

Master Plan Update

Palm Beach International Airport Master Plan Update

PREPARED FOR
Palm Beach County
Department of Airports

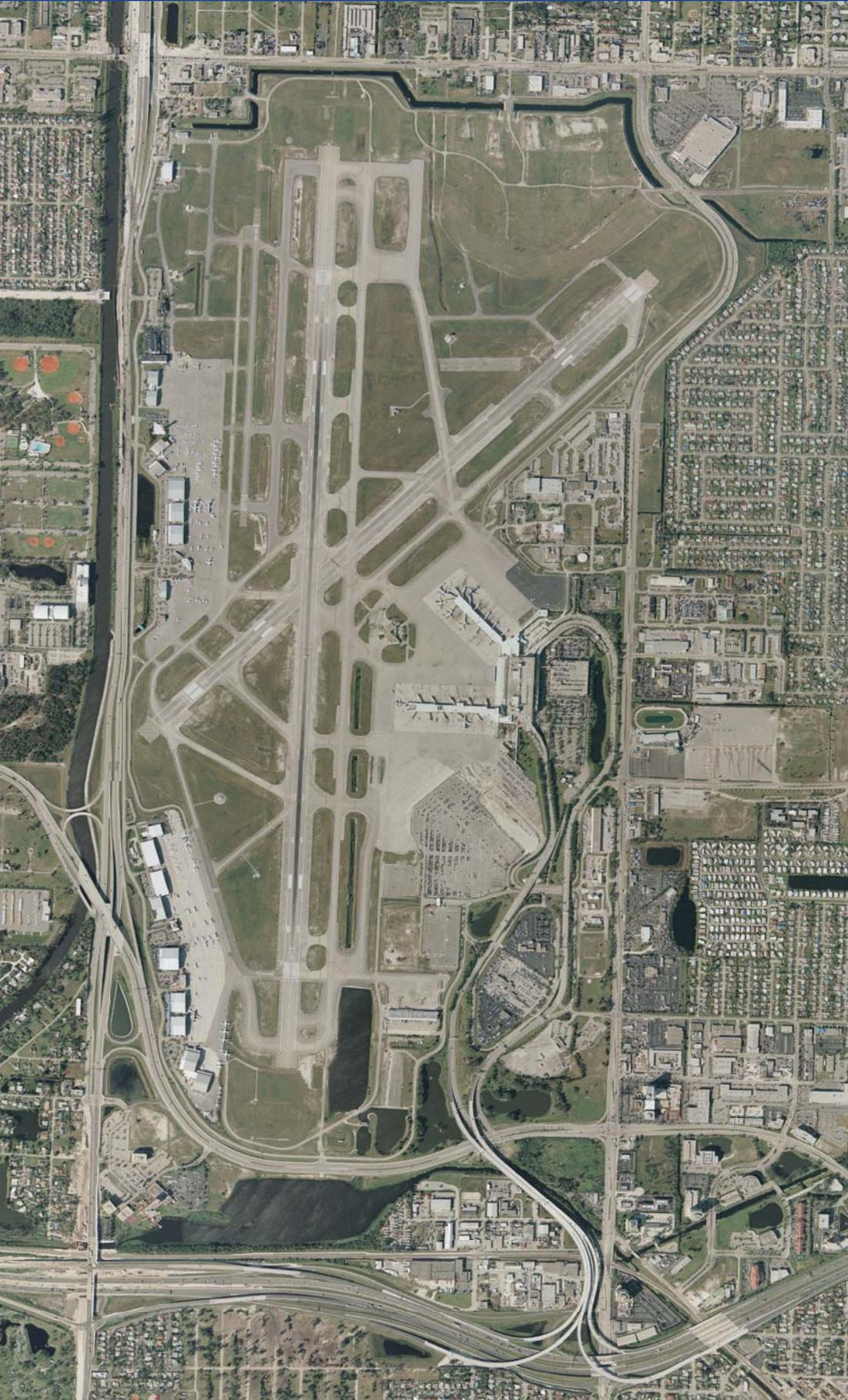
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PREPARED BY



IN ASSOCIATION WITH
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Master Plan Update

As defined by the Federal Aviation Administration (FAA) in Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*, a master plan is defined as a concept for potential long-term development of an airport. It entails a series of planning steps that analyze how expected future aviation demand can best be accommodated, including a graphical representation of the findings.

The goal of a master plan is to provide solutions that will satisfy the expected future needs of an airport in a financially feasible manner, while accounting for the surrounding community, local environment, and socioeconomic factors. Additionally, because future travel demand will change over time, a master plan must allow the airport flexibility to implement different projects to meet actual demand. Airport planning begins with a careful assessment of existing facilities and current airport use, and projections of aviation demand over a specific timeframe, also known as the “planning period.” The planning period here is the 20-year period **2005-2025**.

The recommendations provided in a master plan are technically sound and meet FAA standards, but are only recommendations: implementation of any projects can occur only as warranted by need. The recommendations outlined in the plan are also subject to further FAA review and environmental/feasibility studies before implementation.

Palm Beach County System of Airports

The PBC Department of Airports (DOA) owns and operates a system of four airports; Palm Beach International Airport (PBI), Palm Beach Park Airport (LNA), Palm Beach County Glades Airport (PHK), and North Palm Beach County General Aviation Airport (F45).

