

Chapter Six CAPITAL IMPROVEMENT PROGRAM

CAPITAL IMPROVEMENT PROGRAM

The analyses conducted in the previous chapters evaluated airport development needs based upon safety, security, potential aviation activity, and operational efficiency. Through these analyses, a plan for the use and development of the airport was defined. The purpose of this chapter is to identify the projects to implement the proposed plan for the use and development of Kingman Airport, and those capital needs required to operate and maintain the airport in a safe and environmentally acceptable manner.

The presentation of the financial plan and its feasibility has been organized into two sections. First, funding sources on the federal and local levels are identified and discussed. Second, the airport's capital needs, costs, and funding eligibility are presented in narrative and tabulated form.

CAPITAL IMPROVEMENTS FUNDING

Financing capital improvements at the airport will not rely exclusively upon the financial resources of the Kingman Airport Authority (KAA). Capital improvement funding is available at the federal level and state level for many airport projects. The following discussion outlines the key sources for capital improvement funding.



FEDERAL GRANTS

Through federal legislation over the years, various grants-in-aid programs have been established to develop and maintain a system of public airports throughout the United States. The purpose of this system and its federally-based funding is to maintain national defense and promote interstate commerce. The most recent legislation, *Vision 100 – Century of Aviation Reau-thorization Act* (Vision 100), was signed into law on December 13, 2003.

Vision 100 is a four-year bill covering federal fiscal years 2004, 2005, 2006, and 2007. Vision 100 provides national funding levels to the Federal Aviation Administration (FAA) of \$3.4 billion in 2004, increasing \$100 million annually, until reaching \$3.7 billion in 2007.

The source for federal funding of airports 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, taxes on airline tickets, aviation fuel, and various aircraft parts.

Proceeds from the Aviation Trust Fund are distributed each year by the FAA from appropriations by Congress. A portion of the annual distribution is to primary commercial service airports (e.g., Phoenix Sky Harbor International Airport), based upon enplanement levels. Commercial service airports enplaning more than 10,000 passengers

annually are provided a minimum \$1,000,000 annual entitlement. For eligible non-primary commercial services airports, Vision 100 provides up to \$150,000 of funding each year. As a non-primary commercial service airport, Kingman Airport does not qualify for the commercial service entitlement; however, it does qualify for the annual \$150,000 entitlement. An airport can consolidate four years of entitlement funding for a total of \$600,000. However, these annual entitlement levels can be reduced if Congress does not appropriate the full funding levels specified above.

After meeting entitlement obligations, the remaining Airport Improvement Program (AIP) funds are distributed by the FAA, based upon the priority of the project for which airport sponsors have requested federal assistance through discretionary apportionments. A national priority ranking system is used to evaluate and rank each project for which an airport sponsor seeks federal Those projects with the assistance. highest priority are given preference in funding. Each project for Kingman Airport is required to follow this procedure and compete with other airport projects in the state for AIP state apportionment dollars, and across the country for other federal AIP funds. An important point to consider is that most funding for Kingman Airport is not guaranteed, as the airport is currently only eligible for \$150,000 annual the entitlement. Therefore, the KAA must rely on federal discretionary funding. However, should the airport be able to grow to 10,000 passenger enplanements annually, the airport would qualify for the \$1,000,000

annual primary commercial service entitlement. If commercial airline activity occurs as forecast, the airport could pass this level after 2015.

Airport development that meets the FAA's eligibility requirements can receive 95 percent of the total project cost from the FAA. This is a five percent increase from past funding, which only provided 90 percent funding for eligible projects. The 95 percent funding level is currently only provided by law until 2007. After 2007, the funding level would revert back to 90 percent (the federal share for the past two decades), unless extended by Congress. Funding at 95 percent for AIP-eligible projects has been assumed to extend through the planning period, as it is expected that subsequent legislation would make permanent the 95 percent funding level. Property acquisition, airfield improvements, aprons, perimeter service roads, and access road improvements are examples of eligible items.

Vision 100 does provide for the Secretary of Transportation to fund revenuegenerating developments such as hangars and fuel facilities, which have historically not been eligible for federal funding. Vision 100 limits this funding eligibility to non-primary airports such as Kingman Airport, and the airports must use their annual entitlement dollars. Vision 100 also requires that all airside needs at the airport are met prior to an airport receiving funding for revenue-generating development.

