

Airport Master Plan Update Aviation Activity Forecasts Baseline Scenarios

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Broward County Aviation Department

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FINAL



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3. Aviation Activity Forecast

This section presents the aviation activity and trends at Fort Lauderdale-Hollywood International Airport (FLL or the Airport) since FY 2005, and it also summarizes forecasts of aviation activity for the Airport through FY 2035, the end of the planning period for FLL's Master Plan Update. Forecasts were developed for enplaned passengers, as well as for commercial airline, cargo, general aviation, air taxi, and military operations. In addition, projections were developed for the aircraft fleet mix serving the Airport. The forecasts and projections provide the basis for determining facility requirements and defining future Airport needs, as well as for conducting the environmental, financial, and other analyses necessary for preparing the Master Plan Update.

The forecasts were prepared using fiscal year (FY) 2015 (October–September) as the base year (the latest year for which complete passenger data were available). While FY 2015 serves as the forecast base year, in order to accurately represent the current state of the Airport at the time of this Master Plan Update, published airline schedules for March 2016 serve as the basis for presenting the airlines currently serving the Airport, along with the current destinations and the average seat capacity at the Airport.

The aviation activity forecasts presented in this section are based, in part, on assumptions about aviation activity in the Airport's Air Trade Area. An Air Trade Area is the geographic area within which people choose an airport as their preferred airport. For the purposes of the Master Plan Study, the Air Trade Area for this Airport (FLL Air Trade Area) is the 10-county Miami-Fort Lauderdale-Miami Beach Economic Area shown on **Exhibit 3.1-1**. Subsets of this area, the Miami-Fort Lauderdale-Port St. Lucie Combined Statistical Area (CSA) and the Miami-Fort Lauderdale-West Palm Beach Metropolitan Statistical Area (MSA), were also examined. Factors within the Air Trade Area that may affect future aviation activity at the Airport include socioeconomic and demographic trends, and the effect of competition among airports in the Air Trade Area.

**EXHIBIT 3.1-1**

SOURCE: Woods & Poole Economics, Inc., March 2016; Map Resources, March 2016.
 PREPARED BY: Ricondo & Associates, Inc., March 2016.

FLL Air Trade Area

Airport activity is also affected by factors outside the limits of the Air Trade Area, such as:

- Events related to the national/global economy
- The evolving airline business model
- Airline industry consolidation
- Fuel-cost changes

The forecasts developed for this Master Plan Update represent a range of possible activity at FLL. Actual activity may vary from the forecasts due to unforeseen events or changes in airline service at the Airport or at competing airports.

The remainder of this section is organized as follows:

- 3.1 Historical Aviation Activity and Trends
- 3.2 Factors Affecting Aviation Demand
- 3.3 Forecast Methodology and Results

3.1 Historical Aviation Activity and Trends

3.1.1 PASSENGER ACTIVITY

The Airport is classified by the Federal Aviation Administration (FAA) as a large-hub airport, accounting for 1.0 percent or more of total nationwide enplaned passengers. As shown in **Table 3.1-1**, approximately 13.2 million passengers were enplaned at the Airport in FY 2015, which represents the highest level of enplaned passenger activity in the period shown. The share of mainline enplaned passengers has increased from 94 percent (FY 2005) to 98 percent (FY 2015) while the share of regional/commuter enplaned passenger decreased from six percent to two percent over the comparable period.

Historical enplaned passenger figures represent data provided by the Airport and capture revenue and non-revenue passenger demand. In order to properly size facility demand, these data were used in forecasts development and may differ from data provided by FAA databases.¹

¹ Federal Aviation Administration Terminal Area Forecasts report revenue enplaned passengers only.

Table 3.1-1: Historical Enplaned Passengers Summary

FISCAL YEAR	TOTAL ENPLANED PASSENGERS				SHARE	
	MAINLINE	REGIONAL/ COMMUTER	TOTAL	ANNUAL CHANGE (%)	MAINLINE	REGIONAL/ COMMUTER
2005	10,700,688	666,303	11,366,991	13.2%	94%	6%
2006	10,090,621	590,115	10,680,736	-6.0%	94%	6%
2007	10,671,841	470,828	11,142,669	4.3%	96%	4%
2008	11,216,547	373,892	11,590,439	4.0%	97%	3%
2009	10,299,605	168,283	10,467,888	-9.7%	98%	2%
2010	10,765,310	147,608	10,912,918	4.3%	99%	1%
2011	11,562,052	109,478	11,671,530	7.0%	99%	1%
2012	11,604,546	137,187	11,744,478	0.6%	99%	1%
2013	11,619,869	174,402	11,794,271	0.4%	99%	1%
2014	11,847,300	177,414	12,024,714	2.0%	99%	1%
2015	12,998,259	216,210	13,214,469	9.9%	98%	2%
Compound Annual Growth Rate						
2005 – 2008	1.6%	-17.5%	0.7%			
2008 – 2009	-8.2%	-55.0%	-9.7%			
2009 – 2015	4.0%	4.3%	4.0%			
2005 – 2015	2.0%	-10.6%	1.5%			

SOURCES: Broward County Aviation Department (Enplaned Passengers), March 2016..

PREPARED BY: Ricondo & Associates, Inc., June 2016.

The following subsections present additional information regarding enplaned passengers at the Airport, as well as comparisons with national trends in enplaned passengers between FY 2005 and FY 2015.

- FY 2005.** Passenger activity at the Airport increased from approximately 10.0 million enplaned passengers in FY 2004 to approximately 11.4 million enplaned passengers in FY 2005, an increase of 13.2 percent compared to an increase of 6.1 percent nationwide. This increase can primarily be attributed to continued growth in service by the low-cost airlines at the Airport, as well as increased service by legacy airlines striving to maintain their market share (e.g., low-fare service by Delta's Song and United's Ted). Delta Air Lines, the Airport's largest airline based on enplaned passengers, enplaned approximately 2.2 million passengers in FY 2005.
- FY 2006 – 2008.** Enplaned passengers for FY 2006 decreased 6.0 percent from FY 2005 levels. The decrease was in part, due to Hurricane Wilma and its impact on Southern Florida and on the Airport. Hurricane Wilma made landfall in October 2005, causing extensive damage and power outages, and it also disrupted travel and closed the Airport for five days. In addition, as part of its strategy for emerging from bankruptcy and merging with Northwest Airlines, Delta Air Lines reduced domestic service and realigned its domestic hub system to increase load factors and to enhance revenue performance. This "rightsizing" by Delta Air Lines negatively impacted passenger activity at the Airport. In FY 2006, Delta Air Lines was the largest airline at the Airport, based on enplaned passengers. In FY 2008, Delta Air Lines dropped to the fourth largest airline at FLL, behind Spirit Airlines, Southwest Airlines, and JetBlue, with

approximately 1.3 million enplaned passengers. In FY 2007 and FY 2008, Delta Air Lines' reduction in service was primarily attributed to increased service by Spirit Airlines. In FY 2008, Spirit Airlines enplaned approximately 2.1 million passengers—nearly double the approximately 1.1 million enplaned passengers in FY 2006. Enplaned passengers increased for AirTran Airways, JetBlue, and Southwest Airlines from FY 2006 to FY 2008. In addition, Allegiant Air initiated service at the Airport in FY 2008.

