

ELOY MUNICIPAL AIRPORT



Capital Improvement Program

The implementation of the Eloy Municipal Airport Master Plan will require sound judgment on the part of airport management. Among the more important factors influencing decisions to carry out a recommendation are timing and airport activity. Both of these factors should be used as references in plan implementation.

Experience has indicated that problems can materialize from the standard time-based format of traditional planning documents. The problems typically center on inflexibility and an inability to deal with unforeseen changes that may occur.

While it is necessary for scheduling and budgeting purposes to consider timing of

airport development, the actual need for facilities is established by airport activity. Proper master planning implementation suggests the use of airport activity levels, rather than time, as guidance for development.

This section of the Master Plan is intended to become one of the primary references for decision-makers responsible for implementing master plan recommendations. Consequently, the narrative and graphic presentations must provide understanding of each recommended development item. This understanding will be critical in maintaining a realistic and cost-effective program that provides maximum benefit to the community.



DEMAND-BASED PLAN

The Eloy 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 Eloy 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 Eloy 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 Eloy Municipal Airport has been developed as a demand-based plan. The Master Plan projects 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 im-

plementation. 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 Eloy Municipal Airport				
	Current	Short Term	Intermediate Term	Long Term
ANNUAL OPERATIONS				
Total Itinerant	9,900	10,500	12,200	16,400
Total Local	18,550	20,300	22,300	29,000
Total Military	100	100	100	100
Total Operations	28,550	30,900	34,600	45,500
BASED AIRCRAFT				
Single Engine Piston	29	35	40	65
Multi-Engine Piston	4	4	5	6
Turboprop	8	9	11	18
Jet	0	1	2	6
Rotorcraft	0	1	2	5
Other	0	0	0	0
Total Based Aircraft	41	50	60	100
TOTAL ANNUAL INSTRUMENT APPROACHES	50	53	61	82

CAPITAL IMPROVEMENT SCHEDULE AND COST SUMMARIES

Once the specific needs and improvements for the airport have been established, the next step is to determine the cost of development and a realistic schedule for implementing the plan. This section will examine the overall cost of each project in the development plan and present a development schedule. 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 fac-

tors, demand, and priority assignments.

The recommended improvements are grouped by planning horizon: short term, intermediate term, and long term. Each year, the City of Eloy will need to re-examine the priorities for funding, adding or removing projects on the capital programming lists.

Exhibit 6A summarizes the CIP for Eloy 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** graphi-

cally 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. Some projects, like the runway extensions and land acquisitions, will require further environmental consideration at the time of implementation as well.

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. 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.

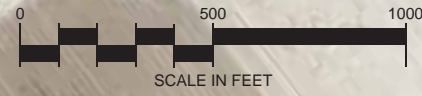
SHORT TERM IMPROVEMENTS

The developments proposed in the short term are concentrated on the most immediate needs of the airfield and landside areas. A total of 17 projects are considered to meet airfield design standards, protect approach surfaces, provide adequate runway length for aircraft currently utilizing the airport, and to protect future growth of the airport. The short term improvement projects are depicted on **Exhibit 6B** with red shading. 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). Some of the short term projects listed in the master plan CIP were carried over from the airport's five-year CIP that was submitted to FAA and ADOT-Aeronautics Group for the *Tentative 2011-2015 Five-Year Airport Capital Improvement Program*. Some of these projects in 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.

