



# Chapter 8

## Implementation Plan

### 8.1 OVERVIEW

An implementation plan for Alexandria International Airport (AEX) has been prepared based upon the facility needs identified in the Facility Requirements along with the Airpark Alternatives Analysis of possible solutions to meet these needs. The implementation plan presented herein describes the staging of proposed improvements, provides the basic financial requirements of each, and identifies various means of funding these improvements. It is the intent of this implementation plan to provide general financial guidance to the England Authority staff in making policy decisions regarding the recommended development of the airport over the 20-year planning period.

### 8.2 PROGRAM PHASING AND COST ESTIMATING

An initial development schedule for the proposed improvements was prepared based upon the previously identified facility requirements, which were determined by the levels of passenger enplanements and operational forecasts. Since actual activity levels realized at the airport may vary, it is important that the staging of these proposed improvement projects remain sensitive to such variation. The staging of projects begins in the year 2009 and concludes at the end of the planning period in 2027. Some projects may take precedence over other projects, depending on changes in priority and demand. Thus, a list of prioritized improvements was established based on the urgency of need, ease of implementation, logic of project sequencing, and Authority staff input. The objective was to establish an efficient order for project development and implementation that satisfied the forecasted aviation activity for AEX and the needs expressed by Authority staff. The development schedule is divided into three general stages: the short-term (2009-2013), the mid-term (2014-2018), and the long-term (2019-2028).

Cost estimates were developed for each project from 2009 through 2028. The projected costs were based on the preliminary layouts developed as a part of the Airpark Alternatives Analysis. Estimated quantities of major items, such as pavement or fill material, were used in conjunction with unit cost values to determine a construction cost. A final project cost was then determined by adding an additional 30 percent to the construction cost to account for mobilization, drainage (where applicable), and engineering services.

### 8.3 AIRSIDE CAPITAL IMPROVEMENT PROGRAM (ACIP)

The Airside Capital Improvement Program (ACIP) entails cost estimates and development phasing, for the various projects identified within the Airport Layout Plan drawing. A



subsequent section of this chapter will address the financial feasibility of this development program. Cost projections are based on constant 2009 dollars and include estimated engineering fees and contingencies. The projections, however, should be used for planning purposes only and do not imply that funding for these will necessarily be available. Each year indicates the initiation of design and/or environmental efforts as identified in these tables. It is assumed that construction would be undertaken either in that same year or the next.

### 8.3.1 Short-Term Developments

**Table 8-1** shows the short-term CIP program for AEX. Many of the projects listed below are currently in the airport's work program and have already received an allocation of grant funding. The projects listed below are shown in order by timeline rather than by priority.

<b>TABLE 8-1 SHORT-TERM ACIP TABLE</b>						
<b>Year</b>	<b>Development Item Description</b>	<b>Development Cost + (30%)</b>	<b>FAA Entitlement AIP</b>	<b>FAA Discretionary / Other AIP</b>	<b>Sponsor Funds</b>	<b>State / Other</b>
2009	Runway Obstacle Removal / Phase 1	\$100,375	\$95,356			\$5,019
2009	ATC Tower Emergency Transceiver	\$19,758	\$18,770			\$988
2009	Environmental Assessment - Runway 14 Extension	\$750,000		\$712,500		\$37,500
2009	ARFF Vehicle	\$850,000	\$807,500			\$42,500
2009	Land Acquisition Associated w ext. of Runway 14 - 205 acres	\$410,000		\$389,500		\$20,500
2009	Runway Obstacle Removal / Phase 2	\$98,352	\$93,434			\$4,918
2009	Airfield Sewer Lift Station	\$500,000	\$100,000			\$400,000
2009	Environmental Assessment - Fuel Farm Relocation	\$250,000		\$237,500		\$12,500
2009	Extend Runway 14 Engineering	\$1,530,000	\$1,453,500			\$76,500
2009	Part 150 Noise Mitigation Program	\$6,300,000		\$6,000,000		\$300,000
2009	Rehabilitation of Runway 14-32	\$5,200,000	\$4,940,000	\$117,500		\$142,500
	<b>Total 2009</b>	<b>\$16,008,485</b>	<b>\$7,508,561</b>	<b>\$7,457,000</b>	<b>\$0</b>	<b>\$1,042,924</b>
2010	Relocate / Construct Fuel Farm & Construct Entrance Road (SE Apron area)	\$3,600,000				\$3,600,000
2010	FAA Radar Facility Relocation	\$2,000,000				\$2,000,000
2010	Runway Sweeper	\$135,050		\$128,298		\$6,753
2010	Part 150 Noise Mitigation Program	\$6,300,000		\$6,000,000		\$300,000



