



CAPITAL IMPROVEMENT PROGRAM

The successful implementation of the Master Plan for Rogue Valley International - Medford Airport will require sound judgement on the part of airport management to meet changing needs. 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 have materialized from the standard time-based format of traditional planning documents. The problems center around their inflexibility and inherent inability to deal with unforeseen changes that may occur.

While it is necessary for scheduling and budgeting purposes to consider the 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 chapter 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 Jackson County Airport Authority and the Federal Aviation Administration (FAA).



**AIRPORT DEVELOPMENT
SCHEDULE AND
COST SUMMARIES**

Once the specific needs and improvements for the airport have been established the next steps is to determine a realistic schedule and costs for implementing the plan. This section

examines the overall cost of development and a demand-based schedule.

The development schedule can be initially established dividing the improvement needs into the three planning horizons of short term, intermediate term, and long term. **Table 6A** summarizes the key activity milestones for each planning horizon.

	Actual 1998	Short Term	Intermediate Term	Long Term
Annual Operations	70,217	78,695	84,175	96,975
Air Carrier	14,664	18,120	19,100	21,900
Air Taxi	3,466	4,000	4,500	5,500
General Aviation	51,523	56,000	60,000	69,000
Military	564	575	575	575
Annual Enplanements	218,593	260,000	300,000	380,000
Air Freight and Mail (1,000 lbs.)	8,467	12,269	15,998	27,259
Based Aircraft	150	160	168	184

The short term horizon covers items of highest priority as well as items that should be developed as the airport approaches the short term activity milestones. Priority items include improvements to facilities that are inadequate for present demand (terminal and parking) and projects to improve safety (relocation of Taxiway A at south end). Because of their priority, these items will need to be incorporated into County and FAA programming. To assist with this process, short term projects are scheduled in calendar years

over a five-year period beginning with projects in the next fiscal year (2001).

When short term horizon activity milestones are reached it will be time to program for the intermediate term based upon the next milestones. Similarly, when the intermediate milestones are reached, it will be time to program for the long term.

Due to the conceptual nature of a master plan, implementation of capital projects should occur only after further

refinement of their design and costs through architectural and engineering analyses. Under normal conditions the cost estimates reflect an allowance for engineering and other contingencies that may be anticipated on the project. Capital costs in this chapter should be viewed only as estimates subject to further refinement during design. Nevertheless, these estimates are considered sufficiently accurate for performing the feasibility analyses in this chapter. Cost estimates for each development project listed in **Table 6B** are presented in current (2000) dollars.

SHORT TERM IMPROVEMENTS

The preliminary capital program for the short term period (first five years) includes a list of parking, circulation, terminal building, pavement rehabilitation, taxiway, and land acquisition projects. The projects for the current fiscal year (2000) have not been included although the extension of Runway 14-32, and associated lighting and marking, will be ongoing through the next fiscal year (2001). The difficulty in prioritizing projects in the short term period is that several projects can usually be clearly identified with a high priority, and the ability to implement all of the projects is dependent on funding availability.

Based upon existing demand for public parking during peak periods, the need for immediate public parking expansion has been documented. In addition, since the added parking should be within the terminal loop road (within the controlled parking lot), the loop road should be relocated as far as possible to the west (but within existing property). This expansion will provide a minimum of

400 parking spaces within the terminal loop road. The configuration which has been recommended is depicted on **Exhibit 6A**.

In the alternatives chapter, several hangar development projects were shown as being under consideration by the Airport Authority. While the hangars will be privately funded, it is possible to construct the stub taxiways leading into these hangar areas with federal grant funds. Therefore, a project is included in the short term period to construct taxiway stubs for hangars proposed in the Schultz Road area.

A study has already been undertaken to relocate the airport traffic control tower. The preferred site will be immediately northwest of the terminal (next to Jet Center). The exact cost for relocation of the tower is not known; therefore, an estimate has been included in **Table 6B**. With the location of the future control tower and terminal being so close to Jet Center, future planning in the general aviation area will need to maintain as much separation as possible between these facilities.

Another project, which the airport has included in current capital improvement program planning with the FAA, is the rehabilitation of Runway 14-32, which will be undertaken when the runway extension project is completed.

The current separation between the runway and Taxiway A at the south end does not meet current design standards. A project to relocate the taxiway has been carried forward on master plans and airport layout plan updates for

many years. It continues to be recommended in this update.