- **FY 2009.** After experiencing a compound average growth rate (CAGR) of 0.7 percent from FY 2005 through FY 2008, the Airport's enplaned passengers decreased in FY 2009 by 9.7 percent due to the impact of the economic recession. Contributing to this decrease were airline seat capacity reductions in FY 2009 (11.1 percent) and lower passenger demand caused by the economic downturn. Specifically contributing to these reductions were the following:
 - Spirit Airlines reduced or eliminated seat capacity in 32 of the 42 markets served from the Airport in FY 2008. Departing seat capacity for Spirit Airlines decreased from approximately 2.7 million seats in FY 2008 to 2.6 million seats in FY 2009, or 5.8 percent.
 - Delta Air Lines reduced capacity to all domestic markets (except Atlanta) and eliminated service to five markets. Delta Air Lines (including Northwest Airlines) decreased seat capacity 13.5 percent in FY 2009.
 - American Airlines decreased seat capacity by 46.7 percent and eliminated service to six destinations.
 - United Airlines discontinued service at the Airport.²
- **FY 2010 – 2013.** With the economy recovering, enplaned passengers increased from 10.5 million in FY 2009 to 11.8 million in FY 2013, a CAGR of 3.0 percent. In FY 2010, enplaned passengers increased 4.3 percent, which was followed by a 7.0 percent increase in FY 2011. During this period, Spirit Airlines and JetBlue both increased seat capacity. Spirit Airlines more than doubled capacity to Boston and Las Vegas, and the two airlines combined added nine new destinations between FY 2010 and FY 2012. JetBlue initiated service to Hartford, Los Angeles, and Washington, D.C. (Reagan National) in FY 2011, and in FY 2012 the airline added the international destinations of Bogota, Colombia, and Kingston, Jamaica. In FY 2010, Condor, LAN Colombia, and Virgin America initiated scheduled service at the Airport, followed by Alaska Airlines and Sky Bahamas in FY 2012. United Airlines resumed service in FY 2012.
- **FY 2014.** Enplaned passengers increased 2.0 percent in FY 2014. Enplaned passengers by JetBlue and Spirit Airlines increased 12.0 percent and 5.2 percent, respectively. Southwest Airlines' (including AirTran Airways) enplaned passengers decreased 6.2 percent, while Delta Air Lines' enplaned passengers increased 3.1 percent. During this period, two scheduled foreign-flag airlines (Copa and Norwegian Air Shuttle) initiated service at the Airport. In FY 2014, JetBlue (6 destinations), Spirit Airlines (2 destinations), Delta Air Lines (2 destinations), and Frontier Airlines (2 destinations) added or reinstated service to several destinations. Enplaned passengers served by Air Canada and WestJet, the two largest foreign flag airlines serving the Airport, based on international passengers, increased 20.6 percent and 4.3 percent, respectively.

² United Airlines discontinued service at the Airport in FY 2009; however, Continental Airlines continued to serve the Airport upon the completed merger with United Airlines. Continental Airlines merged with United Airlines, and the FAA granted a single operating certificate to United Airlines on November 30, 2011.

- FY 2015.** Enplaned passengers increased 9.9 percent from FY 2014. Domestic enplaned passengers increased 6.8 percent, and international enplaned passengers increased 23.8 percent. JetBlue, the largest airline based on enplaned passengers, increased 17.5 percent, and Spirit Airlines, the second largest airline based on enplaned passengers, increased 11.6 percent. Southwest Airlines' (including AirTran Airways) enplaned passengers increased 4.2 percent. Those increases were partially offset by American Airlines' (including US Airways) decrease of 1.1 percent, primarily due to capacity shifts related to merger integration. International enplaned passengers flown by JetBlue and Spirit Airlines increased 29.3 percent and 24.1 percent, respectively. Air Canada and WestJet increased 10.8 percent and 2.0 percent, respectively. Azul Brazilian Airlines, Copa Airlines, TAME, and Volaris, all foreign flag airlines, initiated scheduled service in FY 2015.

Table 3.1-2 presents the historical split between domestic and international enplaned passengers at the Airport between FY 2005 and FY 2015. From FY 2005 to FY 2015, domestic and international enplaned passengers increased at a CAGR of 0.2 percent and 9.8 percent, respectively. As a result, the international share of enplaned passengers increased from 9 percent in FY 2005 to 20 percent in FY 2015. Between FY 2005 and FY 2015, the Airport's share of U.S. total enplaned passengers increased from 1.52 percent to 1.67 percent, while the total growth rate at the Airport was greater than what was experienced nationally, as shown in **Table 3.1-3**.

Table 3.1-2: Historical Domestic and International Enplaned Passengers Comparison

FISCAL YEAR	ENPLANED PASSENGERS				SHARE	
	DOMESTIC	ANNUAL CHANGE (%)	INTERNATIONAL	ANNUAL CHANGE (%)	DOMESTIC	INTERNATIONAL
2005	10,303,438	11.5%	1,063,553	33.9%	91%	9%
2006	9,503,386	-7.8%	1,177,350	10.7%	89%	11%
2007	9,776,771	2.9%	1,365,898	16.0%	88%	12%
2008	10,006,392	2.3%	1,584,047	16.0%	86%	14%
2009	8,947,048	-10.6%	1,520,840	-4.0%	85%	15%
2010	9,260,615	3.5%	1,652,303	8.6%	85%	15%
2011	9,836,257	6.2%	1,835,273	11.1%	84%	16%
2012	9,962,653	1.3%	1,779,080	-3.1%	85%	15%
2013	10,033,252	0.7%	1,761,019	-1.0%	85%	15%
2014	9,844,866	-1.9%	2,179,848	23.8%	82%	18%
2015	10,515,257	6.8%	2,699,212	23.8%	80%	20%
Compound Annual Growth Rate						
2005 – 2008	-1.0%		14.2%			
2008 – 2009	-10.6%		-4.0%			
2009 – 2015	2.7%		10.0%			
2005 – 2015	0.2%		9.8%			

SOURCE: Broward County Aviation Department, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.1-3: Historical Airport and National Enplaned Passengers Comparison

FISCAL YEAR	ENPLANED PASSENGERS	ANNUAL CHANGE (%)	U.S. TOTAL ENPLANED PASSENGERS	ANNUAL CHANGE (%)	FLL SHARE OF U.S. TOTAL
2005	11,366,991	13.2%	745,970,000	6.1%	1.52%
2006	10,680,736	-6.0%	746,458,000	0.1%	1.43%
2007	11,142,669	4.3%	771,546,000	3.4%	1.44%
2008	11,590,439	4.0%	765,188,000	-0.8%	1.51%
2009	10,467,888	-9.7%	709,820,000	-7.2%	1.47%
2010	10,912,918	4.3%	718,158,000	1.2%	1.52%
2011	11,671,530	7.0%	737,568,000	2.7%	1.58%
2012	11,744,478	0.6%	743,044,000	0.7%	1.58%
2013	11,794,271	0.4%	744,920,000	0.3%	1.58%
2014	12,024,714	2.0%	762,367,000	2.3%	1.58%
2015	13,214,469	9.9%	792,066,000	3.9%	1.67%
Compound Annual Growth Rate					
2005 – 2008	0.7%		0.9%		
2008 – 2009	-9.7%		-7.2%		
2009 – 2015	4.0%		1.8%		
2005 – 2015	1.5%		0.6%		

SOURCES: Broward County Aviation Department, March 2016; Bureau of Transportation Statistics (U.S. total enplanements), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

3.1.2 AIR SERVICE

Table 3.1-4 presents the Airport's base of airlines, comprising 12 domestic airlines, including 2 regional airlines and 13 foreign flag airlines. In addition, four all-cargo airlines operate at the Airport. **Table 3.1-5** presents the airlines providing service at the Airport since FY 2005. The Airport has had the benefit of a large, diverse, and stable group of airlines during the years depicted. The following list presents specific points concerning the Airport's historical airline base:

- At the Airport, 13 of the 25 airlines operating in March, 2016 have operated at the Airport since FY 2005. Since FY 2008, 12 additional scheduled passenger airlines have commenced service at the Airport. These 12 additional airlines comprise four domestic airlines and eight foreign flag airlines.

- In FY 2015, scheduled international service was provided by 17 airlines (4 domestic airlines and 13 foreign flag airlines) to 47 destinations. Nonstop scheduled service in 2016 is provided by 19 airlines (6 domestic airlines and 13 foreign flag airlines) to 51 international destinations.³

Table 3.1-4: Airlines Currently Serving FLL^{1/}

DOMESTIC AIRLINES (12)	FOREIGN AIRLINES (13)	ALL-CARGO SERVICE (4) ^{2/}
Alaska Airlines	Air Canada	FedEx
Allegiant Air	Air Transat	GB Airlink
American Airlines ^{3/}	Aerovías del Continente Americano (Avianca)	Mountain Air Cargo
Cape Air	Azul Linhas Aéreas Brasileiras (Azul)	UPS
Delta Air Lines	Bahamasair	
Frontier Airlines	Caribbean Airlines	
JetBlue Airways	Copa Airlines	
Silver Airways	Norwegian Air Shuttle ASA	
Southwest Airlines ^{5/}	Sunwing ^{4/}	
Spirit Airlines	Sky Bahamas	
United Airlines	Transportes Aéreos Militares Ecuatorianos (TAME)	
Virgin America	Concesionaria Vuela Compañía de Aviación (Volaris)	
	WestJet	

NOTES:

1/ Scheduled service as of March 2016, except where noted.

2/ All-cargo carriers as of December 2015.

3/ American Airlines and U.S. Airways merged on December 9, 2013, and a single operating certificate was issued to American Airlines on April 8, 2015.

4/ Provides seasonal service.

5/ AirTran Airways and Southwest Airlines merged on May 2, 2011. The airline completed integration on December 28, 2014.