PBI is the center for all commercial air carrier service into Palm Beach County, while together, LNA, PHK, and F45 accommodate most of the general aviation demand in the region. Both LNA and F45 are designated as a “reliever airport” by the FAA. As reliever airports, F45 and LNA relieve congestion at Palm Beach International Airport, by providing an alternate venue for general aviation traffic. The County chose to update all four master plans, rather than only PBI’s plan, for the purpose of assuring that the relievers can continue to fulfill their missions of offloading PBI as well as meeting local general aviation (GA) demand.

Specific goals and objectives were developed as guidelines in assessing various alternatives for future development for the system of airports. The goals were identified as the following:

- Accommodate passenger demand while maintaining the highest level of customer service and convenience possible, including an emphasis on low delay and congestion levels.

- ➔ Refine and validate selected long-term airport improvements that meet forecast airline, corporate, and general aviation system demand, while providing flexibility to respond to actual demand.
- ➔ Develop an enhancement plan that meets FAA standards, is financially sound, environmentally responsible, and consistent with the County's established good neighbor programs.

PBI Executive Summary

Timing of the Plan

The aviation industry is volatile and has experienced significant change and fluctuations since the completion of the 2001 Strategic Plan.¹ The aviation industry has faced the double impact of an economic recession in late 2000 and through much of 2001, and the terrorist attacks of September 11, 2001. Combined with major fuel price increases, these events also contributed significantly to the bankruptcy filings by United Airlines, US Airways, Delta Airlines, and Northwest Airlines. Additionally, recent population growth in South Florida, increased low-cost carrier (LCC) service, and increased corporate jet activity all contribute to the need for a near-term capacity increase at PBI, to accommodate this increase in demand for air transportation at a high level of passenger convenience.

As a result of the growth in passenger activity as well as anticipated growth in GA activity and lack of attainable significant near-term airport capacity improvements, the need for additional capacity in South Florida has been documented in several studies over the past two years². The U.S. DOT Inspector General in *Outlook for Aviation Delays in the Summer of 2005* and *Actions Needed to Mitigate Congestion in the Short and Long Term* lists PBI as an airport with high delay. In addition, the FAA issued a report in June 2004 entitled *Capacity Needs in the National Airspace System*, which cited PBI as needing additional capacity by 2013.

While the planning horizon of the 2001 Strategic Plan was 20 years, considering FAA guidance, as well as increasing needs, Palm Beach County (PBC) started this update approximately five years later. According to FAA AC 150/5070-6B, five year forecasts “are used to justify near-term development and support operational planning and environmental improvement programs.” Long-term forecasts, identified as ten years and beyond, are helpful for general planning, such as master planning. Following this guidance, the DOA will update this master plan again in approximately five years.

PBI History

PBI had its beginning in 1936 as Morrison Field, named after Grace K. Morrison, a pioneer in the early planning and organizing which culminated in the establishment of the field. The inaugural airline flight was made by a New York-bound Eastern Air Lines DC-2 which departed Miami, landed at West Palm Beach and 11 other cities, arriving in New York 13-1/2 hours after leaving Morrison Field. The field was officially dedicated and opened on December 19, 1936 with nothing more than the runway and a small administration building.

¹ The 2001 Strategic Plan preceded this MPU and was conducted by Ricondo & Associates, Inc., September 2001.

²The PBC DOA is already pursuing interim improvements that provide small capacity benefits, such as high speed exits on Runway 9L/27R. In addition, the FAA has restructured regional airspace to reduce airspace related delays for airports in south Florida, including PBI.



National and Eastern Air Lines planes.
Photos: Florida State Archives

The U.S. Army Air Corps converted Morrison Field for military purposes in 1941. Six years later, military operations were transferred to Mobile, Alabama, and Morrison Field was closed. It reopened in September of 1947 when the Palm Beach County government took over the two-story Air Force operations building on the north side of the airport for use as a passenger terminal. The airport was renamed Palm Beach International Airport in August 1948.

With the advent of the Korean War, the Air Force reactivated Morrison Air Force Base in September 1951. Civilian operations and the passenger terminal were again relocated to the south side of the field, first in a hangar and then in an adjacent building.

Nearly 23,000 airmen trained in West Palm Beach during the Korean War. After the war and after several years of fighting the federal government's efforts to make the airport a permanent military base, the County permanently took over airport operations in 1959.

In the 1940s –only Eastern Air Lines and National served West Palm Beach. Thereafter, new airlines arrived in a steady stream: Bahamas Air (1950), Q Airways (1952), Mackey (1953), Riddle – air freight only (1955), Capital – one year only (1954), Delta Air Lines (1960), and United (1961).

Today, PBI is classified by the FAA as a medium hub airport, supporting 16 commercial and commuter airlines. Over 6.82 million passengers passed through PBI in 2006 and total operations (takeoffs and landings) were approximately 160,300. Just under 19,000 tons of air cargo passed through PBI, connecting West Palm Beach and its environs to the global economy.

Activity Forecasts, Key Underpinnings of the Master Plan

Historic Aviation Activity

While an array of factors affect or influence aviation demand to one degree or another, there are several significant changes that have occurred in the industry since the completion of the 2001 Strategic Plan. These factors include:

- ➔ Growth in the low cost carrier (LCC) segment
- ➔ Reduction in the gauge of the aircraft fleet
- ➔ Retirement of aircraft such as the Boeing 767-200 and 737-200
- ➔ Expansion of the role and changes in the nature of regional airlines
- ➔ Improved airfield performance, range, and cabin comfort of regional jet
- ➔ Increasing number of markets being turned over to regional
- ➔ Equalization between Legacy and LCC airfare.