The recommendation in this study is to redevelop the terminal in several phases, with the first phase to include the development of a new bag claim wing and second level boarding concourse for jet gates. This addition to the existing terminal will encompass much of the existing rental car ready area, requiring the rental car positions to be relocated, most likely across the terminal road into the existing parking lot or a newly created parking lot (when administration functions are relocated into the terminal building, the existing administration building can be razed, creating area immediately across from the bag claim wing for rental car ready area). Subsequent phases of the terminal redevelopment project will create new areas in the terminal building for other functions.

The sizing of various terminal functional areas has been undertaken using projected needs at the end of the intermediate planning period (300,000 annual passenger enplanements), as developed in Chapter Three. It should be recognized that after the Airport Authority selects an architect to develop initial terminal layouts, the layouts may create different finished space allocations, affecting the total costs. However, an effort has been made in this study to use unit costs currently used by terminal architects for costing various areas of the terminal building. Finished areas for terminal lobby, bag claim lobby, and holdrooms have been figured at \$230 per square foot, administrative areas at \$110 per square foot, and bag make-up areas at \$90 per square foot.

INTERMEDIATE TERM IMPROVEMENTS

The projects included in the intermediate term period include: development of the interchange at Bidde Road, expansion of surface parking in the terminal area, the second phase of the terminal re-development project (ticketing, bag make-up, and administrative space), re-alignment of Milligan Way, the third phase of terminal re-development (concessions and commuter holdroom area), and rehabilitation of general aviation ramp.

While funding for the interchange is uncertain at this time, the grade separated interchange will greatly enhance the safety of traffic flow in and out of the terminal area. Traffic from the south will continue to enter the terminal area in the same manner they do today. However, traffic from the north would exit, then pass over Bidde Road to enter the terminal area. Traffic leaving the terminal area would also pass over Bidde Road, then merge into southbound traffic.

It is anticipated that additional automobile parking (approximately 400 spaces) will be required during this period. The expansion is expected to take place south of the existing parking lot. If the terminal loop remains as is, this lot will require a separate exit control. However, options have been considered in the alternatives analysis for increasing the size of the terminal loop to allow a single exit control.

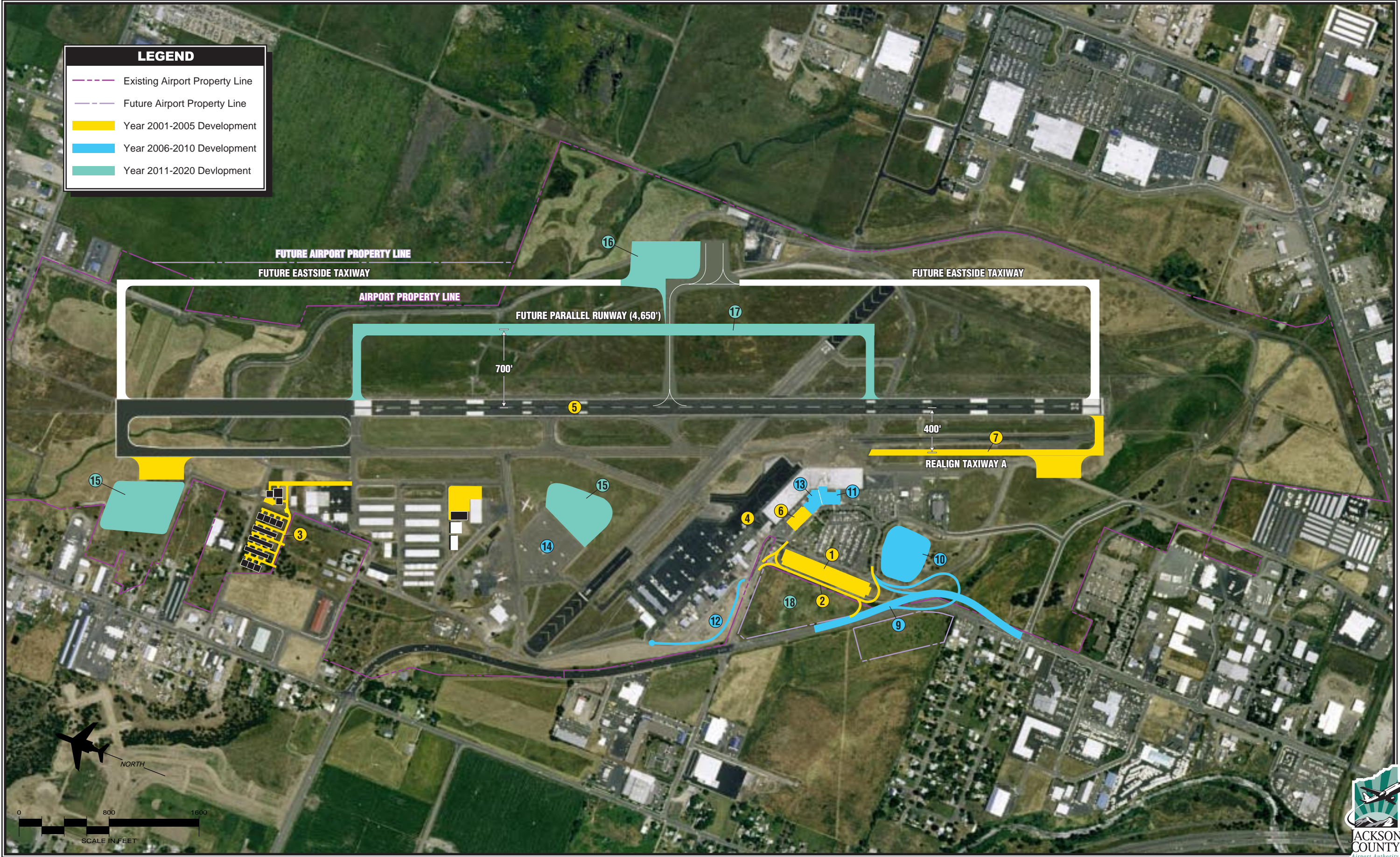
The second and third phases of the terminal building re-development have been reflected in this period. The second phase would consist of

