



Chapter Six

FINANCIAL PROGRAM





CHAPTER SIX - FINANCIAL PROGRAM

The previous analyses outlined airside and landside development needs to meet projected aviation demand for the next 20 years based on forecast activity, facility requirements, safety standards, and operational efficiency. In this chapter, basic economic, financial, and management rationale is applied to the development items so that the feasibility of each item contained in the plan can be assessed.

The capital improvements and financial program have been organized into four sections. First, the airport's capital program needs are categorically recognized. Second, the capital improvement program (CIP) projects and their allocated cost estimates are itemized into planning horizons that extend through the planning period of the Master Plan. Next, funding sources on the federal, state, and local levels are identified and discussed. Last, financing of the development program will be discussed to include projections for future airport cash flows and recommendations for airport rates and charges. The vision of the Master Plan is based on the airport achieving specific demand-based triggers such as growth in based aircraft, operational increases, and an increase in aviation business development.

DEMAND-BASED PLAN

The Dallas Executive Airport Master Plan has been developed according to a demand-based schedule. Demand-based planning establishes guidelines for capital investments at the airport based upon actual airport activity levels instead of subjective factors such as dates in time. By doing so, the levels of activity derived from the demand forecasts can be related to the actual capital investments needed to safely and efficiently accommodate the level of demand being experienced at the airport. More specifically, the intention of the Master Plan is that facility improvements needed to serve new levels of demand should only be undertaken when the levels of demand experienced at the airport justify their implementation. Obviously, some projects related to maintenance efforts will follow more closely to a timeline schedule due to general wear and tear requiring routine upkeep. Airport maintenance projects have been factored into the CIP and should be closely monitored by airport management.

As discussed, many development items included in the Master Plan Concept will need to follow demand indicators. For example, the plan includes

the construction of new taxiways leading to potential hangar development. An increasing number of based aircraft will be the indicator for these needs. If based aircraft growth occurs as projected, additional hangars will need to be constructed to meet the demand; thus, taxiway development would be necessary to access hangar construction. If growth slows or does not occur as projected, hangar projects can be delayed. As a result, capital expenditures should be planned but only undertaken as needed, which leads to a responsible use of capital assets.

A demand-based Master Plan does not specifically require the implementation of any of the demand-based improvements. Instead, it is envisioned that implementation of any Master Plan improvements would be examined against the demand levels prior to implementation. In many ways, this Master Plan is similar to a community's general plan. The Master Plan establishes a plan for the use of airport facilities consistent with the potential aviation needs and capital needs required to support that specific use. However, individual projects in the plan are not implemented until the need is demonstrated and the project is approved for funding.

Table 6A summarizes the key demand milestones for the short, intermediate, and long term planning horizons utilized for the Master Plan. It should be noted that an aggressive growth forecast was also established during this study that serves as an internal guiding mechanism for local decision-makers and airport administration in the event that aviation demand outpaces the Master Plan projections. In the event that the aggressive growth forecast model is realized during the 20-year period of this study, more attention will need to be given to development opportunities on the west side of the airport.

Table 6A: PLANNING HORIZON ACTIVITY SUMMARY

	Base Year	Short Term (2016)	Intermediate Term (2021)	Long Term (2031)
BASED AIRCRAFT				
Single Engine	143	151	159	175
Multi-Engine	12	13	13	14
Turboprop	9	11	13	17
Jet	15	18	21	29
Helicopter	6	7	9	10
Total Based Aircraft	185	200	215	245
ANNUAL OPERATIONS				
Itinerant Operations				
General Aviation	23,175	27,000	32,000	40,000
Air Taxi	147	500	1,000	2,000
Military	237	200	200	200
Total Itinerant Operations	23,559	27,700	33,200	42,200
Local Operations				
General Aviation	30,480	37,000	44,000	55,000
Military	210	300	300	300
Total Local Operations	30,690	37,300	44,300	55,300
ATCT After-Hours 3% Adjustment	1,627	1,950	2,325	2,925
Total Operations*	55,876	67,000	79,800	100,400

*Forecast Operations rounded to nearest 100

Source: Airport Records and Coffman Associates analysis

AIRPORT DEVELOPMENT NEEDS

In an effort to identify capital needs at the airport, this section provides analysis regarding the associated development needs of those projects included in the CIP. While some projects will be demand-based, others will be dictated by design standards, 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 or meet needs identified in the Environmental Evaluation outlined in Appendix B.

- 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.

CAPITAL IMPROVEMENT SCHEDULE AND COST SUMMARIES

Now that the specific needs for the airport have been established, the next step is to determine a realistic capital improvement schedule and associated costs for implementing the plan. This section will identify these projects and the overall costs of each item in the development plan. The program outlined in the following pages has been evaluated from a variety of perspectives and represents the culmination of a comparative analysis of basic budget factors, demand, and priority assignments.

The recommended improvements are grouped by the planning horizons: focused term (1-10 years), and ultimate term (11-20 years). It is important to note that the CIP provided here presents current and projected needs at this point in time. The very nature of the aviation industry is always changing, and as such, so too could the needs of the airport. As a result, airport staff should re-examine the priorities each year for funding, adding or removing projects to the capital programming lists based on needs/demands at that point in time.

Once the 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, these estimates are considered sufficient for planning purposes. Cost estimates for several of the projects were provided by Garver Engineers, the current consulting engineering firm familiar with airport construction costs in the area. The detail on these estimates is provided in Appendix C. Cost estimates for each of the development projects in the CIP are in current (2012) dollars. **Exhibit 6A** presents the proposed CIP for Dallas Executive Airport. **Exhibit 6B** presents the CIP overlaid onto the airport aerial photograph and broken out into planning horizons.

A primary assumption in the CIP is that all future hangar construction will be completed by the private sector. The capital plan does provide for Dallas Executive Airport to construct apron and taxiway improvements leading to proposed hangar development as these

items are Federal Aviation Administration (FAA) and Texas Department of Transportation – Aviation Division (TxDOT) grant eligible. This reduces the overall development costs for the private hangar construction.

The FAA and TxDOT utilize a national priority ranking system to help objectively evaluate potential airport projects. Projects are weighted toward safety, infrastructure preservation, standards, and capacity enhancement. These entities 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. More information related to the priority of projects will be outlined later in this chapter.

It should be noted that 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 TxDOT. There are three major levels of environmental review to be considered under the *Na-*

tional Environmental Policy Act (NEPA) that include categorical exclusions (CATEX), environmental assessments (EA), or 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 Evaluation presented in Appendix B addresses NEPA and provides an evaluation of potential environmental impacts for Dallas Executive Airport.