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 (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.

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 revenuegenerating 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 selfsufficient.

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 5-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.

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. Kingman Airport 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 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 federal grants, must be funded through local resources. There are several alternatives for local finance options for future development at the airport. The KAA could choose to fund the local share, after FAA grants, through airport operating revenues and/or bonds. Some improvements may require private funding mechanisms (hangars), such as bank loans or private capital invest-These decisions are made at ments. project implementation, based on KAA financial resources at that time.

The development of general aviation facilities at Kingman Airport has relied on a combination of public and private investments in the past. The KAA has funded many of the grant-eligible items for general aviation at the airport including the taxiways, apron, access roads, land acquisition, and automobile parking. Private individuals or businesses have financed the construction of hangar facilities. A continuation of public and private investments may be necessary to implement the proposed plan. The capital improvement program, shown on **Exhibit 6A,** includes the KAA fully pursuing all the grant-eligible improvements to accommodate general aviation growth in the future. This primarily includes apron development and hangar access taxiways.

The T-hangar, FBO hangar, and corporate hangars are assumed to be developed by private developers through long-term ground leases. The obvious advantage of such an arrangement is that it relieves the KAA of all responsibility for raising the capital funds for these improvements, considering the remaining capital needs at the airport. These improvements are demand-based; therefore, these projects should only be pursued when the need for these facilities can be determined. Furthermore, these facilities should only be constructed when it is found that the development costs can be fully recovered through lease and rental fees.

DEMAND-BASED PLAN

The Master Plan for Kingman Airport has been developed according to a demand-based schedule. Demand-based planning refers to the intention to develop planning guidelines for the airport based upon airport activity levels, instead of guidelines based on 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 this 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 projected that based aircraft could be expected to grow through the year 2025. This forecast was supported by the local community's growing economy and population, and historical trends which yielded a growing number of based aircraft levels at the airport.

Future based aircraft levels will be dependent upon a number of economic factors. These factors could slow or accelerate based aircraft levels differently than projected in the aviation demand forecasts. Since changes in these factors cannot be realistically predicted for the entire forecast period, it is difficult to predict, with the level of accuracy needed to justify a capital investment, exactly when an improvement will be needed to satisfy demand level.

For these reasons, the Kingman Airport Master Plan has been developed as a demand-based plan. The Master Plan projects various activity levels for short, intermediate, and long term planning horizons. When activity levels begin to reach or exceed the level of one of the planning horizons, the Master Plan suggests the KAA begin to consider the development necessary to support the projected demand in the next planning horizon. This provides a level of flexibility in the Master Plan, as the development program can be accelerated or slowed to meet demand. This can extend the time between Master Plan updates.

A demand-based Master Plan does not specifically require implementation of any of the demand-based improvements. Instead, it is envisioned that implementation of any Master Plan improvement would be examined against demand levels prior to implementation.

In many ways, this Master Plan is similar to a community's comprehensive plan. The Master Plan establishes a plan for the use of the airport facilities, consistent with potential aviation needs and the capital needs required to support that use. However, individual projects in the plan are not implemented until the need is demonstrated and the project is approved by the KAA. **Table 6A** summarizes the key activity milestones for each planning horizon.

CAPITAL NEEDS AND COST SUMMARIES

Once the specific needs for the airport have been established, the next step is to determine a realistic schedule and costs for implementing each project. The capital needs presented in this chapter outline the costs and timing for implementation. 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 by the Consultants.