Project Description	Total Cost	Funding Sources			
		AIP	PFC	Local	Other
YEAR 2001-2005					
1 Expand public parking (400 spaces)/					
2 Expand loop road	\$1,750,000			\$1,750,000	
3 Construct taxiway stub/Schultz Road (8100 sq. yds.)	\$243,000	\$218,700		\$24,300	
4 Replace airport traffic control tower	\$5,000,000				\$5,000,000
5 Rehabilitate Runway 14-32	\$2,000,000	\$1,800,000		\$200,000	
6 Construct new bag claim/2nd level concourse (Phase 1) (14,000 sq. ft.)	\$3,245,000		\$2,920,500	\$324,500	
7 Re-align Taxiway A (south) 30,000 sq.yds.	\$2,250,000	\$2,025,000		\$225,000	
8 Acquire ARFF vehicle	\$360,000	\$324,000		\$36,000	
YEAR 2006-2010					
9 Construct new interchange/Biddle Road	\$2,000,000				\$2,000,000
10 Expand surface parking /400 spaces	\$600,000			\$600,000	
11 Construct new ticketing/bag make-up/admin. area (Phase 2) (14,700 sq. ft.)	\$1,977,000		\$1,779,300	\$197,700	
12 Re-align Milligan Way 1200 LF	\$100,000	\$90,000		\$10,000	
13 Replace Concessions/Commuter Holdroom (13,500 sq. ft.)	\$3,105,000		\$2,794,500	\$310,500	
14 Rehabilitate GA apron	\$1,850,000	\$1,665,000		\$185,000	
YEAR 2011-2020					
15 Expand GA apron (50,000 sq. yds)	\$1,500,000	\$1,350,000		\$150,000	
16 Expand air cargo apron (33,000 sq. yds)	\$2,500,000	\$2,250,000		\$250,000	
17 Construct parallel runway (4,650 X 75)	\$2,267,000	\$2,040,300		\$226,700	
18 Acquire property for terminal area expansion (8.8 ac.)	\$750,000	\$675,000		\$75,000	
19 Expand terminal (bag claim, holdrooms, ticketing) (10,000 sq. ft.)	\$2,000,000		\$1,800,000	\$200,000	
20 Acquire property for development (100 ac.)	\$2,000,000	\$1,800,000		\$200,000	
21 Acquire local GPS equipment (LAAS)	\$100,000				\$100,000
TOTAL PROJECT COSTS	\$35,597,000	\$14,418,000	\$9,294,300	\$4,784,700	\$7,100,000



LEGEND

- Existing Airport Property Line
- Future Airport Property Line
- Year 2001-2005 Development
- Year 2006-2010 Development
- Year 2011-2020 Development



redevelopment of ticketing and bag make-up areas, with the addition of administrative functions on the second floor. This will allow for the current administration building to be razed, providing area for rental car ready area or additional public parking. The third phase of the terminal redevelopment (which could be undertaken almost immediately following the second phase) provides for the re-development of concessions and commuter (ground level) boarding gates. The sizing of the ground level gate areas will need to be reconsidered based upon the mix of commuters preferring ground level boarding at the time. The transition to commuter jets (from turboprops) may limit the size of the commuter holdroom area. Concession areas should also be sized based upon demand at the time.