FOCUSED TERM PROGRAM

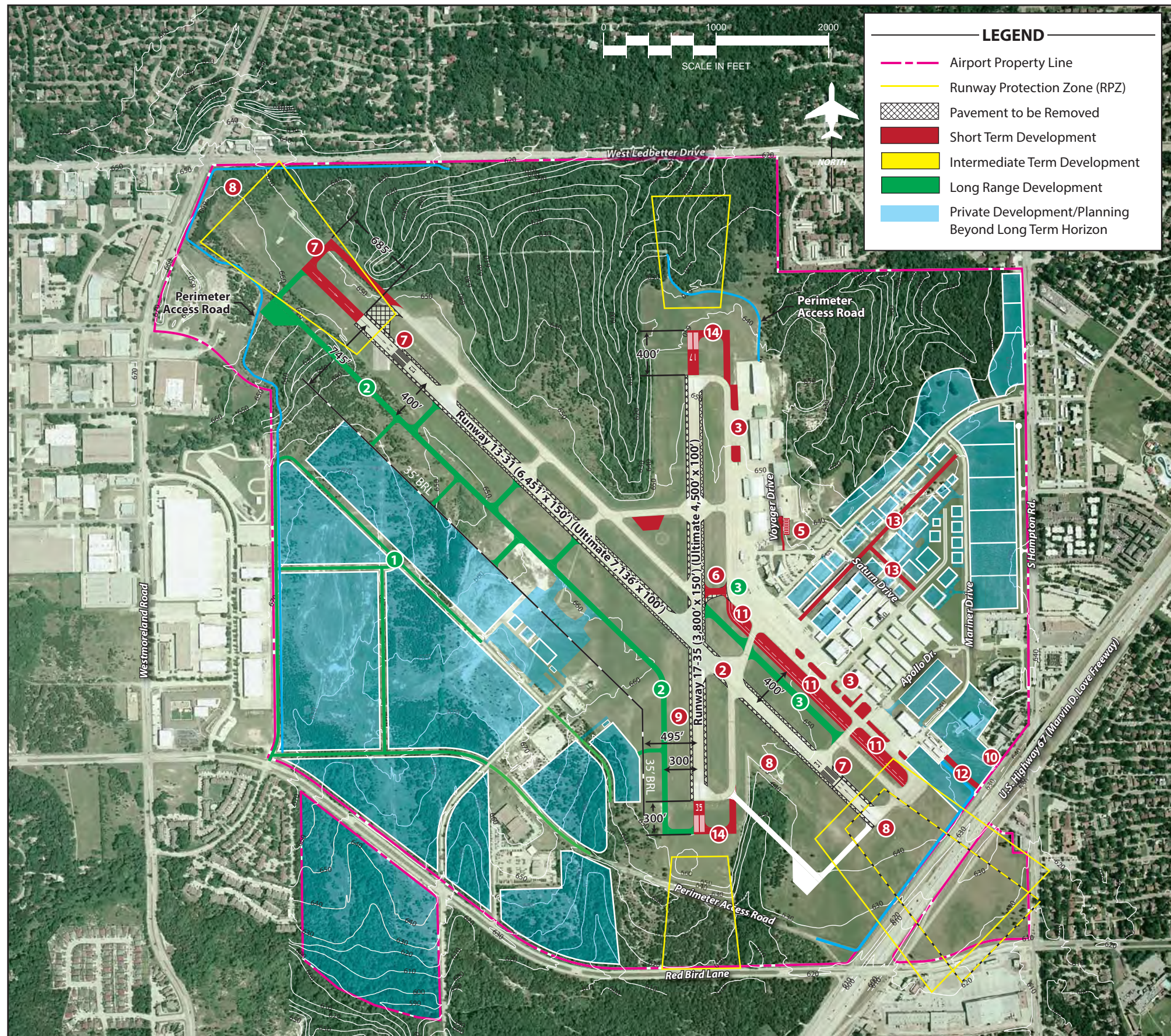
The focused term planning horizon considers 15 projects for the ten-year planning period, as presented on **Exhibit 6A** and illustrated on **Exhibit 6B**. A majority of these projects deal with increasing operational safety and efficiency for aircraft utilizing the airport. Projects are also aimed at improving and enhancing existing airport infrastructure. Due to the fluid nature of aviation growth and the uncertainty of infrastructure and development needs, airport management should regularly assess the need for these projects based on actual demand and growth at Dallas Executive Airport.



DALLAS EXECUTIVE AIRPORT

Airport Master Plan - Final

PROJECT DESCRIPTION		DEVELOPMENT CATEGORY	TOTAL PROJECT COST	FAA/TXDOT ELIGIBLE	LOCAL SHARE
FOCUSED TERM PLANNING PROGRAM (1-10 YEARS)					
1	Airfield Pavement Rehabilitation	MN	\$7,318,000	\$6,586,200	\$731,800
2	Increase Pavement Strength on Runway 13-31 to 60,000 Pounds SWL and 95,000 Pounds DWL	MN/DM	7,747,000	6,972,300	774,700
3	In-Fill Apron Areas on East Side of Airport	EF	1,650,000	1,485,000	165,000
4	LED Lighting Upgrades for Runways and Taxiways	EN/EF	1,420,000	1,278,000	142,000
5	Construct Consolidated Fuel Farm Adjacent to Voyager Drive	EF/DM	1,600,000	600,000	1,000,000
6	Reconfigure Taxiway A-4	SS	340,000	306,000	34,000
7	Extend Runway 13-31 and Associated Parallel Taxiway B 685' Northwest / Displace Runway 13 Threshold 1,085' and Runway 31 Threshold 500'	SS/DM	5,140,000	4,626,000	514,000
8	Relocate ILS Localizer, Glideslope Antenna, Lead-in Lights, and Runway Edge Lights	SS	2,800,000	2,520,000	280,000
9	Install PAPI-4 on Runway 35	SS	86,000	77,400	8,600
10	Improve Drainage on East Side of Airport	EN	616,000	554,400	61,600
11	Expand Parking Apron Space / Relocate Portions of Parallel Taxiway A to 400' North of Runway 13-31	EF/DM	2,794,000	2,514,600	279,400
12	Construct New Vehicle Entrance/Exit Road Extending to U.S. Highway 67 Outer Service Road	EF	139,000	69,500	69,500
13	Construct Taxiway North of Existing Parking Apron to Support Aviation Development Parcels	DM	1,398,000	1,258,200	139,800
14	Extend Runway 17-35 and Associated Parallel Taxiways A and D (400' on North End/ 300' on South End)	DM	4,914,000	4,422,600	491,400
15	Miscellaneous Annual RAMP Projects	MN	1,000,000	500,000	500,000
TOTAL FOCUSED TERM PLANNING PROGRAM			\$38,962,000	\$33,770,200	\$5,191,800
ULTIMATE TERM PLANNING PROGRAM (11-20 YEARS)					
1	Improve Roadway Access and Utility Infrastructure to Support Aviation and Non-Aviation Development on West Side of Airport	DM/OP	\$2,087,000	\$312,000	\$1,775,000
2	Construct West Side Taxiways to Support Aviation Development Parcels	DM	6,773,000	6,095,700	677,300
3	Extend Parallel Taxiway B Southeast/Remove Taxiway A-4	EF	2,000,000	1,800,000	200,000
4	Miscellaneous Annual RAMP Projects	MN	1,000,000	500,000	500,000
TOTAL ULTIMATE TERM PLANNING PROGRAM			\$11,860,000	\$8,707,700	\$3,152,300
TOTAL PROGRAM COSTS			\$50,822,000	\$42,477,900	\$8,344,100
KEY	SS - Safety/Security	EF - Efficiency	MN - Maintenance	Exhibit 6A: CAPITAL IMPROVEMENT PROGRAM	
	EN - Environmental	DM - Demand	OP - Opportunity		



FOCUSED TERM PROJECTS (1-10 YEARS)

- 1 Airfield Pavement Rehabilitation (not pictured)
- 2 Increase Pavement Strength on Runway 13-31 to 60,000 Pounds SWL and 95,000 Pounds DWL
- 3 In-Fill Apron Areas on East Side of Airport
- 4 LED Lighting Upgrades for Runways and Taxiways (not pictured)
- 5 Construct Consolidated Fuel Farm Adjacent to Voyager Drive
- 6 Reconfigure Taxiway A-4
- 7 Extend Runway 13-31 and Associated Parallel Taxiway B 685' Northwest / Displace Runway 13 Threshold 1,085' and Runway 31 Threshold 500'
- 8 Relocate ILS Localizer, Glideslope Antenna, Lead-in Lights, and Runway Edge Lights
- 9 Install PAPI-4 on Runway 35
- 10 Improve Drainage on East Side of Airport
- 11 Expand Parking Apron Space / Relocate Portions of Parallel Taxiway A to 400' North of Runway 13-31
- 12 Construct New Vehicle Entrance/Exit Road Extending to U.S. Highway 67 Outer Service Road
- 13 Construct Taxiway North of Existing Parking Apron to Support Aviation Development Parcels
- 14 Extend Runway 17-35 and Associated Parallel Taxiways A and D (400' on North End/ 300' on South End)
- 15 Miscellaneous Annual RAMP Projects (not pictured)

ULTIMATE TERM PROJECTS (11-20 YEARS)

- 1 Improve Roadway Access and Utility Infrastructure to Support Aviation and Non-Aviation Development on West Side of Airport
- 2 Construct West Side Taxiways to Support Aviation Development Parcels
- 3 Extend Parallel Taxiway B Southeast/Remove Taxiway A-4
- 4 Miscellaneous Annual RAMP Projects (not pictured)

DATE OF AERIAL: May - 2011

The first project listed in the plan calls for the rehabilitation of airfield pavement. An airfield pavement testing study has been conducted that evaluated all airside pavements including both runways and all active airside taxiways. Upon completion of the pavement testing, an engineering report has detailed recommendations for pavement rehabilitation on the airfield.