Following completion of this forecast, the FAA adjusted the Terminal Area Forecast (TAF) to reflect the growth rates used in the PBI Master Plan.

Enplanements

PBI is a “so-called” spoke airport, serving many locally originating and terminating business and leisure passengers, rather than travelers connecting on to other locations. A majority of aircraft operations consist of GA and corporate users. Between 1979 and 1988, **enplaned passenger levels** at PBI doubled, with enplanements (persons boarding a flight) increasing from approximately 1.2 million to more than 2.5 million over the course of the 10-year period. In the next 10 years, while PBI saw an increase in passenger enplanements, this increase was significantly below the rate that occurred in the 1979 to 1988 time period. Enplaned passenger growth peaked in 1990 at 2.85 million passengers, dropping to 2.54 million enplaned passengers in 1991. During this time, the nation experienced another economic recession and faced the uncertainty of travelers related to the potential safety of air travel stemming from growing tensions in the Middle East. As conditions improved, enplaned passenger activity began to return to a pattern of growth. However, the level of enplaned passengers did not regain the level experienced in 1990 until 1996, when enplaned passenger levels once again attained the 2.85 million level. From 1996 through the end of 2000, growth in enplaned passengers remained relatively static, with total enplaned passengers fluctuating between 2.85 million and 2.93 million.

In September 2001, the U.S. experienced the worst terrorist attack in its history and at the same time, the U.S. economy, which had experienced the single longest period of expansion in the nation’s history between 1994 through the end of 2000, entered a recession. These two events combined to devastate much of the commercial airline industry in the U.S. and are reflected in the passenger enplanement levels experienced at PBI immediately after 2001. By year-end 2001, passenger enplanements had reached their highest recorded level (2.97 million) up to that time, after which these levels dropped by 230,000 enplaned passengers in 2002. Several factors contributed to this decrease in passengers, which included a reduction in business travel, the increased “hassle factor” associated with new security screening requirements, and continued concerns about the security of air travel. These factors appear to have had a lesser impact on PBI than has been the case at a large number of other U.S. domestic airports.

Since 2002, PBI has experienced one of its strongest periods of passenger growth since airline industry deregulation. From 2002 to year end 2006, enplanements increased by more than 759,000 passengers, which is roughly equivalent to the passenger growth that occurred between 1988 and 2004. Historic enplaned passenger levels are tabulated in **Exhibit ES-1**.

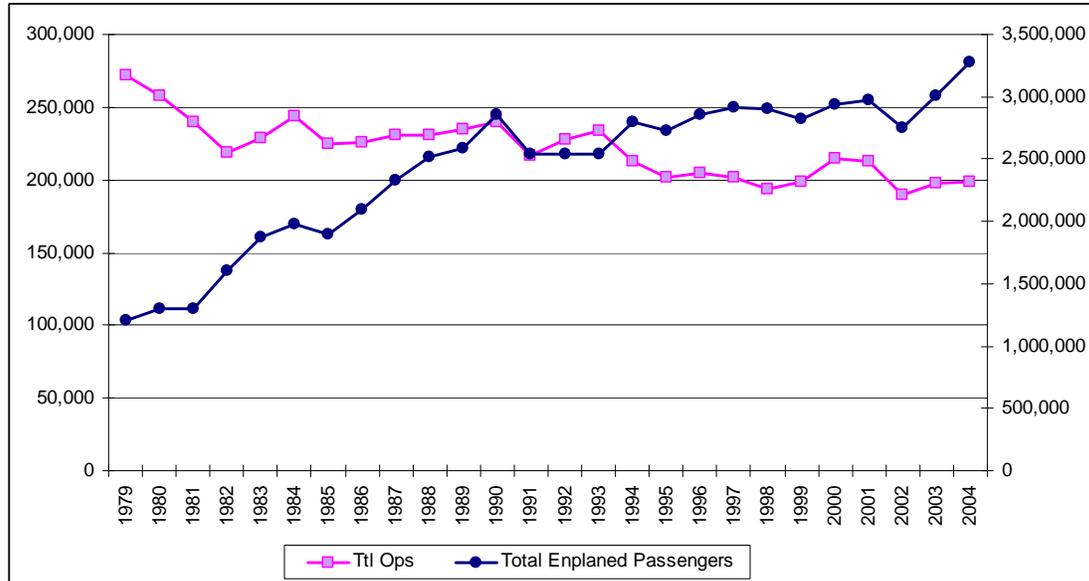
Operations

Operational activity at PBI over the past 10 years has been influenced by factors, including the growth in commercial passenger load factors, which have allowed the passenger airlines to accommodate additional passengers without having to add significantly to the number of flights used to meet added demand. Additionally, LNA and F45 help to foster the success of the County-wide system of airports, which can be seen in the general aviation operations levels at PBI, particularly in the reduction that occurred between 1994 and 1996, as F45 opened for activity. Aircraft operational activity has not reflected the level of growth that has typified the passenger activity data presented in **Exhibit ES-1**. As shown here, the

overall growth rate for enplaned passengers is 79 percent from 1979 to 2004, and total operations shown a declining trend of 56 percent from 1979-2001. These rates include the anomalies in the data in the 1990 timeframe and 2001 timeframe.

