Capital Program

The analyses completed in previous chapters evaluated development needs at the airport over the next 20 years and beyond, based on forecast activity and operational efficiency. Next, basic economic, financial, and management rationale is applied to each development item so that the feasibility of each item contained in the plan can be assessed.

The capital program has been organized into five sections. The first section is the 20-year capital needs program (CNP). This section identifies capital projects anticipated to be needed within each planning horizon. The second section is a discussion of various local, state, federal, and private sources of funding for airport improvements. The third section is a five-year capital improvement program (CIP). The CIP will identify priority projects, by year, from 2008 to 2012. **The CIP estimates are based upon probable levels of FAA, state, and local funding. The resulting five-year CIP will thus consist of those projects with the highest priority and the highest probability of receiving funding**. The fourth section will provide an estimate of hangar development costs and the last section will discuss the economic benefits of the airport.

AIRPORT CAPITAL NEEDS PROGRAM

Now that the specific needs and improvements for the airport have been established, the next step is to determine a realistic schedule and the associated costs for implementing the plan. This section will examine the overall cost of each item in the development sched-

ule. 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 Milestone Summary
Phoenix Deer Valley Airport

	2004	Short Term	Intermediate Term	Long Term
ANNUAL OPERATIONS				
Total Itinerant	146,269	192,850	215,650	261,050
Total Local	205,231	263,450	304,750	387,350
Total Operations	351,500	456,300	520,400	648,400
BASED AIRCRAFT				
Single Engine	1,086	1,318	1,501	1,855
Multi-Engine	111	123	132	144
Turboprop	13	20	28	46
Jet	26	42	61	104
Helicopters/Others	16	21	26	36
Total Based Aircraft	1,252	1,524	1,748	2,185

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 such as those identified by the FAA Runway Safety Action Team (RSAT), including maintaining existing infrastructure.** 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 hangars and taxilanes. 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-related construction 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 and projects intended to meet FAA design standards. These types of projects typically are associated with day-to-day operations and compliance, 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 may require further environmental study such as property acquisition, and potentially the RSA improvement project.

The cost estimates presented in this chapter have been increased by 15 percent to allow for contingencies that may arise on the project. The cost estimates also include 12 percent for design and engineering, and an additional 13 percent for construction, inspection, and project management. Capital costs presented here should be viewed only as estimates subject to further refinement during design. Nevertheless, these estimates are considered reasonable for planning purposes. Cost estimates for each of the development projects listed in the capital program are in 2006 dollars. **Exhibit 6A** presents the proposed capital needs program (CNP) for the Phoenix Deer Valley Airport (DVT).

SHORT TERM IMPROVEMENTS

The proposed capital needs program (CNP) has been divided into three planning horizons: short, intermediate, and long term. By grouping the projects, airport administration can accelerate projects that become critical or delay projects that are not priorities. The development staging is presented on **Exhibit 6B**.

All federally funded airport projects are subject to environmental review. Some projects may be covered by a Categorical Exclusion, while others will require an Environmental Assessment (EA). The conclusions of an EA are generally valid for three years after completion of the study. Any projects considered after this timeframe would require updated environmental documentation. The first project presented in each planning horizon is the appropriate environmental documentation, and a placeholder of $500,000 has been utilized. Depending on the projects undertaken, this amount may be more or less.

In the short term, priority projects would include those related to meeting FAA design and safety standards. The RSAT from the FAA Office of Runway Safety and Operational Services has identified a number of nonstandard runway safety area (RSA) conditions at the airport. Of particular concern is the 25-foot high hill in the RSA on the east end of Runway 7R-25L. This hill should be removed and the airport service road should be relocated outside the RSA.

The airfield currently includes a number of ruts, humps, and culverts within the RSA of primary Runway 7R-25L. The airfield grading and drainage system should be designed to bring the RSA into conformance with FAA standards. This project is particularly important as there is a history of aircraft that veered off the runway pavement, hitting the culverts and being damaged.

The RSA extending to the west of the Runway 7R threshold crosses a portion of the airport perimeter service road. In the short term, the runway is proposed to be reduced by eight feet on this end in order to maintain the RSA inside the service road.

It should be noted that the implementation of projects intended to resolve nonstandard RSAs is typically done in combination with other major runway projects. So although RSA projects are a high priority, the timing and implementing of the RSA projects may be dependant on the timing of other runway related projects.

04MP01.6A-2/5/07

	Project Description	Category	Project Cost	FAA Eligible	ADOT Eligible	Local Share
SHORT TERM PROGRAM (0-5 YEARS)						
1	Environmental Documentation for Short Term Projects	Environmental	$500,000	$475,000	$12,500	$12,500
2	Install Security Lighting	Security	$900,000	$855,000	$22,500	$22,500
3	Runways: Signage Upgrade/Modification	Safety - RSAT	$200,000	$190,000	$5,000	$5,000
4	Fencing Upgrade	Security	$100,000	$95,000	$2,500	$2,500
5	Annual Stormwater Environmental Study ($25,000 per year)	Environmental	$125,000	$118,750	$3,125	$3,125
6	Apron Reconstruction - South & Northwest Areas	Maintenance	$17,670,000	$16,786,500	$441,750	$441,750
7	Land Acquisition (1999) - Pro-Rated Protion (80 acres)	Landside Demand	$955,000	$907,250	$23,875	$23,875
8	Runway Safety Area Improvements - Phase 1	Safety - RSAT	$4,000,000	$3,800,000	$100,000	$100,000
9	RSA Improvement East End of Runway 7R-25L	Safety - RSAT	$1,350,000	$1,282,500	$33,750	$33,750
10	Update Airfield Signage Plan*	Safety - RSAT	$500,000	$0	$0	$500,000
11	Runway Safety Area Improvements - Phase 2	Safety - RSAT	$4,000,000	$3,800,000	$100,000	$100,000
12	Airfield Auto Parking Reconstruction	Maintenance	$600,000	$0	$540,000	$60,000
13	Land Acquisition (1985) - Pro-Rated Portion	Landside Demand	$1,623,000	$1,541,850	$40,575	$40,575
14	Run-up Area Construction	Capacity - RSAT	$2,000,000	$1,900,000	$50,000	$50,000
15	Reconstruct Runway 7L/25R	Safety	$6,875,000	$6,531,250	$171,875	$171,875
16	Relocate Taxiway A to 300' of Separation From Runway 7L-25R	Safety	$5,000,000	$4,750,000	$125,000	$125,000
17	Reconstruct North Ramp	Maintenance	$11,496,000	$10,921,200	$287,400	$287,400
18a	Rehabilitate (Mill and Overlay) Runway 7R/25L*	Safety	$4,000,000	$0	$0	$4,000,000
18b	Relocate Runway 7R-25L Landing Threshold to Pavement Ends	Safety	$1,012,000	$961,400	$25,300	$25,300
19	Widen and Relocate Taxiway C to 310 feet of Separation	Safety	$1,757,000	$1,669,150	$43,925	$43,925
20	Runway 25L RPZ Land Acquisition - Fee-Simple (56 Acres)	Safety	$22,400,000	$21,280,000	$560,000	$560,000
21	Runway 25R RPZ Land Acquisition - Fee-Simple (7 Acres)	Safety	$2,800,000	$2,660,000	$70,000	$70,000
22	Runway 7L RPZ Land Acquisition - Easement (9 Acres)	Safety	$450,000	$427,500	$11,250	$11,250
23	Runway 7R RPZ Land Acquisition - Easement (17 Acres)	Safety	$850,000	$807,500	$21,250	$21,250
TOTAL SHORT TERM PROGRAM			**$91,163,000**	**$81,759,850**	**$2,691,575**	**$6,711,575**

