



Chapter Six

Capital Improvement Program



Capital Improvement Program



The implementation of the H.A. Clark Memorial Field Master Plan will require sound judgment on the part of airport management. Among the more important factors influencing decisions to carry out a recommendation is timing and airport activity. Both of these factors should be used as references in plan implementation.

Experience has indicated that major 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.



AIRPORT DEVELOPMENT SCHEDULES 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 item in the development plan and present a development schedule.

The recommended improvements are grouped by planning horizon: short term, intermediate term, and long term. **Table 6A** summarizes the key milestones for each of the three planning horizons.

TABLE 6A Planning Horizon Summary H.A. Clark Memorial Field				
	Current	Short Term	Intermediate Term	Long Range
Based Aircraft	13	19	25	34
Annual Operations				
General Aviation Itinerant	3,840	4,700	5,300	6,900
Air Tour Itinerant	--	4,500	7,500	12,000
General Aviation Local	360	800	1,800	2,900
Total Operations	4,200	10,000	14,600	21,800

A key aspect of this planning document is the use of demand-based planning milestones. The short term planning horizon contains items of highest priority. These items should be considered for development based on actual demand levels within the next five years. As short term horizon activity levels are reached, it will then be time to program for the intermediate term based upon the next activity milestones. Similarly, when the intermediate term milestones are reached, it will be time to program for the long term activity milestones.

Many development items included in the recommended concept will need to follow demand indicators. For example, the plan includes construction of new hangar facilities. Based aircraft will be the indicator for additional

hangar needs. If based aircraft growth occurs as projected, additional hangars will need to be constructed to meet the demand.

If growth slows or does not occur as projected, hangar pavement projects can be delayed. As a result, capital expenditures will be undertaken as needed, which leads to a responsible use of capital assets. Some development items do not depend on demand, such as pavement maintenance. These types of projects typically are associated with day-to-day operations and should be monitored and identified by airport management.

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. Moreover, some projects, such as the runway extension, will require further study at the time of implementation.

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 capital improvement plan are listed in current (2007) dollars. **Exhibit 6A** presents the proposed capital improvement program for H.A. Clark Memorial Field.

SHORT TERM IMPROVEMENTS

As indicated above, the short term planning horizon is the only development stage that is correlated to time. This is because development within this initial period is concentrated first on the most immediate needs of the airfield and landside areas. Therefore, the program is presented year-by-year for the first five years (2007-2012) to assist in capital improvement.

Prior to considering these planned projects, an understanding of existing design and construction grants is necessary. In 2007, the City of Williams held grants to rehabilitate Taxiway A, replace the airport's rotating beacon, and construct helipads. The Taxiway A project involves widening Taxiway A and its associated exit taxiways to 50

feet to meet ARC B-III design standards.

The primary focus of the short term planning horizon is to provide the airport with essential facilities and the land that will be needed for intermediate and long term projects. Some of the essential facilities and projects to be undertaken include: the design and construction of an airport perimeter road, the expansion of the terminal building, automobile parking expansion, aircraft apron expansion, the construction of an aircraft wash rack, the construction of helipads, and the installation of medium intensity taxiway lighting (MITL) on all taxiways.

An airport perimeter road is planned in the short term. This perimeter road will allow vehicle access around the airside facilities for maintenance and emergency situations. This increases safety by reducing the potential incursions as a result of vehicles operating on aircraft runways and taxiways.

The expansion of the terminal building is planned to accommodate the needs of a potential air tour operator or scheduled air carrier. Automobile parking and terminal apron expansions closely correlate to the addition of this type of service at the airport. Both will need to be expanded to meet increased traffic at the airport.

The construction of an aircraft wash rack and helipads is also included in the short term horizon. The aircraft wash rack will provide an area for aircraft cleaning and the proper collection of the aircraft cleaning solvents and contaminants. Helipads are nec-