EXHIBIT ES-1

Historic Enplaned Passengers and Aircraft Operations, 1979-2004



Enplanement and Operation Forecasts

Tables ES-1 and ES-2 summarize the baseline activity forecasts for passenger enplanements and aircraft operations, respectively. As shown, total passenger enplanements are anticipated to grow at an average annual rate of **3.3 percent**, while total aircraft operations are projected to grow at an average annual rate of **1.4 percent**. In 2005, GA represented approximately 64 percent of total operations at PBI. Because of the continued shifting of general aviation activity to the two reliever airports, LNA and F45, the percentage of general aviation activity will likely decrease over the planning period. Specifically by 2025, GA is expected to account for 52 percent of PBI's activity, with many smaller propeller activity and some corporate operations relocating away from an increasingly airline-focused PBI.

TABLE ES-1

Projected Passenger Enplanements

	Domestic Enplanements			International Enplanements	Total Enplanements (mil)
	Air Carrier (mil)	Regional	Total (mil)		
Actual 2004	3.2	56,000	3.2	67,000	3.3
2005	3.4	60,000	3.5	71,000	3.5
2010	4.0	91,000	4.0	91,000	4.1
2015	4.6	140,000	4.7	120,000	4.8
2020	5.2	212,000	5.4	151,000	5.6
2025	6.0	323,000	6.3	194,000	6.5
Average Annual Growth Rate (2004-2025)	3.10%	8.70%	3.20%	5.20%	3.30%

Source: Airport Traffic Reports; FAA TAF; FAA ATADS; Ricondo and Associates, Inc.

TABLE ES-2
Projected Aircraft Operations

	Air Carrier	All Cargo	General Aviation	Air Taxi	Military	Total
Actual 2004	67,778 ¹	1,864 ²	99,861 ³	28,304 ⁴	1,301 ³	199,108 ⁵
2005	69,765	1,876	100,250	28,573	1,500	201,964
2010	77,776	1,936	101,636	29,956	1,500	212,804
2015	90,085	1,999	103,041	31,406	1,500	228,031
2020	104,999	2,063	104,465	32,927	1,500	245,954
2025	123,584	2,130	105,909	34,521	1,500	267,644
Average Annual Growth Rate (2004-2025)	2.9%	0.6%	0.3%	0.9%	0.3%	1.4%

Source: Airport Traffic Reports; FAA TAF; FAA ATADS; Ricondo and Associates, Inc.

Notes

¹ Source: Airport traffic reports

² Source: Airport traffic reports

³ Source: FAA ATADS

⁴ Source: Estimated based on the difference between the air taxi tower counts obtained from the FAA ATADS and scheduled commuter operations.

⁵ Total shown may vary from Airport traffic reports, TAF, or ATADS due to difference sources used.

Demand Capacity and Facility Requirements

The need for enhanced capacity at PBI has been building for several years. It was first identified and included in the 2001 Strategic Plan as a then-long-term need; and a long-term runway project was therefore selected and shown on the 2001 PBI Airport Layout Plan (ALP). This Master Plan Update (MPU) revalidated the need for capacity enhancements and found that due to increased growth, particularly during the peak periods, capacity improvements would be needed sooner than previously projected. Given that airfield capacity would likely be exceeded by approximately 2013, the DOA initiated a very detailed airfield and airspace computer simulation analysis.

Peak Periods Demand

While forecast annual operations in this Master Plan Update are indeed lower than the 2001 PBI MPU forecast levels, the peak hour demand is similar to the 2001 MPU. Corresponding required hourly capacity estimated in the 2001 MPU was approximately 90 to 100 operations, consistent with hourly capacity used in the Charrettes.

The reason for the similarity between hourly peaks, and difference between annual activity levels is the actual airline growth that has occurred since the 1997 forecast that was used in the 2001 plan. It was projected at the time that daily activity growth would occur in a flat distribution throughout the day. Instead, more growth occurred in the peak periods. The 2006 Forecast projects that the current-day peaking characteristics will hold over the planning period and applies a constant growth for both the peaks and valleys. Therefore, though the total annual forecast numbers are lower in the 2006 Forecast, the peaks are just as high as they were in the 1997 Forecast.

Initial Capacity Analysis:

The weighted peak-hour airfield capacity estimates for PBI form the basis for establishing the **Annual Service Volume (ASV)** associated with the airfield. The ASV represents an

estimate of the annual number of aircraft operations the airport can accommodate taking hourly, daily, and monthly operational patterns into consideration.

Table ES-3 summarizes the capacity estimates for the existing airfield in terms of peak hour and annual capacities, as well as the projected aircraft operations volumes for years 2013, 2020 and 2025.

TABLE ES-3
PBI Existing Airfield Capacity

	Existing Conditions (2005 Est.)	Existing Airfield		
		Forecast Year 2013	Forecast Year 2020	Forecast Year 2025
Weighted Average Hourly Capacity	64	64	64	64
Annual Operations (Demand) ^{1/}	201,964	221,814	245,954	267,644
Annual Service Volume (ASV)	263,444	263,444	221,039	221,039
Annual Demand (Percent of ASV) ^{2/}	76.70%	84.20%	111.30%	121.10%

Notes:

^{1/} Annual operations for 2013, 2020, and 2025 were derived from the baseline forecast prepared for PBI as part of the Airport System Study.