**TABLE 8-1  
SHORT-TERM ACIP TABLE**

Year	Development Item Description	Development Cost + (30%)	FAA Entitlement AIP	FAA Discretionary / Other AIP	Sponsor Funds	State / Other
	<b>Total 2010</b>	<b>\$12,035,050</b>	<b>\$0</b>	<b>\$6,128,298</b>	<b>\$0</b>	<b>\$5,906,753</b>
2011	Property Acquisition for Industrial Park Develop (102 Acres)	\$204,000	\$193,800			\$10,200
2011	Part 150 Noise Mitigation Program	\$6,300,000		\$6,000,000		\$300,000
2011	Rehabilitate Southeast Ramp Area (ARFF/FBO) - Priority 1	\$12,000,000	\$1,950,000	\$9,450,000		\$600,000
	<b>Total 2011</b>	<b>\$18,504,000</b>	<b>\$2,143,800</b>	<b>\$15,450,000</b>	<b>\$0</b>	<b>\$910,200</b>
2012	N Access Roadway Widening and Bridge Improvements	\$2,000,000				\$2,000,000
2012	Extend Runway 14 Construction	\$15,300,000		\$14,535,000		\$765,000
2012	ILS Upgrade to Cat II	\$2,000,000		\$1,900,000		\$100,000
2012	North Ramp Rehabilitation - Priority 2	\$10,300,000	\$1,500,000	\$8,285,000		\$515,000
	<b>Total 2012</b>	<b>\$29,600,000</b>	<b>\$1,500,000</b>	<b>\$24,720,000</b>	<b>\$0</b>	<b>\$3,380,000</b>
2013	Taxiway A Extension	\$11,700,000		\$11,115,000		\$585,000
2013	South Ramp Rehabilitation (crack seal for entire south ramp area)	\$5,500,000	\$1,500,000	\$3,725,000		\$275,000
2013	North Ramp Rehabilitation 6.1 acres concrete (Priority 3)	\$13,400,000		\$12,730,000		\$670,000
2013	Rehabilitation Runway 18-36 (5.5 acres)	\$17,600,000		\$16,720,000		\$880,000
	<b>Total 2013</b>	<b>\$48,200,000</b>	<b>\$1,500,000</b>	<b>\$44,290,000</b>	<b>\$0</b>	<b>\$2,410,000</b>
	<b>Short-Term Total (2009-2013)</b>	<b>\$124,347,535</b>	<b>\$12,652,361</b>	<b>\$98,045,298</b>	<b>\$0</b>	<b>\$13,649,877</b>

Source: The LPA Group Incorporated 2009

### 8.3.2 Mid-Term Developments

A CIP for the period of 2014 through 2018 was also developed; projects were assigned a priority rather than a year. It is assumed that priorities for these developments could change as this timeframe draws near, especially since it is likely that another master plan may be undertaken during this period. **Table 8-2** lists the planned improvements for the intermediate-term.



**TABLE 8-2  
MID-TERM ACIP TABLE**

Year	Development Item Description	Development Cost + (30%)	FAA Entitlement AIP	FAA Discretionary / Other AIP	Sponsor Funds	State / Other
I-1	SE Apron Expansion S of FBO Terminal (5 Acres)	\$8,000,000	\$1,600,000	\$6,000,000		\$400,000
I-2	Runway 32 & 36 Blast Pad and Hold Pad Improvements (6.4 Acres)	\$5,400,000	\$1,600,000	\$3,530,000		\$270,000
I-3	Environmental Assessment - Runway 18 Extension	\$500,000		\$475,000		\$25,000
I-4	Property Acquisition N of Runway 18 (103 Acres)	\$206,000	\$1,600,000	-\$1,404,300		\$10,300
I-5	Runway 18 Extension 1007' with perimeter road and navaid relocation 8.8 acres	\$16,100,000	\$1,600,000	\$13,695,000		\$805,000
I-6	Billy Mitchell Rd / England Dr. Road Connector Improvements 16,300 sf.	\$580,000				\$580,000
I-7	Master Drainage Rehabilitation	\$11,000,000		\$10,450,000		\$550,000
I-8	Perimeter Road Improvements (paved unpaved areas) 16,600 L.F.	\$4,800,000	\$1,700,000	\$2,860,000		\$240,000
	<b>Intermediate-Term Total (2014-2018)</b>	<b>\$46,586,000</b>	<b>\$8,100,000</b>	<b>\$35,605,700</b>	<b>\$0</b>	<b>\$2,880,300</b>

Source: The LPA Group Incorporated 2009

### 8.3.3 Long-Term Developments

As with the mid-term CIP, needed developments were identified for the long-term period by phasing priority rather than by year. A full listing of projects needed from 2018 until 2027 is given in **Table 8-3**.

**TABLE 8-3  
LONG-TERM ACIP TABLE**

Year	Development Item Description	Development Cost + (30%)	FAA Entitlement AIP	FAA Discretionary / Other AIP	Sponsor Funds	State / Other
L-1	Large SE Apron Hangar and Delushe - Billy Mitchell / England (33k bldg+100k hangar)	\$22,000,000				\$22,000,000
L-2	SE Apron N two large hangars S of Exst Bldgs (100k s.f.)	\$18,000,000				\$18,000,000
L-3	Full parallel taxiway and hold pad SW of Runway 14-32 (28.4 Acres)	\$43,000,000	\$1,700,000	\$39,150,000		\$2,150,000
L-4	Midfield Apron (N) New Construction w/access points	\$22,600,000	\$3,400,000	\$18,870,000		\$330,000



