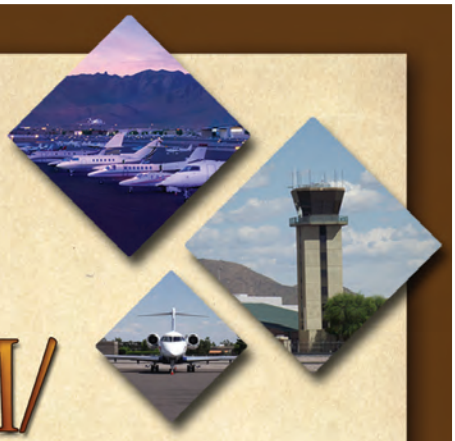
SCOTTSDALE AIRPORT
SDL



Chapter Six

FINANCIAL PROGRAM/ CAPITAL IMPROVEMENTS

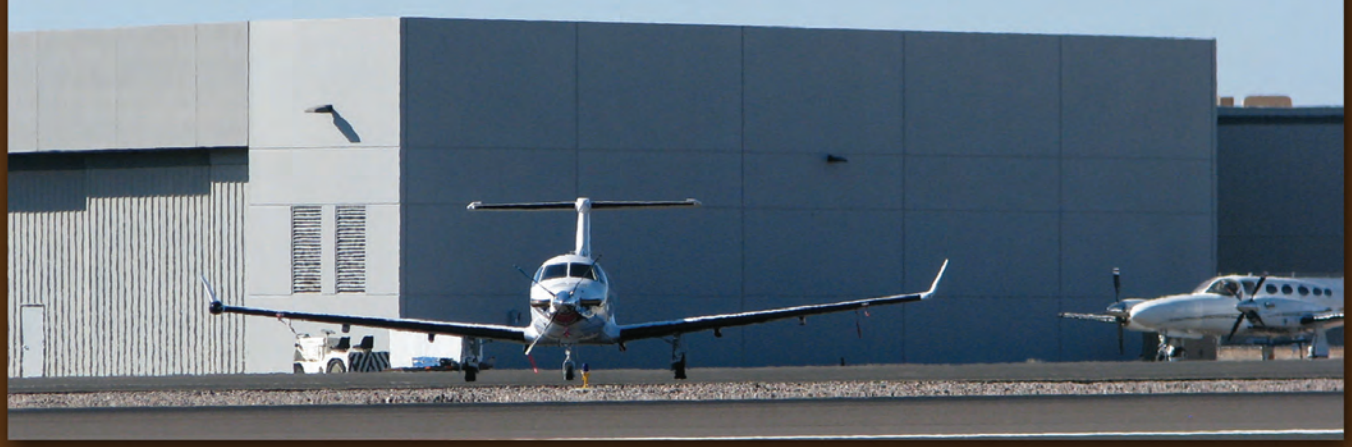
The analyses completed in the preceding chapters evaluated development needs at Scottsdale Airport over the next 20 years based on forecast activity and operational efficiency. The next step is to apply basic economic, financial, and management rationale to each development item so that the feasibility of each item in the plan can be assessed.

The presentation of the capital improvement program (CIP) has been organized into three sections. First, the airport's capital program needs are recognized by various categories ranging from enhancing safety to satisfying demand. Second, the airport development schedule and project cost estimates are presented in narrative and graphic form. Third, capital improvement funding sources on the federal, state, and local levels are identified and discussed.

The CIP is developed following Federal Aviation Administration (FAA) guidelines for Master Plans and primarily identifies those projects that are likely eligible for FAA and/or Arizona Department of Transportation - Multi-Modal Planning Division (ADOT-MPD) - Aeronautics Group grant funding. Other aviation projects that are not programmed to receive federal and/or state funding participation are also presented.

AIRPORT DEVELOPMENT NEEDS

In an effort to identify capital needs at the airport, this section provides an analysis regarding the associated development needs of projects included in the CIP. While some projects will be demand-based, others will be dictated by safety or rehabilitation needs.



Each development need is categorized according to this schedule. The applicable category (or categories) included are presented on **Exhibit 6A**. The proposed projects can be categorized as follows:

1) **Safety/Security (SS)** – these are capital needs considered necessary for operational safety and protection of aircraft and/or people and property on the ground near the airport.

2) **Environmental (EN)** – these are capital needs which are identified to enable the airport to operate in an environmentally acceptable manner.

3) **Maintenance (MN)** – these are capital needs required to maintain the existing infrastructure at the airport.

4) **Efficiency (EF)** – these are capital needs intended to optimize aircraft ground operations or passengers' use of the terminal building.

5) **Demand (DM)** – these are capital needs required to accommodate levels of aviation demand. The implementation of these projects should only occur when demand for these needs is verified.

6) **Opportunities (OP)** – these are capital needs intended to take advantage of opportunities afforded by the airport setting. Typically, this will involve improvements to property intended for lease to aviation or non-aviation related development.

AIRPORT DEVELOPMENT SCHEDULE AND COST SUMMARIES

With the recommended Master Plan Concept developed and specific needs and improvements for the airport having been established, the next step is to determine a realistic implementation timeline and associated costs for the plan. The recommended improvements are grouped by planning horizon: short term (current – 5 years), intermediate term (6 – 10 years), and long term (11 – 20 years). **Table 6A** summarizes key activity milestones for the three planning horizons.

A key aspect of this Master Plan is the use of demand-based planning milestones. Many projects should be considered based on actual demand levels. 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 these demand indicators. For example, the plan includes new hangar development, as well as the potential acquisition of property. Based aircraft necessitating the need for additional hangar development and the need to accommodate growth in overall airport activity will be the primary indicator for these projects. If based aircraft growth occurs as projected, additional hangars should be constructed to meet the demand, which could also spur the need for property acquisition to accommodate infrastructure development. If growth slows or does not occur as forecasted, some projects may be delayed. As a result, capital expenditures are planned to be made on an as-needed basis, which leads to a more responsible use of capital assets.