	Project Description	Category	Project Cost	FAA Eligible	ADOT Eligible	Local Share
INTERMEDIATE TERM PROGRAM (6-10 YEARS)						
1	Environmental Documentation for Intermediate Term Projects	Environmental	$500,000	$475,000	$12,650	$12,500
2	West Access Road Construction	Landside Demand	$3,453,000	$3,280,350	$86,325	$86,325
3	North Airport Services Building Construction	Landside Demand	$1,050,000	$0	$525,000	$525,000
4	North Public Ramp Construction - Phase 1	Landside Demand	$4,044,000	$3,841,800	$101,100	$101,100
5	South Public Ramp - Phase 1	Landside Demand	$1,522,000	$1,445,900	$38,050	$38,050
6	Run-up Area Construction - Phase 2	Capacity - RSAT	$3,339,000	$3,172,050	$83,475	$83,475
7	Relocate Taxiway B to 300' of Separation	Safety	$2,946,000	$2,798,700	$73,650	$73,650
8	Extend Taxiway B to Runway 7R Threshold	Capacity, Efficiency	$1,194,000	$1,134,300	$29,850	$29,850
9	Extend and Widen Parallel Runway 7L-25R	Capacity	$11,329,000	$10,762,550	$283,225	$283,225
10	Relocate West Service Road out of Runway 7L	RSA Safety	$70,000	$66,500	$1,750	$1,750
11	High Speed Exits Runway 7L-25R	Capacity	$1,167,000	$1,108,650	$29,175	$29,175
12	Pavement Maintenance	Maintenance	$1,000,000	$950,000	$25,000	$25,000
TOTAL INTERMEDIATE TERM PROGRAM			**$31,614,000**	**$29,035,800**	**$1,289,250**	**$1,289,100**
LONG TERM PROGRAM (11-20 YEARS)						
1	Environmental Documentation for Long Term Projects	Environmental	$500,000	$475,000	$12,500	$12,500
2	Three High Speed Exits Serving Runway 7R-25L	Capacity	$854,000	$811,300	$21,350	$21,350
3	North Public Ramp - Phase 2	Landside Demand	$4,434,000	$4,212,300	$110,850	$110,850
4	Public Ramp South - Phase 2	Landside Demand	$1,593,000	$1,513,350	$39,825	$39,825
5	Construct Run-up Area for Runway 25R	Capacity, Efficiency	$849,000	$806,550	$21,225	$21,225
6	MALSR Serving Approach to Runway 25L	Safety, Efficiency	$1,400,000	$1,330,000	$35,000	$35,000
7	Pavement Maintenance	Maintenance	$1,000,000	$950,000	$25,000	$25,000
TOTAL LONG TERM PROGRAM			**$10,630,000**	**$10,098,500**	**$265,750**	**$265,750**
TOTAL PROGRAM COSTS			**$133,407,000**	**$120,894,150**	**$4,246,575**	**$8,266,425**

*Eligible project that the City of Phoenix is paying for.

RPZ - Runway Protection Zone
RSA - Runway Safety Area
MALSR - Medium Intensity Approach Lights with Runway Alignment Indicator Lights
RSAT - Runway Safety Action Team

Source: Airport Records; Coffman Associates Analysis.
Note: Costs associated with hangar development are not included.

DVT

PHOENIX DEER VALLEY AIRPORT
Exhibit 6A
CAPITAL NEEDS PROGRAM

The airport administration has submitted a five year capital program to the FAA. The first project identified is the installation of security lighting for various locations around the ramps. The next project is improvements to the airfield signage as identified by the RSAT. Repair and maintenance of the airport security fencing is the next project.

On an annual basis, the airport is obligated to conduct an annual storm water environmental study. This study is estimated to cost $25,000, and a total $125,000 is identified for the five year short term period.

Over time, airfield pavements will need reconstruction even when regular maintenance has extended the useful life of the surfaces. The south side main apron and hangar taxilanes are in need of reconstruction. The current state of deterioration leads to the development of foreign object debris (FOD). Loose FOD on the airport movement surfaces can damage aircraft and are serious safety concerns. A portion of the north side aircraft apron and taxilanes is also in need of reconstruction. The airport administration has identified approximately $17.7 million needed to repair these pavement surfaces on the south side of the airport. The pavement surfaces were evaluated by a professional engineer, prioritized by need, and presented in the 2007 Pavement Maintenance Management Program.

The airport capital program submitted to the FAA also considers the reconstruction of the north side apron and taxilanes serving the T-hangar complex. Approximately $11.5 million is identified for this north side reconstruction.

There are two CNP projects identified that are related to reimbursement from the FAA of property previously purchased by the airport. In 1985 and 1999, the airport purchased adjoining acreages in order to protect the airport from encroachment and to allow for expansion of aviation facilities. It is the policy of the FAA to reimburse the airport sponsor for such land acquisitions over time; thus, the pro-rated portion of the land purchase is included in the capital program submitted to the FAA.

Analysis presented in Chapter Three – Facility Requirements indicated that the airport may exceed 92 percent of its annual service volume by the end of the long term planning horizon. One design element that can immediately improve capacity is the construction of adequate run-up aprons. The RSAT also identified such aprons as an immediate need for capacity improvement. With adequately sized run-up aprons, pilots can complete their engine run-up procedures without delaying other aircraft that are ready to take-off.

The construction of run-up areas is divided into two phases in the CNP. The first phase, to take place in the short term, considers an initial $2.0 million investment. This investment would allow for four run-up areas to serve each runway end. The second phase is considered in the intermediate term and would expand the run-up areas to accommodate more aircraft.