^{2/} The FAA recommended threshold for commencing the planning for additional runway capacity is when annual demand reaches 60 percent of the airfield ASV.

Sources: FAA Advisory Circular 150/5060-5, *Airport Capacity and Delay*; Ricondo & Associates, Inc., October 2005

SIMMOD Analysis

As the master plan confirmed the need for additional capacity, The County moved toward definition of a solution, which came in the form of the PBI Airport Improvement Project (AIP). To support decision making and the FAA EIS effort, the DOA initiated a more detailed delay/capacity analysis using computer simulation.

The findings of this analysis, using the FAA-approved SIMMOD computer program, were that due to increased peak hour activity, capacity was needed by approximately 2013.

Table ES-4 shows the average minutes of delay per aircraft if no changes were made to the existing airfield layout. In 2006, actual demand results in an average delay of 4.8 minutes, and projected demand for 2010 and 2020 result in 10.2 and 20.6 minutes of delay respectively per aircraft. With the implementation of the PBI AIP, the SIMMOD results showed that average minutes of delay in 2013 and 2025 would be reduced significantly, below current actual delay levels.

TABLE ES-4
Average Minutes of Delay Savings per Aircraft

Year	Daily Operations	Minutes of Delay Existing Airfield	Minutes of Delay Proposed Airfield	Delay Savings
2006 (actual)	717	4.8	-	-
2013	772	10.2	2.2	8
2018	829	20.6	2.3	18.3

Source: Ricondo & Associates, Inc., PBI Simulation Data for Noise and Air Quality Analysis, November 2006.

Airport Design Standards

Airside facilities required for PBI to accommodate the projected levels of aviation demand were determined using applicable FAA design standards and requirements. The design

aircraft is defined as the most demanding aircraft that operates at an airport on a regular basis and is represented by the Airport Reference Code (ARC). **PBI has an overall ARC of D-IV, indicating that the most demanding aircraft using the airport has a wingspan up to 171 feet and an aircraft approach speed up to 166 knots.** In other words, PBI can handle the overwhelming majority of the largest aircraft used in commercial air carrier service today.

The airport has three runways, two of which are capable of handling air carrier traffic, although not at the same time, and therefore have an ARC D-IV classification (9L/27R, 13/31), and one small runway primarily used by small GA aircraft classified as ARC B-I (9R/27L). Each runway has an ARC based on the type of traffic it serves and its visual or instrument aircraft approach visibility minimums. For airfield planning purposes, the ARC, along with the approach visibility minimums, directly affect the size of the protection surfaces associated with each runway.

In assessing the FAA design standard, only one component was found inadequate: the RSA off the approach end of Runway 31. Since 1999, the FAA has pursued compliance with RSA design standards as a high national priority. Since completion of the 2001 Strategic Plan, the FAA no longer allows nonstandard RSAs to be “waived” or to remain. DOA therefore will bring the RSA for Runway 31 into compliance with FAA design criteria as an integral part of the airport’s Airfield Improvement Project. Until then, DOA and FAA will achieve an acceptable RSA in the interim, by displacing the runway threshold and declaring the available distances.

Runway Length

Runway length needs were calculated for the future aircraft fleet using aircraft manufacturers’ data, following the methodology outlined by the FAA in AC 150/5325-4b, *Runway Length Requirements for Airport Design*.

Landing Runway Length Requirements

Analyses conducted in this master planning effort derive landing runway lengths ranging from 5,100 to 6,300 feet. The 737-800 requires the longest landing runway length at 6,300 feet. This would be a minimum acceptable length for landings through 2025.

Take-Off Runway Length Requirements

Take-off runway length requirements are more demanding than landing runway lengths. For the aircraft requiring the longest runway lengths, air carrier and regional jets, runway length requirements were calculated based on the distances representative of existing and likely future nonstop markets (as interpreted from the U.S. DOT O&D Survey CY2004). Three distances were selected as representative for the purposes of the calculations in this analysis:

- ➔ Short-range stage length (1,000 nautical miles), representative of the majority of existing nonstop East Coast market destinations resulted in 7,800 feet, driven by aircraft such as the Boeing 737-400 and Boeing 767
- ➔ Medium-range stage length (1,500 nautical miles), representative of existing nonstop market destinations and existing markets without nonstop service that are capable of