	PROJECT DESCRIPTION	DEVELOPMENT CATEGORY	TOTAL PROJECT COST	FAA SHARE	ADOT SHARE	LOCAL SHARE
SHORT TERM PROGRAM (CURRENT - 5 YEARS)						
2015 (Current Year)						
1	Rehabilitate Taxiway B and Entrance/Exit Taxiways (Include Shoulders, MITL, and Guidance Signs) - Phases I and II	MN	$6,686,553	$6,088,775	$298,889	$298,889
2	Construct Airport Operations Center and Associated Vehicle Parking	SS	$4,900,000	--	--	$4,900,000
3	Design Only - Terminal Area Redevelopment	OP	$1,500,000	--	--	$1,500,000
2015 Total			***$13,086,553***	***$6,088,775***	***$298,889***	***$6,698,889***
2016						
4	Runway 3 RSA and Approach Area Improvements (Drainage/Erosion Protection and Wildlife Mitigation)	SS/EN	$500,000	--	$450,000	$50,000
5	Design Only - Rehabilitate/Overlay Taxiway A and Entrance/Exit Taxiways (Include Shoulders, MITL, and Guidance Signs)	MN	$600,000	--	$540,000	$60,000
6	Reconstruct Delta Apron - Phase I	MN	$2,400,000	$2,185,440	$107,280	$107,280
7	Reconstruct Delta Apron - Phase II	MN	$2,372,222	--	$2,135,000	$237,222
8	Replace Electrical Pullboxes (Security System)	SS/MN	$70,000	--	$63,000	$7,000
9	Construct Terminal Area Redevelopment	OP	$13,500,000	--	--	$13,500,000
10*	Implement Improvements on Taxiways to Address Airfield Geometry Standards (Elevated/In-Pavement Runway Guard Lights)	SS	$1,787,765	$1,627,939	$79,913	$79,913
2016 Total			***$21,229,987***	***$3,813,379***	***$3,375,193***	***$14,041,415***
2017						
11	Rehabilitate/Overlay Taxiway A and Entrance/Exit Taxiways (Include Shoulders, MITL, and Guidance Signs) - Phase I	MN	$5,400,000	$4,917,240	$241,380	$241,380
12	Design Only - Rehabilitate Runway 3-21 (Include Shoulders, Blast Pads, and MIRL)	MN	$600,000	$546,360	$26,820	$26,820
13	Rehabilitate/Overlay Taxiway A and Entrance/Exit Taxiways (Include Shoulders, MITL, and Guidance Signs) - Phase II	MN	$2,372,222	--	$2,135,000	$237,222
2017 Total			***$8,372,222***	***$5,463,600***	***$2,403,200***	***$505,422***
2018						
14	Rehabilitate Runway 3-21 (Include Shoulders, Blast Pads, and new MIRL)	MN	$8,372,222	$5,463,600	$2,403,200	$505,422
2018 Total			***$8,372,222***	***$5,463,600***	***$2,403,200***	***$505,422***
2019						
15	Design and Rehabilitate Taxiway C	MN	$400,000	--	$360,000	$40,000
2019 Total			***$400,000***	--	***$360,000***	***$40,000***
2020						
16	Environmental Assessment for Land Acquisition (±4.0 Acres)	EN	$200,000	$182,120	$8,940	$8,940
17	Construct Linear Box Hangars on North Kilo Ramp (Approximately 10 Hangars) - Phase I	DM	$1,805,000	--	--	$1,805,000
2020 Total			***$2,005,000***	***$182,120***	***$8,940***	***$1,813,940***
SHORT TERM PROGRAM TOTAL			***$53,465,984***	***$21,011,474***	***$8,849,422***	***$23,605,088***
INTERMEDIATE TERM PROGRAM (6-10 YEARS)						
1	Acquire Land (±4.0 Acres) for Future Airport Development	DM/OP	$9,478,900	$8,631,486	$423,707	$423,707
2	Construct Exit Taxiways B2 and B15 (Include Shoulders, MITL, and Guidance Signs)	EF	$700,000	$637,420	$31,290	$31,290
3	Construct Exit Taxiway B9 (Include Shoulders, MITL, and Guidance Signs)	EF	$350,000	$318,710	$15,645	$15,645
4	Modify Wash Rack Area on North Kilo Ramp (Add Maintenance Bay)	DM	$250,000	--	--	$250,000
5	Acquire Land (8.95 Acres) for Future Airport Development	DM/OP	$9,998,400	$9,104,543	$446,928	$446,928
6	General Pavement Maintenance	MN	$1,000,000	$910,600	$44,700	$44,700
INTERMEDIATE TERM PROGRAM TOTAL			***$21,777,300***	***$19,602,759***	***$962,270***	***$1,212,270***
LONG TERM PROGRAM (11-20 YEARS)						
1	Construct Linear Box Hangars on North Kilo Ramp (Approximately 10 Hangars) - Phase II	DM	$1,805,000	--	--	$1,805,000
2	Acquire Land (Various Parcels) for Future Airport Development	DM/OP	$43,298,100	$39,427,250	$1,935,425	$1,935,425
3	General Pavement Maintenance	MN	$2,000,000	$1,821,200	$89,400	$89,400
LONG TERM PROGRAM TOTAL			***$47,103,100***	***$41,248,450***	***$2,024,825***	***$3,829,825***
CAPITAL IMPROVEMENT PROGRAM TOTAL			**$122,346,384**	**$81,862,683**	**$11,836,517**	**$28,647,184**

DEVELOPMENT CATEGORY:

SS - Safety/Security
EN - Environmental
MN - Maintenance
EF - Efficiency
DM - Demand
OP - Opportunities

KEY:

MITL - Medium Intensity Taxiway Lighting
MIRL - Medium Intensity Runway Lighting
RSA - Runway Safety Area

* This project is eligible for federal and state grant funding; however, the Modification to Design Standards request associated with the hold line positions must be approved by the FAA prior to requesting and receiving federal funding.

