of Airport
10. Extend Runway 5-23 and Associated Taxiway 1,538' Northeast (Phase I)
11. Improve Object Free Area (OFA) Deficiency on Southwest Side of Runway 5-23; Realign Entrance / Exit Taxiway Serving Runway 5 Threshold; Construct Hold Apron
12. Acquire Avigation Easement for Approach Protection (21 Acres)
13. Remove Intersection Taxiway; Construct Three Additional Taxiways Serving Runways 5-23 and 17-35
14. Conduct Environmental Assessment for Runway 17-35 Extension ***(NP)***
15. Extend Runway 17-35 400' North and Construct Associated Taxiway
16. Install REILs on Runway 17-35
17. Install Security Fencing (Phase II) ***(NP)***
18. General Pavement Maintenance ***(NP)***

LONG TERM PROGRAM (11-20 years)

1. Improve Roadway Access and Utility Infrastructure to Support Aviation and Non-Aviation Development on East Side of Aiport
2. Construct Taxiway Extending to East Side of Airport to Support Aviation Development Parcels
3. Construct Taxilanes Leading to Hangar Development and Aviation Support Facilities
4. Construct Airport Maintenance Facility and Aircraft Wash Rack
5. Construct Additional Apron Space to Support Aircraft Parking and Aviation Development
6. Extend Runway 5-23 and Associated Taxiway 1,100' Northeast (Phase II)
7. Acquire Property on Southwest Side of Airport for Improved Instrument Approach Procedures (3.8 Acres)
8. Install Medium Intensity Approach Lighting System (MALS) on Each End of Runway 5-23
9. Conduct Environmental Assessment for West Side Development (Taxiway and Terminal Area) ***(NP)***
10. Construct Parallel Taxiway on West Side of Runway 5-23
11. Construct Roadway Access and Utility Infrastructure to Support Aviation Development on West Side of Airport
12. Construct General Aviation Terminal Facilities on Northwest Side of Airport
13. General Pavement Maintenance ***(NP)***

COOLIDGE MUNICIPAL AIRPORT

Exhibit 6B
DEVELOPMENT STAGING

The total investment necessary for the short term CIP is approximately $11.66 million. Of this total, $11.08 million is eligible for FAA grant funding and approximately $291,560 is eligible for state funding. The remaining $291,560 would need to be provided locally.

INTERMEDIATE TERM IMPROVEMENTS

The intermediate term CIP considers 18 projects for the five-year timeframe. Due to the fluid nature of aviation growth and the uncertainty of infrastructure and development needs more than five years into the future, the projects in the intermediate term were combined into a single project listing and not prioritized by year. However, the project listing is intended to depict a prioritization of projects as now anticipated to meet future demand.

The first two projects call for improvements on the east side of Runway 17-35 that include extending roadway access and utilities farther south as well as constructing taxiways east from parallel Taxiway A which will accommodate aviation development parcels warranted by demand. These activities could provide additional revenue for the airport and enhance activities currently being conducted by existing aviation specialty operators.

During this time, plans call for the reconstruction and/or rehabilitation of the existing aircraft parking apron adjacent to the terminal area. This pavement experiences high-activity utilization in addition to heavy aircraft loads. The Pavement Maintenance Management Program, as discussed in the previous section, will identify areas that have deteriorated over time and should be improved.

A safety-related project in the intermediate term deals with the construction of a joint-use fire station that would serve both the airport and surrounding areas. Although not required at Coolidge Municipal Airport, the fire station would bring an added safety benefit to airport operations.

The construction of additional apron space is planned during this time immediately south of the existing aircraft parking apron. Opportunities for additional aircraft parking and aviation-related development in the form of large hangars that could support fixed base operators (FBOs), corporate flight departments, and other high-activity specialty aviation operators would be allowed immediately to the east of the proposed apron. Taxilanes are also programmed farther south that would provide aircraft access to hangars serving lower-activity operations as demand dictates.

Next, projects are identified that prepare for a potential runway extension on Runway 5-23. Several projects must be implemented leading up to the actual extension. Prior to any significant construction on the airport, an environmental assessment (EA) is required. If there are no significant environmental impacts identified, then

the process can proceed to design and engineering phase of the runway extension.