	Total Cost	Federally Eligible	ADOT Eligible	Local Share
Short Term Planning Horizon (First 5 Years)				
2007				
Rehabilitate Taxiway A (Widen to 50 feet)	\$862,500	\$819,375	\$21,563	\$21,563
Replace Rotating Beacon	172,500	--	155,250	17,250
SUBTOTAL 2007	\$1,035,000	\$819,375	\$176,813	\$38,813
2008				
Acquire Land for Approach Protection	\$330,625	\$314,094	\$8,266	\$8,266
Prepare Airport Certification Manual	86,250	81,938	2,156	2,156
Acquire Snow Removal Equipment	316,250	300,438	7,906	7,906
Acquire Sweeper	230,000	218,500	5,750	5,750
Slurry Seal Runway and Apron	280,000	266,000	7,000	7,000
Obstruction Survey	230,000	--	207,000	23,000
Utilities Master Plan	57,500	--	51,750	5,750
Design Apron Reconstruction	86,250	--	77,625	8,625
Design Perimeter Road	86,250	81,938	2,156	2,156
Design Auto Parking Expansion	57,500	--	51,750	5,750
SUBTOTAL 2008	\$1,760,625	\$1,262,906	\$421,359	\$76,359
2009				
Reconstruct Apron	\$862,500	\$819,375	\$21,563	\$21,563
Construct Perimeter Road	575,000	546,250	14,375	14,375
Expand Auto Parking	257,600	244,720	6,440	6,440
Expand Terminal	862,500	--	776,250	86,250
Design Access Road Reconstruction	86,250	--	77,625	8,625
Design Wash Rack	57,500	--	51,750	5,750
Design PAPI Upgrade - (Precision Approach Path Indicator)	28,750	--	25,875	2,875
Design Apron Expansion	86,250	--	77,625	8,625
SUBTOTAL 2009	\$2,816,350	\$1,610,345	\$1,051,503	\$154,503
2010				
Rehabilitate Access Road	\$86,250	\$81,938	\$2,156	\$2,156
Construct Wash Rack	151,800	--	136,620	15,180
Upgrade PAPI - (Precision Approach Path Indicator)	115,000	109,250	2,875	2,875
Expand Terminal Apron	862,500	819,375	21,563	21,563
Design Helipad	57,500	--	51,750	5,750
Design Terminal Apron Expansion	172,500	163,875	4,313	4,313
Design Taxilanes	172,500	163,875	4,313	4,313
SUBTOTAL 2010	\$1,618,050	\$1,338,313	\$223,589	\$56,149
2011				
Construct Helipad	\$287,500	\$273,125	\$7,188	\$7,188
Apron Expansion	1,017,750	966,863	25,444	25,444
Construct Taxiway	549,700	522,215	13,743	13,743
Design Auto Parking Expansion	172,500	--	155,250	17,250
Design Maintenance Facility	115,000	--	103,500	11,500
SUBTOTAL 2011	\$2,142,450	\$1,762,203	\$305,124	\$75,124
2012				
Auto Parking Expansion	\$392,150	\$372,543	\$9,804	\$9,804
Construct Maintenance Facility	506,000	480,700	12,650	12,650
Install Medium Intensity Taxiway Lighting	345,000	327,750	8,625	8,625
Drainage / Erosion Control	345,000	327,750	8,625	8,625
Fire Protection	575,000	546,250	14,375	14,375
SUBTOTAL 2012	\$2,163,150	\$2,054,993	\$54,079	\$54,079
Subtotal Short Term Planning Horizon	\$11,535,625	\$8,848,134	\$2,232,466	\$455,026

	Total Cost	Federally Eligible	ADOT Eligible	Local Share
Intermediate Term Planning Horizon (6-10 years)				
Install ILS (Instrument Landing System) Runway 36	\$2,300,000	\$2,185,000	\$57,500	\$57,500
Construct Taxiway (GA Apron to Fuel Facilities)	195,500	185,725	4,888	4,888
Expand Fuel Apron	287,500	273,125	7,188	7,188
Expand Terminal Automobile Parking	392,150	372,543	9,804	9,804
Commercial Hangar Apron Construction	785,450	746,178	19,636	19,636
Airport Road Realignment	1,150,000	1,092,500	28,750	28,750
Construct General Aviation Access Road	394,450	374,728	9,861	9,861
Construct General Aviation Access Road	608,350	577,933	15,209	15,209
Construct Commercial Hangar Automobile Parking Lot	309,350	293,883	7,734	7,734
Construct T-Hangar Taxilane	549,700	522,215	13,743	13,743
Construct General Aviation Apron	785,450	746,178	19,636	19,636
Pavement Preservation	5,000,000	4,750,000	125,000	125,000
Subtotal Intermediate Term Planning Horizon	\$12,757,900	\$12,120,005	\$318,948	\$318,948
Long Term Planning Horizon (11-20 years)				
Construct High-Speed Exit Taxiway	\$300,150	\$285,143	\$7,504	\$7,504
Construct Two 90-Degree Exit Taxiways	526,700	500,365	13,168	13,168
Construct T-Hangar Taxilane	999,350	949,383	24,984	24,984
Construct General Aviation Apron	577,300	548,435	14,433	14,433
Construct General Aviation Apron	993,600	943,920	24,840	24,840
Construct Parcel Taxilanes	127,650	121,268	3,191	3,191
Construct Access Road	394,450	374,728	9,861	9,861
Construct Commercial Hangar Automobile Parking Lot	778,550	739,623	19,464	19,464
Design & Construct 2,000' Runway and Taxiway Extension	2,190,750	--	1,971,675	219,075
Pavement Preservation	10,000,000	9,500,000	250,000	250,000
Subtotal Long Term Planning Horizon	\$16,888,500	\$13,962,863	\$2,339,119	\$586,519
TOTAL PROGRAMS COST	\$41,182,025	\$34,931,001	\$4,890,532	\$1,360,492