TABLE 6A
Forecast Summary by Planning Horizon
Scottsdale Airport

	Base Year (2012)	Short Term	Intermediate Term	Long Term
BASED AIRCRAFT				
Single Engine Piston	191	195	200	210
Multi-Engine Piston	27	27	26	25
Turboprop	31	38	45	62
Jet	105	122	138	173
Helicopter	14	18	21	30
Total Based Aircraft	**368**	**400**	**430**	**500**
AIRCRAFT OPERATIONS*				
General Aviation				
Itinerant	74,255	78,225	82,950	94,500
Local	63,246	66,675	70,350	78,750
Air Taxi				
Itinerant	15,258	15,645	16,590	18,900
Military				
Itinerant	526	520	520	520
Local	112	110	110	110
Total Itinerant Operations	90,039	94,390	100,060	113,920
Total Local Operations	63,358	66,785	70,460	78,860
Total Annual Operations	**153,397**	**161,175**	**170,520**	**192,780**

*Operations are adjusted by 5% to account for the hours (9:00 p.m. - 6:00 a.m.) when the ATCT is closed.

Source: Coffman Associates analysis

Because of economic realities, few airports are constructing hangars on their own, instead relying on private developers. This has, for the most part, been the practice at Scottsdale Airport. In some cases, private developers can keep construction costs lower, which in turn lowers the monthly fee necessary to amortize the cost of development. To the greatest extent possible, private development of all hangar types should be supported and promoted by the City of Scottsdale. The CIP for the airport assumes that the potential for future hangars would most likely be constructed through public/private partnerships. This assumption does not preclude the possibility of the airport constructing new hangars. As detailed in the CIP, the construction of linear box hangars is planned. The City of Scottsdale Aviation Department has indicated it will fund the construction of these hangars to accommodate small aircraft storage needs if aviation demand dictates and full cost recovery could be guaranteed.

The Aviation Department can also encourage hangar development by providing public access taxiways, typically funded with FAA grants. These taxiways can then be utilized by hangar tenants for aircraft access to the runway/taxiway system. The CIP presented in this Master Plan does not specifically call out the construction of access taxiways leading to future hangar development since proposed hangar areas would be granted ex-

isting taxiway access. In the event that land were to be acquired as depicted in the Master Plan Concept, the City of Scottsdale could help fund the extension of taxiways to various parcels to accommodate future aviation development.

Not all projects identified are necessary to meet projected demand. Other projects are necessary to enhance the safety and efficiency of the airport, maintain existing pavement infrastructure, address FAA design standards, or to create opportunities for additional growth and development.

Since a Master Plan is a conceptual document, implementation of the capital projects should only be undertaken after further refinement of their design and costs through architectural and engineering analyses. Moreover, some projects may require additional infrastructure improvements (i.e., drainage improvements, extension of utilities, etc.) that may increase the estimated cost of the project or increase the timeline for completion.

Once a list of necessary projects was identified and refined, project-specific cost estimates were developed. The cost estimates include design, engineering, construction administration, and contingencies that may arise on the project. Capital costs presented here should be viewed only as estimates subject to further refinement during design. Nevertheless, they are considered sufficient for planning purposes. Cost estimates for several projects included in the CIP were provided by the airport's engineer. Other project costs, particularly those in the short term program, have been taken from the airport's CIP that is currently on file with the FAA and ADOT-MPD – Aeronautics Group. Land acquisition values in the intermediate and long term programs were obtained from the Maricopa County Assessor's Office parcel viewer mapping system. Cost estimates for each of the development projects in the CIP are based on present-day construction, design, and administration costs. Adjustments will need to be applied over time as construction costs or capital equipment costs change.

Exhibit 6A presents the proposed 20-year CIP for Scottsdale Airport. An estimate of FAA and ADOT-MPD – Aeronautics Group funding eligibility has been included, although actual funding is not guaranteed. For those projects that would be eligible for federal funding, FAA's Airport Improvement Program (AIP) provides 91.06 percent of the total project cost. The federal eligibility breakdown is based upon the airport's FAA designation (reliever) in addition to the percentage of federal land within the State of Arizona. The remaining amount would be equally shared between the ADOT-MPD – Aeronautics Group and City of Scottsdale at 4.47 percent each. Other projects in the CIP are funded solely with state and local funding. Under these scenarios, the ADOT-MPD – Aeronautics Group would fund 90 percent of the total project cost with the remaining 10 percent being the responsibility of the City of Scottsdale.

As detailed in the CIP, the majority of projects listed are eligible for both federal and state funding. Obviously, demand and justification for these projects must be provided prior to a grant being issued by the FAA and/or ADOT-MPD – Aeronautics Group.

The FAA and ADOT-MPD – Aeronautics Group each utilize a priority ranking system to help objectively evaluate potential airport projects. Projects are weighted toward safety, infrastructure preserva-

tion, meeting design standards, and capacity enhancement. The FAA will participate in the highest priority projects before considering lower priority projects, even if a lower priority project is considered a more urgent need by the local sponsor. Nonetheless, the project should remain a priority for the airport and funding support should continue to be requested in subsequent years.