Year	Development Item Description	Development Cost + (30%)	FAA Entitlement AIP	FAA Discretionary / Other AIP	Sponsor Funds	State / Other
	(14 acres)					
L-5	Midfield Apron (S) New Construction w/access (21 acres)	\$34,000,000	\$1,800,000	\$30,500,000		\$1,700,000
L-6	Large SE Apron S Hangar #1 and Parking Development (120k s.f.)	\$19,200,000				\$19,200,000
L-7	Large SE Apron S Hangar #2 and Parking Development (120k s.f.)	\$19,200,000				\$19,200,000
L-8	Large SE Apron S Hangar #3 and Parking Development (120k s.f.)	\$19,200,000				\$19,200,000
L-9	10-Unit T-hangar #1	\$700,000				\$700,000
L-10	10-Unit T-hangar #2	\$700,000				\$700,000
	<b>Long-Term Total (2019-2028)</b>	<b>\$198,600,000</b>	<b>\$6,900,000</b>	<b>\$88,520,000</b>	<b>\$0</b>	<b>\$103,180,000</b>

Source: The LPA Group Incorporated 2009

### 8.3.4 CIP Summary

Having presented the highlights of each of the development periods, a summary of the related financial needs for these projects is presented in **Table 8-4**. This combined development program will provide the aviation facilities needed at AEX to meet the forecasted demands through the end of the 20-year planning period. This 20-year CIP is estimated to cost more than \$369 million. These estimated costs were determined in 2009 dollars; thus, as time goes by these values should be adjusted for the annual inflation rate, which can be accomplished by converting the interim change in the National Consumer Price Index (CPI) into a multiplier ratio as shown by the formula:

$$\text{CPI Multiplier Ratio} = X / \text{CPI}$$

where: X = CPI in any given future year  
 CPI = National CPI in 2009

Multiplying the change ratio times any 2009 based cost or income figure presented in this study will yield the adjusted dollar amounts appropriate in any future year re-evaluation. However, only National CPI data should be used, as local or regional measures may vary. This information is available from the economic research departments of most banks.



<b>TABLE 8-4 20-YEAR CAPITAL IMPROVEMENT PROGRAM SUMMARY</b>	
<b>Development period</b>	<b>Project Costs</b>
Short-Term	\$124,347,535
Mid-Term	\$46,586,000
Long-Term	\$198,600,000
<b>20 Year CIP Total</b>	<b>\$369,533,535</b>

Source: The LPA Group Incorporated 2009

## 8.4 FUNDING SOURCES

To meet the anticipated need of \$369 million in improvements, the England Authority is able to draw from several funding sources in addition to airport operating revenue. Given the high cost of airport infrastructure improvements, the federal government has instituted several grant funding mechanisms to assist airports in meeting their facility needs. The other major source of funding available to airports is through the public agency operating the airport to undertake debt, through either traditional bank loans or through the issuance of bonds. The availability of funds from these funding mechanisms, as well as others, is presented below.

### 8.4.1 Airport Improvement Program

The Airport Improvement Program (AIP) provides funding for airport planning and development projects at airports included in the National Plan of Integrated Airport Systems (NPIAS). As mentioned previously, Alexandria International Airport is classified in the NPIAS as a primary commercial service airport. This classification defines the funding category set up by Congress within which the Airport will be placed and compete for federal funds to assist in Airport development. The goal of this funding is to develop and maintain a nationwide system of public-use airports adequate to meet current and projected growth of civil aviation.

The Airport and Airway Trust Fund, originally established by the Airport and Airway Revenue Act of 1970, generates funds through various aviation taxes, including a domestic passenger ticket tax, a passenger flight segment tax, a passenger ticket tax at rural airports, general aviation fuel tax, commercial fuel tax, international flight tax, and frequent flyer taxes, among others and apportions these revenues based on airport type. The current AIP legislation apportions both entitlement funds and discretionary funds. The distribution of entitlement funding at a primary airport, such as AEX, is apportioned based upon the number of enplanements, or passenger boardings, at the Airport. The base for the normal disbursement of funds is calculated as follows:

- \$7.80 for each of the first 50,000 passenger boardings;



- \$5.20 for each of the next 50,000 passenger boardings;
- \$2.60 for each of the next 400,000 passenger boardings;
- \$0.65 for each of the next 500,000 passenger boardings; and
- \$0.50 for each passenger boarding in excess of 1 million.

Vision 100 – Century of Flight Authorization Act of 2003, which was signed into law on December 14, 2003, increased AIP funding from \$3.4 billion to \$3.7 billion through fiscal year 2007. Essentially, this legislation continued a doubling of the apportionment funding under a “Special Rule” for primary airports. Therefore, the following revenues per passenger enplanement were used as applicable to project anticipated funding at AEX through 2007.

- \$15.60 for each of the first 50,000 passenger boardings;
- \$10.40 for each of the next 50,000 passenger boardings;
- \$5.20 for each of the next 400,000 passenger boardings;
- \$1.30 for each of the next 500,000 passenger boardings; and
- \$1.00 for each passenger boarding in excess of 1 million.

Additionally, airports with service by all-cargo carriers, which are defined as air carriers that only transport cargo, are awarded cargo entitlements through the AIP program. These funds are given out to airports based upon what percent the airport’s activity is of the national total landed weight of cargo aircraft operations at all eligible airports.