Rehabilitation of the general aviation ramp is included in this time period, although the project may be phased through several periods, starting with the short term period and extending into the long term period.

LONG TERM IMPROVEMENTS

Long term improvements include the expansion of air cargo and general aviation ramps, construction of a parallel general aviation runway (based upon demand), acquisition of property (8.8 acres) in front of the terminal area for terminal-related functions, acquisition of airport firefighting equipment, expansion of the terminal building, acquisition of property for airport development, and acquisition of GPS equipment (local area augmentation system) to facilitate precision approaches.

Most of these projects are related to continuing demand for terminal facilities (based upon passenger growth), growth in based aircraft numbers, the need to acquire additional property for development (mostly on the north end of airport property, per previous plans), and normal equipment replacement. Other maintenance equipment may need to be purchased during the period which is eligible for federal funding participation, although the magnitude and type of equipment is difficult to estimate at this time. Other eligible projects will also be identified over time, and will need to be included in the airport's capital improvement program.

The master plan concept reflects a full-length parallel taxiway on the east side of the airfield, to protect the area required for eventual placement of the taxiway, although a development cost has not been included in the preliminary CIP.

Following a review of the capital program with the Planning Advisory Committee and the airport staff, a refined CIP will be included in the final master plan.

CAPITAL IMPROVEMENTS FUNDING

Financing for capital improvements at Rogue Valley International-Medford Airport does not utilize any general tax monies from Jackson County or other local jurisdictions. Rather, the contributors to the airport's development are its users through a system of leases and fees. These sources include not only the rates and charges for airport use imposed by the Jackson

County Airport Authority, but also federal airport improvement programs. The following paragraphs outline the key sources for 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. AIP has been reauthorized several times with the most recent reauthorization (the **Wendell H. Ford Aviation Investment and Reform Act for the 21st Century**) for four years through federal fiscal year 2003.

The source for AIP funds is the Aviation Trust Fund. The Trust Fund is the depository for all federal aviation taxes such as those on airline tickets, aviation fuel, lubricants, tires and tubes, aircraft registrations, and other aviation-related fees. The funds are distributed under appropriations set by Congress to airports in the United States which have certified eligibility. The distribution of grants is administered by the Federal Aviation Administration.

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 a limited amount of FAA funding. However, improvements such as automobile parking, fueling facilities, utilities, hangar buildings, airline