Based on the critical aircraft (Category D) and the approach minimums planned for Runway 7R-25L, the standard runway-taxiway separation for Taxiway C is 400 feet. Previous analysis indicated safety standards can be

met if the taxiway is relocated to a distance of 310 feet. This separation distance was determined by using the largest aircraft expected to utilize the airport on a regular basis, the Gulfstream V with a wingspan of slightly less than 100 feet.

Acquisition of the property encompassing the RPZs is considered an essential short term project to insure the airport has compatible surrounding land uses. The property acquisition is split between those areas recommended for fee simple purchase and those areas where an avigation easement is more likely. Basically, undeveloped land is recommended for fee simple acquisition, and fully developed property is recommended for avigation easements, as the purchase and relocation of existing businesses can be very expensive and difficult.

The RPZ serving Runway 7R has approximately 17.46 acres that extend beyond airport property. All of this area contains established businesses. In lieu of purchasing and relocating these businesses, the airport should purchase avigation easements. The Runway 25L RPZ would ultimately encompass approximately 56 acres. All of this area is undeveloped and should be considered for fee simple purchase.

The future RPZs serving Runway 7L-25R would also extend beyond airport property. The RPZ serving Runway 7L encompasses approximately 8.51 acres. A small portion of a warehouse encroaches upon the RPZ. The remaining RPZ is currently used as a surface parking lot. An avigation easement would likely be appropriate for this RPZ. The RPZ serving an extended Runway 25R would encompass approximately 15 acres, 7.34 of which would be outside the Runway 25L RPZ. This area should be purchased, if possible, as it is currently undeveloped.

Although the purchase of land adjacent to the airport is officially eligible for FAA funding, the funding process should be noted. Typically, the FAA will require the airport sponsor to make the initial land purchase. The FAA would then reimburse the airport sponsor by applying the amount to the local matching share on future airport projects.

The short term CNP also considers runway reconstruction projects. When primary Runway 7R-25L is rehabilitated, it should be marked with precision runway markings and the thresholds should be located at the pavement ends. New approaches would then need to be developed. Parallel Runway 7L-25R will also need to be rehabilitated in the short term.

Taxiway A is also in need of reconstruction in the short term. The master plan considered relocating this taxiway to a separation distance of 300 feet in the intermediate term. When this taxiway is reconstructed, it makes sense to relocate it at the same time; thus, the short term CNP considers reconstruction and relocation of Taxiway A.

The total investment necessary for the short term CNP is approximately $91.2 million. Of this total, $81.8 million is eligible for FAA grant funding, and $2.7 million is likely eligible for ADOT funding. The remaining $6.7 million would

be the responsibility of the City of Phoenix Aviation Department.

INTERMEDIATE TERM IMPROVEMENTS

Analyzing the impact to the environment is necessary for any airport improvement projects at federally obligated airports. Therefore, the first project in the intermediate term is the commission of appropriate environmental documentation. As previously discussed, a placeholder of $500,000 has been established for necessary environmental documentation for intermediate term projects.

Once all priority safety related projects and the maintenance of existing infrastructure have been accomplished in the short term, the airport master plan considers expansion of north side facilities. To this end, a new airport entrance access road leading from North 15th Avenue to the airport traffic control tower (ATCT) is considered. Utility extension is considered in conjunction with this project. This project would open up the northwest area for aviation-related development.

As more hangars are developed on the northwest side of the airport, the need for airport services increases. The CNP considers the construction of an airport services building to provide a pilot lounge, flight planning station, and other general aviation needs. Typically, such facilities are not eligible for FAA funding, but the Arizona Department of Transportation – Aeronautics Division (ADOT) has in the past supported such construction. The 100-foot by 150-foot airport services building is considered as a joint project between the airport sponsor and ADOT. Some of the cost of construction could be recouped through leasing commercial space in the building.

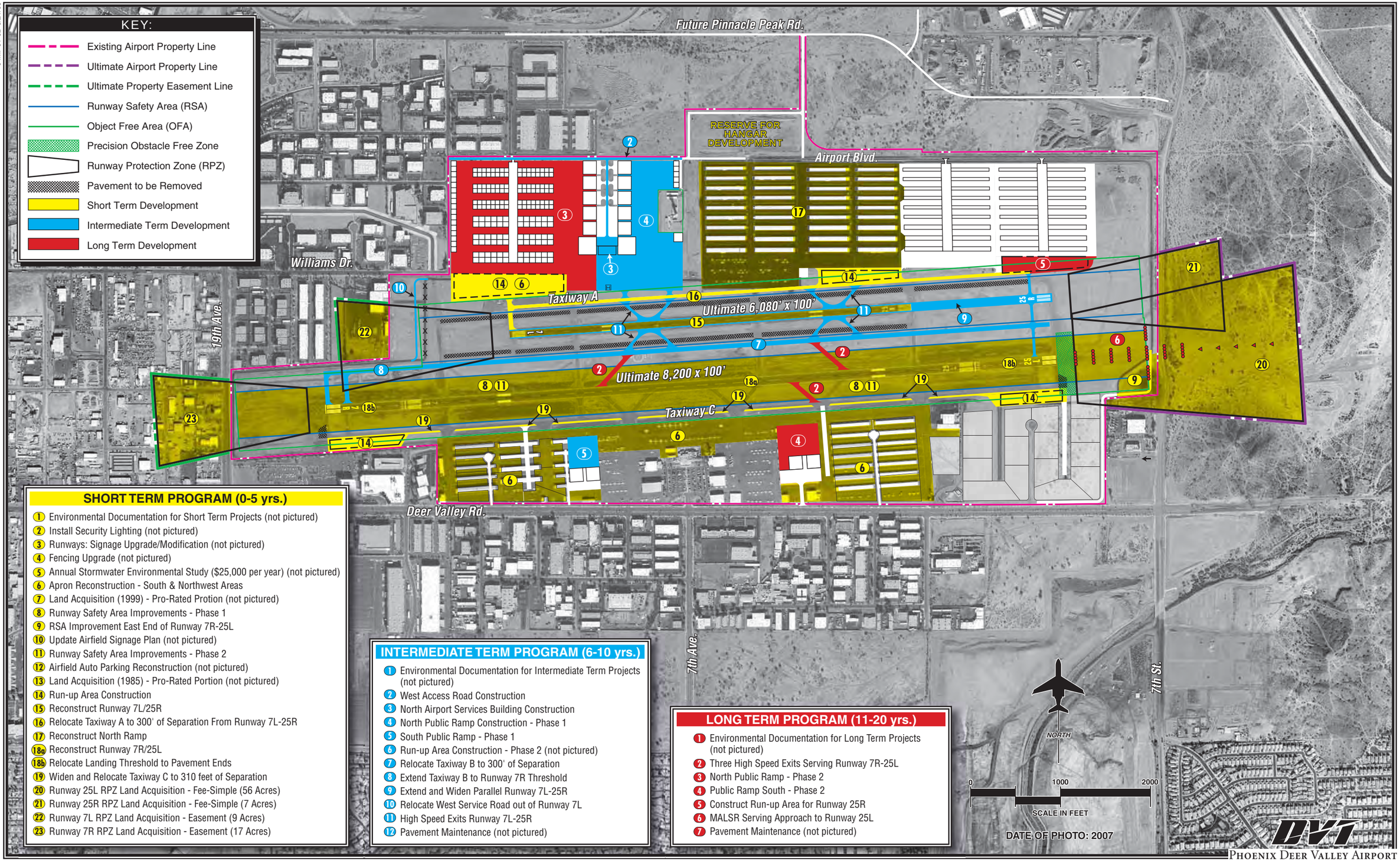
To accommodate and spur further growth, a large public apron is planned which would accommodate tie-down positions and provide access to the planned airport services hangars. This apron encompasses approximately 50,000 square yards of pavement. The investment necessary is estimated at $4.4 million, of which 95 percent would be eligible for FAA grant funding.