The runway extension will require supplementary projects. As proposed during this time, the runway would be extended 1,538 feet northeast (Phase I). The northeasterly extension would remain entirely on airport property; however, additional property would need to be acquired to secure safety areas within the runway protection zone (RPZ), runway safety area (RSA), and object free area (OFA). It should be noted that a second runway extension (Phase II) is called out later in the CIP that would further extend the runway and associated safety areas to the northeast. As a result, the plan considers the fee simple acquisition of approximately 78.5 acres of land northeast of the airport to meet FAA safety standards. In addition, Coolidge Airport Road should be realigned so as to accommodate an ultimate length of 8,100 feet on Runway 5-23.

Once the initial runway extension is complete, the OFA deficiency on the southwest side of the airport is addressed. As proposed, 100 feet of pavement at the southwest end of Runway 5-23 is to be removed which shifts the OFA entirely onto airport property and clears it of the levee system and fence associated with the Central Arizona Project Canal. At this time, the entrance/exit taxiway serving Runway 5 is to be realigned and a hold apron constructed to improve airfield awareness and efficiency. The RPZ extends farther southwest across the Central Arizona Project Canal. It is recommended that this area be controlled through an avigation easement.

Other projects in the intermediate term involve enhancing safety and efficiency as related to the intersection of Runways 5-23 and 17-35. The existing taxiway extending east from the runways' intersection is to be removed and replaced with two additional exits connecting each runway to the main aircraft apron. Furthermore, a 400-foot northerly extension is proposed on Runway 17-35 in an effort to remove the Runway 17 threshold from penetrating safety areas, in particular the obstacle free zone (OFZ), associated with Runway 5-23. As with any major construction, an EA is programmed prior to potential construction of the runway and associated taxiway extensions.

At the end of the intermediate term program, the airport should install REILs on Runway 17-35 and construct additional security fencing. Finally, ongoing replacement and maintenance of airfield pavements is considered throughout the plan. These projects could entail crack sealing, rejuvenating seal coats, slab replacements, and overlays.

Intermediate term projects have been estimated to cost approximately $15.39 million. Of this total, $13.61 million is eligible for FAA grant funding, $358,230 is eligible for state funds, and the local share is projected to be approximately $1.42 million. Utility infrastructure improvements and the construction of a joint-use fire

station are two items that are not eligible for federal or state funds; therefore, the costs associated with these projects would need to be entirely funded by local sources.

LONG TERM IMPROVEMENTS

The long term planning horizon considers 13 projects for the ten-year period focused on continued landside development and improvements to the airfield. The improvements are listed on **Exhibit 6A** and depicted on **Exhibit 6B**.

The first six projects in the long term will be driven by demand. In an effort to make available additional airport property for aviation and non-aviation development, roadway improvement and utility extensions are proposed on the east side of the facility. In addition, taxiways and taxilanes are proposed extending east from Runway 17-35 that would provide aircraft access to potential hangar storage and aviation development parcels. During this time, the construction of a maintenance facility and aircraft wash rack are called for on the south side of the airport adjacent to proposed private hangar development.

As called out previously, the Phase II extension of Runway 5-23 is scheduled in the long term and will provide an ultimate runway length of 8,100 feet. Upon completion of the runway extension, an approach lighting system in the form of a medium intensity approach lighting system (MALS) is proposed on each end of Runway 5-23 to help achieve a straight-in instrument approach with not lower than ¾-mile visibility minimums. Approximately 3.8 acres of land on the west side of the Central Arizona Project Canal would need to be acquired through fee simple property acquisition in order to accommodate the MALS serving Runway 5.

At the end of the long term CIP, projects related to the development of the west side of the airport are proposed. An EA would need to be conducted to determine the environmental impacts, if any, prior to design and construction of development. The plan includes a full-length parallel taxiway on the west side of Runway 5-23, in addition to a dedicated general aviation terminal area on the northwest side of the airport. Access to this area could be provided by extending a roadway south from existing Coolidge Airport Road. Finally, the long term CIP addresses continued pavement maintenance on runways, taxiways, taxilanes, and aircraft parking aprons. The conditions of these pavements will determine the scope of improvements needed.