Some projects identified in the CIP will require environmental documentation. The level of documentation necessary for each project must be determined in consultation with the FAA and ADOT-MPD – Aeronautics Group. There are three major levels of environmental review to be considered under the *National Environmental Policy Act* (NEPA) that include categorical exclusions (CatEx), Environmental Assessments (EA), and Environmental Impact Statements (EIS). Each level requires more time to complete and more detailed information. Guidance on what level of documentation is required for a specific project is provided in FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*. The Environmental Overview presented in **Appendix C** addresses NEPA and provides an evaluation of potential environmental impacts for Scottsdale Airport.

The following sections will describe in greater detail the projects identified for the airport over the next 20 years. The short term projects are subdivided into yearly increments and refer to the federal fiscal year (October – September). The intermediate and long terms are grouped by local priority. While the CIP shows the priority ranking of the projects, the list should be evaluated and revised on a regular basis.

SHORT TERM PROGRAM

The short term program considers 17 projects for the planning period as presented on **Exhibit 6A**. **Exhibit 6B** graphically depicts the development staging by overlaying each project onto aerial photography of the airport. The short term planning period is the only planning horizon separated into single years. This is to allow the CIP to be coordinated with the five-year planning cycle of the FAA and ADOT-MPD – Aeronautics Group programs.

Projects called out during this timeframe are very specific in terms of actual design and construction. Several projects in the short term may also need to be addressed in a CatEx or an EA. As such, some projects are initially put through an environmental and/or design phase and then followed up with actual construction.

The short term CIP focuses on several airfield maintenance projects that involve the rehabilitation and reconstruction of Runway 3-21, the taxiway system, and various aircraft parking aprons. Other projects relate to increased airfield safety and the redevelopment of the terminal area. If any of these projects cannot be funded in the timeframe indicated, the City of Scottsdale Aviation Department should consider the project for the following year.

2015 (Current Year) Projects

The first year of the CIP considers projects that may be accomplished in the 2015 federal funding cycle (October 2014 through September 2015). The first project includes maintaining airfield pavements. The rehabilitation of Taxiway B and all entrance/exit taxiways on the east side of Runway 3-21 is called for. The re-

habilitation of taxiway shoulders is also programmed with this project as is updating medium intensity taxiway lighting (MITL) and guidance signs serving Taxiway B. This project is programmed in two phases. The FAA has issued a grant for Phase I and it is anticipated that a grant for Phase II will be issued in the coming months. Work is expected to be completed on rehabilitating the entirety of Taxiway B in calendar year 2015.

The construction of the airport operations center adjacent to the north side of the main aircraft parking apron is also included in fiscal year 2015. This project has been designed and approved by the City of Scottsdale. Actual construction is to begin by the spring of 2015. This project is programmed for local funding only.

The next project involves redeveloping the terminal area on the west side of the airport. As previously discussed in Chapter Five, this area is currently comprised of the airport terminal building and the Aviation Business Center and U.S. Customs and Border Protection (CBP) offices. Terminal enhancements at general aviation facilities such as Scottsdale Airport are not eligible for federal funding; therefore, local funding is being proposed for this project. Preliminary design and constructability analysis will be conducted in fiscal year 2015 to determine the viability of the project and full cost recovery measures. In order for the project to be undertaken, revenue generated as a result of the redevelopment must fully recover the debt service that would be incurred for construction.

2016 Projects

The first project in fiscal year 2016 involves improvements to the runway safety area (RSA) and approach area associated with Runway 3. Currently, this portion of the airfield includes a graded dirt area. This project involves the implementation of a rock surface that will improve drainage/erosion protection as well as provide wildlife mitigation.

The next three projects address pavement maintenance needs on various taxiways and aircraft parking aprons. The first includes the design of taxiway rehabilitation for parallel Taxiway A and entrance/exit taxiways on the west side of Runway 3-21. The reconstruction of pavement on the southern portion of the main aircraft parking apron (Delta Apron) is then programmed and split into two separate phases. Phase I includes the northern half of the Delta Apron and Phase II encompasses the southern half.

A security maintenance project is also planned in 2016 that involves replacing the electrical pullboxes in various locations on the west portions of the main aircraft parking apron. These pullboxes are tied to the airfield's security system (controlled-access gates) and are in need of replacement. Actual redevelopment of the terminal area is also programmed in 2016.

The final project in 2016 includes implementing safety enhancements on the airfield by improving situational awareness at the intersection of certain taxiways as they lead to Runway 3-21. Chapter Five detailed the FAA standard that discourages direct access being provided from an aircraft parking apron to a runway. Ideally, the FAA recommends either constructing "No Taxi Islands" or removing taxiways and replacing them in a location that does not provide direct access. It has been determined by the FAA Air Traffic Organization that both of these recommendations would have a negative impact on airfield efficiency and capacity at Scottsdale Airport. In order to address

LEGEND

- Airport Property Line
- Departure Runway Protection Zone
- Approach Runway Protection Zone

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SCALE IN FEET

NORTH

SHORT TERM PROGRAM (Current - 5 Years)

2015 (Current Year)

1. Rehabilitate Taxiway B and Entrance/Exit Taxiways (Include Shoulders, MITL, and Guidance Signs) - Phases I and II
2. Construct Airport Operations Center and Associated Vehicle Parking
3. Design Only - Terminal Area Redevelopment - *Not Pictured*

2016

4. Runway 3 RSA and Approach Area Improvements (Drainage/Erosion Protection and Wildlife Mitigation)
5. Design Only - Rehabilitate/Overlay Taxiway A and Entrance/Exit Taxiways (Include Shoulders, MITL, and Guidance Signs) - *Not Pictured*
6. Reconstruct Delta Apron - Phase I
7. Reconstruct Delta Apron - Phase II
8. Replace Electrical Pullboxes (Security System) - *Not Pictured*
9. Construct Terminal Area Redevelopment
10. Implement Improvements on Taxiways to Address Airfield Geometry Standards (Elevated/In-Pavement Runway Guard Lights)*