Thus, in projecting AIP funding over the 20-year planning period, passenger entitlements were assumed based on current rules. According to AIP program guidance, entitlement determinations are based upon the enplaned passenger levels for the calendar year two years prior to the then current federal fiscal year. For example, calendar year 2007 enplanement levels are used to determine AIP entitlements for federal fiscal year 2009. For planning purposes, it was assumed that the AIP would be re-authorized for the “Special Rule” to continue the doubling of AIP entitlements. Enplanement data shown was derived from the forecast chapter developed earlier in this report. A review of the table below denotes that the increase in passenger enplanements should allow the airport to increase its AIP entitlements respectively. As shown below in **Table 8-5**, AIP funding should increase from \$1.4 million in 2009 to over \$2.0 million in 2028.

<b>Year</b>	<b>Preferred Enplanements</b>	<b>1<sup>st</sup> 50k enplanements</b>	<b>2<sup>nd</sup> 50k enplanements</b>	<b>Enplanements &gt;100k but &lt;400k</b>	<b>Total</b>
2009	129,005	\$780,000	\$520,000	\$150,826	\$1,450,826
2010	133,026	\$780,000	\$520,000	\$171,735	\$1,471,735
2011	137,612	\$780,000	\$520,000	\$195,582	\$1,495,582



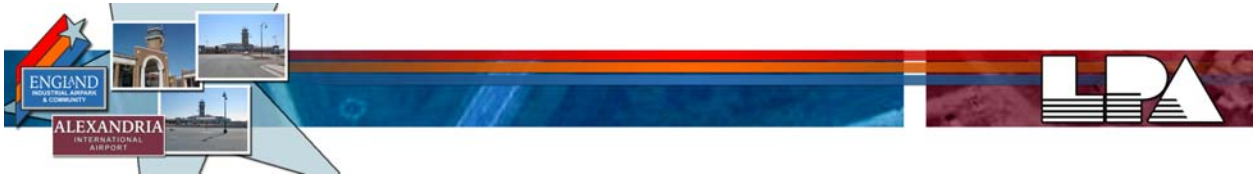
**TABLE 8-5  
AIP FUNDING CALCULATIONS**

Year	Preferred Enplanements	1 <sup>st</sup> 50k enplanements	2 <sup>nd</sup> 50k enplanements	Enplanements >100k but <400k	Total
2012	142,198	\$780,000	\$520,000	\$219,430	\$1,519,430
2013	146,784	\$780,000	\$520,000	\$243,277	\$1,543,277
2014	151,370	\$780,000	\$520,000	\$267,124	\$1,567,124
2015	156,618	\$780,000	\$520,000	\$294,414	\$1,594,414
2016	161,866	\$780,000	\$520,000	\$321,703	\$1,621,703
2017	167,114	\$780,000	\$520,000	\$348,993	\$1,648,993
2018	172,362	\$780,000	\$520,000	\$376,282	\$1,676,282
2019	177,610	\$780,000	\$520,000	\$403,572	\$1,703,572
2020	183,890	\$780,000	\$520,000	\$436,226	\$1,736,226
2021	190,169	\$780,000	\$520,000	\$468,880	\$1,768,880
2022	196,449	\$780,000	\$520,000	\$501,534	\$1,801,534
2023	202,728	\$780,000	\$520,000	\$534,188	\$1,834,188
2024	209,008	\$780,000	\$520,000	\$566,842	\$1,866,842
2025	216,602	\$780,000	\$520,000	\$606,332	\$1,906,332
2026	224,197	\$780,000	\$520,000	\$645,823	\$1,945,823
2027	231,791	\$780,000	\$520,000	\$685,314	\$1,985,314
2028	239,386	\$780,000	\$520,000	\$724,805	\$2,024,805
AAGR 2007-27	3.30%				

Enplaned passengers shown above are for the calendar year two years prior to the calculated year. For example, for year 2009, the enplaned passengers are given for the calendar year of 2007. Intermediate years were interpolated from milestone forecast years by using a linear regression. Source: The LPA Group Incorporated 2009

In addition to entitlement funds, the FAA also distributes discretionary funding. Discretionary funding is made up of two types: “set-aside” funds and “remaining” funds. The “set-aside” funds are allocated for noise compatibility programs and the military airport program. The “remaining” discretionary funds are used primarily for projects that enhance capacity, safety, security, and noise compatibility programs at primary and reliever airports; however, a portion of these remaining discretionary funds are purely discretionary, which may be used for any eligible project at any airport.

Project eligibility for FAA AIP funding is based on guidelines set forth in FAA Order 5100.38B, which is entitled “The Airport Improvement Handbook.” Generally, all airport improvement and development projects qualify for funding except for those facilities that



generate revenues or those projects associated with revenue-producing facilities. Under most circumstances, projects at small and non-hub airports that qualify for AIP funding (except terminal development) are eligible for up to 90 percent of total project costs. However, the latest AIP authorizing legislation, Vision 100, raised the eligibility cap to 95 percent for airports classified as “small hub” or smaller through federal fiscal year 2007. This funding rate has continued through 2008 and for the purpose of this report, these funds are expected to continue at this rate throughout the planning period. In determining the eligible project costs, FAA eligibility rules were observed as well as a 95 percent federal share for all AIP projects.