9			Total Cost]	Federally Eligible	ADOT Eligible		Local Share	
Short Term Planning Horizon (First Five Years)									
200		¢	25.000	¢	22.050	¢ 075	¢	075	
1.	Land Acquisition Appraisal (Safety/Standards)	\$	35,000	\$	33,250	\$ 8/5	\$	8/5	
2.	Construct Terminal Building (Canacity)	12/2	1 700,000	210	850,000	425,000		425,000	
4.	Prepare Master Airport Drainage Study (Environmental)	2.3	100.000		95,000	2.500	5.4	2.500	
5.	Design Taxiway B Reconstruction (Safety/Standards)		88,000	100	83,600	2,200	21	2,200	
6.	Design/Construct Hangars (Demand)	-	480,000	12	0	0	525	480,000	
7.	Reconstruct Mohave Airport Drive (Maintenance)	258	1,500,000		11-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	1,350,000	1 miles	150,000	
Sub	total 2006	\$	4,053,000	\$	1,204,350	\$ 1,784,325	\$ 1	,064,325	
200		¢	2 400 000	¢	0.000.000	¢ (0.000	¢	(0.000	
1.	Land Acquisition - 80 Acres (Safety/Standards)	\$	2,400,000	\$	2,280,000	\$ 60,000	\$	60,000	
2.	Reconstruct Taxiway B (Safety/Standards)	12/2	645,000	10	612 750	16 125	100	16.125	
4.	Design Kingman Industrial Park Access Taxiway (Demand)	15	75.000		-	0	2	75.000	
5.	Install Integrated Security Access Control System (Security)	1	490,000		465,500	12,250	1	12,250	
6.	Design Taxiway E - Phase I (Capacity)	794	80,000		1440	72,000	-	8,000	
Sub	total 2007	\$	4,015,000	\$	3,667,000	\$ 168,500	\$	179,500	
200	8								
1.	Install Apron Lighting (Security)	\$	150,000	\$	142,500	\$ 3,750	\$	3,750	
2.	Taxiway E Construction - Phase I (Demand)	-	950,000	10	902,500	23,750	10	23,750	
5.	Design Taxiway E - Filase II (Demand) Construct Kingman Industrial Park Access Taxiway - Phase I (Demand)	12.2	556,000	1	76,000	2,000	15	556,000	
4.	Design Taxiway C Reconstruction (Safety/Standards)	29	140,000	37	133,000	3 500	32	3 500	
Sub	total 2008	\$	1,876,000	\$	1,254,000	\$ 33,000	\$	589,000	
200	9	<u> </u>							
1.	Design and Construct Maintenance Building (Maintenance)	\$	400,000	\$	380,000	\$ 10,000	\$	10,000	
2.	Construct Aircraft Wash Rack (Environmental)		150,000		142,500	3,750	A.	3,750	
3.	Reconstruct Taxiway C (Safety/Standards)	di-	1,100,000		1,045,000	27,500		27,500	
4.	Construct Taxiway E - Phase II (Demand)		950,000		902,500	23,750		23,750	
Sub	total 2009	\$	2,600,000	\$	2,470,000	\$ 65,000	\$	65,000	
201	U Perimeter Lighting and Security Ungrade (Security)	\$	1 500 000	\$	1 / 25 000	\$ 37,500	\$	37 500	
2.	Construct Helicopter Hardstands (Maintenance)	φ	59.000	φ	56.050	1.475	φ	1.475	
Sub	total 2010	\$	1.559.000	\$	1.481.050	\$ 38,975	\$	38,975	
Sub	total Short Term Planning Horizon	\$ 1	4,103,000	\$	10,076,400	\$ 2,089,800	\$ 1	,936,800	
Inte	rmediate Term Planning Horizon (6-10 years)								
1.	Install REILs Runway 17-35 (Safety/Standards)	\$	40,000	\$	38,000	\$ 1,000	\$	1,000	
2.	Construct T-Hangar Taxilanes - Phase I (Demand)	1.	222,000		210,900	5,550		5,550	
3.	Construct 22 T-Hangars (Demand)		587,000	100	172.950	0		587,000	
4.	Construct North Exit Taxiway Runway 17-55 (Capacity)	- 14	214 500	14.	203 775	4,575	2011	4,575	
5.	Construct Taxiways Runway 17-35 to Main Apron (Capacity)	19	937.000		890 150	23 425	1	23 425	
7.	Construct Glider Taxiways (Capacity)	0.9	361.800		343.710	9.045		9.045	
8.	Install MITL Taxiway B (Safety/Standards)	34.3	460,000		437,000	11,500		11,500	
9.	Construct Terminal Building Automobile Parking (Demand)		345,000		327,750	8,625	NER.	8,625	
10.	Extend Runway 3-21 and Taxiway D to 7,000 Feet (Demand)	TE.	423,000	14	401,850	10,575	1913	10,575	
11.	Install Instrument Landing System (ILS) Runway 21 (Capacity)		1,500,000		1,425,000	37,500		37,500	
12.	Install MALSR Runway 21 (Capacity)	T	350,000	1	332,500	8,750	21	8,750	
13.	Construct General Aviation Parcels Access Koad - Phase I (Demand)		945,000		897,750	23,625	1	23,625	
14.	Construct Industrial Park Access Cul-De-Sacs (Demand)	17.1	267 000		18 18 18	0	11	267 000	
16.	Construct Industrial Park Access Road (Mohave Dr. to Factory Way)	18-0	439.000		1011-10	0	60	439.000	
17.	Pavement Preservation (Maintenance)	1957	1,000,000		950,000	25,000	6	25,000	
Sub	total Intermediate Term Planning Horizon	\$	9,408,300	\$	6,632,235	\$ 174,533	\$ 1	2,601,533	
Lon	g Term Planning Horizon (11-20 years)								
1.	Construct Runway 17-35 Parallel Taxiway (Demand)	\$	2,741,000	\$	2,603,950	\$ 68,525	\$	68,525	
2.	Construct Partial Parallel Taxiway to Runway 21 (Demand)		973,000	2-	924,350	24,325	a.	24,325	
3.	Taxiway B Extension (Demand)	30	367,000	2	348,650	9,175	15	9,175	
4.	Construct 1-Hangars (Demand)	-	853,000	Falls &	130,230	3,383	18	3,385	
5. 6	Pavement Preservation (Maintenance)	2/2	2.000 000		1,900,000	50,000	1	50,000	
Sub	total Long Term Planning Horizon	\$	7,077,400	\$	5,9 <u>13,180</u>	\$ <u>155,610</u>	\$ 1	,008,610	
Tot	al All Development	\$ 3	30,588,700	\$	22,621,815	\$ 2,419,943	\$ 5	5,546,943	
K	ILS - Instrument Landing System MALSR - Medium Intensity Approach Lighting System with Runway Alignment Indicator Lightin	ng	26	A	1811			MAN	
E Y	REIL - Runway End Identifier Lighting MITL - Medium Intensity Taxiway Lighting	52			1. 33	KIN		MAN	
						A	R-F		