2017

11. Rehabilitate/Overlay Taxiway A and Entrance/Exit Taxiways (Include Shoulders, MITL, and Guidance Signs) - Phase I
12. Design Only - Rehabilitate Runway 3-21 (Include Shoulders, Blast Pads, and new MIRL) - *Not Pictured*
13. Rehabilitate/Overlay Taxiway A and Entrance/Exit Taxiways (Include Shoulders, MITL, and Guidance Signs) - Phase II

2018

14. Rehabilitate Runway 3-21 (Include Shoulders, Blast Pads, and new MIRL)

2019

15. Design and Rehabilitate Taxiway C

2020

16. Environmental Assessment for Land Acquisition (±4.0 Acres)
17. Construct Linear Box Hangars on North Kilo Ramp (Approximately 10 Hangars) - Phase I

NOTE: Areas not colored (white) - Private Development or Development Beyond Short Term Planning Period

* This project is eligible for federal and state grant funding; however, the Modification to Design Standards request associated with the hold line positions must be approved by the FAA prior to requesting and receiving federal funding.

RUNWAY 3-21 (8,249' X 100')

Kierland Blvd
Greenway Pkwy
Acoma Dr.
73rd St.
Scottsdale Rd.
Evans Rd.
74th St.
Buteo Rd.
75th St.
Greenway Rd.
80th St.
81st St.
82nd St.
Thunderbird Rd.
Redfield Rd.
76th Pl.
Gelding Dr.
82nd St.
Hayden Rd.
83rd Way
84th St.
Central Arizona Project

Aerial Source: Woolpert, 5-18-2013

SCOTTSDALE AIRPORT SDL

CIP DEVELOPMENT STAGING
SHORT TERM PROGRAM

Exhibit 6B

this issue, the CIP includes the implementation of runway guard lights. This project includes elevated runway guard lights (wig-wags) and in-pavement runway guard lighting within the runway's high energy area. Elevated guard lights are planned on all other taxiway intersections. Both guard lighting systems would be installed at the hold line positions on these taxiways. Note: This project is eligible for federal and state grant funding; however, the Modification to Design Standards request associated with the hold line positions must be approved by the FAA prior to requesting and receiving federal funding.

2017 Projects

Once the design work proposed in fiscal year 2016 is complete for Taxiway A pavement improvements, actual construction is proposed in 2017. Similar to the Taxiway B rehabilitation project, the rehabilitation of Taxiway A is programmed into two separate phases and also involves the installation of taxiway shoulders and updating MITL and guidance signs. The Phase I implementation involves the northern portion of parallel Taxiway A and its associated entrance/exit taxiways. Phase II entails the southern 2,000 feet of the taxiway and corresponding entrance/exit taxiways.

The other project programmed in 2017 is the design needed to accomplish pavement rehabilitation on Runway 3-21, which also includes runway shoulders, blast pads, and medium intensity runway lighting (MIRL).

2018 Projects

The implementation of pavement rehabilitation improvements on Runway 3-21 is planned during 2018, which focuses on the entirety of the runway system, including the blast pads, shoulders, and MIRL. It is important that this project be completed in a timely manner to minimize the impacts on aviation businesses at the airport. The most efficient way is to complete construction through a full closure of the runway for an estimated 30 days.

2019 Projects

The design and construction of pavement maintenance on Taxiway C is planned during fiscal year 2019, which also includes rehabilitating Taxiway C10.

2020 Projects

A project near the end of the short term planning horizon involves environmental documentation needed to acquire land adjacent to Greenway Road. In order to be eligible for FAA funding for property acquisition and inclusion in the Airport Layout Plan (ALP), Scottsdale Airport will need to adhere to proper protocol by completing an EA on the subject property.

The construction of linear box hangars immediately north of the wash rack on the north aircraft parking apron (Kilo Ramp) is planned as the final project in the short term. While demand will dictate the magnitude and degree to which this infrastructure is developed, it is beneficial for the airport to appropriately plan for hangar space to accommodate smaller piston-powered single and multi-engine aircraft in the event that the redevelopment of certain leaseholds occur as proposed on the Master Plan Concept. At this time, the Phase I construction of these hangars is planned, which includes approximately 10 separate storage hangars.

Prior to implementation, further evaluations will be needed to make sure their proposed location will not impact Code of Federal Regulation (CFR) Part 77*, Objects Affecting Navigable Airspace*, and *Terminal Instrument Procedures* (TERPS) surfaces and other safety and separation standards. As previously discussed, a market rate rental fee structure would be applied to these hangars in order to obtain full-cost recovery.

Short Term CIP Summary

The short term CIP includes projects that enhance the overall safety, efficiency, and maintenance of the airfield while also implementing landside improvements. The total investment necessary for the short term CIP is approximately $53.47 million. Of this total, approximately $29.86 million is programmed for federal/state funding assistance. The remaining $23.61 million is to be provided through local funding outlets.

INTERMEDIATE TERM PROGRAM

The intermediate term covers the period 6 through 10 years. Planning new projects beyond the short term timeframe can be challenging. Due to the fluid nature of funding availability and the possibility of changing priorities, these projects have been grouped together into a single project list and not prioritized by year. Further evaluation of these projects should occur during this planning horizon to determine their order of importance based on airport safety, demand, and efficiency.

This planning horizon considers six projects for the five-year timeframe as listed on **Exhibit 6A** and depicted on **Exhibit 6C**. The first project in the intermediate term involves the acquisition of approximately four acres of property adjacent to Greenway Road. As previously discussed, this land could be used to meet projected increases in aviation demand through the long term planning period of this Master Plan and accommodate potential redevelopment of the Greenway hangar complex as called out in the Master Plan Concept. Furthermore, it would allow vehicle access from Greenway Road which would enhance airfield safety and security by discontinuing vehicles having to traverse Taxiway A8 in order to gain access to this development area. For purposes of this study, property acquisition costs associated with these parcels and others outlined in the CIP are based upon the full cash value as reported in the Maricopa County Assessor's Office parcel viewer mapping system. A detailed property appraisal would need to be conducted prior to actual acquisition.