The businesses operating from the existing south side terminal area are constrained from expansion. The CNP includes the potential redevelopment of a portion of the southwest T-hangars for terminal services expansion. The new airport service area could be for expansion by current airport businesses or for the introduction of new airport businesses. This area includes the construction of approximately 16,000 square yards of aircraft apron. Space is available for two large conventional hangars, and more vehicle parking is provided.

Further development of the northwest side for aircraft storage use is considered. This area would include more aircraft apron and space for conventional hangars. A complex of box/executive hangars is considered for the area as well.

As depicted on **Exhibit 6B**, approximately 190 new box/executive hangar positions are made available. The first six rows are larger hangars measuring

04MP01-6B-9/21/06



SHORT TERM PROGRAM (0-5 yrs.)

1. Environmental Documentation for Short Term Projects (not pictured)
2. Install Security Lighting (not pictured)
3. Runways: Signage Upgrade/Modification (not pictured)
4. Fencing Upgrade (not pictured)
5. Annual Stormwater Environmental Study ($25,000 per year) (not pictured)
6. Apron Reconstruction - South & Northwest Areas
7. Land Acquisition (1999) - Pro-Rated Protion (not pictured)
8. Runway Safety Area Improvements - Phase 1
9. RSA Improvement East End of Runway 7R-25L
10. Update Airfield Signage Plan (not pictured)
11. Runway Safety Area Improvements - Phase 2
12. Airfield Auto Parking Reconstruction (not pictured)
13. Land Acquisition (1985) - Pro-Rated Portion (not pictured)
14. Run-up Area Construction
15. Reconstruct Runway 7L/25R
16. Relocate Taxiway A to 300' of Separation From Runway 7L-25R
17. Reconstruct North Ramp
18a. Reconstruct Runway 7R/25L
18b. Relocate Landing Threshold to Pavement Ends
19. Widen and Relocate Taxiway C to 310 feet of Separation
20. Runway 25L RPZ Land Acquisition - Fee-Simple (56 Acres)
21. Runway 25R RPZ Land Acquisition - Fee-Simple (7 Acres)
22. Runway 7L RPZ Land Acquisition - Easement (9 Acres)
23. Runway 7R RPZ Land Acquisition - Easement (17 Acres)

INTERMEDIATE TERM PROGRAM (6-10 yrs.)

1. Environmental Documentation for Intermediate Term Projects (not pictured)
2. West Access Road Construction
3. North Airport Services Building Construction
4. North Public Ramp Construction - Phase 1
5. South Public Ramp - Phase 1
6. Run-up Area Construction - Phase 2 (not pictured)
7. Relocate Taxiway B to 300' of Separation
8. Extend Taxiway B to Runway 7R Threshold
9. Extend and Widen Parallel Runway 7L-25R
10. Relocate West Service Road out of Runway 7L
11. High Speed Exits Runway 7L-25R
12. Pavement Maintenance (not pictured)

LONG TERM PROGRAM (11-20 yrs.)

1. Environmental Documentation for Long Term Projects (not pictured)
2. Three High Speed Exits Serving Runway 7R-25L
3. North Public Ramp - Phase 2
4. Public Ramp South - Phase 2
5. Construct Run-up Area for Runway 25R
6. MALSR Serving Approach to Runway 25L
7. Pavement Maintenance (not pictured)

PHOENIX DEER VALLEY AIRPORT
Exhibit 6B
DEVELOPMENT STAGING

60 feet by 60 feet. The back six rows measure 50 feet by 50 feet. The 27 box/executive hangars on the perimeter of the area are 50 feet by 50 feet in size.

In an on-going effort to increase airfield capacity, the aircraft run-up areas initially planned for construction in the short term area planned for expansion in the intermediate term. With DVT being the busiest general aviation airport in the country, aircraft run-up areas are necessary.

The extension and upgrade of Runway 7L-25R is considered in the intermediate term to better meet the design and performance requirements of propeller aircraft. The upgrade of the runway would be intended to meet airport reference code (ARC) C-II standards. This level of design would also provide for a runway with the ability to accommodate the majority of operations by the airport's critical aircraft (ARC D-III). In addition, the upgrade of the runway would provide a back-up capability should the primary runway be closed for any period of time.

The runway is considered for a 1,580-foot easterly extension to the intersection with Taxiway B13. This would provide a total runway length of 6,080 feet. The runway would also be widened from 75 feet to 100 feet. Strategically placed high speed exits would help the air traffic control personnel direct aircraft off the runway quickly, thus adding to capacity.

When designing for ARC C-II standards, the runway/taxiway separation needs to be at least 300 feet. Currently, both Taxiways A and B are only 200 feet from the runway. Relocation of Taxiway A was considered in the short term because of the short term need for reconstruction. Taxiway B is planned for relocation in the intermediate term.

Once the runway extension is completed and design standards for ARC C-II are applied to Runway 7L-25, the service road to the immediate west of the Runway 7L threshold will be in the RSA. An intermediate term project relocates this service road approximately 100 feet to the west, outside of the RSA.

An additional short term project related to increased operational efficiency is the extension of Taxiway B to the Runway 7R threshold. This extension would also include the construction of a bypass taxiway. This project would significantly reduce the need for runway crossing maneuvers by aircraft taxiing from the north to the Runway 7R threshold.

High speed exits are planned for both sides of the upgraded Runway 7L-25R. These taxiways are designed with acute angles to allow for rapid exit from the runway system.