TABLE 6A										
Planning Horizon Activity Levels										
		Short Term	Intermediate	Long Term						
		Planning	Term	Planning						
	2003	Horizon	Planning Horizon	Horizon						
Air Carrier Activity										
Enplaned Passengers	2,313	5,400	6,800	15,000						
Annual Operations	1,582	2,800	2,900	3,800						
General Aviation Activity										
Based Aircraft	103	130	150	200						
Annual Operations	45,320	52,700	61,500	85,100						
Air Taxi Operations	778	900	1,100	1,500						
Military Operations	300	300	300	300						
Total Annual Operations	47,980	56,700	65,800	90,700						

Exhibit 6A summarizes capital needs for Kingman Airport through the planning period of this Master Plan. Individual project cost estimates account for engineering, survey, and other contingencies that may be experienced during implementation of the project, and are in current (2005) dollars. Due to the conceptual nature of a Master Plan, implementation of capital improvement projects should occur only after further refinement of their design and costs through engineering and/or architectural analyses. Capital costs in this chapter should be viewed only as estimates subject to further refinement during design. Nevertheless, these estimates are considered sufficient for performing the feasibility analyses in this chapter.

It is important to recognize that while many of the projects shown below are grant-eligible, their funding is uncertain. Kingman Airport is only entitled to \$150,000 annually from the FAA, which needs to be directed towards all capital improvement needs at the airport; most importantly, airfield safety

and maintenance. Exhibit 6A depicts funding eligibility only, and not the actual level of federal or KAA funds available for the project. The FAA makes funding decisions on an annual basis and funding is not guaranteed. Based on national priorities and the national AIP funding provided by Congress, the FAA will decide the level of funds available each year to the KAA for improvements at Kingman Airport. This can include the entire amount of funding eligibility shown in each year, or a reduced level. Should the FAA provide a reduced level of funding, the KAA would need to decide whether to delay project implementation or fund the project with KAA funds entirely.

The capital needs for the airport can be categorized as follows:

1) **Maintenance** - Maintaining the existing infrastructure is a priority. The capital needs program provides for the continued maintenance and rehabilitation of the airport's pavement areas.