PROJECT DESCRIPTION		TOTAL PROJECT COST	FAA ELIGIBLE	ADOT * ELIGIBLE	LOCAL SHARE
SHORT TERM PROGRAM (1-5 Years)					
2011					
1	Design Only: Relocation of Parallel Taxiway A	250,000	237,500	6,250	6,250
2	Restore PAPIs and REILs	200,000	190,000	5,000	5,000
2011 Subtotal		\$450,000	\$427,500	\$11,250	\$11,250
2012					
3	Design Only: Rehabilitation of Apron (15,450 yd ²)	\$180,000	\$171,000	\$4,500	\$4,500
4	Relocate Segmented Circle and Lighted Wind Indicator	14,000	13,300	350	350
5	Relocate Taxiway A 100 Feet Southeast & Install Taxiway Edge Lighting	1,990,300	1,890,785	49,758	49,758
6	Acquire Lands for the Expansion of the Runway and Protection of Runway Approaches (24.76 Acres)	284,740	270,503	7,119	7,119
7	Acquire Avigation Easement (1.33 Acres)	12,300	11,685	308	308
2012 Subtotal		\$2,481,340	\$2,357,273	\$62,034	\$62,034
2013					
8	Rehabilitation of Apron (15,450 yd ²)	\$1,000,000	\$950,000	\$25,000	\$25,000
9	Design Only: Reconstruction of Lear Drive	90,000	85,500	2,250	2,250
10	Conduct Environmental Assessment for the Extension of Runway 2-20	150,000	142,500	3,750	3,750
2013 Subtotal		\$1,240,000	\$1,178,000	\$31,000	\$31,000
2014					
11	Install AWOS	\$202,000	\$191,900	\$5,050	\$5,050
12	Reconstruct Lear Drive	450,000	427,500	11,250	11,250
13	Construct T-Hangar Taxilanes	602,160	572,052	15,054	15,054
14	Extend Runway 2-20 & Taxiway A 650 Feet Southwest	1,086,000	1,031,700	27,150	27,150
2014 Subtotal		\$2,340,160	\$2,223,152	\$58,504	\$58,504
2015					
15	Design Only: Construction of Terminal Building	\$250,000	\$237,500	\$6,250	\$6,250
16	Design the Installation of New GPS Approach System	100,000	95,000	2,500	2,500
17	Construct Terminal Building	1,708,500	0	1,537,650	170,850
2015 Subtotal		\$2,058,500	\$332,500	\$1,546,400	\$179,600
TOTAL SHORT TERM PROGRAM		\$8,570,000	\$6,518,425	\$1,709,188	\$342,388
INTERMEDIATE TERM PROGRAM (6-10 Years)					
1	Acquire Land for the Expansion of Landside Facilities (5.5 Acres)	\$63,250	\$60,088	\$1,581	\$1,581
2	Construct T-Hangar Taxilanes	391,200	371,640	9,780	9,780
3	Construct Apron (11,111 yd ²)	968,000	919,600	24,200	24,200
4	Construct Wash Rack	250,000	237,500	6,250	6,250
5	Extend N. Lear Drive, Utilities & Construct Parking Lot	500,000	0	0	500,000
6	Pavement Maintenance	1,500,000	1,425,000	37,500	37,500
TOTAL INTERMEDIATE TERM PROGRAM		\$3,672,450	\$3,013,828	\$79,311	\$579,311
LONG TERM PROGRAM (11-20 Years)					
1	Conduct Environmental Assessment for the Extension of Runway 2-20	\$200,000	\$190,000	\$5,000	\$5,000
2	Extend Runway 2-20 & Taxiway A 650 Feet Northeast	1,086,000	1,031,700	27,150	27,150
3	Install Distance Remaining Signage	174,000	165,300	4,350	4,350
4	Construct T-Hangar Taxilanes	391,200	371,640	9,780	9,780
5	Expand Vehicle Parking Lot and Utilities	200,000	0	0	200,000
6	Upgrade to PAPI-4s on Each Runway End	200,000	190,000	5,000	5,000
7	Pavement Maintenance	3,000,000	2,850,000	75,000	75,000
TOTAL LONG TERM PROGRAM		\$5,251,200	\$4,798,640	\$126,280	\$326,280
TOTAL PROGRAM COSTS		\$17,493,650	\$14,330,893	\$1,914,779	\$1,247,979