The next two projects involve taxiway improvements on the airfield and include the construction of three angled exit taxiways on the east side of Runway 3-21. As proposed, Taxiways B2, B9, and B15 would allow additional opportunities for aircraft to exit the runway system. Given the angled nature of these proposed taxiways, aircraft could exit the runway system without having to come to a complete stop, which can improve airfield capacity and efficiency. The construction of Taxiways B2 and B15 are included as one project, while the construction of Taxiway B9 is planned as a separate project. Although a conservative approach has been presented, it is conceivable that all three taxiways could be constructed under one grant and one project.

Improvements on the north aircraft parking apron (Kilo Ramp) are also included

LEGEND

- Airport Property Line
- Departure Runway Protection Zone
- Approach Runway Protection Zone

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SCALE IN FEET

NORTH

INTERMEDIATE TERM PROGRAM (6 - 10 Years)

1. Acquire Land (±4.0 Acres) for Future Airport Development
2. Construct Exit Taxiways B2 and B15 (Include Shoulders, MITL, and Guidance Signs)
3. Construct Exit Taxiway B9 (Include Shoulders, MITL, and Guidance Signs)
4. Modify Wash Rack Area on North Kilo Ramp (Add Maintenance Bay)
5. Acquire Land (8.95 Acres) for Future Airport Development
6. General Pavement Maintenance - *Not Pictured*

LONG TERM PROGRAM (11 - 20 Years)

1. Construct Linear Box Hangars on North Kilo Ramp (Approximately 10 Hangars) - Phase II
2. Acquire Land (Various Parcels) for Future Airport Development
3. General Pavement Maintenance - *Not Pictured*

NOTE: Areas not colored (white) - Private Development or Development Beyond Long Term Planning Period

Kierland Blvd.
Acoma Dr.
73rd St.
Scottsdale Rd.
Evans Rd.
74th St.
Butherus Rd.
75th St.
Greenway Rd.
80th St.
Frank Lloyd Wright Blvd.
81st St.
82nd St.
Wash Rack/ Maintenance Bay
A8
A
A1 A2
A3
A4
A5
A6
A7
A9 A10
A11
A12
A13
A14
A15 A16
A17
A18
RUNWAY 3-21 (8,249' X 100')
B1 B2
B3
B5
B6
B7
B9 B10
B11
B12
B13
B15 B16
B
C10
C
Thunderbird Rd.
73rd St.
Redfield Rd.
76th Pl.
Redfield Rd.
Gelding Dr.
Evans Dr.
Acoma Dr.
82nd St.
Hayden Rd.
83rd Way
84th St.
83rd Pl.
Central Arizona Project

Aerial Source: Woolpert, 5-18-2013

SCOTTSDALE AIRPORT SDL

CIP DEVELOPMENT STAGING
INTERMEDIATE AND LONG TERM PROGRAMS

Exhibit 6C

in the intermediate term planning horizon and entail modifying the area that currently encompasses the wash rack by removing the adjacent pilot lounge (except for the restrooms) and adding a maintenance bay. As a result, two separate enclosed bays would be able to accommodate small aircraft for washing/cleaning and minor maintenance activities.

The acquisition of 8.95 acres of land adjacent to the east side of the airport is programmed at the end of the intermediate term. This land is currently vacant and could satisfy future aviation demand without having to invest in significant redevelopment costs. Given its midfield location, it would be capable of supporting an array of aircraft activities.

Miscellaneous general pavement maintenance projects are also included in the intermediate term. A substantial amount of funding is programmed for this line item to account for the runway, taxiways, and aircraft parking aprons at Scottsdale Airport. Although listed as one project at the end of the intermediate term, it is conceivable that multiple pavement preservation projects could occur during this timeframe, utilizing portions of the funding set aside in this particular CIP item.

The total costs associated with the intermediate term program are estimated at $21.78 million. Of this total, approximately $20.56 million could be eligible for federal/state funding, and the local share is projected at $1.21 million.

LONG TERM PROGRAM

Long term projects are those generally considered for years 11 through 20. This planning horizon considers three projects that are presented on **Exhibit 6A** and depicted on **Exhibit 6C**.

The first project involves the Phase II implementation of linear box hangar development on the north aircraft parking apron. The Master Plan Concept proposes approximately 20 separate storage hangars in this area upon completion of Phases I and II.

The next project accounts for the acquisition of various parcels of land adjacent to the airport to satisfy future aviation demand. Although outlined as just one project, the acquisition of these 13 parcels could occur at separate times in order to strategically provide opportunities for growth and development at Scottsdale Airport. Prior to acquisition, detailed environmental documentation would be needed similar to what is being proposed on the land acquisition project at the end of the short term program. Of the parcels proposed for long term acquisition, only a 1.98-acre parcel adjacent to the east side of the airport is currently vacant. All but three parcels are adjacent to the taxiway system, making them conducive to support aviation-related activities. The three parcels on the west side of the airport in the vicinity of the airport terminal area could provide additional terminal parking and landside support facilities.

As with the intermediate term program, general pavement maintenance is included in the long term. This is to account for ongoing and preventative maintenance repairs during the 10-year period.

The long term program costs are estimated at $47.10 million with approximately $43.27 million eligible for FAA/ADOT-MPD – Aeronautics Group funding assistance. The remaining $3.83 million would

be the responsibility of the airport sponsor.