Total long term projects have been estimated to cost approximately $16.75 million in year 2010 dollars, with approximately $13.67 million eligible for FAA funding. An additional $494,689 is eligible for state funds and the remaining $2.59 million is the local share. Extensive utility improvements on the east and west sides of the airport and the proposed general aviation terminal facility on the northwest side of the airport contri-

bute to the local-only funded projects in the long term horizon. The total CIP program costs are estimated at $43.80 million through the 20-year planning period of this Master Plan.

CAPITAL IMPROVEMENTS SUMMARY

The CIP covers potential development at Coolidge Municipal Airport over the next 20 years. Many of the planned facilities at the airport are not included in the CIP, as they are either projected to be necessary beyond the scope of this plan or assumed to be private development, as is the case with future hangar construction. Several airport improvements presented in the CIP are demand-based. These facilities should be constructed to serve an existing demand at the airport at that time. This plan does not support building facilities in order to attract activity. Because the plan is demand-based rather than time-based, it provides the City of Coolidge with the flexibility to develop facilities as needed. Should demand increase at a greater rate than is forecast, implementation of these improvements can be advanced. Should demand slow, the life of the Master Plan is effectively increased.

CAPITAL IMPROVEMENTS FUNDING

Financing capital improvements at the airport will not rely solely on the financial resources of the airport. Capital improvement funding is available through various grant-in-aid programs on both the federal and state levels. The following discussion outlines key sources of funding potentially available for capital improvements at Coolidge Municipal Airport.

FEDERAL GRANTS

Through federal legislation over the years, various grant-in-aid programs have been established to develop and maintain a system of public airports across the United States. The purpose of this system and its federally based funding is to maintain national defense and to promote interstate commerce. The most recent comprehensive legislation affecting federal funding was enacted in late 2003 and was titled, *Century of Aviation Reauthorization Act,* or *Vision 100*.

The four-year bill covered FAA fiscal years 2004, 2005, 2006, and 2007. (This bill presented similar funding levels to the previous bill - *Air 21*.) Airport Improvement Program (AIP) funding was authorized at $3.4 billion in 2004, $3.5 billion in 2005, $3.6 billion in 2006, and $3.7 billion in 2007. This bill provided the FAA the opportunity to plan for longer term projects versus one-year re-authorizations.

Vision 100 expired at the end of fiscal year 2007. Since this time (April 2010), the United States Congress had not passed a reauthorization or long term AIP program. The federal government has been operating on a series of continuing resolutions which allows the continued collection of avia-

tion taxes at 2007 levels. Both the Senate and House of Representatives have considered legislation reauthorizing the AIP program and reestablishing the Aviation Trust Fund; however, Senate and House versions vary and neither bill has been passed. While different in make-up, both bills retained the fundamentals of the current program for eligibility and matching levels. Therefore, the CIP assumes a similar funding system will be in place through the planning period of this study. Under *Vision 100* and the current continuation bill, Coolidge Municipal Airport is eligible for 95 percent funding assistance from AIP grants.

The source for airport improvement funds from the federal government is the Aviation Trust Fund. The Aviation Trust Fund 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.

Funds are distributed each year by the FAA from appropriations by Congress. A portion of the annual distribution is to commercial service airports based upon enplanement (passenger boarding) levels. Airports with qualifying levels of air cargo shipments can receive additional entitlements. After all specific entitlements are distributed, the remaining AIP funds are disbursed by the FAA based upon the priority of the project through discretionary apportionments. A national priority system is used to evaluate and rank each airport project. Those projects with the highest priority are given preference in funding.

Under the AIP program, examples of eligible development projects include the airfield, public aprons, and access roads. Additional buildings and structures may be eligible if the function of the structure is to serve airport operations in a non-revenue generating capacity, such as maintenance facilities. Some passenger terminal building improvements (such as bag claim and public waiting lobbies) are also eligible for FAA funding. Improvements such as fueling facilities, utilities (with the exception of water supply for fire prevention), hangar buildings, airline ticketing, and airline operations areas are not typically eligible for AIP funds.

Non-Primary Entitlement Funds

Funds are distributed each year by the FAA from appropriations by Congress. A portion of the annual distribution is to primary commercial service airports based upon enplanement levels. For those airports that do not meet the criteria for a primary commercial service airport, such as the case with Coolidge Municipal Airport, eligible airports could receive up to $150,000 of funding each year in Non-Primary Entitlement (NPE) funds. Eligible airports include those that are included in the National Plan of Integrated Airport Systems (NPIAS). Coolidge

Municipal Airport is currently eligible for full NPE funding.