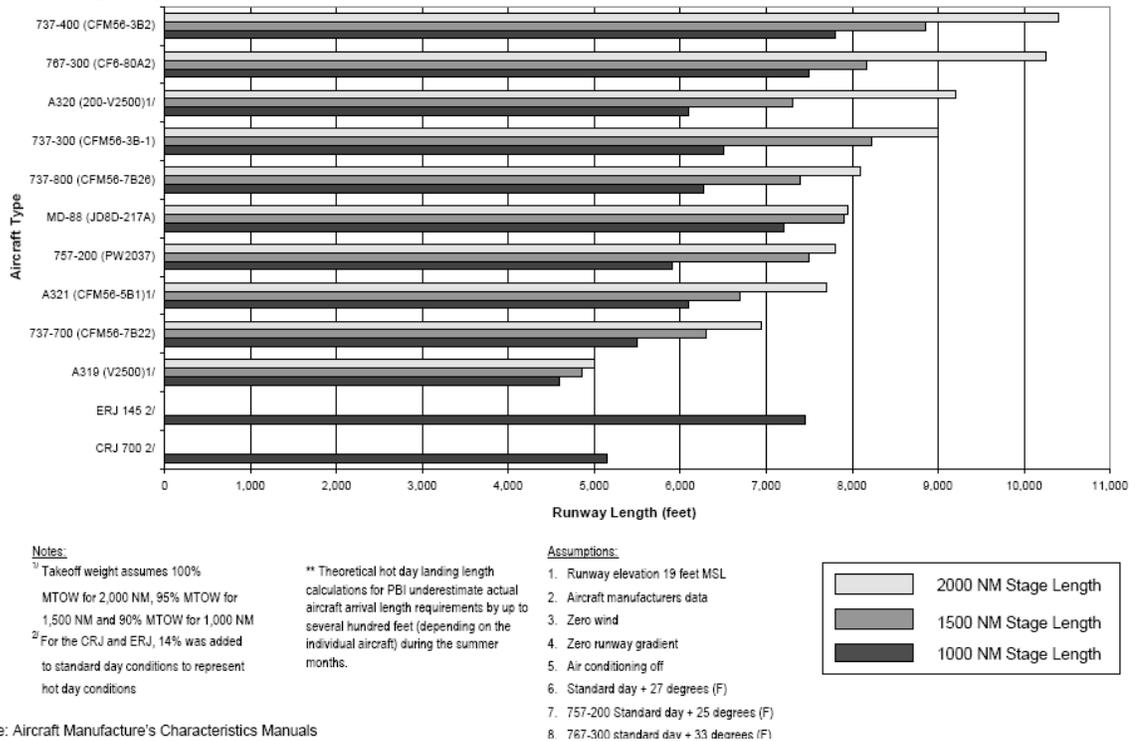
supporting mainline service resulted in 9,500 feet, driven by aircraft such as the Boeing 737-400 and Boeing 737-500

- ➔ Long-range stage length (2,000 nautical miles), representative of existing markets with no current nonstop service that are likely to be served by 201310,400 feet, driven by aircraft such as the Boeing 737-400 and Boeing 737-500

The take-off runway lengths requirements are shown in **Exhibit ES-2**.

EXHIBIT ES-2

Takeoff Runway Length Requirements



PBI's future activity will include more medium- and long-haul air carrier service to both new destinations as well as markets already being served today, but with one-stop service. As such, the following departure runway length requirements apply at PBI, depending on the role of the runway:

- ➔ **Primary Departure Runway.** Currently, the 10,000-foot-long Runway 9L/27R is PBI's primary air carrier departure runway. The analyses reveal that by 2025, a length of approximately 10,200-10,500 feet will be justified based on long-haul flights by aircraft such as the Boeing 737-300, -400, and -500. Given that this need is some years out in the planning period and the current runway is very close to the ultimate length requirement, **no increase in length is recommended at this time.**
- ➔ **Secondary Departure Runway.** Advisory Circular 150-5325-4B, states that, "Additional primary runways for capacity justification are parallel to and equal in length to the existing primary runway..." The AC also lists that the runway length for additional primary runways should be 100 percent of the primary runway if they are being provided for capacity purposes, noise mitigation, or regional jet service.

Therefore, on the basis of the proposed use of Runway 9R/27L, the DOA could pursue a runway extension to approximately 10,000 feet, which is equal to the length of Runway 9L/27R. However, that length could not be accommodated on airport property, would require major road relocation, be very costly, and could not be implemented by 2013. Additionally, most of PBI's aircraft can be accommodated on 8,000 feet and the recent extension of Runway 9L/27R to 10,000 feet served to primarily accommodate long haul operations during hot weather conditions. The length of Runway 9L/27R prior to the extension in 1999 was approximately 8,000 feet. Because Runway 9L/27R would remain as the primary departure runway, the full 10,000 feet is not necessary for the proposed PBI AIP. After years of planning, and consultation with the FAA ATCT and Airports District Office (ADO), the DOA has concluded it needs an 8,000-foot runway because that is the shortest length that would allow the runway to fulfill its intended role and capacity benefit.

- **Runway 13/31** is a secondary departure runway but at 6,932 feet long is too short for many of the air carrier aircraft operating at PBI today. Over the planning period, this deficiency will increase. Accordingly, the DOA's proposed plan is to **change the role of this runway to a GA runway and shorten it to 4,000 feet**, thus uncoupling the runway with Runway 9L/27R.
- **Runway 9R/27L** is proposed by DOA to be shifted and extended to fulfill the role of an air carrier runway. In order to provide the required capacity benefit, the runway is proposed to serve primarily as an arrival runway with occasional departure use. Given that aircraft requiring the full-length long-haul departure runway will be assigned to Runway 9L/27R, **DOA proposes to configure Runway 9R/27L as an 8,000-foot-long runway.**

Passenger Terminal

The demand/capacity for the PBI terminal building analyzed as part of the 2001 Strategic Plan was reanalyzed for this master plan at a macro level. The purpose of this analysis was to determine the ultimate footprint of the terminal building and its ability to accommodate forecast demand. The analysis focused on assessing the total aircraft gate requirements to meet demand projected through 2025 (The master plan analysis did not include the assessment of passenger security screening areas, concession areas, terminal curb front, or other terminal systems).