- 2) **Safety/Standards** Of utmost importance with any transportation facility is safety. All projects in the plan are designed according to FAA design standards. This is carried throughout the other areas of focus. The safety needs in the capital needs program are considered necessary for the operational safety and protection of aircraft and/or people and property on the ground near the airport.
- 3) **Security** Kingman Airport accommodates scheduled commercial airline service. The security of these operations is a primary concern of the Transportation Security Administration (TSA). The security of general aviation aircraft and operations is also important. Capital needs in this program are intended to improve the overall security posture of the airport.
- 4) **Environmental** These are necessary to conform to legal environmental requirements on the state and federal levels.
- 5) **Capacity** These are projects which improve the capacity or use of the airport in an effort to reduce delay. Examples include taxiway improvements.

6) **Demand** - The Master Plan has established future activity levels for the airport. Should these activity levels be reached, it may be necessary to improve existing facilities to safely, efficiently, and securely accommodate the new activity levels. Therefore, the capital needs program includes provisions to accommodate levels of aviation demand. The implementation of these projects should only occur when demand for these needs are verified.

Each capital need is categorized using one of these five categories. These are listed in parentheses by the project description on **Exhibit 6A**.

Table 6B summarizes capital improvement costs by category and planning term. As shown in the table, collectively over the planning period of the Master Plan, demand improvements represent over 40 percent of the programmed development costs. As discussed earlier, these improvements will only be completed should the actual need for these facilities be demonstrated by new levels of based aircraft or increases in operations.

TABLE 6B									
Capital Projects by Type									
	Short Term Planning Horizon	Intermediate Term Planning Horizon	Long Term Planning Horizon	Totals	Percent of Total				
Safety/Standards	\$4,558,000	\$500,000	-	\$5,058,000	17%				
Maintenance	1,959,000	1,000,000	\$2,000,000	4,959,000	16%				
Security	2,465,000			2,465,000	8%				
Environmental	250,000	-	-	250,000	1%				
Capacity	1,780,000	3,546,300	-	5,326,300	17%				
Demand	3,091,000	4,362,000	5,077,400	12,530,400	41%				
Totals	\$14,103,000	\$9,408,300	\$7,077,400	\$30,588,700	100%				

Capacity improvements represent 17 percent of total development costs. These improvements are primarily related to reducing runway occupancy time by adding exit taxiways. Improved instrument approach capability also increases capacity during inclement weather conditions. Some taxiway improvements are demand-based; in particular, the east side taxiways. The need for these taxiways will be dependent on the type of landside development on the east side of the airfield.

Safety/standards improvements include compliance with federal design standards and Part 139 certification. This is the third largest category for improvements over the planning period.

Maintenance projects represent the next largest category. Maintenance projects include crack filling and pavement surface seals, and pavement overlays at regular schedules, in accordance with the Airport's Pavement Management Plan. A regular pavement maintenance program is a condition of the airport receiving federal funding.

Due to the role of the FAA in the planning process, compliance with the federal National Environmental Protection Act (NEPA) is necessary. Environmental compliance will be a component of each project improvement. This can include local, state, and federal permits for improvements. These costs are anticipated in each specific development item.

SHORT TERM CAPITAL NEEDS

The Short Term Planning Horizon covers fiscal years 2006 through 2010, and includes \$14.1 million in capital needs. Since these projects represent the most immediate needs for the airport, it is important that a year-by-year implementation program be developed so that the KAA, FAA, and state can arrange funding. The Short Term Planning Horizon is the only planning horizon organized by years, as the actual sequencing of projects needs to be more fully examined closer to implementation.

Maintenance projects in the Short Term Planning Horizon include the reconstruction of Mohave Airport Drive and construction of helicopter hardstands. The hardstands are needed as the helicopter skids have deteriorated the apron pavement.

Safety/standards projects include the acquisition of the Runway 21 runway protection zone (RPZ) and installation of lighted hold signs. The lighted hold signs are a requirement of the airport's 14 CFR Part 139 certification. FAA standards recommend the fee simple acquisition of the RPZ to ensure that it is not developed with incompatible uses. This also includes the reconstruction of Taxiways B and C for 14 CFR Part 139 compliance.