SOURCES: Broward County Aviation Department, March 2016; Innovata, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

³ Nonstop scheduled service provided by Innovata.

Table 3.1-5: Historical and Current Scheduled Passenger Airline Base^{1/}

AIRLINE	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Air Canada ^{2/}	•	•	•	•	•	•	•	•	•	•	•	•
Air Transat ^{2/}	•	•	•	•	•	•	•	•	•	•	•	•
American Airlines ^{2/ 4/}	•	•	•	•	•	•	•	•	•	•	•	•
Aerovías del Continente Americano (Avianca) ^{2/}	•	•	•	•	•	•	•	•	•	•	•	•
Bahamasair ^{2/}	•	•	•	•	•	•	•	•	•	•	•	•
Delta Air Lines ^{5/}	•	•	•	•	•	•	•	•	•	•	•	•
Frontier Airlines	•	•	•	•	•	•	•	•	•	•	•	•
JetBlue Airways ^{2/}	•	•	•	•	•	•	•	•	•	•	•	•
Silver Airways ^{2/ 6/}	•	•	•	•	•	•	•	•	•	•	•	•
Southwest Airlines ^{7/}	•	•	•	•	•	•	•	•	•	•	•	•
Spirit Airlines ^{2/}	•	•	•	•	•	•	•	•	•	•	•	•
United Airlines ^{8/}	•	•	•	•	•	•	•	•	•	•	•	•
WestJet ^{2/}	•	•	•	•	•	•	•	•	•	•	•	•
Allegiant Air				•	•	•	•	•	•	•	•	•
Caribbean Airlines ^{2/}				•	•	•	•	•	•	•	•	•
Sunwing ^{2/ 9/}					•	•	•	•	•	•	•	•
Virgin America						•	•	•	•	•	•	•
Alaska Airlines								•	•	•	•	•
Sky Bahamas ^{2/}								•	•	•	•	•
Copa Airlines ^{2/}										•	•	•
Norwegian Air Shuttle ^{2/}										•	•	•
Azul Linhas Aéreas Brasileiras (AZUL) ^{2/}											•	•
Transportes Aéreos Militares Ecuatorianos (TAME) ^{2/}											•	•
Concesionaria Vuela Compañía de Aviación (Volaris) ^{2/}											•	•
Cape Air												•
Airlines that have merged or discontinued service ^{10/}												
Condor						•	•	•	•	•	•	
US Airways ^{4/}	•	•	•	•	•	•	•	•	•	•	•	
AirTran Airways ^{7/}	•	•	•	•	•	•	•	•	•	•	•	
Continental Airlines ^{8/}	•	•	•	•	•	•	•	•				
Air Jamaica ^{11/}	•	•	•	•	•	•	•					
Northwest Airlines ^{5/}	•	•	•	•	•	•						

NOTES:

1/ Where applicable, includes affiliated, regional, and merged airlines and includes scheduled data as of March 2016.

2/ Provided scheduled international service in 2015.

3/ Scheduled and/or has operated in 2015.

4/ American Airlines and U.S. Airways merged on December 9, 2013, and a single operating certificate was issued to American Airlines on April 8, 2015.

5/ Northwest Airlines merged with Delta Air Lines, and the FAA granted a single operating certificate to Delta Air Lines on December 31, 2009.

6/ Formerly Gulfstream International Airlines and rebranded as Silver Airways on December 15, 2011.

7/ AirTran Airways merged with Southwest Airlines, and the FAA granted a single operating certificate to Southwest Airlines on March 1, 2012. The airlines were fully integrated on December 28, 2014.

8/ Continental Airlines merged with United Airlines, and the FAA granted a single operating certificate to United Airlines on November 30, 2011.

9/ Provides seasonal scheduled service in 2015.

10/ Includes scheduled airlines that have served at least six of the past 10 years.

11/ Air Jamaica merged with Caribbean Airlines.

SOURCES: Broward County Aviation Department, March 2016; Innovata, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.1-6 presents the historical share of enplaned passengers by airline at the Airport between FY 2010 and FY 2015. Enplaned passengers were spread over a large number of airlines, with no single airline having more than 22 percent of annual enplaned passengers during this time period. Over this period, enplaned passengers increased for 12 of the 15 airlines listed.

In FY 2015, JetBlue, Spirit Airlines, and Southwest Airlines represented the top three airlines serving the Airport in terms of enplaned passenger share. JetBlue's enplaned passenger share increased from 14.9 percent to 21.8 percent between FY 2010 and FY 2015, and the airline surpassed Southwest Airlines as the airline with the highest share in FY 2014. JetBlue's enplaned passengers increased 77.9 percent from FY 2010 to FY 2015, from approximately 1.6 million to 2.9 million. Spirit Airlines' enplaned passengers increased from approximately 2.1 million in FY 2010 to 2.5 million in FY 2015, an increase of 19.6 percent. Prior to the merger with AirTran Airways, Southwest Airlines' enplaned passengers increased 11.2 percent from FY 2010 to FY 2014. Combined, Southwest Airlines and AirTran Airways' enplaned passengers averaged approximately 2.3 million from FY 2010 to FY 2015. In FY 2014, the combined airline's enplaned passengers decreased to approximately 2.2 million as Southwest Airlines integrated AirTran Airways' network and completed the merger on December 28, 2014. In FY 2015, Southwest Airlines' enplaned passengers increased to approximately 2.3 million, or 4.2 percent.

Exhibit 3.1-2 and **Exhibit 3.1-3** display the nonstop destinations served from the Airport. As of March 2016, regularly scheduled service was provided to 74 domestic destinations and to 51 international destinations (including seasonal service and destinations announced and scheduled to commence in FY 2016).

Table 3.1-7 presents the nonstop markets served from the Airport in March 2016. In March there were an average of 361 daily departures scheduled from the Airport and an average of 53,758 daily departing seats. Of the 120 destinations served in the month, 58 were served by more than one airline.

Traffic at the Airport primarily comprises origination and destination (O&D) passengers, those who begin or end their journey at the Airport. As shown in **Table 3.1-8**, in FY 2015, a high of 11.8 million O&D passengers was reached at the Airport, which reflects a recovery from a decade low of approximately 9.8 million in FY 2009. This recent growth represents a CAGR of 3.3 percent since FY 2009 and 1.1 percent in the 10-year period shown. Originating passenger share has decreased slightly from 94 percent in FY 2005 to 90 percent in FY 2015. In the period shown, connecting traffic has gradually increased from 6 percent in FY 2005 to 10 percent in FY 2015. From FY 2005 to FY 2015, connecting passengers nearly doubled from approximately 0.7 million to 1.4 million, a CAGR of 6.9 percent.

Table 3.1-9 presents the domestic O&D demand for the Airport's top 20 markets in FY 2015, as measured by passengers per day, each way (PDEW). Over 38 percent, or 17,075 PDEW, travelled between FLL and one of the top five domestic destinations. The top 20 markets comprised approximately 73 percent, or 32,949 PDEW, of the Airport's domestic O&D market. Of the top 20 markets, all are currently served nonstop from FLL.

Table 3.1-6: Historical Total Enplaned Passengers by Airline (sorted by FY 2015 share)