CAPITAL IMPROVEMENT SUMMARY

The CIP is intended as a road map of airport improvements to help guide the City of Scottsdale, the FAA, and ADOT-MPD – Aeronautics Group. The plan as presented will help accommodate increases in forecast demand at Scottsdale Airport over the next 20 years and beyond, especially if land acquisition is pursued as programmed in the CIP. The first five years of the CIP are separated into yearly installments, and the intermediate and long term projects are grouped together respectively. The sequence of projects may change due to availability of funds or changing priorities. Nonetheless, this is a comprehensive list of capital projects the airport should consider in the next 20 years.

The total 20-year CIP proposes approximately $122.35 million in airport development needs. Of this total, approximately $93.70 million could be eligible for federal/state funding assistance. The local funding estimate for the proposed 20-year CIP is $28.65 million.

CAPITAL IMPROVEMENT FUNDING SOURCES

There are generally four sources of funds used to finance airport development which include:

- Airport cash flow
- Revenue and general obligation bonds
- Federal/state/local grants
- Passenger facility charges (PFCs), which are reserved for commercial service airports

Access to these sources of financing varies widely among airports, with some large airports maintaining substantial cash reserves and the smaller commercial service and general aviation airports often requiring subsidies from local governments to fund operating expenses and finance modest improvements.

Financing capital improvements at the airport will not rely solely on the financial resources of the airport enterprise fund, which functions self-sufficiently without any city general fund subsidy. Capital improvement funding is available through various grant-in-aid programs on both the federal and state levels. Historically, Scottsdale Airport has received federal and state grants. While some years more funds could be available, the CIP was developed with project phasing in order to remain realistic and within the range of anticipated grant assistance. The following discussion outlines key sources of funding potentially available for capital improvements at the 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 use 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 on February 17, 2012 and is titled the *FAA Modernization and Reform Act of 2012*.

The law authorizes the FAA's AIP at $3.35 billion for fiscal years 2012 through 2015. Eligible airports, which include those in the *National Plan of Integrated Airports*

Systems (NPIAS), such as Scottsdale Airport, can apply for airport improvement grants. **Table 6B** presents the approximate distribution of the AIP funds. Scottsdale Airport is eligible to apply for grants which may be funded through state apportionments, the small airport fund, discretionary, and/or set-asides categories.

TABLE 6B
Federal AIP Funding Distribution

Funding Category	Percent of Total*	Funds**
Apportionment/Entitlement		
Passenger Entitlements	26.6%	$891,100,000
Cargo Entitlements	3.5%	$117,250,000
Alaska Supplemental	0.7%	$23,450,000
State Apportionment for Non-Primary Entitlements	12.5%	$418,750,000
State Apportionment Based on Area and Population	7.4%	$247,900,000
Carryover	22.1%	$740,350,000
Small Airport Fund		
Small Hubs	2.2%	$73,700,000
Non-Hubs	8.7%	$291,450,000
Non-Primary (GA and Reliever)	4.3%	$144,050,000
Discretionary		
Capacity/Safety/Security/Noise	5.4%	$180,900,000
Pure Discretionary	1.8%	$60,300,000
Set-Asides		
Noise	4.2%	$140,700,000
Military Airports Program	0.5%	$16,750,000
Reliever	0.1%	$3,350,000
Totals	100.0%	$3,350,000,000

*Percentages based on FAA fiscal year 2013 final funding breakdown.
***FAA Modernization and Reform Act of 2012*
AIP - Airport Improvement Program

Source: FAA Order 5100.38D, *Airport Improvement Program Handbook*

Funding for AIP-eligible projects is undertaken through a cost-sharing arrangement in which the FAA provides up to 90 percent of the cost. In exchange for this level of funding, the airport sponsor is required to meet various grant assurances, including maintaining the improvement for its useful life, usually 20 years. As discussed earlier in this chapter, the FAA provides up to 91.06 percent of the cost of eligible projects for Scottsdale Airport. An additional 4.47 percent of AIP-eligible project costs can be funded through the ADOT-MPD – Aeronautics Group.

The source for AIP funds is the Aviation Trust Fund. The Aviation Trust Fund was established in 1970 to provide funding for aviation capital investment programs (aviation development, facilities and equipment, and research and development). The 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.

Apportionment (Entitlement) Funds

Federal AIP 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 minimum enplanement levels of at least 10,000 passengers annually. If the threshold is met, the airport receives $1 million annually in entitlement funds. Other entitlement funds are distributed to cargo service airports, states and insular areas (state apportionment), and Alaska airports.

General aviation airports included in the NPIAS can receive up to $150,000 each year in non-primary entitlement (NPE) funds. These funds can be carried over and combined for up to four years, thereby allowing for completion of a more expensive project. In the past, Scottsdale Airport has received NPE funding.

The FAA also provides a state apportionment based on a federal formula that takes into account area and population. The FAA then distributes these funds for projects at various airports throughout the state.

Small Airport Fund

If a large or medium hub commercial service airport chooses to institute a PFC, which is a fee of up to $4.50 on each airline ticket for funding of capital improvement projects, then their apportionment is reduced. A portion of the reduced apportionment goes to the small airport fund. The small airport fund is reserved for small-hub primary commercial service airports, non-hub commercial service airports, and general aviation airports. Scottsdale Airport is eligible for small airport funds.

Discretionary Funds

The remaining AIP funds are distributed by the FAA based on 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 from airports across the country are given preference in funding. High priority projects include those related to meeting design standards, capacity improvements, and other safety enhancements.

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. Some revenue-enhancing structures, such as T-hangars and fuel farms, may be eligible if all airfield improvements have been made; however, the priority ranking of these facilities is very low. At Scottsdale Airport, funding for these types of projects is unlikely due to higher-priority projects being recognized.