Security projects include apron lighting and the perimeter service road. The perimeter service road allows perimeter security checks during heightened alert periods. Additionally, the perimeter service road allows airport maintenance vehicles to move around the airfield without having to cross a runway or taxiway. This reduces the potential for runway incursions. An integrated security access system is planned to control and log access at all automated security gates on the airport.

Demand projects include the construction of a 10-unit T-hangar and eight conventional hangars in the existing aircraft storage area to meet demand. Coordination with the FAA will be necessary to determine if grant funding would be available for the construction of these hangars. As discussed above, hangar construction is now eligible at non-primary commercial service airports but the airport is limited to using their annual entitlement dollars.

The reconstruction of Taxiway E is also included in the Short Term Planning Horizon. This taxiway would be constructed along the closed runway alignment at the south end of the airport. This area would provide access to the aircraft storage area.

The construction of a new passenger terminal is also included in the Short Term Planning Horizon. The terminal would replace the existing building which is more than 50 years old and does not accommodate all the necessary functional elements of commercial airline service. A master drainage study is planned along with the construction of an airport maintenance building and an aircraft wash rack. First phase taxiway access to the Kingman Airport Industrial Park is also programmed.

INTERMEDIATE TERM CAPITAL NEEDS

Intermediate Term Planning Horizon development needs support projected aviation demand, continued pavement maintenance, and the addition of taxiways for capacity and efficiency. Intermediate Term Planning Horizon improvements are estimated at \$9.4 million.

This includes the addition of two exit taxiways along Runway 17-35 and one exit along Runway 3-21. Two taxiways to support the ground handling of gliders before departure and after landing are also included in this planning horizon. Runway 3-21 is programmed to be extended to 7,000 feet with an instrument landing system (ILS) and medium intensity approach lighting system with runway alignment indicator lights (MALSR) installed for a Category I (1/2mile visibility and 200-foot cloud ceiling minimum) precision approach. Runway end identifier lights (REILs) are programmed for each end of Runway 17-35. This lighting assists pilots in locating the runway ends at night and during inclement weather conditions.

Taxiway B is programmed for medium intensity taxiway lighting (MITL). Development along the southwest apron will be supported by a vehicle access road located north of Taxiway E. Provision for expanded automobile parking near the terminal building is included in this planning horizon as well as the construction of 20 T-hangars and associated taxilanes. Phase II taxiway development and vehicle access roads for aviation-related development in the adjacent Kingman Airport Industrial Park is also programmed.

A total of \$200,000 annually is included in the Intermediate Term Planning Horizon for pavement preservation activities. Pavement preservation activities typically include applying a slurry seal to rejuvenate and protect the pavement surface, crack sealing, and/or small pavement repairs.

LONG TERM CAPITAL NEEDS

Long Term Planning Horizon development needs support projected aviation demand and continue pavement maintenance. Long Term Planning Horizon improvements are estimated at \$7.0 million.

Demand projects include the construction of 32 T-hangars and associated taxiways to meet projected demand. The construction of the Runway 17-35 easterly parallel taxiway and Runway 3-21 southern partial parallel taxiway is also programmed. These taxiways may be needed to support future aviation-related development on the east side of the airport. Taxiway B is also planned to be extended to the west.

A total of \$200,000 annually is included in the Long Term Planning Horizon for pavement preservation activities. Pavement preservation activities typically include applying a slurry seal to rejuvenate and protect the pavement surface, crack sealing, and/or small pavement repairs. **Exhibits 6B** and **6C** depict development staging.

PLAN IMPLEMENTATION

The successful implementation of the Kingman Airport Master Plan will require sound judgment on the part of the KAA to meet future activity demands, while maintaining the existing infrastructure and improving this infrastructure to support new development. While the projects included in the capital improvement program have been broken into short, intermediate, and long term planning periods, the KAA will need to consider the scheduling of projects in a flexible manner and add new projects from time-to-time to satisfy safety or design standards, or newly created de-In summary, the planning mands. process requires that the KAA continually monitor the need for new or rehabilitated facilities, since applications (for eligible projects) must be submitted to the FAA each year.



AIRFIELD DEVELOPMENT STAGING



LANDSIDE DEVELOPMENT STAGING