essary to provide a segregated operational area for rotorcraft. These are planned to be constructed adjacent to the terminal building. In the future, the helipads will be relocated into the general aviation apron area to segregate these activities from the potential commercial air service activities.

The general aviation apron is planned to be reconstructed in the short term horizon. This project will occur once all existing hangar facilities that are planned to be removed are demolished or relocated.

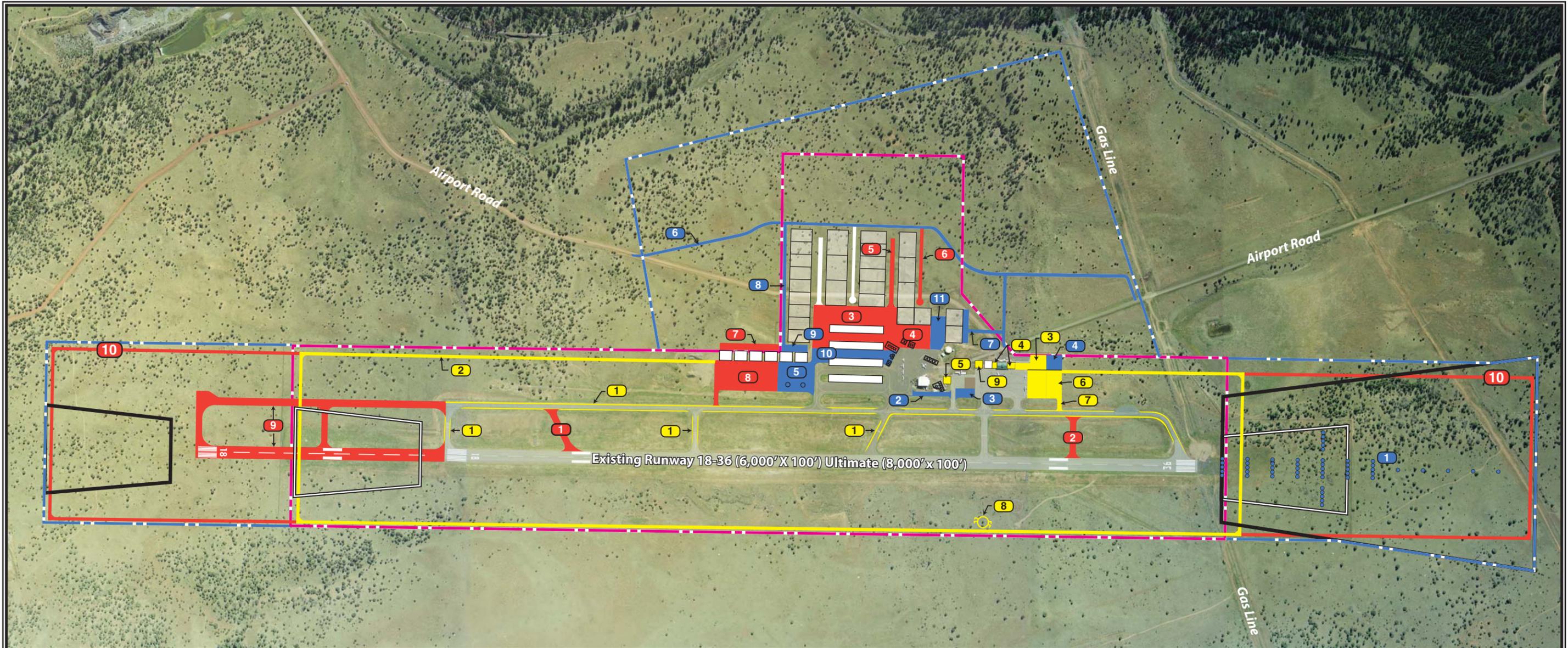
MITL is planned to be installed on all taxiways in the short term horizon. This lighting system is necessary to provide pilots with a proper lighting system while taxiing during night time operations or periods of low visibility. Precision approach path indicator (PAPI-4s) are planned to replace the PAPI-2s currently installed at both ends of Runway 18-36. The PAPI-4 is better suited for large aircraft operations than the PAPI-2s.