Discretionary Funds

In a number of cases, airports face major projects that will require funds in excess of the airport's annual non-primary entitlements. Thus, additional funds from discretionary apportionments under AIP become desirable. The primary feature about discretionary funds is that they are distributed on a priority basis. These priorities are established by the FAA, utilizing a priority code system. Under this system, 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 Western Pacific Region. The funds are not distributed to all airports in the country and, as such, are more difficult to obtain. High priority projects will often fare favorably, while lower priority projects usually will not receive discretionary grants.

FAA Facilities and Equipment Program

The Airway Facilities Division of the FAA administers the national Facilities and Equipment (F&E) Program. This annual program provides funding for the installation and maintenance of various navigational aids and equipment for the national airspace system and airports. Under the F&E program, funding is provided for FAA airport traffic control towers, enroute navigational aids, on-airport navigational aids, and approach lighting systems. As activity levels and other developments warrant, the airport may be considered by the FAA Airways Facilities Division for the installation and maintenance of navigational aids through the F&E program. A project which could be funded through the F&E Program that is included in the CIP for Coolidge Municipal Airport is the installation of a MALS on each end of Runway 5-23.

STATE FUNDING PROGRAM

In support of the state aviation system, the State of Arizona also participates in airport improvement projects. The source for state airport improvement funds is the Arizona 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 in the Arizona Aviation Fund. The State Transportation Board establishes the policies for distribution of these state funds.

Under the State of Arizona's grant program, an airport can receive funding for one-half (currently 2.5 percent) of the local share of projects receiving federal AIP funding. The state also provides 90 percent funding for projects which are typically not eligible for federal AIP funding or have not received federal funding.

It should be noted that due to recent budget shortfalls, limitations have been placed on state funding programs. This has directly impacted the state's Aviation Fund, as the amount of money dedicated to airport improvements has been significantly reduced. It is projected that the Aviation Fund will return to normal levels within the next few years as the state's budget improves.

State Airport Loan Program

The ADOT – Aeronautic Group Airport Loan Program was established to enhance the utilization of state funds and provide a flexible funding mechanism to assist airports in funding improvement projects. Eligible projects include runway, taxiway, and apron improvements; land acquisition, planning studies, and the preparation of plans and specifications for airport construction projects; as well as revenue-generating improvements such as hangars and fuel storage facilities. Projects which are not currently eligible for the State Airport Loan Program are considered if the project would enhance the airport's ability to be financially self-sufficient.

There are three ways in which the loan funds can be used: Grant Advance, Matching Funds, or Revenue-Generating Projects. The Grant Advance loan funds are provided when the airport can demonstrate the ability to accelerate the development and construction of a multi-phase project. The project(s) must be compatible with the Airport Master Plan and be included in the ADOT Five-Year Airport Development Program. The Matching Funds are provided to meet the local matching fund requirement for securing federal airport improvement grants or other federal or state grants. The Revenue-Generating funds are provided for airport-related construction projects that are not eligible for funding under another program. As previously discussed, current limitations on the state funding program could affect this program.

Pavement Maintenance Program

The airport system in Arizona is a multi-million 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 that need to protect and extend the maximum useful life of the airport system's pavement. The Arizona Pavement Preservation Program (APPP) has been established to assist in the preservation of the Arizona airports' system infrastructure.

Public Law 103-305 requires that airports requesting federal AIP funding for pavement rehabilitation or recon-

struction have an effective pavement maintenance program system. To this end, ADOT-Aeronautics Group maintains an Airport Pavement Management System (APMS). This system requires monthly airport inspections which are conducted by airport management and supplied to ADOT.

The Arizona Airport Pavement Management System uses the Army Corps of Engineers "Micropaver" program as a basis for generating a Five-Year APPP. The APMS consists of visual inspections of all airport pavements. Evaluations are made of the types and severities observed and 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 Advisory Circular 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-Aeronautics Group ensures that the APMS database is kept current, in compliance with FAA requirements.