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.

Set-Aside Funds

Portions of AIP funds are set-asides designed to achieve specific funding minimums for noise compatibility planning

and implementation, select former military airfields (Military Airport Program), and select reliever airports. Scottsdale Airport qualifies for set-aside funding since it is a reliever airport.

FAA Facilities and Equipment Program

The Airway Facilities Division of the FAA administers the Facilities and Equipment (F&E) Program. This program provides funding for the installation and maintenance of various navigational aids and equipment of the national airspace system. Under the F&E program, funding is provided for FAA airport traffic control towers (ATCTs), enroute navigational aids, on-airport navigational aids, and approach lighting systems.

While F&E still installs and maintains some navigational aids, on-airport facilities at general aviation airports have not been a priority. Therefore, airports often request funding assistance for navigational aids through AIP and then maintain the equipment on their own.

Guidance on the eligibility of a project for federal AIP grant funding can be found in FAA Order 5100.38D, *Airport Improvement Program Handbook*, which can be accessed at:
http://www.faa.gov/airports/aip/aip_handbook/media/AIP-Handbook-Order-5100-38D

STATE AID TO AIRPORTS

The ADOT-MPD – Aeronautics Group recognizes the valuable contribution to the state's transportation economy that airports make. Therefore, it administers several programs to aid in maintaining airports in the state. The source for state airport improvement funds is the Arizona Aviation Fund. Taxes levied by the state on aviation fuel, flight property, aircraft registration tax, and registration fees (as well as interest on these funds) are deposited in the Arizona Aviation Fund. The State Transportation Board establishes the policies for distribution of these state funds.

Under the State of Arizona's grant program, an airport can receive funding for one-half (currently 4.47 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. Scottsdale Airport is eligible for these funding allocations.

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 Management System (APMS) has been established to assist in the preservation of Arizona airports' system infrastructure.

Public Law 103-305 requires that airports requesting federal AIP funding for pavement rehabilitation or reconstruction have an effective pavement maintenance program system. To this end, ADOT-MPD – Aeronautics Group maintains the APMS.

The Arizona APMS uses the Army Corps of Engineers' "Micropaver" program as a basis for generating a Five-Year Arizona

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. ADOT-MPD – Aeronautics Group ensures that the APMS database is kept current, in compliance with FAA requirements.

Every year, ADOT-MPD – Aeronautics Group, utilizing the APMS, will identify airport pavement maintenance projects eligible for funding for the upcoming five years. These projects will appear in the state's Five-Year Airport Development Program. Once a project has been identified and approved for funding by the State Transportation Board, the airport sponsor may elect to accept a state grant for the project and not participate in the APPP, or the airport sponsor may sign an Inter-Government Agreement (IGA) with ADOT-MPD – Aeronautics Group to participate in the APPP. Scottsdale Airport is eligible to participate in this program.

State Airport Loan Program

The ADOT Airport Loan Program was established to enhance the utilization of state funds and provide a flexible funding mechanism to assist airports in funding revenue-generating projects, such as hangars and fuel storage facilities. Projects which are not currently eligible for the State Airport Loan Program are considered if the project would enhance the airport's ability to be financially self-sufficient.

LOCAL FUNDING

The balance of project costs, after consideration has been given to other funding sources described above, must be funded through local resources. Scottsdale Airport is owned and operated by the City of Scottsdale. A goal for the airport is to generate enough revenue to cover all operating and capital expenditures. Scottsdale Airport has historically been completely self-sufficient.

Airport revenues are generated by airport operations through the collection of various rates and charges. Revenues collected by the airport are to be used specifically to help fund the operation and maintenance of the airport and for additions or improvements to airport facilities.

All general aviation airports should establish standard basis rates for various leases. All lease rates should be set to adjust to a standard index such as the consumer price index (CPI) to assure that fair and equitable rates continue to be charged into the future. Many factors will impact what the standard lease rate should be for a particular facility or ground parcel. For example, ground leases for aviation-related facilities should have a different lease rate than for non-aviation leases. When airports own hangars, a separate facility lease rate should be charged. The lease rate for any individual parcel or hangar can vary due to availability of utilities, condition, location, and other factors. Nonetheless, standard lease rates should fall within an acceptable range.

There are several alternatives for local financing options for future development at the airport, including 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.

It is also acceptable for the airport to enter into some form of public/private partnership for various airport projects. Typically, this would be limited to hangar construction, but there are some examples where a private developer constructs, for example, a taxilane, then deeds it to the airport for ongoing maintenance. When entering any such arrangement, the airport must be sure that the private developer does not gain an economic advantage over other airport tenants.

MASTER PLAN IMPLEMENTATION

To implement the Master Plan recommendations, it is key to recognize that planning is a continuous process and does not end with approval of this document. The airport should implement measures that allow them to track various demand indicators, such as based aircraft, hangar demand, and operations. The issues that this Master Plan is based on will remain valid for a number of years. The primary goal is for the airport to best serve the air transportation needs of the region, while continuing to be economically self-sufficient.

The actual need for facilities is best established by airport activity levels rather than a specified date. For example, projections have been made as to when additional hangars may be needed at the airport. In reality, 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 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 timing of facility improvements.

The value of a Master Plan is keeping the issues and objectives at the forefront of managers and decision-makers. In addition to adjustments in aviation demand, when to undertake the improvements recommended in this Master Plan will impact how long the plan remains valid. The format of this plan reduces the need for formal and costly updates by simply adjusting the timing of project implementation. Updating can be done by the manager, thereby improving the plan's effectiveness.

In summary, the planning process requires the City of Scottsdale Aviation Department to consistently monitor the progress of Scottsdale Airport in terms of aircraft operations and based aircraft. Analysis of aircraft demand is critical to the timing and need for new airport facilities.