The acquisition of a combined 277 acres of land should occur in the short term horizon to provide runway protection and to allow for future airside and landside development. Of the 277 acres to be acquired, 194 of that is planned to be included in the Yavapai Land Exchange. The remaining 83 acres should be acquired by a subsequent land transfer with the U.S. Forest Service. The Yavapai Land Exchange areas and future land transfer areas are depicted on **Exhibit 6B** by black and yellow crosshatch markings, respectively.

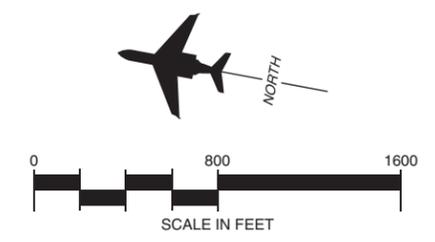
Hangar development is also expected to occur in each of the planning periods, however, since hangars will be developed using private funding, hangar development costs are not included in the capital improvement program.

Other projects slated for the short term horizon include the preparation of an airport certification manual, the acquisition of snow removal equipment and foreign object debris (FOD) sweeper, which are all requirements under Part 139 certification regulations. A utilities master plan will also need to be undertaken with consideration to the ultimate facility layout depicted in this master plan to determine the water, wastewater, communications, and stormwater needs and structure. A drainage and erosion control project will also be performed to identify and improve areas of the airport that experience drainage and erosion issues. A fire protection project at the airport is planned to provide fire protection for all airport structures. An obstruction survey is also planned to be performed which will be used to implement future instrument approach procedures at the airport.

The total investment necessary for the short term CIP is approximately \$11.5 million. Of this total, \$8.8 million is eligible for FAA grant funding, \$2.2 million is eligible for state funds, with the airport sponsor responsible for \$455,000.



LEGEND		SHORT TERM	INTERMEDIATE TERM	LONG TERM
	Existing Property Line			
	Ultimate Property Line			
	Short Term Project			
	Intermediate Term Project			
	Long Term Project			
	Ultimate Runway Protection Zone			
	Existing Runway Protection Zone			
	Buildings to be Removed			



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.

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

The first project in the intermediate term planning horizon is the installation of an instrument landing system (ILS) for Runway 36. This approach will increase the accessibility and reliability of the airport as users will be able to land at the airport during virtually any weather condition.

Other projects included in this planning horizon include the construction of a taxiway from the general aviation apron to the fuel and terminal apron, and the expansion of the terminal apron near the fueling facilities. These improvements are intended to make the fueling facilities more accessible to additional circulation for air-

craft fueling. The terminal automobile parking lot is also planned to be expanded further to meet potential demand created by an air tour operator or scheduled air carrier.

The construction of the north commercial apron area is planned in the intermediate horizon. This area of the airport is planned to be developed with larger conventional hangars that could be used for larger aircraft storage or for a future fixed base operator (FBO). It is also anticipated that T-hangar development will be needed at this time. A taxilane is programmed to be constructed on the general aviation apron to accommodate an additional T-hangar unit. A taxilane has already been constructed on the western side of the proposed T-hangar facility. The T-hangar itself will be developed using private funds; however, the taxilane would be eligible for FAA funding. There is potential in the intermediate term for two aircraft storage parcels to be developed. If this development should take place, the general aviation apron will need to be expanded to the east to accommodate the parcel developments.

The realignment of Airport Road is also planned for the intermediate term horizon. This project will also include the construction of access roads to the terminal building and to the north commercial area. An access road and associated parking lots should also be planned for two aircraft storage parcels if development of those parcels is undertaken.