### 8.4.2 Passenger Facility Charges

The Aviation Safety and Capacity Expansion Act of 1990 and Part 158 of the Federal Aviation Regulations sets forth the guidelines of the Passenger Facility Charge (PFC) Program, which authorizes commercial service airports to collect a PFC, which at that time was capped at \$3.00 per revenue enplanement. PFCs are revenues generated from a charge imposed on enplaning revenue passengers, who have paid for their ticket instead of those that redeem flight vouchers or frequent flier points. These PFC funds are then used to finance capital improvements that have been identified by the England Authority and approved by the FAA prior to PFC implementation. The England Authority can utilize these fees to fund FAA-approved projects that enhance safety, security, or capacity; reduce noise; or increase air carrier competition. Current legislation allows up to a \$4.50 PFC to be imposed on revenue passengers enplaning at an airport. The airline collecting the PFC is allowed to keep a handling fee to cover their program administration costs. This rate had initially been set at \$0.08 per PFC collected; however, effective May 1, 2004, the airline handling fee was raised to \$0.11 per PFC collected by the airline.

For the PFC projections in this study, calculations estimate revenue passengers equal to 95 percent of the airport’s projected enplanements. These funds can be used to pay the annual debt service related to PFC eligible projects when approved by the FAA. In its PFC Application, the England Authority anticipates collecting PFCs at the \$4.50 level through the remainder of the planning period. The projected PFC collections shown in **Table 8-6** represent the amount of PFC funds that the airport could expect through the year 2028 based on the previously forecasted passenger projections.

Year	Enplanements	PFC Funds*
2008	133,026	\$568,686
2009	137,612	\$588,291
2010	142,198	\$607,896
2011	146,784	\$627,502
2012	151,370	\$647,107



Year	Enplanements	PFC Funds*
2013	156,618	\$669,542
2014	161,866	\$691,977
2015	167,114	\$714,412
2016	172,362	\$736,848
2017	177,610	\$759,283
2018	183,890	\$786,128
2019	190,169	\$812,973
2020	196,449	\$839,819
2021	202,728	\$866,664
2022	209,008	\$893,509
2023	216,602	\$925,975
2024	224,197	\$958,441
2025	231,791	\$990,907
2026	239,386	\$1,023,373
2027	246,980	\$1,055,840
2028	246,567	\$1,054,075

PFC funds for each year are based upon 95% of passenger enplanements of that year multiplied by \$4.50.

Red text represents a linear forecast regression from the previous milestone year.

Source: The LPA Group Incorporated 2009

Local funding for projects is typically paid through airport reserves, project allocations, or through the England Authority’s general fund. Although PFC revenues are often eligible as a source for local project funding, these funds are often not received until a project is either under construction or has been completed. Therefore, as PFC reimbursements are realized, local funding sources are reimbursed by the PFC collections.

### 8.4.3 Alternate Funding Options

As demonstrated earlier, the England Authority needs approximately \$369 million to cover capital developments from 2009 through the end of the planning period. Thus, it is prudent for the England Authority to continue to seek other sources of funding in order to provide the necessary facilities in a timely manner. Other potential sources of funds, other than undertaking a greater debt burden amount, include non-conventional federal, state, and local government programs as well as private capital investments, some of which are identified below:



State Agencies: In support of the State airport system, the Louisiana Department of Transportation and Development (LADOTD) participates in the development of airport improvements. Presently, the State contributes 5 percent of the local share on projects funded with grant monies.

FAA Discretionary Grants:

With respect to discretionary grants, it is very difficult to predict reasonable levels that can be applied to the CIP given today's status concerning federal funding of airport-related capital projects. To the extent that projected discretionary grants are not received, the airport may have to reevaluate the phasing of the CIP in the future.

Private Sources: This group of potential funds could include private businesses as well as non-profit grant agencies. While private funding may not be available to make terminal or airfield improvements, private funds may be used to cover some development costs associated with larger corporate hangars or with the development of a business park. These sources are typically comprised of investors or business owners that are willing to invest their own funding for the sake of earning a profit. Funding in this category is likely to be limited, but the England Authority should seek to identify these potential funding sources.

User Charges: Airport user charges include aircraft landing fees; apron, parking fees, fuel flowage fees, land leases, and terminal rental fees from concessionaires or from other aviation or non-aviation businesses that may wish to be located in close proximity to the airport operation.

Bonds / Special Facility Bonds: Most airport bond financing in the past has been comprised of tax-exempt general airport revenue bonds (GARBS), which are secured by an airport's future revenue potential. General aviation airports are the most common user of general obligation bonds for airport development. Special facility bonds are issued by the airport's sponsors in order to obtain tax-exempt status. The special facility bonds are secured by the revenue from the indebted facility, such as a terminal, hangar, or maintenance facility, rather than by the airport's general revenue.

## **8.5 LANDSIDE CAPITAL IMPROVEMENT PROGRAM**

Similar to the ACIP, a separate Landside CIP (LCIP) was developed in order to demonstrate the Authority's intentions to improve and develop landside features in conjunction with airside (aviation) related improvements. Landside project costs include the removal of existing structures in the Airpark Town Core; public infrastructure improvements necessary to accommodate development as proposed in the Strategic Land Use Framework; and the construction of buildings consistent with the development programming elements identified in the refined design concepts. In addition, many public improvements have been included in the LCIP. These projects include new streets, pedestrian links and trails, green spaces and parks, and recreational amenities. The LCIP is broken down into phasing periods similar to



the ACIP; however, neither project years nor priority numbers were assigned to individual projects due to the complexity and magnitude of these projects. Nevertheless, the projects shown have been segregated into development periods (short – (2009-2013), mid – (2014-2018), and long-term (2019-2028) periods. The cost projections shown should be used for planning purposes only and do not imply that funding for these will necessarily be available now or in the future.