The next project in the focused term includes strengthening Runway 13-31 in order to better accommodate aircraft that currently utilize the airport. Currently, the runway has a single wheel loading (SWL) of 35,000 pounds and a dual wheel loading (DWL) of 60,000 pounds. Increasing the pavement strength to 60,000 pounds SWL and 95,000 pounds DWL will withstand the runway's projected critical aircraft on a regular basis. During this time, the usable width of Runway 13-31 is programmed to be reduced to 100 feet. In doing so, the runway lighting will be relocated and 25 feet of shoulder pavement will be offered on both sides of the runway.

In an effort to increase aircraft parking apron utilization and enhance the efficiency of taxiing operations, the next project includes in-filling several existing grass islands with concrete. These areas are currently located adjacent to high activity fixed base operators (FBOs) and other specialty aviation operators. In-filling these island areas will provide larger aircraft parking areas and improve circulation in some areas.

Electrical improvements on the airfield are proposed in the form of light-emitting diode (LED) lighting upgrades on Runways 13-31 and 17-35 as well as all active taxiways. This project will include replacing all lighted signs on the airfield. As a result, energy efficiency will be increased and "green" technology



introduced to the airport. LED fixtures present many advantages over traditional light sources including lower energy consumption and longer lifespan. Airports that have implemented LED lighting have noticed up to a 60 percent reduction in energy consumption.

The construction of a consolidated fuel farm is proposed with direct access from Voyager Drive. As planned, the farm can handle up to six individual fuel tanks with a total storage capacity of 72,000 gallons. The design enhances safety and security on the airfield as it would allow refueling tankers to offload fuel in one location away from active aircraft operational areas. In addition, the refueling trucks associated with the FBOs would not have to traverse aircraft operational areas to upload fuel, which is desirable and preferred.

The next four projects deal with specific improvements to the runway and taxiway system. A safety-related project includes reconfiguring Taxiway A-4 perpendicular to Runway 17-35. This taxiway currently serves two purposes: it provides an exit for aircraft landing on Runway 17-35 and it allows aircraft access to Taxiway B which leads to the Runway 13 threshold located farther northwest. According to airport traffic control tower (ATCT) personnel, Taxiway A-4's angled entrance onto

Runway 17-35 as it leads to Taxiway B, creates confusion for pilots. At times, pilots have continued taxiing south onto the crosswind runway to the intersection of Runways 13-31 and 17-35. This can result in an increased risk for runway incursions. As such, aligning the taxiway 90 degrees to Runway 17-35 will provide a straight path across the runway leading to Taxiway B.

In order to maximize the length on Runway 13-31 for business jet operations, a 685-foot northwesterly extension is programmed. In conjunction with the runway extension, a series of improvements is also planned that will bring Runway 13-31 in conformance with safety design standards for Airport Reference Code (ARC) D-II design with visibility minimums down to $\frac{3}{4}$ -mile. These improvements include displacing the Runway 13 and 31 thresholds 1,085 feet and 500 feet, respectively, and implementing declared distances. In doing so, the runway safety area (RSA) and approach and departure runway protection zones (RPZs) will remain clear of penetrations and incompatible land uses.

As a result of extending Runway 13-31 and displacing the runway thresholds, the localizer, glideslope antenna, and lead-in lighting (LDIN) system associated with the instrument landing



system (ILS) approach to Runway 31 will require relocation. The localizer is proposed 1,000 feet northwest of the ultimate runway extension on Runway 13-31, and the glideslope antenna and LDIN system should be relocated in proportion to the 500-foot displacement to Runway 31. As called out in Chapter Five, the displaced threshold would require a portion of the LDIN system to be built into the runway pavement leading to the Runway 31 threshold. In addition, portions of the runway edge lighting would need to be relocated on Runway 13-31.

A safety-related project scheduled toward the end of the short term program includes the installation of a four-box precision approach path indicator (PAPI-4) on Runway 35. In addition, drainage improvements are planned on the east side of the airport adjacent to the U.S. Highway 67 outer road. These improvements will allow for future development of this area as called for in the development concept.

The next project during this term involves relocating the portion of Taxiway A that serves as a partial parallel taxiway on Runway 13-31 to 400 feet from the runway (centerline to cen-

terline). As a result, additional parking apron can be constructed to better accommodate this high activity area served by the airport's two FBOs.

The drainage improvements proposed earlier will set the stage for infrastructure development on the east side of the airport. During the focused term, a roadway extending east from the outer road associated with U.S. Highway 67 is called for which would provide another automobile access point serving land-side facilities in this area.

During this time, the plan proposes the continued build-out of landside development on the east side of the airport. The construction of more taxiway pavement is planned to accommodate private hangar development. As with some other projects listed in the focused term, actual aviation demand will dictate the magnitude and degree to which this infrastructure is developed.

As detailed earlier in this study, providing 4,500 feet of length on Runway 17-35 will enable a larger portion of the general aviation aircraft fleet utilizing Dallas Executive Airport to operate on this runway. Toward the end of the focused term planning horizon, the CIP

proposes a 400-foot northerly extension and 300-foot southerly extension of Runway 17-35. This project includes not only the runway extension, but the extensions of parallel Taxiways A and D and additional entrance/exit taxiways. Furthermore, the relocation of navigational aids to include the PAPI-4 systems and REILs serving each runway end are also taken into account during this project. It is during this time that the width of Runway 17-35 should be decreased to 100 feet to adhere to ARC B-II design standards.

The final project listed in the focused term CIP includes miscellaneous projects which could be funded through TxDOT's Routine Airport Maintenance Program (RAMP). Each year, TxDOT offers RAMP funds of up to \$50,000 providing the airport sponsor provides a 50 percent match (\$50,000). Thus, airports can have up to \$100,000 available for pavement maintenance or other general or routine maintenance projects that may arise during the term. The CIP considers Dallas Executive Airport utilizing this source to the maximum extent possible each year.

The focused term CIP includes projects that will position the airport to readily accept an increasing number of based aircraft and aviation-related activities. The plan takes advantage of development potential that currently exists on the east side of the airport. Furthermore, several projects in the focused term program will bring the airport in compliance with FAA-mandated safety improvements. The total investment necessary for the focused term CIP is approximately \$38.96 million. Of this total, approximately \$33.77 million is eligible for FAA/TxDOT grant funding. The remaining \$5.19 million would be the responsibility of the airport sponsor through local funding outlets.

ULTIMATE TERM PROGRAM

Ultimate term projects are those planned for years 11-20. Two of the projects are focused on development of the west side of the airport. As such, these projects are demand-driven and involve the construction of taxiways in addition to the development of an extensive roadway network serving potential landside development. Furthermore, a project associated with airfield efficiency is also identified and includes the extension of parallel Taxiway B.