AIRLINE ^{1/}	FY 2010		FY 2011		FY 2012		FY 2013		FY 2014		FY 2015	
	ENPLANED PASSENGERS	SHARE	ENPLANED PASSENGERS	SHARE	ENPLANED PASSENGERS	SHARE	ENPLANED PASSENGERS	SHARE	ENPLANED PASSENGERS	SHARE	ENPLANED PASSENGERS	SHARE
JetBlue Airways	1,622,676	14.9%	1,810,330	15.5%	2,078,731	17.7%	2,193,831	18.6%	2,456,902	20.4%	2,886,760	21.8%
Spirit Airlines	2,083,999	19.1%	2,400,767	20.6%	2,164,131	18.4%	2,123,104	18.0%	2,233,230	18.6%	2,492,900	18.9%
Southwest Airlines ^{2/}	2,382,968	21.8%	2,415,695	20.7%	2,371,568	20.2%	2,344,448	19.9%	2,200,209	18.3%	2,293,689	17.4%
Delta Air Lines ^{3/}	1,631,512	15.0%	1,565,476	13.4%	1,542,924	13.1%	1,484,718	12.6%	1,523,422	12.7%	1,602,999	12.1%
US Airways ^{4/}	837,818	7.7%	819,741	7.0%	824,083	7.0%	860,332	7.3%	826,572	6.9%	785,620	5.9%
United Airlines ^{5/}	691,349	6.3%	769,838	6.6%	809,240	6.9%	862,197	7.3%	805,035	6.7%	770,579	5.8%
American Airlines ^{4/}	422,633	3.9%	558,800	4.8%	602,911	5.1%	589,395	5.0%	533,087	4.4%	559,405	4.2%
Air Canada	217,718	2.0%	245,189	2.1%	241,504	2.1%	265,071	2.2%	319,700	2.7%	354,148	2.7%
Allegiant Air	90,966	0.8%	98,075	0.8%	109,187	0.9%	110,235	0.9%	108,155	0.9%	168,598	1.3%
Virgin America	123,706	1.1%	163,688	1.4%	195,762	1.7%	167,570	1.4%	167,413	1.4%	162,283	1.2%
Silver Airways ^{6/}	86,339	0.8%	69,360	0.6%	92,963	0.8%	123,143	1.0%	116,991	1.0%	160,634	1.2%
WestJet	119,028	1.1%	120,178	1.0%	120,747	1.0%	114,200	1.0%	119,094	1.0%	121,477	0.9%
Frontier Airlines	75,572	0.7%	87,952	0.8%	80,294	0.7%	79,404	0.7%	87,708	0.7%	120,770	0.9%
Caribbean Airlines	44,534	0.4%	82,201	0.7%	173,651	1.5%	140,805	1.2%	115,490	1.0%	120,117	0.9%
Bahamasair	99,268	0.9%	117,213	1.0%	113,561	1.0%	117,020	1.0%	115,908	1.0%	109,439	0.8%
All Others ^{7/}	382,832	3.5%	347,027	3.0%	223,221	1.9%	218,798	1.9%	295,798	2.5%	505,051	3.8%
Airport Total	10,912,918	100.0%	11,671,530	100.0%	11,744,478	100.0%	11,794,271	100.0%	12,024,714	100.0%	13,214,469	100.0%

NOTES:

1/ Includes regional/commuter affiliates.

2/ AirTran Airways merged with Southwest Airlines, and the FAA granted a single operating certificate to Southwest Airlines on March 1, 2012. The airlines were fully integrated on December 28, 2014. Totals include Southwest Airlines and AirTran Airways.

3/ Northwest Airlines merged with Delta Air Lines, and the FAA granted a single operating certificate to Delta Air Lines on December 31, 2009. Totals include Delta Air Lines and Northwest Airlines.

4/ American Airlines and U.S. Airways merged on December 9, 2013, and a single operating certificate was issued to American Airlines on April 8, 2015.

5/ Continental Airlines merged with United Airlines, and the FAA granted a single operating certificate to United Airlines on November 30, 2011. Totals include United Airlines and Continental Airlines.

6/ Formerly Gulfstream International.

7/ Consists of other airlines that may no longer be serving the Airport, unaffiliated airlines, and charter airlines.

SOURCE: Broward County Aviation Department, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

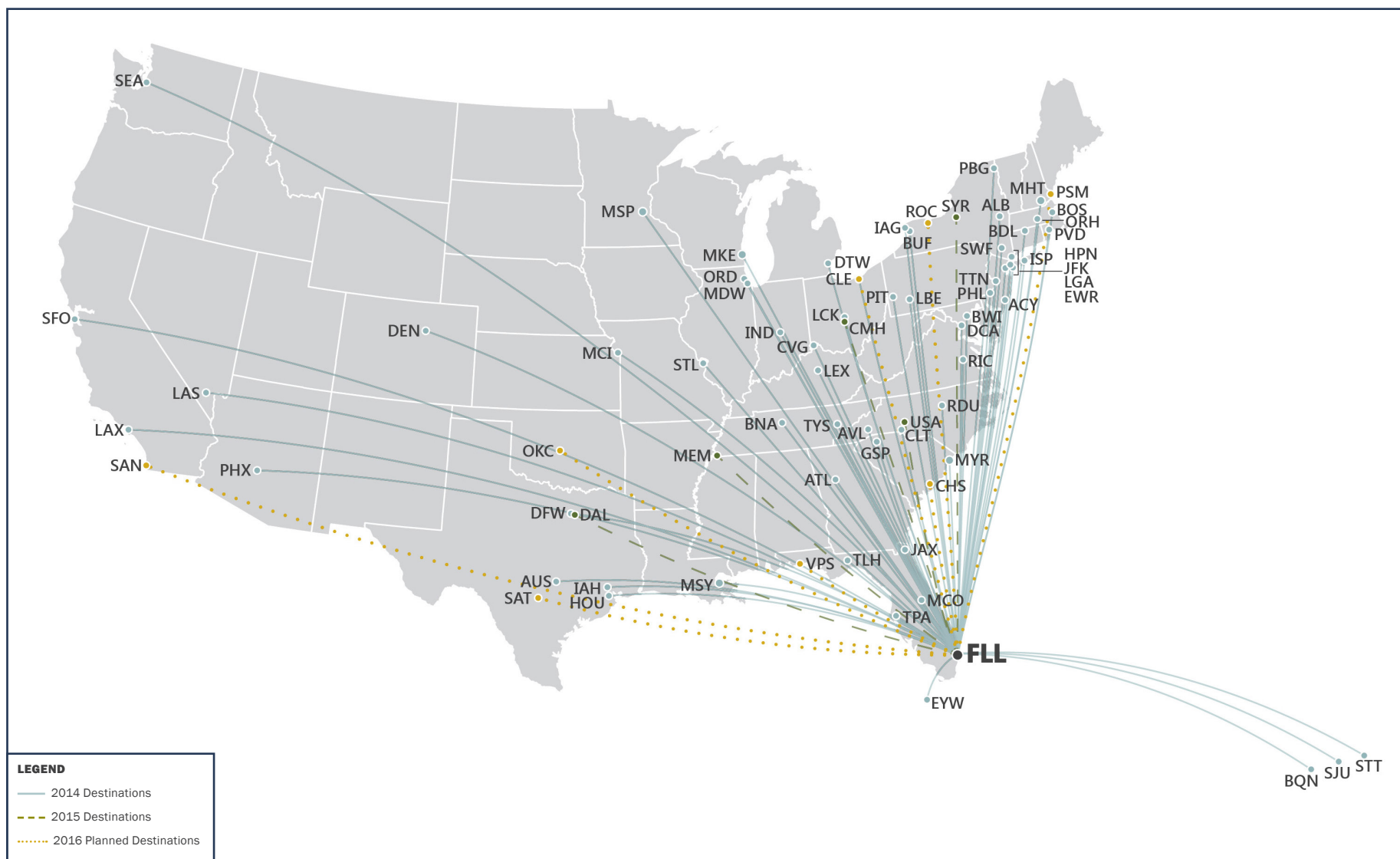
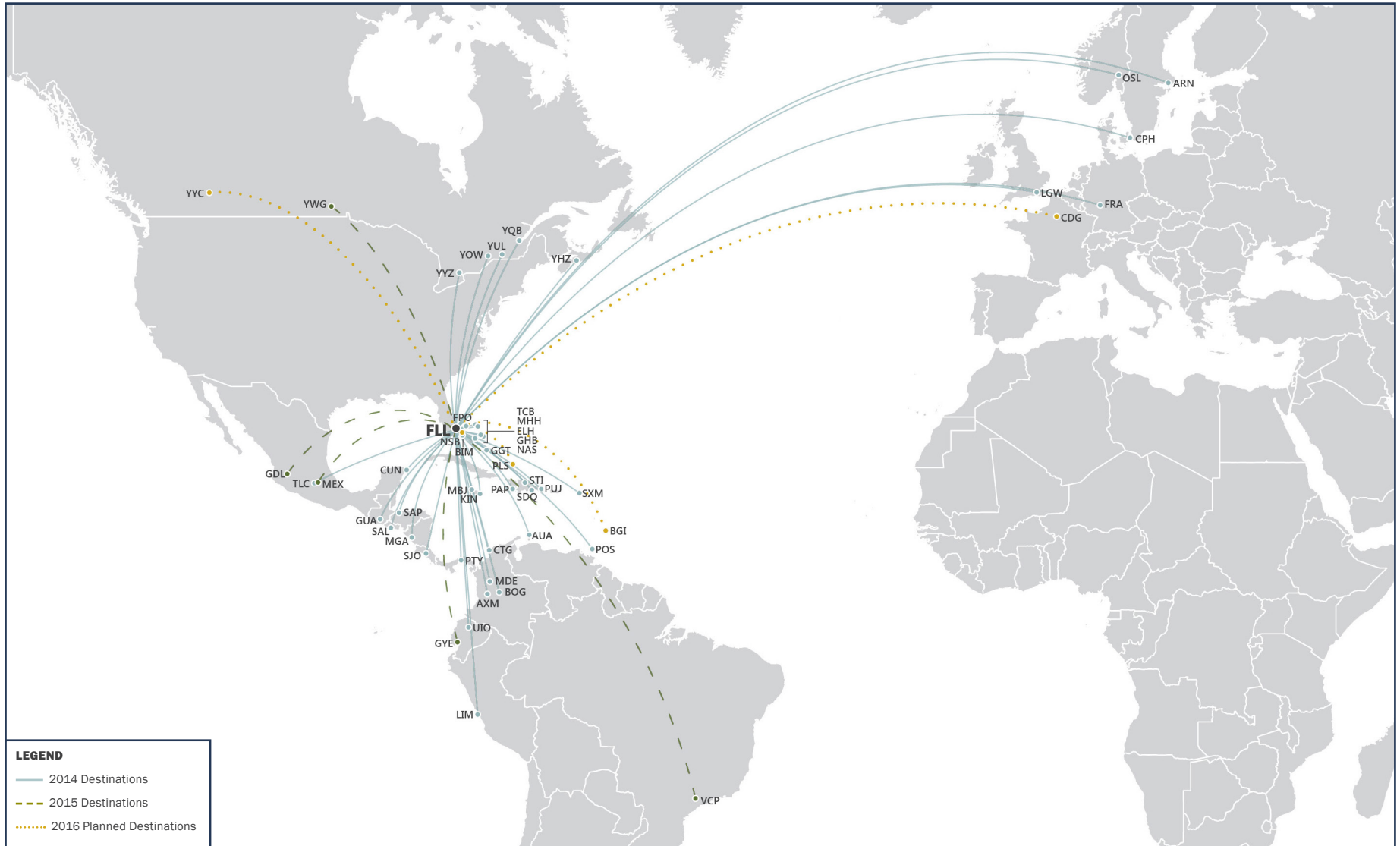