Every year, ADOT-Aeronautics Group, utilizing the APMS, will identify airport pavement maintenance projects 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 airport sponsor may sign an Inter-Government Agreement (IGA) with ADOT-Aeronautics Group to participate in the APPP. Existing limitations on the state funding program could temporarily affect the usefulness of this program.

LOCAL FUNDING

The balance of project costs, after consideration has been given to grants, must be funded through local resources. Coolidge Municipal Airport is operated by the City of Coolidge and could receive some assistance from the City. The goal for the operation of the airport is to generate ample revenues to cover all operating and maintenance costs as well as the local matching share of capital expenditures. As with many airports, this is not possible and other financial methods will be needed.

According to **Exhibit 6A**, local funding will be needed in each planning horizon. This includes $291,560 in the short term, $1.42 million in the intermediate term, and $2.59 million in the long term.

There are several alternatives for local financing options for future development at the airport, including airport revenues, direct funding from the City, issuing bonds, and leasehold financing. These strategies could be used to fund the local matching share, or com-

plete the project if grant funding cannot be arranged.

Local funding options may also include the solicitation of private developers to construct and manage hangar facilities at the airport. This practice is currently in place at Coolidge Municipal Airport. The capital improvement program has assumed that landside facility development would be undertaken in this manner. Outsourcing hangar development can benefit the airport sponsor by generating land lease revenue and relieving the sponsor of operations and maintenance costs.

FUNDING AIRPORT OPERATIONS

The airport is operated by the City of Coolidge through the collection of various rates and charges from general aviation revenue sources. These revenues are generated specifically by airport operations. There are, however, 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 to additions or improvements to airport facilities.

Operating revenues at Coolidge Municipal Airport include, at a minimum, fuel flowage fees and ground leases. Revenues are anticipated to continue to grow consistent with aviation activity and an overall positive economic outlook. As more aircraft base at the airport, additional revenues from land leases and fuel flowage fees should increase proportionately. Revenues will also be bolstered by increases in transient aircraft activity that additionally increases fuel sales.

To ensure that the airport maximizes revenue potential in the future, the City of Coolidge should also periodically review aviation services rates and charges (i.e., fuel flowage fees, ground lease rates, tiedown rental, etc.) at other airports to ensure that rates and charges at the airport are competitive and similar to aviation services at other airports and further generate the opportunity for the City to establish other means of revenue collection or establish future rates and charges. Additionally, all new leases at the airport should have inflation clauses allowing for periodic rate increases in line with inflationary factors.

While it is desirable for the airport to directly pay for itself, the indirect and intangible benefits of the airport to the community's economy and growth must be considered in implementing future capital improvements.

Airport Rates and Charges

The FAA places several stipulations on rates and charges establishment and collection; however, two primary considerations need to be addressed. First, the rates and charges must be fair, equally applied, and resemble fair market value. Second, the rates and

charges collected must be returned to and used only by and/or for the airport. In other words, the revenues generated by airport operations cannot be diverted to the general use of the City of Coolidge. The FAA requires funds to be used at airports as these funds are many times needed to either support the day-to-day operational costs or offset capital improvement costs.

Given its location to other airports, the rates and charges structure at Coolidge Municipal Airport needs to be somewhat competitive with other airports in the region. If the costs are too high, some users may choose other airports. On the other hand, if rates and charges are set too low, some facilities will not be capable of being amortized, thus requiring a subsidy from the City. The following provides several activities that could enhance revenue production for an airport, some of which are currently being practiced at Coolidge Municipal Airport.

Aircraft Parking

Aircraft parking fees, also referred to as tiedown fees, are typically assessed to those aircraft utilizing a portion of an aircraft parking area that is owned by the airport. These fees are most generally assessed on a daily or monthly basis, depending upon the specific activity of a particular aircraft.

Aircraft parking fees can be established in several different ways. Typically, airports assess aircraft parking fees in accordance with an established schedule in which an aircraft within a designated weight and/or size pays a similar fee (i.e., small aircraft, single engine aircraft). Aircraft parking fees may also be charged according to a "cents per 1,000 pounds" basis in which larger aircraft with increased weights would obviously pay more for utilizing the aircraft parking apron. There are also instances in which aircraft parking fees are not assessed on an airport.