### 8.5.1 Short-Term Developments

The short-term development program includes the construction of new warehouse buildings along Frank Andrews Boulevard and the development of visible, auto-oriented retail space at the proposed Market Square. Building demolition costs slated for the short-term include the removal of several buildings including two remaining barracks structures and administrative buildings along England Drive. In addition to demolition and construction, there are also several public realm improvements, such as roundabouts at the intersections of Vandenburg Drive / England Drive, and Chappie James Ave./ Frank Andrews Blvd., as well as proposed pedestrian trails and common green spaces. A description of the landside short-term projects and associated costs are shown in **Table 8-7**.

<b>TABLE 8-7</b>					
<b>LANDSIDE SHORT-TERM IMPROVEMENT COSTS</b>					
	Quantity	Unit	Unit Cost	Total Cost	
<b>Building Demolition</b>	1,413,855	CF	\$1.00	<b>\$1,413,855.00</b>	Assumes structural removal (cubic feet) = (square feet) × (15' height in feet) Assumes mix of structure type (steel, concrete and/or masonry) Assumes demo of foundation and hauling of materials Assumes all buildings are 1-story in height
<b>Public Realm</b>					
<i>2 Roundabouts</i>	1	LS	\$2,875,000	<b>\$2,875,000.00</b>	Roundabout costs supplied by Pan American: (England Road = \$1,537,000; Chappie James Ave = \$1,338,000)
<i>Walks /Promenades</i>	138,000	SF	\$6.25	<b>\$862,500.00</b>	Assume 12' wide pedestrian promenade
<i>Trails</i>	26,100	LF	\$4.00	<b>\$104,400.00</b>	Assume 5' wide asphalt trail
<i>Greenspace /Lawns</i>	100,593	SF	\$1.50	<b>\$150,889.50</b>	Includes lawn and irrigation
<i>Buffers</i>	66,942	SF	\$2.50	<b>\$167,355.00</b>	Includes buffer landscaping and irrigation



TABLE 8-7 LANDSIDE SHORT-TERM IMPROVEMENT COSTS					
	Quantity	Unit	Unit Cost	Total Cost	
<b>Parking</b>	621,310	SF	\$15.50	<b>\$9,630,305.00</b>	Assumes all surface parking
<b>Building Construction</b>					Assumes contractor's overhead and profit; does not include land costs or architectural fees
<i>Warehouse</i>	320,000	SF	\$60	<b>\$19,200,000.00</b>	All unit costs are median costs
<i>Retail</i>	32,850	SF	\$84	<b>\$2,759,400.00</b>	
<i>Apartment</i>	17	unit	\$95,500	<b>\$1,623,500.00</b>	
<b>England Estates</b>	0.5	LS	\$51,240,156.50	<b>\$25,620,078.25</b>	See England Estates spreadsheet for detailed breakout
				<b>\$64,407,282.75</b>	<b>TOTAL SHORT-TERM COST</b>

All costs derived from the 2009 RSMeans Building Construction Cost Data  
 All costs are raw costs and do not include Contractor markup

### 8.5.2 Mid-Term Developments

The focus of development during the mid-term planning period is on building demolition and housing and retail development. Buildings strategically located along Frank Andrews Drive corridor are to be removed in preparation of future developments or for public improvements. New housing development is planned within England Estates and retail and residential development is to occur within the Market Square area. **Table 8-8** illustrates the various improvements and associated costs for the many projects scheduled to occur during the mid-term planning period.

TABLE 8-8 LANDSIDE MID-TERM IMPROVEMENT COSTS					
	Quantity	Unit	Unit Cost	Total Cost	
<b>Building Demolition</b>	1,329,960	CF	\$1.00	<b>\$1,329,960.00</b>	Assumes structural removal (cubic feet) = (square feet) × (15' height in feet) Assumes mix of structure type (steel, concrete and/or masonry) Assumes demo of foundation and hauling of materials Assumes all buildings are 1-story in height
<b>Public Realm</b>					