EXHIBIT 3.1-2

SOURCE: Innovata, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Domestic Destinations Served From the Airport



SOURCE: Innovata, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

EXHIBIT 3.1-3**International Destinations Served From the Airport**

Table 3.1-7 (1 of 4): Scheduled Nonstop Service in March 2016

MARKET	AVERAGE DAILY DEPARTURES	AVERAGE DAILY SEATS	NUMBER OF AIRLINES
Aguadilla, Puerto Rico	0.7	149	1
Akron/Canton, OH	0.3	51	1
Albany, NY	2.1	339	2
Armenia, Colombia	0.3	52	1
Asheville, NC	0.4	65	1
Atlanta, GA	22.7	4,046	3
Atlantic City, NJ	3.0	602	1
Austin, TX	3.4	495	2
Baltimore, MD	14.9	2,369	3
Bimini, Bahamas	3.0	27	1
Bogota, Colombia	3.0	473	3
Boston, MA	7.1	1,025	3
Buffalo, NY	3.3	435	2
Calgary, Canada	0.3	34	1
Campinas, Brazil	1.0	271	1
Cancun, Mexico	3.0	478	2
Cartagena, Colombia	1.6	247	2
Charleston, SC	1.0	100	1
Charlotte, NC	8.0	1,384	1
Chicago (Midway), IL	4.7	741	1
Chicago (O'Hare), IL	10.8	1,786	3
Cincinnati (Northern Kentucky International), OH	1.8	289	2
Cleveland, OH	3.0	461	3
Columbus (Rickenbacker), OH	0.3	46	1
Columbus, OH	1.1	161	1
Concord, NC	0.3	51	1
Copenhagen, Denmark	0.3	84	1
Dallas (Love), TX	2.9	447	1
Dallas/Ft. Worth (DFW), TX	8.2	1,316	2
Denver, CO	6.1	992	3
Detroit (Metro), MI	9.1	1,695	3
Freeport, Bahamas	3.3	149	2

Table 3.1-7 (2 of 4): Scheduled Nonstop Service in March 2016

MARKET	AVERAGE DAILY DEPARTURES	AVERAGE DAILY SEATS	NUMBER OF AIRLINES
Governor's Harbour, Bahamas	0.4	14	1
Grand Rapids, MI	0.3	51	1
Greenville/Spartanburg, SC	0.3	51	1
Guadalajara, Mexico	0.3	58	1
Guatemala City, Guatemala	0.7	103	1
Guayaquil, Ecuador	0.5	67	1
Halifax, Canada	0.4	54	2
Hartford, CT	3.1	467	2
Houston (Bush), TX	5.7	896	2
Houston (Hobby), TX	2.0	307	1
Indianapolis, IN	1.7	270	2
Jacksonville, FL	3.0	300	1
Kansas City, MO	1.7	250	1
Key West, FL	4.9	168	1
Kingston, Jamaica	3.0	354	2
Knoxville, TN	0.4	65	1
Las Vegas, NV	3.0	462	3
Latrobe, PA	1.0	156	1
Lexington, KY	0.4	74	1
Lima, Peru	1.1	169	2
London (Gatwick), England	0.3	83	1
Long Island (MacArthur), NY	2.0	292	1
Los Angeles, CA	5.7	843	3
Managua, Nicaragua	0.6	130	1
Manchester, NH	0.0	5	1
Marsh Harbour, Bahamas	2.6	90	2
Medellin, Colombia	2.0	325	2
Memphis, TN	0.3	46	1
Mexico City (Juarez), Mexico	1.6	260	2
Milwaukee, WI	1.8	268	1
Minneapolis/St. Paul, MN	4.0	741	3
Montego Bay, Jamaica	3.0	482	3

Table 3.1-7 (3 of 4): Scheduled Nonstop Service in March 2016

MARKET	AVERAGE DAILY DEPARTURES	AVERAGE DAILY SEATS	NUMBER OF AIRLINES
Montreal, Canada	7.3	1,458	4
Moss Town, Bahamas	0.7	24	1
Myrtle Beach, SC	1.0	169	1
Nashville, TN	3.1	475	1
Nassau, Bahamas	6.0	578	2
New Orleans, LA	2.9	457	2
New York (Kennedy), NY	14.9	2,373	3
New York (LaGuardia), NY	16.1	2,711	3
New York (Stewart), NY	1.0	100	1
Newark/New York (Liberty), NJ	12.6	2,018	2
Niagara Falls, NY	1.0	156	1
North Eleuthera, Bahamas	2.3	77	1
Oranjestad, Aruba	0.1	19	1
Orlando, FL	5.4	470	2
Oslo, Norway	0.3	75	1
Ottawa, Canada	1.8	259	3
Panama City, Panama	1.0	124	2
Philadelphia, PA	9.0	1,357	3
Phoenix, AZ	3.0	519	2
Pittsburgh, PA	2.7	399	2
Plattsburgh, NY	1.7	309	2
Port of Spain, Trinidad and Tobago	2.0	304	2
Port-au-Prince, Haiti	4.9	765	3
Portsmouth, NH	0.3	51	1
Providence, RI	3.0	457	2
Providenciales, Turks & Caicos	1.0	100	1
Punta Cana, Dominican Republic	1.0	150	1
Quebec City, Canada	0.9	157	3
Quito, Ecuador	1.8	275	2
Raleigh/Durham, NC	3.1	329	3
Richmond, VA	1.0	100	1

Table 3.1-7 (4 of 4): Scheduled Nonstop Service in March 2016

MARKET	AVERAGE DAILY DEPARTURES	AVERAGE DAILY SEATS	NUMBER OF AIRLINES
Rochester, NY	0.3	46	1
San Antonio, TX	0.3	51	1
San Francisco, CA	4.7	716	3
San Jose, Costa Rica	2.7	484	2
San Juan, Puerto Rico	7.6	1,134	3
San Pedro Sula, Honduras	0.9	156	1
San Salvador, El Salvador	0.3	52	1
Santiago, Dominican Republic	0.3	52	1
Santo Domingo, Dominican Republic	2.0	295	2
Seattle/Tacoma, WA	1.0	163	1
South Bimini, Bahamas	2.1	71	2
St. Louis, MO	2.2	320	1
St. Maarten, Netherlands Antilles	0.1	23	1
St. Thomas, U.S. Virgin Islands	1.0	145	1
Stockholm, Sweden	0.2	66	1
Syracuse, NY	1.3	151	2
Tallahassee, FL	0.5	19	1
Tampa, FL	9.6	993	3
Toronto (Pearson), Canada	7.7	1,489	4
Treasure Cay, Bahamas	1.1	38	1
Trenton, NJ	0.9	140	1
Washington (Reagan), D.C.	9.0	1,196	3
Westchester County, NY	2.0	250	1
Winnipeg, Canada	0.2	33	2
Worcester, MA	1.0	100	1
Total	360.9	53,758	

NOTE: Average is calculated as the number of departures in the month of March divided by the number of days (31) in the month.