An airport sponsor may also include in a lease agreement with an aviation-related commercial operator at the airport to collect aircraft parking fees on portions of an aircraft parking apron in which the airport does not own or is leasing to a commercial operator, such as an FBO. As a result, the airport could directly collect parking fees from an aircraft utilizing this space or allow the commercial operator to collect the parking fee, in which the agreement may allow the commercial operator to retain a portion of the parking fee as an administrative or service fee.

As previously discussed, aircraft parking fees can be assessed on a daily or monthly basis. Daily aircraft parking fees are typically assessed to transient aircraft utilizing the airport on a short-term basis, while monthly fees are charged to aircraft that utilize a particular parking area for the permanent storage of their aircraft. Monthly aircraft parking fees are often assessed at airports that contain a waiting list for aircraft hangar storage

space. It is also common practice at many airports to waive a daily aircraft parking fee in the event the aircraft purchases fuel prior to departing the airport.

Previous rates and charges analysis conducted by the consultant outside this study have indicated that daily aircraft parking fees can vary from $3.00 to $10.00 depending on the type of aircraft, and monthly aircraft parking fees can range between $25.00 and $100.00 per month depending on the type and size of the aircraft.

Aircraft Storage Hangars

There are several types of aircraft storage hangars that can accommodate aircraft on an airport. In order to establish hangar fees, an airport typically factors in such qualities as hangar size, location, and utilities. Aircraft hangar fees are most often charged on a monthly basis.

Common aircraft storage hangars are typically categorized as shade hangars, T-hangars, and conventional hangars. Shade hangars consist of tiedown spaces with a protective roof covering. T-hangars provide for separate, single-aircraft storage areas. Conventional hangars provide a larger enclosed space that can accommodate larger multi-engine piston or turbine aircraft and/or multiple aircraft storage. Conventional hangars can also be utilized by aviation-related commercial operators for their business activities on an airport.

Location can also play a role in determining hangar rates. Aircraft storage hangars with direct access to improved taxiways/taxilanes and adjacent to aviation services being offered at an airport can oftentimes be more expensive to rent. In addition, the type of utility infrastructure being offered to the hangar can also help determine storage fees. Smaller aircraft storage hangars, such as a T-hangar or small box hangar, can either be granted access through a manual sliding door or electric door. It is common for hangars that provide electric doors to have higher rental fees as the cost associated with constructing these hangars would exceed the cost associated with simpler structures.

At some airports, hangar facilities are constructed by the airport sponsor, while at other airports, hangars are built by private entities. In some cases, airports have both public and private hangar facilities available. Hangars can be expensive to construct and offer minimal return on investment in the short term. In order to amortize the cost of constructing hangars, lease rates should be developed at a minimum to recover development and finance costs.

T-hangars often range from $100 to $350 per month depending on several factors previously listed. Larger conventional-style hangars can be leased per aircraft space or for the entire hangar. Monthly rates similar to those for individual T-hangar units often apply to leased aircraft space in a conventional hangar.

Ground Rental

Ground rentals can be applied to aviation and non-aviation development on an airport. Also known as a land lease, a ground lease can be structured to meet the particular needs of an airport operator in terms of location, terrain features, amount of land needed, and type of facility infrastructure included.

One of the single most valuable assets available to an airport is the leasable land with access to the runway/taxiway system. For aviation-related businesses, it is critical that they be located on an airport. Airport property is available for long term lease but, in most cases, it cannot be sold. At the expiration of the lease, and any extensions, the improvements on the leased land revert back to the airport sponsor. In order for this arrangement to make financial sense, most ground leases are at least 20 years in length and include extension opportunities. Those who lease land on an airport are typically interested in constructing a hangar for their own private use, for sub-lease, or for operation of an airport business. Therefore, the long term lease arrangement is important in order to obtain capital funding for the construction of a hangar or other type of facility. It should also be noted that ground leases should include the opportunity to periodically review the lease and adjust the rate according to the consumer price index (CPI). Typical lease agreements range from 20 to 30 years with options for extensions.

Ground leases are typically established on a yearly fee schedule based upon the amount of square feet leased. The amount charged can vary greatly depending on the level of improvements to the land. For example, undeveloped land with readily accessible utilities and taxiway access can generate more revenue than unimproved property. Previous surveys at other airports across the country conducted by the consultant have determined ground lease rates to range from $0.08 per square foot per year to approximately $1.00 per square foot per year. In some instances, lease rates were well over $1.00 per square foot per year.