These analyses revealed the following:

- ➔ By 2025, the PBI terminal will require 37 gates, nine more than the 28 projected to be operational by mid-2008 (25 existing plus three under construction). This number of gates is expected based on a utilization of 5.5 daily aircraft users per gate.
- ➔ An additional 59 ticket counter positions or kiosks will be required by 2025, for a total of 176 positions. Accounting for circulation areas between the building walls and the facilities and maintaining the existing terminal width, an additional building length of 410 feet is required for the ticketing function.
- ➔ An additional seven Explosive Detection Systems (EDS) machines are needed in 2025, bringing PBI's total complement of EDS machines to 18.

- ➔ Twelve total baggage claim units will be required by 2025, or six additional claim devices over existing conditions. This will allow PBI to accommodate a future peak fleet of nine narrow body aircraft, and three wide body aircraft.

Proposed Measures

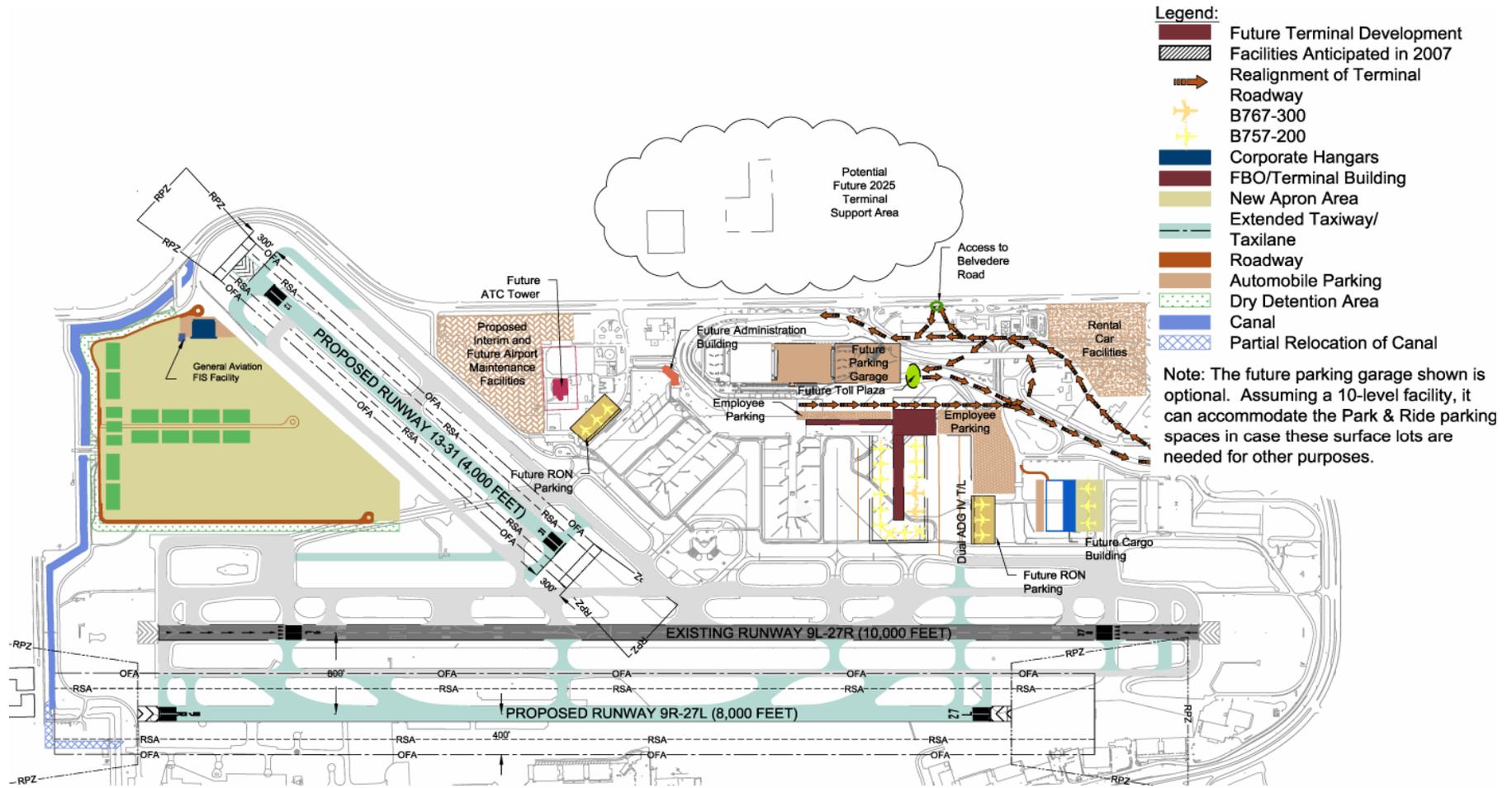
Projects and Project Costs

The Capital Improvement Plan (CIP) for PBI through the year 2025 consists of 41 projects at a projected cost of \$868,700,000 (in 2006 Dollars, adjusted for inflation in outer years).

Exhibit ES-3 illustrates the proposed projects and **Table ES-5** lists the projects and their estimated costs. The ten most expensive projects total \$672,561,000, over 77 percent of the total cost of the CIP through the year 2025.

It should be noted that the DOA has requested that the FAA undertake environmental review of the projects known as The PBI Airfield Improvement Project AIP. The FAA will start an Environmental Impact Statement in 2007. The AIP projects, scheduled for completion by 2013 are noted in Table ES-5.