SOURCE: Innovata, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.1-8: Historical O&D and Connection Enplaned Passenger Traffic

FISCAL YEAR	ENPLANED PASSENGERS				SHARE	
	ORIGINATING	ANNUAL CHANGE (%)	CONNECTING	ANNUAL CHANGE (%)	ORIGINATING	CONNECTING
2005	10,663,925	10.7%	703,066	81.4%	94%	6%
2006	10,086,533	-5.4%	594,203	-15.5%	94%	6%
2007	10,623,944	5.3%	518,725	-12.7%	95%	5%
2008	10,611,068	-0.1%	979,371	88.8%	92%	8%
2009	9,764,042	-8.0%	703,846	-28.1%	93%	7%
2010	10,089,564	3.3%	823,354	17.0%	92%	8%
2011	10,637,212	5.4%	1,034,318	25.6%	91%	9%
2012	10,832,881	1.8%	908,852	-12.1%	92%	8%
2013	10,757,238	-0.7%	1,037,033	14.1%	91%	9%
2014	10,909,227	1.4%	1,115,487	7.6%	91%	9%
2015	11,849,538	8.6%	1,364,931	22.4%	90%	10%
Compound Annual Growth Rate						
2005 – 2009	-0.2%		0.0%			
2009 – 2015	3.3%		11.7%			
2005 – 2015	1.1%		6.9%			

NOTE: Foreign airlines do not report DB1B data to the U.S. DOT; foreign airline O&D activity has been estimated using U.S. DOT T-100 enplanement data.

SOURCES: U.S. Department of Transportation, T-100 and DB1B Survey, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.1-9: FY 2015 Top 20 FLL Domestic O&D Markets

RANK	MARKET	STAGE LENGTH ^{1/}	PDEW ^{2/}	AVERAGE ONE-WAY FARE	NONSTOP SERVICE ^{3/}
1	New York/Newark ^{4/}	MH	8,040	\$146	•
2	Chicago ^{5/}	MH	2,508	\$132	•
3	Atlanta	SH	2,411	\$103	•
4	Baltimore	MH	2,364	\$93	•
5	Boston	MH	1,752	\$154	•
6	Detroit	MH	1,721	\$121	•
7	Los Angeles	LH	1,505	\$207	•
8	Dallas/Fort Worth ^{6/}	MH	1,466	\$116	•
9	Washington, D.C. ^{7/}	MH	1,387	\$134	•
10	San Juan	MH	1,293	\$130	•
11	Philadelphia	MH	1,271	\$146	•
12	San Francisco	LH	1,097	\$221	•
13	Denver	MH	1,004	\$143	•
14	Las Vegas	LH	980	\$152	•
15	Hartford	MH	793	\$134	•
16	Providence	MH	714	\$129	•
17	Cleveland	MH	677	\$117	•
18	Atlantic City	MH	668	\$73	•
19	Houston ^{8/}	MH	665	\$144	•
20	Buffalo	MH	635	\$134	•
Total Top 20 Airports			32,949		
Other O&D Markets			11,952		
Total O&D Passengers			44,901		

NOTES:

1/ Short Haul (SH) = 0 to 600 nautical miles, Medium Haul (MH) = 601 to 1,800 nautical miles, Long Haul (LH) = over 1,800 nautical miles.

2/ Passenger per Day, Each Way (PDEW).

3/ Nonstop service provided in FY 2015.

4/ Includes John F. Kennedy (JFK), LaGuardia (LGA), and Newark, NJ (EWR).

5/ Includes Chicago O'Hare (ORD) and Chicago Midway (MDW).

6/ Includes Dallas Love Field (DAL) and Dallas/Fort Worth (DFW).

7/ Includes Washington Reagan National (DCA) and Washington Dulles (IAD).

8/ Includes Houston Hobby (HOU) and Houston Bush Intercontinental (IAH).

SOURCES: U.S. Department of Transportation, DB1B Survey; Innovata, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

3.1.3 AIR FREIGHT AND MAIL

Table 3.1-10 presents air cargo activity (air freight and mail) in total U.S. tons that were handled at the Airport from FY 2005 to FY 2015. Overall cargo tons decreased at a CAGR of 7.6 percent per year, with the highest percentage decreases for mail volumes. As a result, air freight share of total cargo tons has increased from 93 percent in FY 2005 to 98 percent in FY 2015; however, over the same period, total air freight tons have decreased at a CAGR of 7.1 percent.

3.1.4 AIRCRAFT OPERATIONS

Table 3.1-11 presents historical aircraft operations at the Airport since FY 2015. Operations in each category of activity (passenger airlines, cargo, other air taxi, general aviation, and military) have fluctuated from year to year. Overall, the number of aircraft operations at the Airport decreased at a CAGR of 2.0 percent between FY 2005 and FY 2015. Passenger airline operations decreased at a CAGR of 0.9 percent, with the majority of the decline in the FY 2008–2009 period, which coincides with airline bankruptcies and service reductions during the economic recession. All-cargo operations decreased from 6,938 to 4,704 operations, a decreasing CAGR of 3.8 percent. Between FY 2011 and FY 2012, all-cargo operations decreased from 6,053 to 4,561, or 24.6 percent, but they have since stabilized, averaging approximately 4,500 annual operations. A significant portion of the all-cargo operations decrease in FY 2012 can be attributed to the elimination of service by Air Transport International and service reduction by UPS. Other air taxi operations declined at a CAGR of 2.7 percent between FY 2005 and FY 2015, compared to a decrease of 2.1 percent CAGR for general aviation/other air taxi traffic nationally. Since FY 2005, general aviation operations have steadily decreased from 71,995 in FY 2005 to 37,704 in FY 2015. From FY 2005 to FY 2012, the continued decrease in general aviation operations could be attributed to Hurricane Wilma, the economic recession, and the South Runway Program. The South Runway Program resulted in some general aviation operations diverting to Fort Lauderdale Executive (FXE) Airport. FXE is designated as a general aviation reliever airport for FLL. According to FAA estimates, FXE handled approximately 160,000 general aviation operations in FY 2015. At the Airport, military operations have fluctuated from year to year and have averaged approximately 550 operations from FY 2005 to FY 2015. In FY 2015, there were 431 military operations at FLL.

Table 3.1-12 presents the passenger airline operations by mainline and regional airlines. Mainline airlines are defined in this report as the large network airlines operating at the Airport (e.g., American Airlines, Delta Air Lines, etc.). Regional airlines are defined in this report as airlines operating flights on behalf of a mainline airline using their own operating certificate, or independent airlines operating aircraft with fewer than 97 seats and using their own operating certificate. Mainline airlines accounted for 91 percent of total passenger airline operations in FY 2015. Total mainline and regional passenger airline operations combined accounted for 78.3 percent of total airport operations in FY 2015. After a 10-year low of 73 percent of passenger airline operations in FY 2005, mainline passenger airline operations reached their largest share in FY 2011, and they have remained in the lower 90 percent range due, in large part, to Delta Air Lines and United Airlines (formerly under Continental) transition to larger mainline aircraft.