In order to accommodate development on the west side of Dallas Executive Airport, additional roadways and the extension of utilities is required. The first project in the long term addresses this demand-driven need. Although the CIP calls for over \$2 million worth of roadway and utility improvements that cover a large portion of the west side development area, it is conceivable to split this project into several phases that focus on particular needs of private developers, thus decreasing the overall cost of the project at any particular time.

The development plan dedicates approximately 37 acres of land on the west side of Runways 13-31 and 17-35 for aviation-related development. In order to provide aircraft access to these parcels, an extensive taxiway system is proposed that includes a parallel taxiway, entrance/exit taxiways extending from the runways, and stub taxiways that lead to aviation development parcels. Similar to landside improvements called for in the previous project, the development of taxiways on the west side of the airport could be phased to focus on smaller areas that are desired by private development. The development of taxiways and associated costs outlined during this time account for

total build-out of taxiway infrastructure west of the runway system that could satisfy aviation demand through the ultimate term planning period of this study and beyond.

An airfield improvement involving the extension of Taxiway B approximately 1,700 feet southeast is programmed at the end of the ultimate term planning program. The extension of this taxiway would provide a full-length parallel taxiway serving Runway 13-31, further improving airfield efficiency and safety.

As with the focused term program, a placeholder for miscellaneous RAMP projects is included in the ultimate term program that could include smaller-scale projects such as crack sealing and joint sealing of taxiways, taxilanes, and aircraft parking aprons. Total ultimate term program costs are estimated at \$11.86 million, with approximately \$8.71 million eligible for FAA/TxDOT funding assistance. The remaining \$3.15 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 airport sponsor, the FAA, and TxDOT on needed projects. The plan as presented will meet the forecast demand over the next 20 years and, in many respects, beyond. It should be noted that the sequence of projects will likely 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.

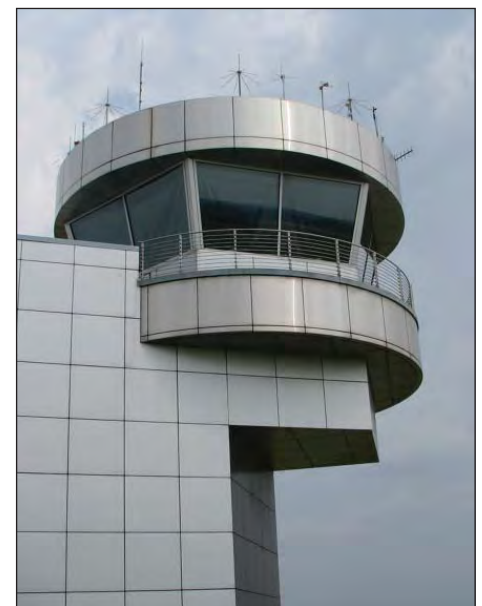
The total 20-year CIP proposes approximately \$50.82 million in airport development. Of this total, approximately \$42.48 million would be eligible for

FAA/TxDOT grant funding. The local funding requirement for the proposed 20-year CIP is \$8.34 million.

CAPITAL IMPROVEMENT FUNDING SOURCES

There are generally four sources of funds used to finance airport development: airport cash flow, revenue and general obligation bonds, federal/state/local grants, and 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 small commercial service and general aviation airports often requiring subsidies from local and state 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 or the city. Capital improvement funding is available through various grant-in-aid programs on both the state and fed-





eral levels. Historically, Dallas Executive Airport has received federal and state grants. The following discussion outlines key sources of funding potentially available for capital improvements at Dallas Executive 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 Airport Improvement Program (AIP) at \$3.35 billion for fiscal years 2012 through 2015. Eligible airports, which included those in the *National Plan of Integrated Airports Systems* (NPIAS), such as Dallas Executive Airport, can apply for airport improvement grants. **Table 6B** presents the approximate distribution of the AIP funds. Dallas Executive Airport is eligible to apply for grants which may be funded through state apportionments, the small airport fund, discretionary, and/or reliever categories.

Funding for AIP-eligible projects is undertaken through a cost-sharing arrangement in which FAA provides up to 90 percent of the cost and the airport sponsor invests the remaining 10 percent. 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.

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. 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, Dallas Executive Airport has received NPE funding.

The states also receive a direct apportionment based on a federal formula that takes into account area and population. The states can then distribute these funds for projects at various airports throughout the state. TxDOT distributes these funds to airports throughout the state.

Small Airport Fund

If a large or medium hub commercial service airport chooses to institute a passenger facility charge (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 fund the small airport fund. The small airport fund is reserved for small-hub primary commercial service airport, non-hub commercial service airports, and general aviation airports.

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

Table 6B: FEDERAL AIP FUNDING DISTRIBUTION

Funding Category	Percent of Total	Funds*
Apportionment/Entitlement		
Passenger Entitlements	29.19%	\$977,865,000
Cargo Entitlements	3.00%	\$100,500,000
Alaska Supplemental	0.65%	\$21,775,000
State Apportionment for Non-Primary Entitlements	10.35%	\$346,725,000
State Apportionment Based on Area and Population	9.65%	\$323,275,000
Carryover	10.77%	\$360,795,000
Small Airport Fund		
Small Hubs	1.67%	\$55,945,000
Nonhubs	6.68%	\$223,780,000
Non-Primary (GA and Reliever)	3.34%	\$111,890,000
Discretionary		
Capacity/Safety/Security/Noise	11.36%	\$380,560,000
Pure Discretionary	3.79%	\$126,965,000
Set Asides		
Noise	8.40%	\$281,400,000
Military Airports Program	0.99%	\$33,165,000
Reliever	0.16%	\$5,360,000
Totals	100.00%	\$3,350,000,000

*FAA Modernization and Reform Act of 2012

AIP: Airport Improvement Program

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

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, may be eligible if all airfield improvements have been made but the priority ranking of these facilities is very low.

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 Air-

port Program), and select reliever airports. Dallas Executive Airport is classified as a reliever airport and, thus, could be eligible for set-aside funds if required under noise compatibility.

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 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.

STATE AID TO AIRPORTS

The State of Texas participates in the federal State Block Grant Program. Under this program, the FAA annually distributes general aviation state apportionment and discretionary funds to TxDOT, which in turn distributes grants to airports within the state. In compliance with TxDOT's legislative mandate that it "apply for, receive, and disburse" federal funds for general aviation airports, TxDOT acts as the agent of the local airport sponsor. Although these grants are distributed by TxDOT, they contain all federal obligations.

The State of Texas also distributes funding to general aviation airports from the Highway Trust Fund as the Texas Aviation Facilities Development Program. These funds are appropriated each year by the state legislature. Once distributed, these grants contain state obligations only.

The establishment of a CIP for the state entails first identifying the need, then establishing a ranking or priority system. Identifying all state airport project needs allows TxDOT to establish a biennial program and budget for development costs. The most recent TxDOT CIP, *Aviation Capital Improvement Program 2012-2014*, assumed that approximately \$21 million in annual federal AIP grants, plus \$24 million earmarked for non-primary entitlements and \$16 million in state funds, would be available.

The TxDOT biennial program sets a project priority system established by the Texas Transportation Commission in order to make the best use of limited state and federal airport development funds. **Table 6C** presents the priority objectives and their associated description in order of importance.

Each airport project for Dallas Executive Airport must be identified and programmed into the state CIP and compete with other airport projects in the state for federal and state funds. In Texas, airport development projects that meet TxDOT's discretionary funds eligibility requirements can receive 90 percent funding from the AIP State Block Grant Program. Eligible projects include airfield and apron facilities. Historically, revenue-generating improvements such as fuel facilities, utilities, and hangars have not been eligible for AIP funding. The *FAA Modernization and Reform Act of 2012*, however, provides for the allowance of NPE funds to

be utilized for hangar or fuel farm construction if all other airfield needs have been addressed.