Palm Beach International Airport



Sources: Planimetric Basemap, Southern Resources and Mapping of Miami, July 2005
 Ricondo & Associates, Inc., June 2006; Golfview Concept, CH2MHILL, October 2006.
 Prepared by: Ricondo & Associates, Inc., July 2006

Exhibit ES-3



Composite Airport Development Plan

TABLE ES-5
PBI Capital Improvement Plan through 2025

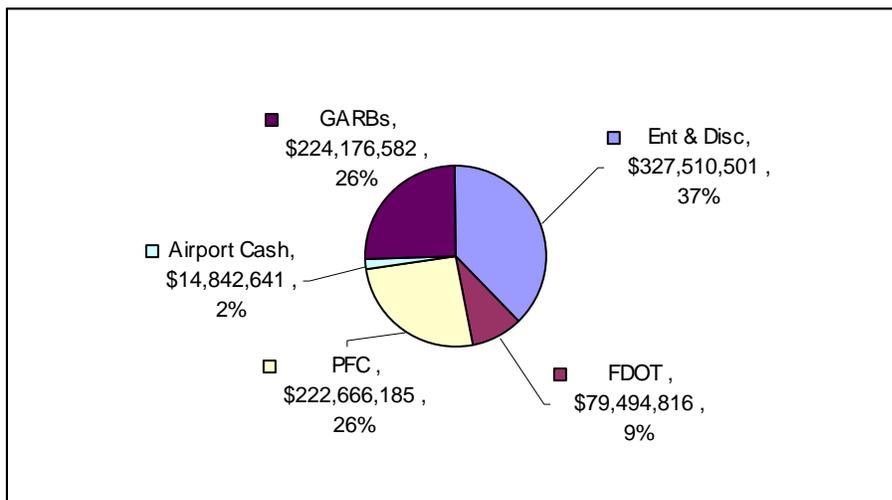
	Project	Total Project Escalated Dollars
1	Expand and Rehab Overnight Parking Apron	\$740,000
2	Apron "A" Expansion	3,420,000
3	NAVAID Relocation Study	300,000
4	Construct Maintenance Compound	1,000,000
5	Rehabilitate Aircraft Parking Apron	1,090,000
6	Extension of Taxiway "F" to RW 13	13,400,000
7	Extend Runway 9R/27L Environmental & Design*	8,284,000
8	Extension of Taxiway "L" (Lima)	17,700,000
9	Miscellaneous Taxiway Rehab	5,250,000
10	New Taxiway Connector - Runway 9L/27R	5,300,000
11	Taxiway Romeo West of R1 & East of R1*	20,825,398
12	Taxiway C4 High Speed Exit - Runway 9L/27R	5,084,000
13	Taxiway D High Speed Exit - Runway 9L/27R	4,721,000
14	Replace (2) Fire Rescue Vehicles	2,250,000
15	Concourse "A" Redevelopment	20,375,000
16	Acquire Land Runway 9L/27R	7,094,817
17	Taxiway Lima (West) Upgrades and Improvements*	17,048,000
18	Runway 9R Property Acquisition*	35,846,700
19	Golfview Apron, Taxilanes/Taxiways and Infrastructure*	74,000,000
20	Golfview Facilities*	130,000,000
21	Relocate VOR*	3,939,281
22	Taxiway Charlie (East) Improvements*	7,800,000
23	Extend, Relocate and Upgrade RWY 9R/27L*	77,101,000
24	Construct Apron Golfview 2*	6,000,000
25	Construct Surface Parking Lot	1,426,946
26	Demolition East of Runway 13/31*	17,600,000
27	Demolition West of Runway 13/31*	10,600,000
28	Runway 13/31 Pavement Removal*	2,500,000
29	Runway 13/31, Twy F and Twy B Extensions and Twy Connectors*	23,000,000
30	Part 150 Study PBI	800,000
31	Rehabilitate Taxiway C	8,500,000
32	New Parking Revenue Center	2,609,546
33	New Cargo Apron	5,461,307
34	Concourse "B" Expansion	29,500,000
35	Miscellaneous Taxiway Rehab	2,687,834
36	New Belly Cargo/All Cargo Facility	33,131,938
37	Cargo Apron Expansion	3,070,758
38	Construct Surface Parking Lot	4,270,962
39	Terminal Building Baggage System Expansion	24,979,506
40	Construct Surface Parking Lot	5,806,149
41	New Parking Garage	224,176,582
	Total	\$868,690,724

* Represents AIP projects.

Funding Sources

As shown in **Exhibit ES-4**, the County intends to finance the recommended CIP through a combination of FAA Airport Improvement Program (AIP) grants (entitlements and discretionary), Florida Department of Transportation (FDOT) grants, passenger facility charge (PFC) revenues, Airport funds, and proceeds from the sale of General Airport Revenue Bonds (GARBs). Meaning, the Airport will remain financially self-sufficient, as no local tax dollars will be used to fund the projects.

EXHIBIT ES-4
Projected CIP Funding Sources



The County is pursuing the runway and connected project as part of the PBI AIP, the total cost of which is estimated at approximately \$450 million (escalated). PBC DOA anticipates requesting an increase in the PFC (from \$3.00 to \$4.50) to cover the local share of the project; with the increased PFC, PBI will still be competitive with other regional airports.