Some airports will have other leasable space available. For example, airports with a terminal building may have office or counter space available for aviation and non-aviation related businesses. Some example businesses could include commercial airlines, aircraft sales, flight instruction, aircraft insurance, and a restaurant.

As previously mentioned, under certain circumstances, an airport sponsor may utilize portions of the airport for non-aeronautical purposes such as commercial and/or industrial development if certain areas are not needed to satisfy aviation demand or are not accessible to aviation activity. Prior to an airport pursuing a ground lease with a commercial operator for non-aeronautical purposes, the sponsor must formally request from the FAA a release from certain land parcels that may not be needed for aviation-related uses.

Fuel Sales and Flowage

Fuel sales are typically managed at an airport in one of two ways: the airport sponsor acts as the fuel distributor or fueling operations are sub-contracted to an FBO. If the airport sponsor acts as the fuel distributor, then the airport would receive revenues equal to the difference between wholesale and retail prices. Of course, there are added expenses such as employing people to fuel the aircraft.

When these services are undertaken by an FBO, the airport sponsor typically receives a fuel flowage fee per gallon of fuel. By way of agreement with the airport sponsor, FBOs would be required to pay a fuel flowage fee for each gallon of fuel sold or received into inventory. In the case of self-fueling entities, a fuel flowage fee could apply for each gallon of fuel dispensed. Fuel flowage fees are typically paid on a "cents per gallon" basis. In some instances, fuel flowage fees will be established based upon the type of aviation activity. For example, commercial airline service operators may be assessed a higher fuel flowage fee than general aviation aircraft or no fuel flowage fee at all if being assessed a landing fee (to be discussed in the next section). Fuel flowage fees can also be distinguished by type of fuel (100LL or Jet A).

The owner of the fuel farm can also be the airport sponsor or an FBO operator. If the airport sponsor owns the fuel farm and the FBO operator undertakes the fueling activities, then a separate fuel storage fee can be charged or a higher fuel flowage fee may be assessed. Fuel flowage fees at other airports similar to Coolidge Municipal Airport oftentimes range from $0.03 per gallon to $0.20 per gallon.

Landing Fees

Landing fees typically only apply to larger aircraft, such as those over 60,000 pounds, for example, and only those involved in commercial airline or air taxi operations. Landing fees are not common on general aviation airports and are generally discouraged due to collection difficulty. Moreover, landing fees are somewhat discouraging to aircraft operators which will many times elect to utilize a nearby airport that does not collect a landing fee.

When landing fees are assessed, they are most commonly based upon aircraft weight and a "cents per 1,000 pounds" approach. In addition, some airport sponsors may use a flat fee approach wherein aircraft within a specified weight range are charged the same fee.

Landing fees may be collected directly by the airport sponsor or an airport may have an agreement with a commercial operator to collect landing fees. Similar to what was discussed with aircraft parking fees, under this scenario, the agreement may allow the commercial operator, such as an FBO, to retain a portion of the landing fee as an administrative or service fee.

PLAN IMPLEMENTATION

The best means to begin implementation of the recommendations in this Master Plan is to first recognize that planning is a continuous process that does not end with completion and approval of this document. Rather, the ability to continuously monitor the existing and forecast status of airport activity must be provided and maintained. The issues upon which this report 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 continuing to be economically self-sufficient.

The actual need for facilities is most appropriately established by airport activity levels rather than a specified date. For example, projections have been made as to when air cargo facilities may be needed at the airport. In reality, however, the timeframe in which the development is needed may be substantially different. Actual demand may be slower to develop than expected. On the other hand, high levels of demand may establish the need to accelerate the development. Although every effort has been made to conservatively estimate when facility development may be needed, aviation demand will dictate when facility improvements need to be delayed or accelerated.

The real value of a study of this nature is in keeping the issues and objectives in the minds of the managers and policymakers so that they are better able to recognize changes and their effects. In addition to adjustments in aviation demand, decisions made as to when to undertake the improvements recommended in this Master Plan will impact the period that the plan remains valid. The format used in this plan is intended to reduce the need for formal and costly updates by simply adjusting the timing. Updating can be done by airport management, thereby improving the plan's effectiveness.