Table 3.1-10: Historical Cargo Tons

FISCAL YEAR	AIR FREIGHT	ANNUAL CHANGE (%)	MAIL	ANNUAL CHANGE (%)	TOTAL CARGO TONS	ANNUAL CHANGE (%)	SHARE	
							AIR FREIGHT	MAIL
2005	167,237	0.8%	11,922	-10.6%	179,159	0.0%	93%	7%
2006	154,333	-7.7%	10,853	-9.0%	165,186	-7.8%	93%	7%
2007	147,870	-4.2%	7,207	-33.6%	155,077	-6.1%	95%	5%
2008	131,053	-11.4%	6,782	-5.9%	137,835	-11.1%	95%	5%
2009	96,075	-26.7%	6,071	-10.5%	102,146	-25.9%	94%	6%
2010	93,024	-3.2%	2,186	-64.0%	95,210	-6.8%	98%	2%
2011	94,148	1.2%	2,715	24.2%	96,863	1.7%	97%	3%
2012	93,777	-0.4%	2,803	3.2%	96,580	-0.3%	97%	3%
2013	85,732	-8.6%	2,774	-1.0%	88,506	-8.4%	97%	3%
2014	82,583	-3.7%	4,329	56.0%	86,911	-1.8%	95%	5%
2015	79,898	-3.3%	1,424	-67.1%	81,322	-6.4%	98%	2%
Compound Annual Growth Rate								
2005 – 2008	-7.8%		-17.1%		-8.4%			
2008 – 2009	-26.7%		-10.5%		-25.9%			
2009 – 2015	-3.0%		-21.5%		-3.7%			
2005 – 2015	-7.1%		-19.1%		-7.6%			

NOTE: Figures in U.S. tons

SOURCE: Broward County Aviation Department, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.1-11: Historical Aircraft Operations

FISCAL YEAR	PASSENGER AIRLINES	ALL-CARGO	OTHER AIR TAXI	GENERAL AVIATION	MILITARY	TOTAL	ANNUAL CHANGE (%)
2005	234,846	6,938	22,020	71,955	352	336,111	9.0%
2006	218,438	6,783	18,202	56,686	370	300,479	-10.6%
2007	219,334	6,763	22,853	55,038	639	304,627	1.4%
2008	224,696	6,392	25,016	48,183	529	304,816	0.1%
2009	195,832	5,083	20,975	43,303	784	265,977	-12.7%
2010	199,690	5,336	21,310	45,041	905	272,282	2.4%
2011	201,966	6,053	19,915	41,589	477	270,000	-0.8%
2012	202,992	4,561	20,256	35,798	451	264,058	-2.2%
2013	201,856	4,279	15,039	35,399	572	257,145	-2.6%
2014	199,204	4,318	15,275	35,391	495	254,683	-1.0%
2015	215,192	4,704	16,723	37,704	431	274,754	7.9%
Compound Annual Growth Rate							
2005 – 2008	-1.5%	-2.7%	4.3%	-12.5%	14.5%	-3.2%	
2008 – 2009	-12.8%	-20.5%	-16.2%	-10.1%	48.2%	-12.7%	
2009 – 2015	1.6%	-1.3%	-3.7%	-2.3%	-9.5%	0.5%	
2005 – 2015	-0.9%	-3.8%	-2.7%	-6.3%	2.0%	-2.0%	

SOURCES: Broward County Aviation Department, March 2016; Federal Aviation Administration, Air Traffic Activity Data System (ATADS), March 2016; U.S. Department of Transportation, Form T-100, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.1-12: Historical Mainline and Regional Passenger Airline Operations

FISCAL YEAR	MAINLINE AIRCRAFT		REGIONAL AIRCRAFT ^{1/}		TOTAL PASSENGER AIRLINE OPERATIONS	SHARE OF TOTAL AIRPORT OPERATIONS	TOTAL AIRPORT OPERATIONS
	OPERATIONS	SHARE OF PASSENGER AIRLINES	OPERATIONS	SHARE OF PASSENGER AIRLINES			
2005	171,297	73%	63,549	27%	234,846	69.9%	336,111
2006	167,688	77%	50,750	23%	218,438	72.7%	300,479
2007	178,900	82%	40,434	18%	219,334	72.0%	304,627
2008	189,495	84%	35,201	16%	224,696	73.7%	304,816
2009	174,641	89%	21,191	11%	195,832	73.6%	265,977
2010	179,610	90%	20,080	10%	199,690	73.3%	272,282
2011	187,720	93%	14,246	7%	201,966	74.8%	270,000
2012	186,501	92%	16,491	8%	202,992	76.9%	264,058
2013	187,381	93%	14,475	7%	201,856	78.5%	257,145
2014	185,029	93%	14,175	7%	199,204	78.2%	254,683
2015	196,114	91%	19,078	9%	215,192	78.3%	274,754
Compound Annual Growth Rate							
2005 – 2008	3.4%		-17.9%		-1.5%		-3.2%
2008 – 2009	-7.8%		-39.8%		-12.8%		-12.7%
2009 – 2015	2.0%		-1.7%		1.6%		0.5%
2005 – 2015	1.4%		-11.3%		-0.9%		-2.0%

NOTE:

^{1/} Regional aircraft include aircraft with less than 97 seats.

SOURCES: Broward County Aviation Department, March 2016; Federal Aviation Administration, Air Traffic Activity Data System (ATADS), March 2016; U.S. Department of Transportation, Form T-100, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

All-cargo, other air taxi, general aviation, and military aircraft operations are shown in **Table 3.1-13**, **Table 3.1-14**, **Table 3.1-15**, and **Table 3.1-16**. As shown in Table 3.1-15, local general aviation operations decreased from 134 in FY 2005 to 0 in FY 2009. Local general aviation operations have remained at zero from FY 2009 to FY 2015.

Table 3.1-13: Historical All-Cargo Aircraft Operations

FISCAL YEAR	OPERATIONS	ANNUAL CHANGE (%)	SHARE OF AIRPORT TOTAL	AIRPORT TOTAL	ANNUAL CHANGE (%)
2005	6,938	46.4%	2.1%	336,111	9.0%
2006	6,783	-2.2%	2.3%	300,479	-10.6%
2007	6,763	-0.3%	2.2%	304,627	1.4%
2008	6,392	-5.5%	2.1%	304,816	0.1%
2009	5,083	-20.5%	1.9%	265,977	-12.7%
2010	5,336	5.0%	2.0%	272,282	2.4%
2011	6,053	13.4%	2.2%	270,000	-0.8%
2012	4,561	-24.6%	1.7%	264,058	-2.2%
2013	4,279	-6.2%	1.7%	257,145	-2.6%
2014	4,318	0.9%	1.7%	254,683	-1.0%
2015	4,704	8.9%	1.7%	274,754	7.9%
Compound Annual Growth Rate					
2005 – 2008	-2.7%			-3.2%	
2008 – 2009	-20.5%			-12.7%	
2009 – 2015	-1.3%			0.5%	
2005 – 2015	-3.8%			-2.0%	

SOURCES: Broward County Aviation Department, March 2016; Federal Aviation Administration, Air Traffic Activity Data System (ATADS), March 2016; U.S. Department of Transportation, Form T-100, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.1-14: Historical Other Air Taxi Operations

FISCAL YEAR	OPERATIONS	ANNUAL CHANGE (%)	SHARE OF AIRPORT TOTAL	AIRPORT TOTAL	ANNUAL CHANGE (%)
2005	22,020	0.0%	6.6%	336,111	9.0%
2006	18,202	-17.3%	6.1%	300,479	-10.6%
2007	22,853	25.6%	7.5%	304,627	1.4%
2008	25,016	9.5%	8.2%	304,816	0.1%
2009	20,975	-16.2%	7.9%	265,977	-12.7%
2010	21,310	1.6%	7.8%	272,282	2.4%
2011	19,915	-6.5%	7.4%	270,000	-0.8%
2012	20,256	1.7%	7.7%	264,058	-2.2%
2013	15,039	-25.8%	5.8%	257,145	-2.6%
2014	15,275	1.6%	6.0%	254,683	-1.0%
2015	16,723	9.5%	6.1%	274,754	7.9%
Compound Annual Growth Rate					
2005 – 2008	4.3%			-3.2%	
2008 – 2009	-16.2%			-12.7%	
2009 – 2015	-3.7%			0.5%	
2005 – 2015	-2.7%			-2.0%	

SOURCES: Broward County Aviation Department, March 2016; ; Federal Aviation Administration, Air Traffic Activity Data System (ATADS), March 2016; U.S. Department of Transportation, Form T-100, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.1-15: Historical General Aviation Operations

FISCAL YEAR	OPERATIONS				SHARE			AIRPORT TOTAL	ANNUAL CHANGE (%)
	ITINERANT	LOCAL	TOTAL	ANNUAL CHANGE (%)	ITINERANT	LOCAL	SHARE OF AIRPORT TOTAL		
2005	71,821	134	71,955	1.6%	99.8%	0.2%	21.4%	336,111	9.0%
2006	56,382	304	56,686	-21.2%	99.5%	0.5%	18.9%	300,479	-10.6%
2007	55,006	32	55,038	-2.9%	99.9%	0.1%	18.1%	304,627	1.4%
2008	48,115	68	48,183	-12.5%	99.9%	0.1%	15.8%	304,816	0.1%
2009	43,303	0	43,303	-10.1%	100.0%	0.0%	16.3%	265,977	-12.7%
2010	45,041	0	45,041	4.0%	100.0%	0.0%	16.5%	272,282	2.4%
2011	41,589	0	41,589	-7.7%	100.0%	0.0%	15.4%	270,000	-0.8%
2012	35,798	0	35,798	-13.9%	100.0%	0.0%	13.6%	264,058	-2.2%
2013	35,399	0	35,399	-1.1%	100.0%	0.0%	13.8%	257,145	-2.6%
2014	35,391	0	35,391	0.0%	100.0%	0.0%	13.9%	254,683	-1.0%
2015	37,704	0	37,704	6.5%	100.0%	0.0%	13.7%	274,754	7.9%
Compound Annual Growth Rate									
2005 – 2008	-12.5%	-20.2%	-12.5%					-3.2%	
2008 – 2009	-10.0%	-100.0%	-10.1%					-12.7%	
2009 – 2015	-2.3%	0.0%	-2.3%					0.5%	
2005 – 2015	-6.2%	-100.0%	-6.3%					-2.0%	