The availability of grant funds can fluctuate from year to year. Typically, an airport can expect a grant to cover several projects in one grant-cycle. The next grant opportunity may not arise for a couple of years thereafter. This cycle occurs as TxDOT must administer grants for more than 300 airports and has relatively limited resources. As a result, local budgeting for future capital improvements should consider sporadic grant availabilities.

Routine Airport Maintenance Program

TxDOT has established the RAMP to help general aviation airports maintain and, in some instances, construct new facilities. The program was initially designed to help airports maintain airside

and landside pavements, but has since been expanded to include construction of new facilities. RAMP is an annual funding source in which TxDOT will provide a 50 percent funding match for projects up to \$100,000. Examples of projects eligible under RAMP include pavement crack sealing, drainage improvements and maintenance, landscaping, public auto parking areas and access roads, expansion of apron areas or new apron areas, and many more.

Other State Airport Programs

TxDOT also provides a funding mechanism for terminal building and ATCT improvements. TxDOT has funded terminal building construction on a 50/50 basis, up to a \$1.0 million total project cost. It should be noted that TxDOT has recently considered upgrading the total cost allowance on a case-by-case basis.

Table 6C: TxDOT PROJECT PRIORITIES

Priority Objective	Description
Safety	Projects needed to make the facility safe for aircraft operations.
Preservation	Projects to preserve the functional or structural integrity of the airport.
Standards	Improvements required to bring the airport up to design standards for current user aircraft.
Upgrade	Improvements required to allow the airport to accommodate larger aircraft or longer stage lengths.
Capacity	Expansion required to accommodate more aircraft or higher activity levels.
New Access	A new airport providing new air access to a previously unserved area.
New Capacity	A new airport needed to add capacity or relieve congestion at other area airports.

Source: TxDOT *Aviation Capital Improvement Program 2012-2014*

TxDOT also funds the construction of up to two ATCTs statewide each year. TxDOT has improved the program so that ATCT funding could be provided on a 90/10 basis, up to a total construction cost of \$1.67 million.

It should be noted that the plan does not include new ATCT or terminal building facilities. The existing facilities are relatively new and will be sufficient for the planning period.

LOCAL FUNDING

The balance of project costs, after consideration has been given to grants, must be funded through local resources. Dallas Executive Airport is owned and operated by the City of Dallas and receives assistance from the city for both operational and capital expenditures. A goal for the airport is to generate enough revenue to cover all operating and capital expenditures. As with many general aviation airports, however, this is not always possible and other financial methods are needed.

There are several alternatives for local financing options for future development at the airport, including airport revenues, direct funding (subsidizing) from the county, 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.

There are several municipal bonding options available, including general obligation bonds, limited obligation bonds, and revenue bonds. General obligation bonds are a common form of municipal bond which is issued by voter approval and secured by the full faith and credit of the county, and future tax revenues are pledged to retire the debt.

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

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

There are several types of revenue bonds, but in general, they are a form of municipal bond which is payable solely from the revenue derived from the operation of a facility that was constructed or acquired with the proceeds of the bonds. For example, a lease revenue bond is secured with the income from a lease assigned to the repayment of the bonds. Revenue bonds have become a common form

of financing airport improvements. Revenue bonds present the opportunity to provide those improvements without direct burden to the taxpayer. Revenue bonds normally carry a higher interest rate because they lack the guarantees of general and limited obligation bonds.

Leasehold financing refers to a developer or tenant financing improvements under a long term ground lease. The obvious advantage of such an arrangement is that it relieves the community of all responsibility for raising the capital funds for improvements. However, the private development of facilities on a ground lease, particularly on property owned by a government agency, produces a unique set of concerns.

In particular, it is more difficult to obtain private financing as only the improvements and the right to continue the lease can be claimed in the event of a default. Ground leases normally provide for the reversion of improvements to the lessor at the end of the lease term, which reduces their potential value to a lender taking possession. Also, companies that want to own their property as a matter of financial policy may not locate where land is only available for lease.

In addition to leasehold financing, it is 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 taxi lane, 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.

FUNDING AIRPORT OPERATIONS

Dallas Executive Airport is operated by the City of Dallas – Aviation Department and is one of two airports that make up the city’s airport system, with the other being Dallas Love Field. Various rates and charges from general aviation and non-aviation revenue sources currently help fund Dallas Executive Airport. General aviation revenues are generated specifically by aviation and aircraft operations, while non-aviation revenues are produced by land leases and/or building leases by on-airport businesses which are not aviation-related. There are restrictions on the use of revenues collected on airports. All receipts, excluding bond proceeds or related grants and interest, are irrevocably pledged to the punctual payment of operating and maintenance expenses, payment of debt service for as long as bonds remain outstanding, or to additions or improvements to airport facilities.

HISTORICAL OPERATING REVENUES AND EXPENSES

Table 6D presents historical operating revenues and expenses for Dallas Executive Airport over the past five years. The largest revenue center by far for the airport is the lease and rental of airport facilities (facility, space, and land fees), accounting for approximately 90 percent of overall revenues. Fuel flowage fees and concessions have also historically served as substantial revenue generators.

Generalized operating expenses for the airport include salaries and benefits, supplies, services, and equipment. Salaries and benefits are the largest expense category, which includes personnel costs associated with all those individuals who help maintain Dallas Executive Airport. Supply items (office supplies, building supplies, vehicle supplies, utilities, etc.) and service fees (building maintenance, security, custodial, communications, etc.) also ac-

count for major expense items within the operating budget. In fiscal year 2009-2010, a significant estimated expense associated with the purchase of equipment was realized.

The operation of the airport generates revenues, which are secured by federal grant assurances, to be utilized only on the airport. While these revenues generated are significant, they are oftentimes not enough to fund both airport operating expenditures and capital improvement requirements. Most general aviation airports in this country do not generate enough revenues to cover operating expenses, which has historically been the case at Dallas Executive Airport. Nearly all need some level of community tax or bonding support to fund capital expenditures.

Table 6D: HISTORICAL OPERATING REVENUES AND EXPENSES

CATEGORY	FY 2005-2006	FY 2006-2007	FY 2007-2008	FY 2008-2009	FY 2009-2010*
Operating Revenues					
Concessions	\$10,330	\$10,715	\$11,187	\$8,985	\$14,179
Fuel Flow Fees	54,075	55,201	56,624	46,955	53,090
Rental On Airport	558,579	544,104	517,820	556,920	617,405
Miscellaneous Revenue	310	936	2,497	1,206	15,505
Total Operating Revenues	\$623,294	\$610,956	\$588,128	\$614,066	\$700,179
Operating Expenses					
Salaries and Benefits	\$414,312	\$480,878	\$450,000	\$520,299	\$493,730
Supplies	165,708	184,869	194,327	211,348	240,403
Services	81,053	112,373	122,219	199,561	208,534
Equipment	0	0	0	0	118,201
Total Operating Expenses	\$661,073	\$778,120	\$766,546	\$931,208	\$1,060,868
Operating Income/(Loss)	(\$37,779)	(\$167,164)	(\$178,418)	(\$317,142)	(\$360,689)

*Estimated
Source: Airport records

FUTURE CASH FLOW

The following section will analyze future revenues and expenses. At the outset, it must be emphasized that long term feasibility analyses such as these must be based on many assumptions. In practice, projects will be undertaken at the various airports when demand actually warrants, thus changing underlying assumptions. Further, the actual financing of capital expenditures will be a function of each airport's circumstances at the time of project implementation. As a result, the assumptions and analyses prepared for this Master Plan must be viewed in the context of their primary purpose which is to examine whether there is a reasonable expectation that recommended improvements will be financially feasible and can be implemented.