**TABLE 8-8  
LANDSIDE MID-TERM IMPROVEMENT COSTS**

	Quantity	Unit	Unit Cost	Total Cost	
<i>Streets</i>	5,188	LF	\$60	<b>\$311,280.00</b>	Roundabout cost not included
<i>Greenspace /Lawns</i>	105,150	SF	\$1.50	<b>\$157,725.00</b>	Includes lawn and irrigation
<i>Parks</i>	132,904	SF	\$4.00	<b>\$531,616.00</b>	Includes park landscaping and irrigation
<i>Buffers</i>	98,030	SF	\$2.50	<b>\$245,075.00</b>	Includes buffer landscaping and irrigation
<b>Parking</b>	499,400	SF	\$15.50	<b>\$7,740,700.00</b>	Assumes all surface parking
<b>Building Construction</b>					Assumes contractor's overhead and profit; does not include land costs or architectural fees
<i>Office</i>	229,900	SF	\$120	<b>\$27,588,000.00</b>	
<i>Warehouse</i>	120,500	SF	\$60	<b>\$7,230,000.00</b>	All unit costs are median costs
<i>Retail</i>	29,600	SF	\$84	<b>\$2,486,400.00</b>	
<i>Apartment</i>	187	unit	\$95,500	<b>\$17,858,500.00</b>	
<i>Hotel</i>	168	unit	\$68,000	<b>\$11,424,000.00</b>	
<i>Restaurant</i>	24,000	SF	\$172	<b>\$4,128,000.00</b>	
<i>Education</i>	281,600	SF	\$152	<b>\$42,803,200.00</b>	
<i>Warehouse/Office</i>	51,800	SF	\$66	<b>\$3,418,800.00</b>	
<b>England Estates</b>	0.5	LS	\$51,240,156	<b>\$25,620,078</b>	See England Estates spreadsheet for detailed breakout
				<b>\$152,873,334.25</b>	<b>TOTAL MID-TERM COST</b>

*All costs derived from the 2009 RSMeans Building Construction Cost Data  
All costs are raw costs and do not include Contractor markup*

### 8.5.3 Long-Term Developments

The long-term LCIP project costs include the construction of a signature office space along Frank Andrews near the commercial terminal; the construction of additional office space near Frank Luke Boulevard and the Market Square; and development of the Westside Business/Industrial campus. Project costs associated with the industrial campus reflect site preparation and infrastructure installation, including on-site streets, water and wastewater utilities, stormwater retention, open space, telecommunications, electrical systems and off-site street improvements. However, the campus costs shown are solely building demolition and infrastructure improvements and do not include new building construction or land acquisition.



**Table 8-9** depicts the many projects and associated costs that are slated to occur during the long-term planning period.

<b>TABLE 8-9 LANDSIDE LONG-TERM IMPROVEMENT COSTS</b>					
	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total Cost</b>	
<b>Building Demolition</b>	812,985	CF	\$1.00	<b>\$812,985.00</b>	Assumes structural removal (cubic feet) = (square feet) × (15' height in feet) Assumes mix of structure type (steel, concrete and/or masonry) Assumes demo of foundation and hauling of materials Assumes all buildings are 1-story in height
<b>Public Realm</b>					
<i>Tennis Courts</i>	2	unit	\$35,000.00	<b>\$70,000.00</b>	Complete court with fence, etc., asphaltic concrete
<b>Parking</b>	85,000	SF	\$15.50	<b>\$1,317,500.00</b>	Assumes all surface parking
<b>Building Construction</b>					Assumes contractor's overhead and profit; does not include land costs or architectural fees
<i>Office</i>	50,000	SF	\$120	<b>\$6,000,000.00</b>	
<i>Warehouse/Office</i>	35,000	SF	\$66	<b>\$2,310,000.00</b>	
<b>Westside Campus</b>	1	LS	\$83,638,500	<b>\$83,638,500.00</b>	See Westside spreadsheet for assumptions
				<b>\$94,148,985.00</b>	<b>TOTAL LONG-TERM COST</b>

*All costs derived from the 2009 RSMeans Building Construction Cost Data  
All costs are raw costs and do not include Contractor markup*

### 8.5.4 England Estates

Although improvements and developments within the England Estates subdivision have been shown previously in two planning phases (short and mid, term), it was deemed important to isolate these costs to show the overall development costs associated within this area. The 20-year development costs that are expected to occur within England Estates during the planning period are shown in **Table 8-10**.



<b>TABLE 8-10 ENGLAND ESTATES IMPROVEMENT COSTS</b>					
	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total Cost</b>	
<b>Building Demolition</b>	112	unit	\$10,000.00	<b>\$1,120,000.00</b>	Assumes structural removal (cubic feet) = (square feet) × (15' height in feet) Assumes mix of structure type (steel, concrete and/or masonry) Assumes demo of foundation and hauling of materials Assumes all buildings are 1-story in height
<b>Public Realm</b>					
<i>Streets</i>	17,092	LF	\$60	<b>\$1,025,520.00</b>	Includes streets and alleys
<i>Walks /Promenades</i>	43,150	SF	\$4.25	<b>\$183,387.50</b>	Assume 5' wide sidewalks adjacent to streets only (no alleys included)
<i>Greenspace /Lawns</i>	300,770	SF	\$1.50	<b>\$451,155.00</b>	Includes lawn and irrigation
<i>Parks</i>	101,707	SF	\$4.00	<b>\$406,828.00</b>	Includes park landscaping and irrigation
<i>Buffers</i>	128,757	SF	\$2.50	<b>\$321,892.50</b>	Includes buffer landscaping and irrigation
<b>Parking</b>	123,637	SF	\$15.50	<b>\$1,916,373.50</b>	Assumes all surface parking
<b>Building Construction</b>					Assumes contractor's overhead and profit; does not include land costs or architectural fees
<i>Apartment</i>	150	unit	\$95,500	<b>\$14,325,000.00</b>	
<i>Townhome</i>	73	unit	\$145,000	<b>\$10,585,000.00</b>	
<i>Single Family Home</i>	113	unit	\$185,000	<b>\$20,905,000.00</b>	
				<b>\$51,240,156.50</b>	<b>ENGLAND ESTATES COST</b>

All costs derived from the 2009 RSMeans Building Construction Cost Data  
All costs are raw costs and do not include Contractor markup

### 8.5.5 Westside Improvements (Industrial Park)

Westside campus improvements slated to occur during the long-term planning period were also deemed significant and therefore required an isolated cost estimate. As pointed out earlier, the main purpose of developing this area is to prepare the site with necessary utility infrastructure and access such that the site is enticing to future developers and large scale industrial, warehousing and business tenants. Ultimately the revenues invested in the development of this area should provide dividends for many years to come in the form of long-term land leases. The site development costs associated with the Westside improvements are shown in **Table 8-11**.