Finally, the airport is obligated to maintain the useful life of airfield surfaces. Maintenance may include crack and slurry sealing of asphalt pavements and joint coupling and spot concrete replacement. As the timing of repairs is difficult to predict, a placeholder of one million dollars is considered.

The total investment for the intermediate term CNP is approximately $31.6 million. Of this total, $29.0 million is eligible for FAA grant

funding, and $1.3 is likely eligible for ADOT funding. The remaining $1.3 million would be the responsibility of the City of Phoenix Aviation Department.

LONG TERM IMPROVEMENTS

Long term capital needs are difficult to predict due to the fluid nature of aviation. Several long term projects would likely require environmental documentation. A placeholder of $500,000 is reserved for this purpose.

Three additional taxiway exits from Runway 7R-25L are planned to improve operational efficiency. These taxiways are designed with acute angles to allow for rapid exit from the runway system.

The north public ramp area is proposed for expansion by the long term planning period. This construction would be dependant on demand and availability of funding. The south ramp is also considered for further expansion to the east of the terminal building. This apron would encompass approximately 16,000 square yards. Two large conventional hangars are considered facing this apron. This area would be similar to the airport services expansion to the west.

Once Runway 7L-25R is extended, there becomes a need to have a large run-up area near the Runway 25R threshold. This project is considered in the long term. A medium intensity approach lighting system with runway alignment indicator lights (MALSR) would be necessary when the airport pursues improved instrument approaches to Runway 25L. The MALSR is considered in the long term planning period. A placeholder for pavement maintenance is also included in the long term.

The total investment for the long term CNP is approximately $10.6 million. Of this total, $10.1 million is eligible for FAA grant funding, and $250,000 is likely eligible for ADOT funding. The remaining $250,000 would be the responsibility of the City of Phoenix Aviation Department.

CAPITAL NEEDS SUMMARY

The capital needs program for Phoenix Deer Valley Airport focuses heavily on meeting FAA design standards for safety, maintaining existing infrastructure, improving airfield capacity, and providing infrastructure for landside facilities to accommodate forecasted growth in based aircraft.

The most significant airside projects in the first five years are related to improving the runway safety area. This includes removal of the hill in the RSA on the east end of Runway 7R-25L, the redesign of the drainage culverts to meet RSA standards for grading, and the shortening of the Runway 7R end by eight feet to remove the perimeter road as a penetration.

Many of the RSA projects are recommended by the FAA RSAT. Also recommended is improvement of the airport signage in order to prevent pilot confusion and reduce the potential for runway incursions. Although RSA issues are a high priority item for the air-

port to address, the FAA recommends that these be addressed in conjunction with other runway projects such as reconstruction.

A number of capacity improvements are considered for the airport master plan. Runway 7L-25R is proposed for extension to 6,080 feet. It is also widened to 100 feet to accommodate a more demanding aircraft type. Both Taxiways A and B are relocated to a separation distance of 300 feet, and high speed exits are installed. Taxiway B is extended to the Runway 7R threshold and a bypass taxiway is added. Aircraft run-up areas are planned for all runway ends in order to improve capacity and the efficiency of aircraft staging for take-off.

Most of the short term recommendations are for safety, security, maintenance, and environmental projects designed to serve the aircraft that use the airport now. The taxiway improvements recommended are primarily focused upon improving access to and from the north side to both runways. The expanded holding aprons and improved runway exits are in response to input from local pilots and the air traffic control tower staff. The improvements to the north parallel runway are recommended to better meet the design and performance requirements of propeller aircraft and to accommodate smaller cabin-class aircraft as necessary.

In addition to the airfield improvements, the capital improvement plan will invest more public funds in the development of the north side of the airport than the south side of the airport. The master plan provides an opportunity to create a north side facility that is entirely focused on the needs of the small general aviation aircraft user. This includes a variety of aircraft storage options, locations for FBOs and specialty service operators that cater to the needs of the small aircraft user. Corporate aviation development on the south side will rely almost exclusively upon private investment for future facility development.

The 20-year investment total is approximately $133.4 million. Projects eligible for FAA grant assistance total $120.9 million. ADOT eligible capital improvement projects total $4.2 million. The City of Phoenix Aviation Department responsibility totals $8.3 million.

CAPITAL IMPROVEMENT FUNDING SOURCES

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

FEDERAL GRANTS

Through federal legislation over the years, various grant-in-aid programs have been established to develop and maintain a system of public airports across the United States. The purpose of this system and its federally based

funding is to maintain national defense and to promote interstate commerce. The most recent legislation affecting federal funding was enacted in late 2003 and is titled *Century of Aviation Re-authorization Act,* or *Vision 100*.

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

The source for *Vision 100* 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 Aviation Trust Fund also finances the operation of the FAA. It is funded by user fees, including taxes on airline tickets, aviation fuel, and various aircraft parts.

Funds are distributed each year by the FAA from appropriations by Congress. A portion of the annual distribution is to primary commercial service airports based upon enplanement (passenger boarding) levels. If Congress appropriates the full amounts authorized by *Vision 100*, eligible general aviation airports could receive up to $150,000 of funding each year in Non-Primary Entitlement (NPE) funds (*National Plan of Integrated Airport Systems* [NPIAS] - inclusion is required for general aviation entitlement funding). Phoenix Deer Valley Airport qualifies for full NPE funding as the NPIAS includes over $150,000 in yearly capital projects.

The remaining AIP funds are distributed by the FAA based upon the priority of the project for which they have requested federal assistance through discretionary apportionments. A national priority ranking system is used to evaluate and rank each airport project. Those projects with the highest priority are given preference in funding.

Under the AIP program, examples of eligible development projects include the airfield, public aprons, and access roads. Additional buildings and structures may be eligible if the function of the structure is to serve airport operations in a non-revenue generating capacity such as maintenance facilities. Whereas entitlement monies are guaranteed on an annual basis, discretionary funds are not assured. If the combination of entitlement, discretionary, and airport sponsor match does not provide enough capital for planned development, projects may be delayed. Other supplemental funding sources are described in the following subsections.

STATE FUNDING PROGRAM

In support of the state aviation system, the State of Arizona also participates in airport improvement projects. The source for state airport improvement funds is the Arizona Aviation Fund, which is administered by the ADOT Aeronautics Division. 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.

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

State Airport Loan Program

The Arizona Department of Transportation (ADOT) - Aeronautics Division's 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. Unlike the Federal AIP funding mechanism, revenue-generating improvements, such as hangars and fuel storage facilities, are eligible under the State Airport Loan Program. Projects which are not currently eligible for the State Airport Loan Program are considered if the project would enhance the airport's ability to be financially self-sufficient.