Operating revenues and expenses have been forecast and were averaged to present an annual cash flow figure for each of the planning horizons in current (2012) dollars. The projections were made based utilizing several basic assumptions. Any long term cash flow projection should be taken for what it is; a point-in-time analysis that is dependent upon the specific assumptions made. Obviously, if any of the assumptions change, this analysis would no longer be applicable. However, the analysis is done to present methods for improving the airport's financial position over time.

Revenues are anticipated to continue to grow with aviation activity and an overall positive economic outlook as presented in **Table 6E**. As more aircraft base at the airport, additional revenues from land leases and fuel sales will increase proportionately. Opportunities for continued aviation

Table 6E: PROJECTION OF AVERAGE ANNUAL OPERATING REVENUES AND EXPENSES

CATEGORY	Short Term	Intermediate Term	Long Term
Operating Revenues			
Concessions	\$16,300	\$20,210	\$27,260
Fuel Flow Fees	59,990	72,440	94,110
Rental On Airport	722,280	919,300	1,286,630
Other Revenue	17,220	20,250	25,340
Total Operating Revenues	\$815,790	\$1,032,200	\$1,433,340
Operating Expenses			
Salaries and Benefits	\$529,470	\$590,280	\$685,640
Supplies	257,800	287,420	333,850
Services	231,560	272,330	340,840
Equipment	50,000	50,000	50,000
Total Operating Expenses	\$1,068,830	\$1,200,030	\$1,410,330
Operating Income/(Loss)	(\$253,040)	(\$167,830)	23,010

Source: Coffman Associates analysis

development on the east side of the airport tied to the proposed extension of Taxiway R and other taxiways serving over 20 acres of land could bolster airport revenues. Furthermore, long term assumptions consider aviation development occurring on the west side of the airport. In addition, the development plan dedicates significant property on the airport for non-aviation uses in the form of commercial, retail, industrial, office, or business park activities. Rates and fees should be increased based upon the consumer price index (CPI) or other similar economic indexes. Where airport fees are considered too low, additional increases should be undertaken to bring the fees up to current market standards. Overall, future revenues were projected to grow at approximately 3.5 percent annually through the long term planning period.

Future expenses could vary depending upon the airport's desire to develop, operate, and maintain its facilities. As such, salaries and benefits were assumed at two percent annual growth and an increase in supplies and services were made based upon historical trends. It is recommended that airport staff make every effort to minimize expenses related to supplies and services during the planning period.

Cash flow projections indicate future revenues should rise at a rate greater than expenses. If the airport can continue to expand its tenant base and attract more aircraft activity as well as non-aviation development, the deficit currently being realized should decrease significantly, and the airport could experience positive gains by the long term of the planning period.

AIRPORT RATES AND CHARGES

The FAA places several stipulations on rates and charges establishment and collection; however, two primary considerations need to be addressed. First, the rates and charges must be fair, equally applied, and resemble fair market value. Second, the rates and charges collected must be returned to and used only by and/or for the airport. In other words, the revenues generated by airport operations cannot be diverted to the general use of the City of Dallas. The FAA requires funds to be used at airports as these funds are many times needed to either support the day-to-day operational costs or off-set capital improvement costs.

Given its location to other airports, the rates and charges structure at Dallas Executive Airport needs to be somewhat competitive with other airports in the region. If the costs are too high, some users may choose other airports. On the other hand, if rates and charges are set too low, some facilities will not be capable of being amortized, thus requiring a subsidy from the city. The following provides several activities that could enhance revenue production for an airport, some of which are currently being practiced at Dallas Executive Airport.

Aircraft Parking/Tiedowns

Aircraft parking fees, also referred to as tiedown fees, are typically assessed to those aircraft utilizing a portion of an aircraft parking area that is owned by the airport. These fees are most generally assessed on a daily or monthly basis, depending upon the specific activity of a particular aircraft.

Aircraft parking fees can be established in several different ways. Typically, air-

ports assess aircraft parking fees in accordance with an established schedule in which an aircraft within a designated weight and/or size pays a similar fee (i.e., small aircraft, single engine aircraft). Aircraft parking fees may also be charged according to a “cents per 1,000 pounds” basis in which larger aircraft with increased weights would obviously pay more for utilizing the aircraft parking apron. There are also instances in which aircraft parking fees are not assessed on an airport.

An airport sponsor may also include in a lease agreement with an aviation-related commercial operator at the airport to collect aircraft parking fees on portions of an aircraft parking apron in which the airport does not own or is leasing to a commercial operator, such as an FBO. As a result, the airport could directly collect parking fees from an aircraft utilizing this space or allow the commercial operator to collect the parking fee, in which the agreement may allow the commercial operator to retain a portion of the parking fee as an administrative or service fee.

Aircraft parking fees can be assessed on a daily or monthly basis. Daily aircraft parking fees are typically assessed to transient aircraft utilizing the airport on a short-term basis, while monthly fees are charged to aircraft that utilize a particular parking area for the permanent storage of their aircraft. Monthly aircraft parking fees are often assessed at airports that contain a waiting list for aircraft hangar storage space. It is also common practice at many airports to waive a daily aircraft parking fee in the event the aircraft purchases fuel prior to departing the airport.

Previous rates and charges analysis conducted by the consultant outside this study have indicated that daily

aircraft parking fees can vary from \$3 to \$20 depending on the type of aircraft, and monthly aircraft parking fees can range between \$50 and \$200 per month depending on the type and size of the aircraft. According to the *Dallas Executive Airport Strategic Business Plan (2010)*, the airport charges \$150 per month for a tiedown fee, which is within the industry standard.

Aircraft Storage Hangars

There are several types of aircraft storage hangars that can accommodate aircraft on an airport. In order to establish hangar fees, an airport typically factors in such qualities as hangar size, location, and utilities. Aircraft hangar fees are most often charged on a monthly basis.

Common aircraft storage hangars are typically categorized as shade hangars, T-hangars, and conventional hangars. Shade hangars consist of tiedown spaces with a protective roof covering. T-hangars provide for separate, single-aircraft storage areas. Conventional hangars provide a larger enclosed space that can accommodate larger multi-engine piston or turbine aircraft and/or multiple aircraft storage. Conventional hangars can also be utilized by aviation-related commercial operators for their business activities on an airport.

Location can also play a role in determining hangar rates. Aircraft storage hangars with direct access to improved taxiways/taxilanes and adjacent to aviation services being offered at an airport can oftentimes be more expensive to rent. In addition, the type of utility infrastructure being offered to the hangar can also help determine storage fees. Smaller aircraft storage hangars,

such as a T-hangar or small box hangar, can either be granted access through a manual sliding door or electric door. It is common for hangars that provide electric doors to have higher rental fees as the cost associated with constructing these hangars would exceed the cost associated with simpler structures.

At some airports, hangar facilities are constructed by the airport sponsor, while at other airports, hangars are built by private entities. In some cases, airports have both public and private hangar facilities available. Hangars can be expensive to construct and offer minimal return on investment in the short term. In order to amortize the cost of constructing hangars, lease rates should be developed at a minimum to recover development and finance costs.

T-hangars often range from \$100 to \$450 per month depending on several factors previously listed. Larger conventional-style hangars can be leased per aircraft space or for the entire hangar. Monthly rates similar to those for individual T-hangar units often apply to leased aircraft space in a conventional hangar.

Ground Rental

Ground rentals can be applied to aviation and non-aviation development on an airport. Also known as a land lease, a ground lease can be structured to meet the particular needs of an airport operator in terms of location, terrain features, amount of land needed, and type of facility infrastructure included.