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

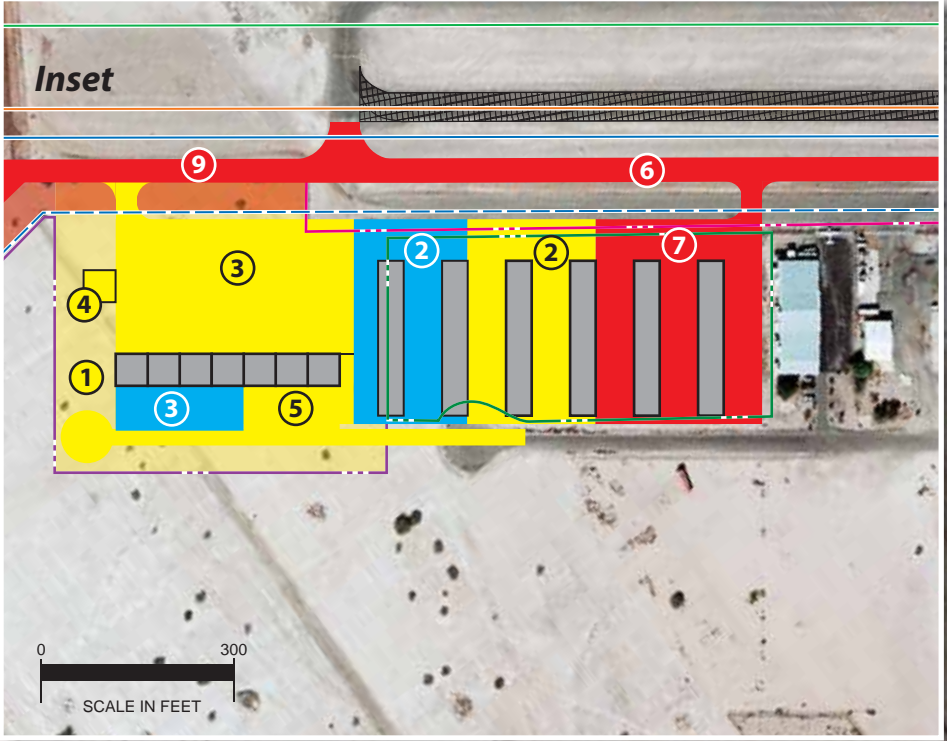


Hwachuca Rd.

- SHORT TERM PROJECTS**
- 1 Acquire 9.65 Acres
 - 2 Acquire 8.18 Acres
 - 3 Acquire Avigation Easement 1.33 Acres
 - 4 Acquire 5.55 Acres
 - 5 Acquire 1.38 Acres and Relocate Segmented Circle / Lighted Wind Cone
 - 6 Relocate Taxiway A 100'
 - 7 Construct T-Hangar Taxilanes
 - 8 Install AWOS
 - 9 Extend Runway 2-20 & Taxiway A 650'
 - 10 Construct Terminal/Maintenance Building

- INTERMEDIATE TERM PROJECTS**
- 1 Acquire 5.5 Acres
 - 2 Construct T-Hangar Taxilanes
 - 3 Construct Apron 11,111 yds²
 - 4 Construct Wash Rack
 - 5 Extend N. Lear Dr. & Construct Parking Lot

- LONG TERM PROJECTS**
- 1 Extend Runway 2-20 & Taxiway A 650'
 - 2 Construct T-Hangar Taxilanes
 - 3 Expand Parking Lot



- LEGEND**
- Airport Property Line
 - Ultimate Airport Property Line
 - City Owned Property
 - Private Development
 - Pavement to be Removed
 - Runway Safety Area (RSA)
 - Object Free Area (OFA)
 - Taxiway OFA
 - Obstacle Free Zone (OFZ)
 - Runway Protection Zone (RPZ)



The 2011 projects include the design of the relocation of the parallel Taxiway A, relocation of the segmented circle and lighted wind indicator, and the restoration of the precision approach path indicator (PAPI) approach lighting systems and the runway end identifier lights (REILs). The existing airport beacon, PAPIs, and REILs are inoperable and need to be restored or replaced to improve the safety and security of operations at the airport.

Design of the relocation of Taxiway A 100 feet to the southeast in 2011 is followed by the construction of the relocated Taxiway A in 2012. This project will bring the airport into compliance with FAA airport design standards and allow the airport to more easily transition to approach category C standards in the future. Other projects in 2012 include the design of the rehabilitation of the apron, and the acquisition of approximately 24.76 acres of land through fee simple acquisition and the acquisition of approximately 1.33 acres of aviation easements to protect the runway protection zones (RPZs) and to protect the future expansion abilities of the airport.

A project to rehabilitate the apron and the design of the reconstruction of Lear Drive is planned for 2013, as well as an environmental assessment (EA) for the extension of Runway 2-20 to the southwest. This extension will result in a runway length of 4,550 feet, which exceeds the FAA recommended runway length for 100 percent of small aircraft with less than ten passenger seats as detailed in Chapter Three.

This aircraft type is the primary user of the airport presently and will continue to be through the short term planning horizon. The construction of the runway extension is programmed for the following year in 2014.

Eloy Municipal Airport is currently without a weather reporting station. The installation of an automated weather observation system (AWOS) in 2014 will provide on-site weather reporting for pilots. Lear Drive is programmed to be reconstructed in 2014 following the design project the year earlier. At this point, it is anticipated the City will pursue the construction of additional T-hangar facilities on a 4.0 acre city owned parcel of property that is planned to become a part of airport property. The capital improvement program includes projects to construct T-hangar taxiways for two T-hangar facilities, which will provide access from the hangar facilities to the airfield.

The final year included in the short term program, 2015, includes two design projects for the construction of a dual-use terminal and maintenance building and for the installation of GPS instrument approach systems. The construction of the terminal/maintenance building is also included in the 2015 program year.

The total investment necessary for the short term CIP is approximately \$8.6 million. Of this total, \$6.5 million is eligible for FAA grant funding, \$1.7 million is eligible for state funds, with the airport sponsor responsible for \$342,000.