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

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 the maximum useful life of the airport system's pavement. The Arizona Pavement Preservation Program (APPP) has been established to assist in the preservation of the Arizona airport system infrastructure. Phoenix Deer Valley 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 maintains an Airport Pavement Management System (APMS). This system requires monthly airport inspections which are conducted by airport management and supplied to ADOT.

The Arizona Airport Pavement Management System uses the Army Corps of Engineers' "Micropaver" program as a basis for generating a Five-Year 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 conditions in accordance with the most recent FAA Advisory Circular 150/5380-7, *Pavement Management System*, and range from 0 (failed) to 100 (excellent). Every three years, a complete database update with new visual observations is conducted. Individual airport reports from the update are shared with all participating system airports. 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. The Phoenix Deer Valley Airport is operated by the City of Phoenix through the Phoenix Aviation Department. The goal for the operation of the airport is to generate ample revenues to cover all operating and maintenance costs as well as the local matching share of capital expenditures.

There are several alternatives for local financing options for future development at the airport, including airport revenues, direct funding from the City, issuing bonds, and leasehold financing. These strategies could be used to fund the local matching share, or complete the project if grant funding cannot be arranged.

FIVE-YEAR CAPITAL IMPROVEMENT PROGRAM

The previously presented capital needs program considers all those projects necessary to make the 20-year vision for the airport a reality. In today's economic environment, the FAA is unable to fund all eligible projects needed at all airports. As a result, it is reasonable to develop a short term (0-5 years) list of recommended projects that Phoenix Deer Valley Airport should consider priorities. With this list or capital improvement program (CIP), the airport can better direct funding requests to the FAA and ADOT for priority projects. The CIP projects are contained in the capital needs program and are separately presented on **Exhibit 6C**.

Project Description	Category	Project Cost	FAA/ADOT Funding	Local Funding
2008				
Environmental Documentation for Short Term Projects	Environmental	$500,000	$468,500	$31,500
Install Security Lighting	Security	$900,000	$843,300	$56,700
Runways: Signage Upgrade/Modification	Safety - RSAT	$200,000	$187,400	$12,600
Fencing Upgrade	Security	$100,000	$93,700	$6,300
Annual Stormwater Environmental Study	Environmental	$25,000	$23,425	$1,575
South Apron Phase 2	Maintenance	$1,500,000	$1,405,500	$94,500
Subtotal		**$3,225,000**	**$3,021,825**	**$203,175**
2009				
South Apron Reconstruction	Maintenance	$1,500,000	$1,405,500	$94,500
Annual Stormwater Environmental Study	Environmental	$25,000	$23,425	$1,575
Subtotal		**$1,525,000**	**$1,428,925**	**$96,075**
2010				
South Apron Reconstruction	Maintenance	$1,500,000	$1,405,500	$94,500
Annual Stormwater Environmental Study	Environmental	$25,000	$23,425	$1,575
Subtotal		**$1,525,000**	**$1,428,925**	**$96,075**
2011				
South Apron Reconstruction	Maintenance	$1,500,000	$1,405,500	$94,500
Annual Stormwater Environmental Study	Environmental	$25,000	$23,425	$1,575
RSA Improvements	Safety	$4,000,000	$3,748,000	$252,000
Subtotal		**$5,525,000**	**$5,176,925**	**$348,075**
2012				
South Apron Reconstruction	Maintenance	$1,500,000	$1,405,500	$94,500
Annual Stormwater Environmental Study	Environmental	$25,000	$23,593	$1,575
RSA Improvements	Safety	$4,000,000	$3,774,800	$252,000
Subtotal		**$5,525,000**	**$5,203,893**	**$348,075**
TOTAL		**$17,325,000**	**$16,260,493**	**$1,091,475**

Souce: Airport Records; Coffman Associates Analysis

From year-to-year, it is difficult to know what level of grant funding will be available from the FAA and ADOT. This is even more difficult with the entire funding mechanism for the FAA and for airport improvements, the Airport Improvement Program, up for reauthorization by the U.S. Congress in 2007. In order to facilitate this CIP discussion, it is thus necessary to estimate what Phoenix Deer Valley Airport could reasonably expect in grant funding from the FAA and ADOT. For purposes of this discussion, a federal funding level of $1.5 million annually and a state funding level of $1.5 million annually are assumed. This makes available a total of $15 million for priority projects in the first five years. The local match would be in addition to this amount. In addition, it is understood that ADOT policies allow up to a maximum of $1.2 million for a single project in a given year and up to $2.5 million for multiple projects annually.

In the first year of the CIP for Phoenix Deer Valley Airport, several projects are considered. The first is the installation of security lighting for the aprons and taxilanes and the rehabilitation of the south ramp. The next is the repair of airfield signage as identified by the FAA RSAT team. The third is necessary improvements to the airport security fencing, and the last project in the first year is the required annual environmental storm water runoff study.

Two projects are identified for years two through five of the CIP. The first is the phasing of the south apron and taxilane reconstruction project, which is estimated at $17.7 million. Because of the expense, this project is phased over four years. In fact, this project exceeds the estimated level of funding available from the FAA and ADOT. As a result, approximately $3.7 million of the total cost associated with the apron and taxilane reconstruction project is not covered in the CIP due to financial constraints.

The other project considered in years two through five is the annual storm water run-off study. Each year, this study is estimated at $25,000.

In the short term CIP, approximately 8 million is available for RSA improvements. This expense is divided evenly between years four and five.

This five-year CIP should illustrate the financial challenge facing the Phoenix Deer Valley Airport. There are several nonstandard design elements, particularly related to the RSA, that normally would warrant immediate attention and funding. Unfortunately, there are also existing pavement surfaces that are rapidly deteriorating. Since the FAA would prefer to combine RSA mitigation projects with larger runway projects, and since the existing apron is in need of immediate repair or reconstruction, this apron project rises to the top of the CIP priority list.

HANGAR DEVELOPMENT NEEDS

Table 6B presents an estimate of the cost to build the hangars as depicted on Exhibit 5A. All hangars to be constructed on Corporate Aviation Parcels are assumed to be undertaken by the leasing entity and are not included in this summary.