<b>TABLE 8-11 WESTSIDE IMPROVEMENT COSTS</b>					
	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total Cost</b>	
<b>Site Development</b>	822	Acre	\$101,750.00	<b>\$83,638,500.00</b>	No structure to be removed in New Town area
					Does not include land acquisition
				<b>\$83,638,500.00</b>	<b>WESTSIDE COST</b>

All costs derived from the 2009 RSMeans Building Construction Cost Data  
All costs are raw costs and do not include Contractor markup

### 8.5.6 Landside CIP Summary

This combined development program will provide the landside facilities required to capture additional revenue streams and also to meet the housing, retail, aesthetic, and infrastructure improvements required during the 20-year planning period. As shown in **Table 8-12**, the costs associated with the LCIP are expected to exceed \$312 million. Similar to the ACIP projects, the LCIP project cost estimations were determined in 2009 dollars; thus, as time expires, these values should be re-evaluated and adjusted as necessary in accordance with the annual inflation rate.

<b>TABLE 8-12 LANDSIDE CAPITAL IMPROVEMENT (LCIP) SUMMARY</b>					
	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total Cost</b>	
<b>Building Demolition</b>	3,556,800	CF	\$1.00	<b>\$3,556,800.00</b>	Assumes structural removal (cubic feet) = (square feet) × (15' height in feet) Assumes mix of structure type (steel, concrete and/or masonry) Assumes demo of foundation and hauling of materials Assumes all buildings are 1-story in height
<b>Public Realm</b>					
<i>Streets</i>	5,188	LF	\$60	<b>\$311,280.00</b>	Roundabout costs supplied by Pan American: (England Road = \$1,537,000; Chappie James Ave = \$1,338,000)
<i>2 Roundabouts</i>	1	LS	\$2,875,000	<b>\$2,875,000.00</b>	
<i>Walks/Promenades</i>	138,000	SF	\$6.25	<b>\$862,500.00</b>	Assume 12' wide pedestrian promenade
<i>Trails</i>	26,100	LF	\$4.00	<b>\$104,400.00</b>	Assume 5' wide asphalt trail
<i>Greenspace/Lawns</i>	205,743	SF	\$1.50	<b>\$308,614.50</b>	Includes lawn and irrigation



**TABLE 8-12  
LANDSIDE CAPITAL IMPROVEMENT (LCIP)  
SUMMARY**

	Quantity	Unit	Unit Cost	Total Cost	
<i>Parks</i>	132,904	SF	\$4.00	<b>\$531,616.00</b>	Includes park landscaping and irrigation
<i>Buffers</i>	164,972	SF	\$2.50	<b>\$412,430.00</b>	Includes buffer landscaping and irrigation
<i>Tennis Courts</i>	2	unit	\$35,000.00	<b>\$70,000.00</b>	Complete court with fence, etc., asphaltic concrete
<b>Parking</b>	1,205,710	SF	\$15.50	<b>\$18,688,505.00</b>	Assumes all surface parking
<b>Building Construction</b>					Assumes contractor's overhead and profit; does not include land costs or architectural fees
<i>Office</i>	279,900	SF	\$120	<b>\$33,588,000.00</b>	
<i>Warehouse</i>	440,500	SF	\$60	<b>\$26,430,000.00</b>	All unit costs are median costs
<i>Retail</i>	62,450	SF	\$84	<b>\$5,245,800.00</b>	
<i>Apartment</i>	204	unit	\$95,500	<b>\$19,482,000.00</b>	
<i>Townhome</i>		unit			
<i>Single Family Home</i>		unit			
<i>Hotel</i>	168	unit	\$68,000	<b>\$11,424,000.00</b>	
<i>Restaurant</i>	24,000	SF	\$172	<b>\$4,128,000.00</b>	
<i>Education</i>	281,600	SF	\$152	<b>\$42,803,200.00</b>	
<i>Warehouse/Office</i>	106,700	SF	\$66	<b>\$7,042,200.00</b>	
<b>England Estates</b>	1	LS	\$51,240,156.50	<b>\$51,240,156.50</b>	See England Estates spreadsheet for detailed breakout
<b>Westside Campus</b>	1	LS	\$83,638,500	<b>\$83,638,500.00</b>	See Westside spreadsheet for assumptions
				<b>\$312,743,002.00</b>	<b>TOTAL COST</b>

*All costs derived from the 2009 RSMeans Building Construction Cost Data  
All costs are raw costs and do not include Contractor markup*

## 8.6 FINANCIAL FEASIBILITY

To be provided.