A total of \$5.0 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 intermediate term CIP is approximately \$12.8 million. Of this total, \$12.1 million is eligible for FAA grant funding, \$319,000 is eligible for state funds, with the airport sponsor responsible for \$319,000.

LONG TERM PLANNING HORIZON

Long term improvements, as presented on **Exhibit 6B**, continue the expansion of landside facilities and aircraft aprons to accommodate growth. Landside improvements include expansion of the general aviation apron, taxilanes, and access roads to support T-hangar development, and the development of the aircraft storage parcels. The expansion of the commercial hangar apron and automobile parking areas is also planned in association with the construction of conventional hangars and FBO facilities. Airside improvements to be made in the long term horizon include the construction of a high-speed exit taxiway and a 90-degree exit taxiway. These taxiways will reduce runway occupancy time.

The extension of Runway 18-36 and Taxiway A 2,000 feet to the north is also included in the long term planning horizon. This project will require the relocation of the airport perimeter

road that is scheduled to be constructed in the short term horizon. As stated previously in Chapter Five, this runway extension project is included for planning purposes only. Separate justification for constructing the runway extension will likely be required outside this Master Plan at the time of implementation. The extension of both Runway 18-36 and Taxiway A includes the construction of an additional 90-degree exit taxiway and an aircraft holding apron at the north end of Taxiway A.

A total of \$10.0 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 \$16.9 million. Of this total, \$14.0 million is eligible for FAA grant funding, \$2.3 million is eligible for state funds, with the airport sponsor responsible for \$586,500.

CAPITAL IMPROVEMENTS FUNDING

Financing capital improvements at the airport will not rely exclusively upon the financial resources of the City of Williams. 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.

FEDERAL GRANTS

The United States Congress has long recognized the need to develop and maintain a system of aviation facilities across the nation for the purpose of national defense and promotion of interstate commerce. Various grants-in-aid programs to public airports have been established over the years for this purpose. The most recent legislation is the *Airport Improvement Program* (AIP) of 1982. The AIP has been reauthorized several times, with the most recent legislation enacted in late 2003 and entitled the *Vision 100 - Century of Aviation Reauthorization Act*.

The remaining FAA fiscal years covered by the four-year program are 2006 and 2007. This bill presented similar funding levels to the previous reauthorization - *AIR-21*. Funding was authorized at \$3.6 billion in 2006 and \$3.7 billion in 2007.

The source for AIP funds 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 Trust Fund also finances the operation of the FAA. It is funded by user fees, 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 primary commercial service airports based upon enplanement levels. Gen-

eral aviation airports, however, also received entitlements under the last reauthorization. After all specific-funding mechanisms are distributed, the remaining AIP funds are disbursed by the FAA, based upon the priority of the project for which they have requested federal assistance 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, aprons, and access roads. Passenger terminal building improvements (such as bag claim and public waiting lobbies) may also be eligible for FAA funding. Under the newest version of AIP, *Vision 100*, automobile parking at small hub airports can also be eligible. 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.

Under *Vision 100*, H.A. Clark Memorial Field has been eligible for 95 percent funding assistance from AIP grants, as opposed to the previous *AIR-21* level of 90 percent. The current AIP is set to expire in September 2007. While similar programs have been in place for over 50 years, it will be up to Congress to either extend or draft new legislation authorizing and appropriating future federal funding.

STATE AID TO AIRPORTS

In support of the state airport 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 transportation board establishes the policies for distribution of these state funds.

Under the State of Arizona grant program, an airport can receive funding for one-half (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.

State Airport Loan Program

The Arizona Department of Transportation - Aeronautics Division (ADOT) 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 Pro-

gram are considered if the project would enhance the airport's ability to be financially self-sufficient.

There are two ways in which the loan funds can be used: Matching Funds, or Revenue Generating Projects. 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 Projects' funds are provided for airport-related construction projects that are not eligible for funding under another 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 the need to protect and extend to the maximum amount the useful life of the airport system's pavement. This program, Arizona Pavement Preservation Program (APPP), is established to assist in the preservation of the Arizona airport system infrastructure. H.A. Clark Memorial Field participates in this program.

Public Law 103-305 requires that airports requesting federal AIP funding for pavement rehabilitation or reconstruction have an effective pavement maintenance management system. To this end, ADOT-Aeronautics has completed and is maintaining an Airport Pavement Management System (APMS) which, coupled with monthly

pavement evaluations by the airport sponsors, fulfills this requirement.