INTERMEDIATE PLANNING HORIZON

The intermediate term planning horizon focuses on the airport's development needs during the six- to ten-year time frame. Due to the fluid nature of general 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. Intermediate projects are depicted on **Exhibit 6B** with yellow shading.

The implementation of many of the items in the intermediate term should be based upon actual demand. Those projects, such as the construction of additional apron and taxiways, should not be undertaken unless there is an existing demand for such facilities.

The intermediate term projects focus on the expansion of landside facilities to the south side of the airport. The development of landside facilities on the south side of the airport will first begin with the acquisition of an additional 5.5 acres of property to allow for the facility growth. T-hangar taxi-lanes and the construction of a new 11,111 square yard apron will facilitate the construction of new T-hangar facilities and for the development of conventional hangars and aircraft parking positions. An aircraft wash rack at the southern end of the new apron is also planned in the interme-

mediate term. Lear Drive is programmed to be extended south so that it will be capable of providing vehicular access to a new parking lot for the conventional hangar facilities.

A total of \$1.5 million is included in this planning period for on-going pavement maintenance needs such as crack sealing, rejuvenating seal coats, and slab replacements as necessary.

The total investment necessary for the intermediate term CIP is approximately \$3.7 million. Of this total, \$3.0 million is eligible for FAA grant funding, and \$79,300 is eligible for state funds, with the airport sponsor responsible for \$579,000.

LONG TERM PLANNING HORIZON

Long term improvements, as presented on **Exhibit 6B** with blue shading, continue the expansion of airside facilities to accommodating a wider range of business jet aircraft and overall airport operational growth. The first project listed is an EA for the extension of Runway 2-20 and Taxiway A by 650 feet to the northeast. Construction of this project to follow the EA will extend the runway from 4,550 feet to 5,200 feet, which meets the FAA recommended runway length for 75 percent of business jet aircraft operating at 60 percent useful load as detailed in Chapter Three. Distance remaining signage is programmed for Runway 2-20 to improve operational safety.

Remaining projects in the long term horizon include the expansion of the vehicle parking lot at the south end of the airport to facilitate the construction of new conventional hangar facilities. T-hangar taxilanes are planned to allow for the construction of two new T-hangar facilities. Once the airport experiences regular use by medium and large business jet aircraft, PAPI-4 approach lighting systems should be installed.

A total of \$3.0 million is included in this planning period for on-going pavement maintenance needs such as crack sealing, rejuvenating seal coats, and slab replacements as necessary.

The total investment necessary for the long term CIP is approximately \$5.3 million. Of this total, \$4.8 million is eligible for FAA grant funding, \$126,000 is eligible for state funds, with the airport sponsor responsible for \$326,000.

CAPITAL IMPROVEMENTS FUNDING

Financing capital improvements at the airport will not rely exclusively upon the financial resources of the City of Eloy. Capital improvement funding is available through various grants-in-aid programs at both the federal and state levels. The following discussion outlines the key sources for capital improvement funding at Eloy 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. As of the preparation of this chapter (February 2011), the United States Congress had not passed a reauthorization or long term AIP program. The FAA has been operating on a series of continuing resolutions which allows the continued collection of aviation taxes at 2007 levels. While different in make-up, the bills being considered in the House and Senate have 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, Eloy 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 opera-

tions 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), and hangar buildings 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 Eloy Municipal Airport, eligible airports could receive up to \$150,000 of funding each year in Non-Primary Entitlement (NPE) funds. Eligible airports are those included in the National Plan of Integrated Airport Systems (NPIAS). Eloy 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, uti-

lizing 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.

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 me-

chanism 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 reconstruction 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. Eloy Municipal Airport is operated by the City of Eloy 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 \$342,000 in the

short term, \$579,000 in the intermediate term, and \$326,000 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 complete 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. 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 Eloy 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 addi-

tions or improvements to airport facilities.

Operating revenues at Eloy Municipal Airport currently include ground leases and hangar rentals. 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 should increase proportionately. Revenues will also be bolstered in the future once FAA approved through-the-fence agreements are reached with each of the off-airport businesses utilizing the airport as was discussed in the previous chapter.

To ensure that the airport maximizes revenue potential in the future, the City of Eloy should also periodically review aviation services rates and charges (i.e., ground lease rates, tie-down 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 Eloy. 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 Eloy 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 Eloy 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 a fixed base operator (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 sto-

rage. 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 un-

dertakes 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 Eloy 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, who 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 new apron space will need to be constructed. 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.