TABLE 6B
Estimated Hangar Development Costs
Phoenix Deer Valley Airport

	Hangar Type and Location	Project Cost
SHORT TERM NEEDS		
1	T-Hangars NNE (234 Units)	$22,831,000
2	Airport Services Area NW - Phase 1 (5 150x150 Hangars)	$9,910,500
3	Airport Services Area NW - Phase 1 (1 200x200 Hangars)	$3,080,000
SHORT TERM TOTAL		**$35,821,500**
INTERMEDIATE TERM NEEDS		
1	Corporate Aviation Parcels SW	$1,664,000
2	Airport Services Area NW - Phase 2 (5 150x150 Hangars)	$9,770,500
3	Airport Services Area NW - Phase 2 (1 200x200 Hangars)	$3,080,000
4	Airport Services Area SW (2 150x150 Hangars)	$4,004,000
5	Box Hangars NW (118 50x50 Units)	$25,598,000
6	Box Hangars NW (72 60x60 Units)	$22,841,400
INTERMEDIATE TERM TOTAL		**$66,957,900**
LONG TERM NEEDS		
1	Airport Services Area SE (2 150x150 Hangars)	$4,301,000
2	T-/Shade Hangars NE (39T's & 300 Shade Hangars)	$29,922,100
3	Corporate Aviation Parcels SW	$2,383,000
4	T-Hangars N (104 Units)	$8,008,000
LONG TERM TOTAL		**$44,614,100**
TOTAL		**$147,393,500**

Note: Public access taxilanes associated with hangar development are grant eligible and account for approximately $10.7 million of the total.

The estimated cost to build hangars includes site preparation. Site preparation costs include an estimate of earthworks, utility extension, road construction, and parking lot construction. Taxilane construction includes estimates of earthworks, pavement, marking, and signage. Although revenue producing facilities, such as hangars, are generally not eligible for FAA grant funding, the public taxilanes are eligible but are a low priority.

The short term hangar needs would provide 234 new T-hangar spaces. Construction of conventional hangars is also included but could be shifted to the intermediate or long term planning horizons as demand dictates. The intermediate planning horizon provides for 190 individual box hangar spaces. The long term planning horizon adds 39 T-hangar positions and 300 shade hangar positions. The overall cost of the hangar construction is estimated at $147 million in 2006 dollars.

AIRPORT FINANCING

The City of Phoenix Aviation Department is responsible for the operations and maintenance of three airports in its system. The largest airport in the system is Phoenix Sky Harbor International Airport, which is one of the busiest primary commercial service airports in the country. The other two airports

are general aviation reliever airports. Phoenix Deer Valley Airport was the busiest general aviation airport in the country in 2006, and the seventeenth busiest airport overall. The other general aviation airport in the system, Phoenix Goodyear Airport, also experiences significant operations.

The Phoenix Deer Valley area has long been a center of industrial and commercial development. The excellent surface transportation system, including Loop 101 and Interstate 17, contribute to the commercial success of the area. The Phoenix Deer Valley Airport has benefited from its location and is well positioned to continue to attract revenue producing businesses.

One of the goals of the City of Phoenix Aviation Department is for each of the three airports in its system to be self-sufficient. This goal is also advanced by the FAA and outlined as one of the overall development objectives of this master plan. General aviation airports across the country typically do not meet this goal and require direct financial support from the airport sponsor.

All revenue generated on airport property is pledged exclusively to on-airport operations and improvements. It is illegal to take any revenue generated on airport property and transfer it to any other governmental department; however, it is acceptable to transfer airport-generated revenue between the airports as necessary.

OPERATING REVENUE AND EXPENSES

Operating revenue for the Phoenix Deer Valley Airport include commercial building leases, hangar and tie-down rentals, land leases, and FBO fees. Operating expenses fall in several categories including administration, building and hangar maintenance, and runway maintenance. As shown in **Table 6C** the revenues generated by the airport have exceeded the expenses over the previous four years.

The largest revenue source for the airport is the income generated from T-hangar rentals. This income source has averaged more than 64 percent of the total airport income over the past five years. The next largest income source is commercial hangar leases which have represented nearly 19 percent of operating revenues. The airport also generates significant income from aircraft tie-down leases, land leases, and FBO leases.

The largest expense category is GA Services. GA Service costs have represented nearly 36 percent of total expenses over the past four years. The next largest expense center is administration costs. These costs have averaged 25 percent of total expenses over the previous four years. Various categories of maintenance including runway upkeep, hangar repairs, and apron maintenance represent the remaining expenses.

TABLE 6C
Historical Operating Revenue and Expenses
Phoenix Deer Valley Airport

	2003	2004	2005	2006
Revenue Center	**OPERATING REVENUE**			
Commercial	$407,425	$374,856	$567,047	$595,560
FBO	$142,280	$160,244	$120,244	$100,244
Exec Term	$9,300	$9,300	$214	$31,000
T-Hangars	$1,586,345	$1,623,014	$1,673,595	$1,701,789
Open Tie-Downs	$38,649	$34,154	$32,481	$35,267
Transient Ramp	$1,265	$2,608	$2,296	$1,691
Covered Tie-Downs	$174,935	$186,341	$200,159	$224,676
Land Leases	$54,295	$50,121	$66,522	$80,028
Runway/Taxiway	$0	$0	$420	$2,544
TOTAL REVENUE	**$2,414,494**	**$2,440,638**	**$2,662,978**	**$2,772,799**
Expense Center	**OPERATING EXPENSES**			
Runway/Taxiway	$118,855	$144,511	$177,034	$155,007
Commercial	$20,505	$29,630	$21,135	$28,034
FBOs	$629	$118	$560	$41
Executive Hangars	$1,703	$15,614	$8,727	$5,604
GA Terminal	$0	$0	$30,852	$44,007
GA Ramps	$0	$0	$29,555	$49,577
Terminal Hangars	$123,329	$98,052	$95,956	$108,446
Open Tie-Downs	$10,648	$8,621	$2,810	$4,125
Fuel	$844	$0	$42	$230
Transient Ramp	$269	$911	$671	$193
Covered Tie-Downs	$1,054	$1,212	$3,299	$1,124
Administration	$310,439	$389,189	$399,455	$488,282
Roadways	$57,114	$93,466	$101,030	$75,779
Vehicle Maintenance	$593	$2,598	$3,936	$5,284
Maintenance Supplies	$105,925	$171,984	$222,784	$203,345
GA Services	$438,636	$624,964	$631,673	$557,312
TOTAL EXPENSES	**$1,190,543**	**$1,580,870**	**$1,729,519**	**$1,726,390**
OPERATING INCOME/(LOSS)	**$1,223,951**	**$859,768**	**$933,459**	**$1,046,409**

Source: Airport records

Based on budget accounting, the airport is self-sufficient from an **operating standpoint**, as annual operating revenues exceed annual operating expenses. That is, if the airport did not take on significant additional contractual debt or other large expenses, it would continue to show a positive operating balance. Of course, any positive operating balance generated by the airport can only be spent on airport improvements as defined by federal grant assurances. Typically, at Phoenix Deer Valley Airport, any positive operating balance is utilized to offset capital expenditures and ongoing maintenance of airport facilities.