The Arizona Airport Pavement Management System uses the Army Corps of Engineers' "Micropaver" program as a basis for generating a Five-Year Airport Pavement Preservation Program (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 condition in accordance with the most recent FAA Advisory Circular 150/5380-6, 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. The Aeronautics Division ensures that the APMS database is kept current, in compliance with FAA requirements.

Every year, the Aeronautics Division, 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 Airport Pavement Preservation Program (APPP), or the airport sponsor may sign an Inter-Government Agreement (IGA) with the Aeronautics Division to participate in the APPP.

LOCAL FUNDING

The balance of project costs, after consideration has been given to grants, must be funded through local resources. Assuming federal funding, this essentially equates to 2.5 percent of the project costs if all eligible FAA and state funds are available. If only ADOT grants are available, the local share would be 10 percent of the project.

According to **Exhibit 6A**, local funding will be needed in each planning horizon. This includes \$455,026 in the short term, \$318,948 in the intermediate term, and \$586,519 in the long range.

There are several alternatives for local finance 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.

The capital improvement program has assumed that some landside facility development (conventional hangars, T-hangars, and public auto parking) would be completed privately.

There are several municipal bonding options available to the City of Williams, including general obligation bonds, limited obligation bonds, and revenue bonds. General obligation bonds are a common form of municipal bond which is issued by voter approval and is secured by the full faith and credit of the County. County tax reve-

nues are pledged to retire the debt. As instruments of credit, and because the community secures the bonds, general obligation bonds reduce the available debt level of the community. Due to the community pledge to secure and pay general obligation bonds, they are the most secure type of municipal bond and are generally issued at lower interest rates and carry lower costs of issuance. The primary disadvantage of general obligation bonds is that they require voter approval and are subject to statutory debt limits. This requires that they be used for projects that have broad support among the voters, and that they are reserved for projects that have the highest public priorities.

In contrast to general obligation bonds, limited obligation bonds (sometimes referred to as Self-Liquidating Bonds) are secured by revenues from a local source. While neither general fund revenues nor the taxing power of the local community is pledged to pay the debt service, these sources may be required to retire the debt if pledged revenues are insufficient to make interest and principal payments on the bonds. These bonds still carry the full faith and credit pledge of the local community and, therefore, are considered, for the purpose of financial analysis, as part of the debt burden of the local community. The overall debt burden of the local community is a factor in determining interest rates on municipal bonds.

There are several types of revenue bonds, but in general, they are a form of municipal bond which is payable solely from the revenue derived from the operation of a facility that was

constructed or acquired with the proceeds of the bonds. For example, a Lease Revenue Bond is secured with the income from a lease assigned to the repayment of the bonds. Revenue bonds have become a common form of financing airport improvements. Revenue bonds present the opportunity to provide those improvements without direct burden to the taxpayer. Revenue bonds normally carry a higher interest rate because they lack the guarantees of general and limited obligation bonds.

Leasehold financing refers to a developer or tenant financing improvements under a long term ground lease. The obvious advantage of such an arrangement is that it relieves the community of all responsibility for raising the capital funds for improvements. However, the private development of facilities on a ground lease, particularly on property owned by a municipal agency, produces a unique set of problems. In particular, it is more difficult to obtain private financing as only the improvements and the right to continue the lease can be claimed in the event of a default. Ground leases normally provide for the reversion of improvements to the lessor at the end of the lease term, which reduces their potential value to a lender taking possession. Also, companies that want to own their property as a matter of financial policy may not locate where land is only available for lease.

To ensure that the airport maximizes revenue potential in the future, the City of Williams should also periodically review aviation services rates and charges (i.e., fuel flowage fees,

hangar and tiedown rental) at other regional airports to ensure that rates and charges at the airport are competitive and similar to aviation services at other airports. 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.

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 master plan is based will remain valid for a number of years. The primary goal is for the airport to best serve the air transportation needs of the region, while 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 additional hangars 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 in this master planning process 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 usable master plan is in keeping the issues and objectives in the minds of the managers and decision-makers so that they are better able to recognize change and its effect. 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 the manager, thereby improving the plan's effectiveness.

In summary, the planning process requires that airport management consistently monitor the progress of the airport in terms of aircraft operations and based aircraft. Analysis of aircraft demand is critical to the timing and need for new airport facilities. The information obtained from continually monitoring airport activity will provide the data necessary to determine if the development schedule should be accelerated or decelerated.