One of the single most valuable assets available to an airport is the leasable land with access to the runway/taxiway system. For aviation-related business-

es, it is critical that they be located on an airport. Airport property is available for long term lease but, in most cases, it cannot be sold. At the expiration of the lease, and any extensions, the improvements on the leased land typically revert back to the airport sponsor. In order for this arrangement to make financial sense to the private developer or financier, most ground leases are at least 20 years in length and include extension opportunities. Those who lease land on an airport are typically interested in constructing a hangar for their own private use, for sub-lease, or for operation of an airport business. Therefore, the long term lease arrangement is important in order to obtain capital funding for the construction of a hangar or other type of facility. It should also be noted that ground leases should include the opportunity to periodically review the lease and adjust the rate according to the CPI. Typical lease agreements range from 20 to 30 years with options for extensions.

Ground leases are typically established on a yearly fee schedule based upon the amount of square feet leased. The amount charged can vary greatly depending on the level of improvements to the land. For example, undeveloped land with readily accessible utilities and taxiway access can generate more revenue

than unimproved property. Previous surveys at other airports across the country conducted by the consultant have determined ground lease rates to range from \$0.08 per square foot per year to approximately \$1.00 per square foot per year. In some instances, lease rates were well over \$1.00 per square foot per year.

Typically, airports in larger metropolitan areas such as the Dallas/Fort Worth Metroplex set land lease rates at approximately \$0.25 cents per square foot per year. According to the airport's strategic business plan, current land lease rates are \$0.13 cents per square foot for unimproved land and \$0.17 per square foot for improved land, per year. In the future, the airport should consider increasing land lease rates to at least \$0.20 cents per square foot per year to better recognize the regional market trends.

Some airports will have other leasable space available. For example, airports with a terminal building may have office or counter space available for aviation and non-aviation related businesses. Some example businesses could include commercial airlines, aircraft sales, flight instruction, aircraft insurance, and a restaurant.



As previously mentioned, under certain circumstances, an airport sponsor may utilize portions of the airport for non-aviation purposes such as commercial and/or industrial development if certain areas are not needed to satisfy aviation demand or are not accessible to aviation activity. Prior to an airport pursuing a ground lease with a commercial operator for non-aviation purposes, the sponsor must work with TxDOT and formally request from the FAA a release from certain land parcels that may not be needed for aviation-related uses.

Fuel Sales and Flowage

Fuel sales are typically managed at an airport in one of two ways: the airport sponsor acts as the fuel distributor or fueling operations are sub-contracted to an FBO. If the airport sponsor acts as the fuel distributor, then the airport would receive revenues equal to the difference between wholesale and retail prices. Of course, there are added expenses such as employing people to fuel the aircraft.

When these services are undertaken by an FBO, the airport sponsor typically receives a fuel flowage fee per gallon of fuel. By way of agreement with the airport sponsor, FBOs would be required to pay a fuel flowage fee for each gal-

lon of fuel sold or received into inventory. In the case of self-fueling entities, a fuel flowage fee could apply for each gallon of fuel dispensed. Fuel flowage fees are typically paid on a “cents per gallon” basis. In some instances, fuel flowage fees will be established based upon the type of aviation activity. For example, commercial airline service operators may be assessed a higher fuel flowage fee than general aviation aircraft or no fuel flowage fee at all if being assessed a landing fee (to be discussed in the next section). Fuel flowage fees can also be distinguished by type of fuel (100LL or Jet A).

The owner of the fuel farm can also be the airport sponsor or an FBO operator. If the airport sponsor owns the fuel farm and the FBO operator undertakes the fueling activities, then a separate fuel storage fee can be charged or a higher fuel flowage fee may be assessed. Fuel flowage fees oftentimes range from \$0.03 cents per gallon to \$0.20 cents per gallon.

The airport’s current fuel flowage fee is \$0.07 cents per gallon according to the strategic business plan. Some airports in the region are collecting a higher rate upwards of \$0.12 cents per gallon. The airport should consider incrementally increasing its fuel flowage fee over coming years to better its revenue potential and overall financial outlook. It is also

recommended that the rate be based on fuel delivered to the vendor with those records provided by the vendor.

Landing Fees

Landing fees typically only apply to larger aircraft, such as those over 60,000 pounds, for example, and only those involved in commercial airline or air taxi operations. Landing fees are not common on general aviation airports and are generally discouraged due to collection difficulty. Moreover, landing fees are somewhat discouraging to aircraft operators which will many times elect to utilize a nearby airport that does not collect a landing fee.

When landing fees are assessed, they are most commonly based upon aircraft weight and a “cents per 1,000 pounds” approach. In addition, some airport sponsors may use a flat fee approach wherein aircraft within a specified weight range are charged the same fee.

Landing fees may be collected directly by the airport sponsor or an airport may have an agreement with a commercial operator to collect landing fees. Similar to what was discussed with aircraft parking fees, under this scenario, the agreement may allow the commercial operator, such as an FBO, to retain a portion of the landing fee as an administrative or service fee.

RULES & REGULATIONS AND MINIMUM STANDARDS

The owners of federally obligated airports have the responsibilities for instituting Rules & Regulations for the safe and efficient operation of an airport. The FAA and TxDOT also encourage



the airport owner (sponsor) to impose Rules & Regulations for the safe operation and use of its airport. Procedures should be fair and equitable for all users on the airport and should be tailored to the specific aviation activity on the airport to which they are to be applied.

The City of Dallas is committed to providing the safest possible atmosphere for the conduct of aviation activities for tenants, guests, residents, students, and employees at Dallas Executive Airport. The purpose of Rules & Regulations is to govern the operation and use of civilian facilities and operations at the airport. They are intended to be in addition to and not in conflict with any federal, state, or local laws, ordinances, rules, regulations, or policies.

In addition to Rules & Regulations, prudent and proper airport administration requires that standards be adopted to establish minimum acceptable qualifications of participants, level and quality of service, and other conditions which will be required of those proposing to conduct commercial aviation-related activities at an airport. To implement standards on those proposing to conduct aviation activities on a public airport relates to the public interest and provides protection from irresponsible, unsafe, or inadequate service. The adoption and enforcement of Minimum Standards ensures that those individuals, or entities, engaged in commercial aviation activities are reasonably fit, willing, and able to provide both its service obligations to its patrons and its economic obligations to the airport community and protect established commercial enterprises, aviation users, and the public.

Minimum Standards have been in place at many airports nationwide and are supported by the FAA. The FAA ob-

jective in recommending the development of Minimum Standards serves to promote safety in all airport activities, protect airport users for unlicensed and unauthorized products and services, maintain and enhance the availability of adequate services for all airport users, promote the orderly development of airport land, and ensure efficiency of operations.

Minimum Standards specific to an airport should contain the minimum levels of service, facilities, staffing, insurance, and environmental compliance that must be met by the prospective service provider. The following considerations should also be factored when developing Minimum Standards:

- The role of the airport as defined by the FAA's NPIAS and in TxDOT's *Texas Airport System Plan Update 2010 (TASP)*.
- The range, level, and quality of aviation products, services, and facilities currently being offered at the airport.
- The future prospects for and the anticipated development of the airport and surrounding area.
- The promotion of fair competition at the airport.

AIRPORT DEVELOPMENT STRATEGIES

As previously discussed, the City of Dallas owns and operates multiple airport facilities that meet the needs of several aviation demand segments in the greater Dallas/Fort Worth Metroplex. More specifically, the city has an established Aviation Department that provides for the operation and maintenance of Dallas Love Field and Dallas Executive Airport. The Dallas Heliport

(catering to helicopter activity only) also falls under the jurisdiction of the City of Dallas – Aviation Department.