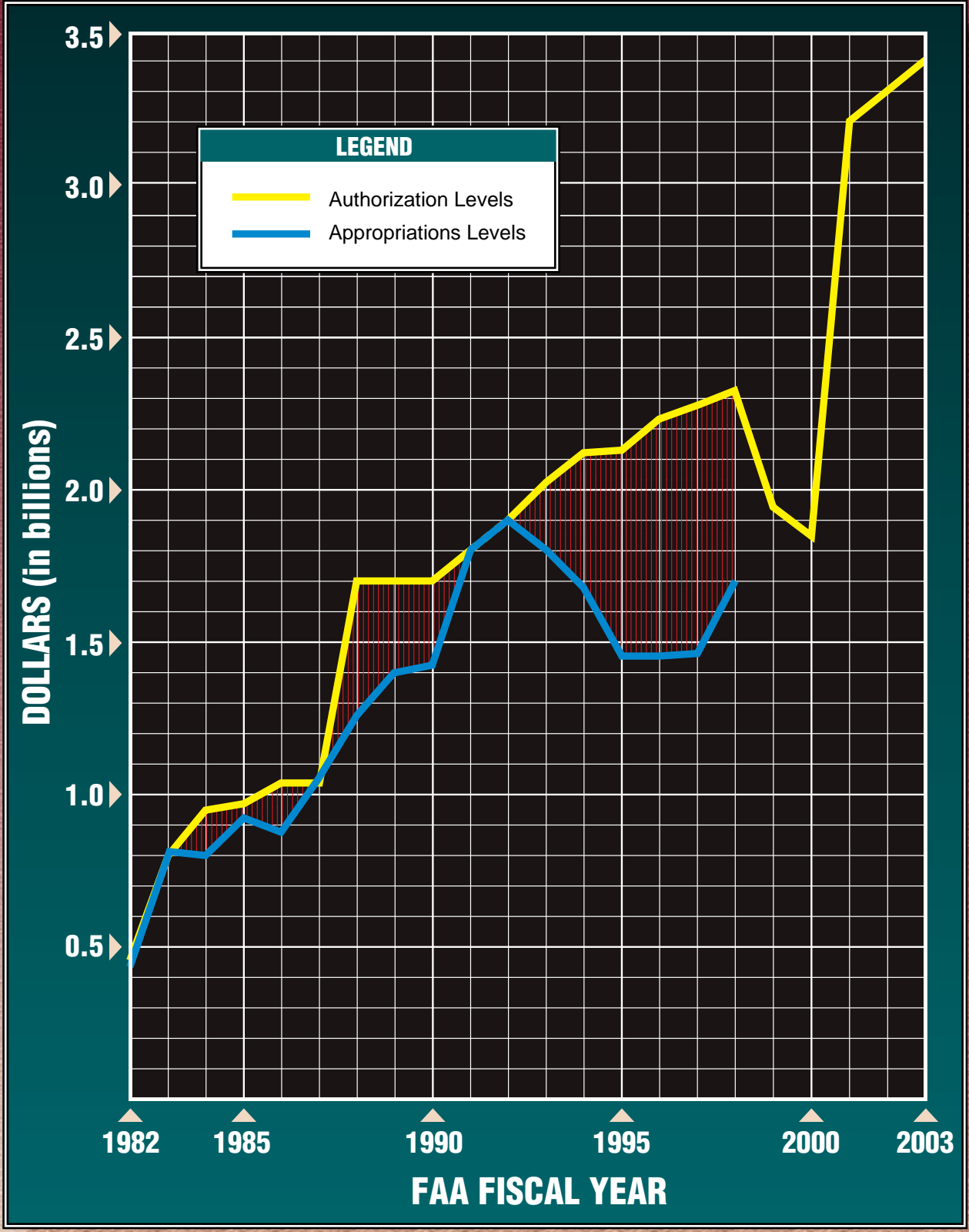
ticketing and airline operations areas are not generally eligible for AIP funds. The airport is eligible for 90 percent funding under AIP.

The program provides funding for eligible projects at airports. Through an entitlement program, primary commercial service airports receive a guaranteed minimum of federal assistance each year based on their enplaned passenger levels and Congressional appropriation levels. A primary airport is defined as any commercial service airport enplaning at least 10,000 passengers annually.

Under the current formula, if AIP is funded at \$3.2 billion, airports enplaning at least 10,000 passengers annually are entitled to a minimum of \$1,000,000 annually. (If AIP is funded below \$3.2 billion, the minimum is \$650,000.) For the first 50,000 enplanements, the airport receives \$15.60 per enplanement. For the next 50,000 enplanements, the airport receives \$10.40 per enplanement. The next 400,000 boardings provide \$5.20 per enplanement. For the next 500,000, the airport receives \$1.30 per enplanement. For all other enplanements over one million, the airport receives \$1.00 per enplaned passenger.

In addition, airports that have over 100 million pounds of landed weight by all-cargo carriers receive a cargo entitlement. This entitlement is based upon the airport's percentage of the total landed weight at all eligible airports.

Exhibit 6B depicts the history of AIP authorizations and appropriations.



Source: FAA



Unfortunately, the funding levels authorized in the legislation are not always the levels appropriated in the annual Congressional budget process. For example, the AIP authorized level for fiscal year 1996 was \$2.161 billion, but only \$1.45 billion was appropriated.

The **Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR 21)** adjusted allocation formulas to increase entitlements over previous levels and to establish special set-asides for noise

programs, general aviation and non-primary airports, and other special programs.

Table 6C outlines estimates of annual entitlement funds for MFR for each of the planning horizon milestones assuming the current entitlement formula would remain in place over the planning period. It should be kept in mind, however, that Congress may rework the entitlement formula at any time in the future.

TABLE 6C Potential FAA Entitlement Funds Rogue Valley International - Medford Airport		
Period	Annual Enplanements	Annual Entitlement Funding
Current	218,593	\$1,916,700
Short Term	260,000	\$2,132,000
Intermediate	300,000	\$2,340,000
Long Term	380,000	\$2,756,000

Notes: 1. Funding listed is for passenger entitlements only.
2. Assumes current entitlement formula. (AIR 21).