Table 6D presents the total capital improvement outlay provided by the City of Phoenix Aviation Department for capital improvements for each of the

previous four years. These capital improvement outlays were for projects such as T-hangar reconstruction, terminal expansion, and other associated planning projects. In 2003, due to capital needs, timing, and funding availability, the Phoenix Deer Valley Airport had a net positive balance of $570,200 after capital expenditures. Therefore, in 2003 DVT was able to cover the cost of capital improvements from the operating revenue fund balance and did not require any funding supplements or assistance from Phoenix Sky Harbor. From 2004 through 2006, however, DVT had net negative balances of $943,800, $2,733,200, and $1,707,100, respectively; therefore, the positive revenue balance was not sufficient to cover the cost of the needed capital improvement projects. **Since 2004, DVT has a combined net negative balance of $5,384,100. Because of the imbalance between the operating revenues and cost of capital improvements for the last three years, DVT has needed to obtain an infusion of funds from Phoenix Sky Harbor.**

TABLE 6D
Capital Improvement Outlay
Phoenix Deer Valley Airport

	2003	2004	2005	2006
Capital Improvement Outlay	$653,800	$1,803,600	$3,666,700	$2,753,500
Operating Income/(Loss)	$1,224,000	$859,800	$933,500	$1,046,400
NET INCOME/(LOSS)	**$570,200**	**($943,800)**	**($2,733,200)**	**($1,707,100)**

Source: Airport records

On-going financial support for capital expenditures at Phoenix Deer Valley Airport cannot be guaranteed. Various factors, such as the capital needs at the other two airports in the system, may limit the capital funds available to DVT. As a result, strategies such as those presented in this master plan should be pursued in order to increase overall revenue generated by the airport to cover the costs associated with capital expenditures in addition to operating costs.

ECONOMIC BENEFIT OF AVIATION

Phoenix Deer Valley Airport is a vital contributor to the dynamic economy of the City of Phoenix and the surrounding communities. The airport serves as a gateway that welcomes a wide variety of aviation activity from smaller general aviation operators, to larger corporate operators. In addition to providing transportation services to people and businesses, the airport itself is a center of employment for more than 1,500 workers who spend their payroll checks within the local economy.

The airport service area includes a population base of over one million people, encompassing the northern Phoenix metropolitan area. Without question, Phoenix Deer Valley Airport has been a catalyst, both spurring and maintaining economic growth in the region.

In 2003, the Arizona Department of Transportation – Aeronautics Division,

in cooperation with Arizona State University, completed a study entitled, *The Economic Impacts of Aviation in Arizona*. This study indicated that in 2002, aviation activity in the State of Arizona generated $38.5 billion in total economic activity. More than 470,000 Arizona jobs are related directly or indirectly to aviation. These jobs created almost $15 billion in wages and benefits for Arizona residents.

General aviation activity and support services in Arizona generated $842 million in economic activity in 2002. More than 9,800 Arizonians are employed directly in the general aviation industry and receive wages and benefits of $362 million. Over 60 percent of the economic contribution of general aviation comes from aircraft sales and services. This includes the sale of private aircraft and aircraft parts, as well as aircraft rentals, fuel, maintenance, support services, and storage. The spending of persons directly employed by general aviation supports an additional 15,000 jobs in other sectors of the Arizona economy. General aviation's total contribution to the Arizona economy is $1.8 billion. **Table 6E** shows the economic impact of general aviation on the Arizona economy.

By 2025, general aviation is forecast to account for a total of 40,501 jobs and nearly $3 billion in economic impact.

TABLE 6E
Economic Impacts of General Aviation
State of Arizona (2002)

	Non-scheduled Carriers	Aircraft Sales and Service	Aerial Services	Gov't Services	Airport Admin.	Airport Construction	Total
PRIMARY ECONOMIC IMPACT							
Economic Activity ($ mil)	$64	$528	$195	$13	$18	$24	$842
Payroll ($ mil)	$27	$223	$82	$11	$9	$11	$363
Employment	635	5,920	2,456	260	297	53	9,621
TOTAL ECONOMIC IMPACT							
Economic Activity ($ mil)	$137	$1,119	$421	$29	$40	$54	$1,800
Payroll ($ mil)	$57	$472	$174	$17	$20	$23	$763
Employment	1,611	15,015	6,229	480	753	647	24,735
Category Includes:	Commuter, Unscheduled Carriers	Sales, Rentals, Parts, FBO Services, Storage	Agricultural, Photography, Aerial Mapping, Air Sightseeing, Air Ambulance	Air Traffic Control, Other FAA, Customs, Postal Service, Weather Services, Airport Security	Management, Custodial, Marketing	Maintenance, Capital Improvements	

Source: The Economic Impact of Aviation in Arizona (ADOT 2002)

Phoenix Deer Valley Airport Economic Benefits

As part of the study, an analysis was conducted of the economic benefits of the Phoenix Deer Valley Airport specifically. The presence of the airport creates both tangible and intangible benefits. The intangible effects are represented by the trickle-down effect of spending on the local economy. **Table 6F** presents the primary (direct) and total (including multiplier) effects that the airport has on the local economy.

TABLE 6F
Economic Benefits
Phoenix Deer Valley Airport

	On-Airport Direct	Visitor Spending	Total Primary Impacts	Total Impacts including Multiplier Effects
Employment	494	506	1,000	2,035
Payroll ($ mil)	$16.05	$10.05	$26.1	$54.7
Sales ($ mil)	$30.96	$24.73	$55.69	$124.79

Source: The Economic Impact of Aviation in Arizona, (ADOT-2002)

As can be seen, the airport employed 494 people in 2002. These on-airport jobs generated $16.05 million in annual payroll and sales of $30.96 million. Including multiplier effects, the airport generated approximately $54.7 million in payroll and $124.79 million in sales.

The future looks very bright for the Phoenix Deer Valley Airport. The northern Phoenix area is a high growth area in one of the fastest growing counties in the country. The airport is forecast to increase from a current operational level of 351,500 to nearly 648,400 by 2025. Based aircraft are forecast to increase from 1,252 to 2,185 (1,856 balanced) by 2025. Currently, there are 26 based jet aircraft. By 2025, that figure is forecast to increase to 104. Jet aircraft are more sophisticated than piston powered aircraft and are more expensive to maintain. The economic benefit of the Phoenix Deer Valley Airport is significant.

SUMMARY

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 striving to be financially self-sufficient in all aspects, including capital improvement outlay.

The actual need for facilities is most appropriately established by airport activity levels rather than specified dates in time. 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.