AVIATION FOCUS

Given the proximity of Dallas Love Airport and Dallas Executive Airport (separated by approximately ten miles), it is expected that these airports will have a certain amount of market area overlap. What is important to recognize is the primary segments of aviation that each airport serves and identify potential voids in demand that may not be met by either facility.

Dallas Love Field, located approximately seven miles from the city's central business district, is one of two primary commercial service airports serving the Dallas/Fort Worth Metroplex. The airport has three runways, with the longest providing a length of 8,800 feet. The airport's main market segment is catering to the needs of commercial airline services. This is evident with the multi-million dollar terminal renovation project that, once completed, will provide first-class services capable of accommodating millions of commercial service passengers that will utilize the airport each year.

While Dallas Love Field allocates a majority of its resources to commercial airline service activities, it also serves a significant general aviation segment. Currently, there are seven full service FBOs on the airfield that provide general aviation users with a wide variety of services including fuel, maintenance, hangar rental, and air charter. Given its existing facilities, (in particular, runway length) it will continue to attract general aviation activity in the form of corporate business jets, thus serving as a "competitor" to Dallas Executive

Airport. While it is advantageous for the City of Dallas to capture this aviation activity, consideration should be given to better distinguishing Dallas Love Field and Dallas Executive Airport for their strengths, and in doing so, be able to better focus each on handling specific segments of aviation demand.

Dallas Love Field will continue to focus on commercial airline service in the future. In order to maximize this aviation segment, City of Dallas – Aviation Department staff should monitor the general aviation segment utilizing the airport, in order that it does not diminish the role of commercial service. In doing so, this allows greater opportunities to market Dallas Executive Airport as a facility that can accommodate the needs of general aviation activities

Dallas Executive Airport has opportunities for future growth and development. Given the airport's proximity to the city's central business district (six miles to the south) and the greater Dallas/Fort Worth Metroplex, the airport is positioned to further expand to meet the needs of general aviation activities through the foreseeable future. The following highlights development strategies that airport staff should continue to monitor in the coming years.

DALLAS EXECUTIVE AIRPORT BUSINESS MARKET

Airport staff should continue to work with local economic development agencies to attract general aviation operators to Dallas Executive Airport. The following benefits should be addressed in their efforts to attract these markets to the facility:

Available Land: As previously discussed, there is adequate property on



the east side of the airport to accommodate aviation demand, especially through the focused term planning horizon. As such, this land is available to lease and should be marketed to aviation-related businesses such as aircraft maintenance providers and corporate flight departments.

Although the east side of the airport can continue to accommodate aviation demand, the City of Dallas has made considerable improvements to the airport's west side to include the extension of roadway and utility infrastructure in order to accommodate future aviation uses. Due to the large amount of land available on airport property, in particular, on the west side of the airport, the City of Dallas – Aviation Department should also consider utilizing portions of Dallas Executive Airport for

non-aviation purposes to further enhance revenue potential. Chapter Four provides a detailed process that airport staff should follow in order to approve certain portions of airport property for non-aeronautical purposes that would be compatible with aviation activities.

Airport Facilities: After conducting inventory of the facility, Dallas Executive Airport fares well in appearance as its existing facilities are attractive and clean. The airport boasts a state-of-the-art terminal facility constructed in 2005 that hosts an array of services including a waiting lobby, flight planning area, and restaurant. In addition, a conference center adjacent to the east side of the terminal building contains a large multi-media room and smaller breakout meeting rooms. Two FBOs and other specialty aviation

operators on the airport also provide first-class facilities that cater to all segments of general aviation activities. An ATCT is operated daily from 7:00 a.m. to 9:00 p.m. and provides an array of control services.

The airport has two runways, with primary Runway 13-31 providing 6,451 feet of length capable of accommodating the majority of the general aviation aircraft fleet mix, including large corporate business jets. The airport is in the process of undergoing improvements to its runway and taxiway pavements that will better position the airfield to increased aircraft operations.

Competitive Pricing: Price sensitivity will always play a role in an aircraft business owner’s decision when choosing where to conduct their operations from. Lease rates, fuel prices, hangar rental fees, and other charges must be competitive with competing airports in the region. Dallas Executive Airport tends to be on the lower end of many of the fee structures in place at airports across the area, making the facility an attractive location in terms of pricing. It is important to note, however, that lease rates and fee structures should be set at levels that ensure the vitality and health of the airport’s financial status while reasonably maintaining existing and future tenant bases.

Services: Dallas Executive Airport offers an array of aviation services including a 6,451-foot primary runway, 3,800-foot crosswind runway, ILS and GPS approaches with desirable approach minimums, two full-service FBOs, aircraft maintenance, aircraft avionics, aircraft storage, and other aviation support services. These services must be highlighted to potential tenants who may be considering other airports in the region. Airport staff and local economic devel-

opment personnel may wish to utilize flyers, promotional brochures, tours, and visits to educate potential tenants of the improvements, capabilities, and future plans of the facility.

Location: As previously mentioned, the proximity and location of Dallas Executive Airport in relationship to downtown Dallas and the Dallas/Fort Worth Metroplex should be reinforced. Projected increases in socioeconomic and demographic trends related to population and employment within the City of Dallas and Dallas and Tarrant Counties should also be highlighted. In addition, the airport is a great alternative to Dallas/Fort Worth International Airport and Dallas Love Field as it does not compete with scheduled airline service and congested airspace associated with these facilities, further enhancing the ease of operations for aircraft utilizing Dallas Executive Airport.

AIRPORT ECONOMIC IMPACT

TxDOT completed a study in 2011 analyzing the economic impact of airports in the State of Texas. The study provides an economic impact analysis of every general aviation airport in the state, thus quantifying aviation’s total economic impact statewide. The study indicated that general aviation in the State of Texas supports over 56,000 jobs with payroll benefits of more than

\$3.1 billion. In total, more than \$14.5 billion in economic activity can be attributed to general aviation in the state. These figures are remarkable when considering that the commercial service airports provide even more economic impacts.

The study presented significant economic impacts for Dallas Executive Airport. **Table 6F** presents the findings as related to total employment, payroll, and economic activity.

While current airport operational expenses exceed revenues at Dallas Executive Airport, total economic impact benefits dwarf the difference. It is evident that the airport plays an important role in the City of Dallas and regional area, providing valued aviation services to those who live and work in the area while also producing a significant economic impact. Airport staff is continually being approached by aviation businesses looking for hangar space or land at Dallas Executive Airport from which to base their operations. Additional development of the airport will be needed in the future if Dallas Executive Airport wants to remain dedicated to growth, further increasing its economic impact on the region. As a result, the City of Dallas should continue to support the airport and its operations through regular maintenance as well as facilitating future developments with private entities to prevent stagnation.

Table 6F: ECONOMIC IMPACT

Description	Impacts
Employment	111
Salary, Wages, and Benefits	\$5,590,780
Total Economic Activity	\$18,229,078

Source: TxDOT *Economic Impact 2011 - General Aviation in Texas*

PLAN IMPLEMENTATION

The best means to begin implementation of the recommendations in this Master Plan is to first recognize that planning is a continuous process that does not end with completion and approval of this document. Rather, the ability to continuously monitor the existing and forecast status of airport activity must be provided and maintained. Operations, particularly by business jets, will be important when providing justification for several projects in the future. The primary goal is for the airport to best serve the air transportation needs of the region, while continuing to be economically self-sufficient.

The actual need for facilities is most appropriately established by airport activity levels rather than a specified date.

For example, projections have been made as to when additional hangars may be needed at the airport. In reality, however, the timeframe in which the development is needed may be substantially different. Actual demand may be slower to develop than expected. On the other hand, high levels of demand may establish the need to accelerate 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 airport management to 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.