In a number of cases airports face a major project that will require funds in excess of the airport's annual entitlements. Thus, additional funds from discretionary apportionments under AIP become desirable. The primary feature about discretionary funds is that they are distributed on a priority basis. These priorities are established by the FAA utilizing a priority code system. Under this system, projects are ranked by their purpose: projects ensuring airports 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.

Other funds can come through the Facilities and Equipment (F&E) section of the FAA. As activity conditions warrant, the airport will be considered by F & E for various navigational aids to be installed, owned, and maintained by the FAA.

Whereas entitlement monies are guaranteed on an annual basis, discretionary funds are not assured. **Table 6B** has outlined the amount of funding for the development program that MFR would be desiring from the FAA. If the combination of entitlement and discretionary funding does not provide enough capital for planned development projects would either be delayed, require funding from the airport's revenues, or other authorized sources such as those described in the following subsections.

PASSENGER FACILITY CHARGES

The **Aviation Safety and Capacity Expansion Act of 1990** contained a provision for airports to levy passenger facility charges (PFC) for the purposes of enhancing airports safety, capacity or security or to reduce noise or enhance competition.

14 CFR Part 158 of May 29, 1991 establishes the regulation that must be followed by airports choosing to levy PFC's. Passenger facility charges may be imposed by public agencies controlling a commercial service airport with at least 2,500 annual passengers with scheduled service. Authorized agencies were allowed to impose a charge of \$1.00, \$2.00, or \$3.00 per enplaned passenger. Recent legislation (AIR 21) passed in early 2000 has allowed the cap to increase to \$4.50.

Prior approval is required from the Department of Transportation (DOT) before an airport is allowed to levy a PFC. DOT must find that the projected revenues are needed for specific, approved projects. Any AIP-eligible project, whether development or

planning related is eligible for PFC funding. Gates and related areas for the movement of passengers and baggage are eligible as are on-airport ground access projects. Any project approved must preserve or enhance safety, security, or capacity; reduce/ mitigate noise impacts; or enhance competition among carriers.

PFC's may be used only on approved projects. However, PFC's can be utilized to fund 100 percent of a project. They may be used as matching funds for AIP grants or to augment AIP-funded projects. PFC's can be used for debt service and financing costs of bonds for eligible airport development. These funds may also be commingled with general revenue for bond debt service. Before submitting a PFC application, the airport must give notice and an opportunity for consultation to airlines operating at the airport.

PFC's are to be treated similar to other airport improvement grants rather than as airport revenues, and will be administered by the FAA. Participating airlines are able to retain up to eight cents per passenger for administrative handling purposes.

Rogue Valley International- Medford Airport has imposed a PFC (\$3.00 per enplanement) since 1992 and has dedicated revenues from this source to several projects including: taxiway overlays, update of the master plan, airfield signage, security access equipment, Bullock Road project, pavement rehabilitation projects, loading bridge and passenger lift device, and runway lighting. Projects totaling

\$5.7 million have been identified in applications over the past eight years.

AIRPORT OPERATING FUND/ FUTURE REVENUE SOURCES

The Jackson County Airport Authority has established a separate fund for the operation of the airport. Included in the airport fund are a number of various revenue and expense accounts. Included in the revenue accounts are terminal building rentals, rental car fees, airline landing fees, fuel flowage fees, FBO rent, cargo facility lease, hangar leases, tie-down rentals, Forest Service rent, FAA offices, and miscellaneous rent. The direct cost centers include airfield, terminal building, and other buildings on the airport, while indirect cost centers include administration and safety.

While the airport should be able to generate sufficient revenues from its operating sources to cover operating expenses, it be dependent upon AIP grants and PFC revenues to fund the majority of the capital projects recommended in this plan.

The airport also has the ability to develop land parcels not required for future aeronautical purposes in

commercial/industrial development. An area south of the terminal area along Biddle Road could conceivably be used as a hotel site. Other opportunities for non-aeronautical development may also exist, and should be pursued to provide revenue support for the airport operation. One of the drawings in the airport layout plans is used to depict the areas available for non-aeronautical revenue support. This drawing will be included in the final report.

IMPLEMENTATION

Experience has indicated that problems have materialized from the standard format of time-based planning documents. These problems center around the plan's inflexibility and inherent inability to deal with new issues that develop from unforeseen changes that may occur after it is completed. The format used in the development of this Master Plan has attempted to deal with this issue by providing more flexibility in the program. The primary issues upon which this Master Plan is based will remain valid for many years into the next century. The primary goal is for the airport to maintain a self-supporting position without sacrificing service to the public.