SOURCES: Broward County Aviation Department; March 2016; Federal Aviation Administration, Air Traffic Activity Data System (ATADS), March 2016.
 PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.1-16: Historical Military Operations

FISCAL YEAR	OPERATIONS				SHARE			AIRPORT TOTAL	ANNUAL CHANGE (%)
	ITINERANT	LOCAL	TOTAL	ANNUAL CHANGE (%)	ITINERANT	LOCAL	SHARE OF AIRPORT TOTAL		
2005	346	6	352	-44.3%	98.3%	1.7%	0.1%	336,111	9.0%
2006	370	0	370	5.1%	100.0%	0.0%	0.1%	300,479	-10.6%
2007	639	0	639	72.7%	100.0%	0.0%	0.2%	304,627	1.4%
2008	526	3	529	-17.2%	99.4%	0.6%	0.2%	304,816	0.1%
2009	784	0	784	48.2%	100.0%	0.0%	0.3%	265,977	-12.7%
2010	905	0	905	15.4%	100.0%	0.0%	0.3%	272,282	2.4%
2011	477	0	477	-47.3%	100.0%	0.0%	0.2%	270,000	-0.8%
2012	451	0	451	-5.5%	100.0%	0.0%	0.2%	264,058	-2.2%
2013	572	0	572	26.8%	100.0%	0.0%	0.2%	257,145	-2.6%
2014	495	0	495	-13.5%	100.0%	0.0%	0.2%	254,683	-1.0%
2015	431	0	431	-12.9%	100.0%	0.0%	0.2%	274,754	7.9%
Compound Annual Growth Rate									
2005 – 2008	15.0%	-20.6%	14.5%					-3.2%	
2008 – 2009	49.0%	-100.0%	48.2%					-12.7%	
2009 – 2015	-9.5%	0.0%	-9.5%					0.5%	
2005 – 2015	2.2%	-100.0%	2.0%					-2.0%	

SOURCES: Broward County Aviation Department, March 2016; Federal Aviation Administration, Air Traffic Activity Data System (ATADS), March 2016.
 PREPARED BY: Ricondo & Associates, Inc., March 2016.

3.1.5 BASED AIRCRAFT

As shown in **Table 3.1-17**, the overall decline in the number of based aircraft at FLL between FY 2005 and FY 2011 was, in part, the result of Hurricane Wilma, the economic recession and the South Runway Program. Based jet aircraft increased from 17 aircraft in FY 2005 to 43 aircraft in FY 2012. Since FY 2012, the number of based jet aircraft has remained constant.

Table 3.1-17: Based Aircraft

FISCAL YEAR	SINGLE	JET	MULTI	HELICOPTER	TOTAL
2005	53	17	83	6	159
2006	9	40	48	3	100
2007	10	57	58	4	129
2008	8	40	42	4	94
2009	1	29	23	2	55
2010	5	38	12	2	57
2011	2	31	15	1	49
2012	7	43	23	3	76
2013	8	43	17	3	71
2014	12	54	22	6	94
2015	12	54	22	6	94
Compound Annual Growth Rate					
2005 – 2008	-46.8%	33.0%	-20.3%	-12.6%	-16.1%
2008 – 2009	-87.5%	-27.5%	-45.2%	-50.0%	-41.5%
2009 – 2015	51.9%	10.9%	-0.7%	20.1%	9.3%
2005 – 2015	-13.8%	12.3%	-12.4%	0.0%	-5.1%

SOURCE: Federal Aviation Administration Terminal Area Forecast (TAF), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

3.2 Factors Affecting Aviation Demand at the Airport

This section discusses qualitative factors that could influence future aviation demand at the Airport throughout the forecast period. Data and information related to these factors have been either directly or indirectly incorporated into the development of activity forecasts for the Airport. The qualitative factors considered in forecasting aviation activity at FLL are discussed in the following subsections. These factors include broad economic and industry influences that are recognized to have a potential to inhibit or support growth in aviation activity. Each factor is unique and not dependent on any other factor. Therefore, each factor is discussed individually; however, multiple factors may influence future activity at the Airport at any point in time.

3.2.1 NATIONAL ECONOMY

Trends in airline travel demand, measured by either passenger volumes or passenger revenue, can be correlated with national and regional economic trends, including Gross Domestic/Regional Product, Population, Employment, Earnings, and Personal Income. Forecast growth of the key socioeconomic variables used in the forecast of airport activity is presented in **Table 3.2-1**. Notably, by most measures, regional economic growth is forecast to be higher for the region than the U.S. overall. Actual economic activity may differ from this independent projection, resulting in variations in demand relative to the forecast.

Table 3.2-1: Forecast Growth of U.S. and Regional Socioeconomic Activity Drivers

SOCIOECONOMIC MEASURE	REGION	FORECAST 2015-2035 CAGR
Population	U.S.	0.9%
	CSA	1.2%
	MSA	1.2%
Employment	U.S.	1.3%
	CSA	1.6%
	MSA	1.6%
Earnings	U.S.	2.0%
	CSA	2.3%
	MSA	2.3%
Net Earnings	U.S.	2.1%
	CSA	2.3%
	MSA	2.3%
Personal Income	U.S.	2.2%
	CSA	2.5%
	MSA	2.5%
Per Capita Personal Income	U.S.	1.3%
	CSA	1.2%
	MSA	1.2%
Gross Regional/National Product	U.S.	2.1%
	CSA	2.4%
	MSA	2.4%

SOURCE: 2015 CEEDS Woods & Poole Economics, Inc., March 2016.

PREPARED BY: Ricondo & Associates, Inc., April 2016.

3.2.2 STATE OF THE AIRLINE INDUSTRY

In the aftermath of the terrorist attacks on September 11, 2001, the U.S. airline industry experienced an adverse shift in the demand for airline travel, which exacerbated problems for a U.S. airline industry already weakened by the slowing economy and the rising labor and fuel costs. This resulted in operating losses between 2001 through 2004 that totaled more than \$22 billion (excluding extraordinary charges and gains). From 2005 through 2007,

airline industry performance improved, posting combined operating profits.⁴ However, in 2008 and through the first half of 2009, the combination of record-high fuel prices, weakening economic conditions, and a weak dollar resulted in the worst financial environment for the U.S. network and low-cost airlines since September 11, 2001. Since 2009, the airline industry has improved; industry consolidation, capacity realignment, and a recovering economy helped drive record industry profits in 2013 and 2014. North American airline members of the International Air Transport Association are projected to generate profits of \$15.7 billion in 2015, after producing \$11.2 billion in profits in 2014.⁵ Industry-wide profitability will have a direct impact on airline industry willingness to allocate capacity in the market, with a significant decrease in capacity potentially causing a reduction in passenger enplanements.

3.2.3 AIRLINE MERGERS AND ACQUISITIONS

Since 2009, airlines have merged or acquired competitors in order to become more competitive and cost-efficient. In 2009, Delta Air Lines completed its merger with Northwest Airlines, initiating a wave of U.S. airline mergers and acquisitions. That same year, Republic Airways Holdings, a regional airline holding corporation, acquired Frontier Airlines of Denver and Midwest Airlines of Milwaukee. In 2010, United Airlines and Continental Airlines merged. In 2011, Southwest Airlines acquired AirTran Holdings, Inc., the former parent company of low-cost competitor AirTran Airways. In 2013, American Airlines and US Airways merged, creating the largest airline in terms of operating revenue and revenue passenger miles. These mergers have enabled airlines to reduce capacity and achieve higher profitability. Additional consolidation in the U.S. industry could alter the competitive landscape at the Airport, affecting future activity.

3.2.4 COST OF AVIATION FUEL

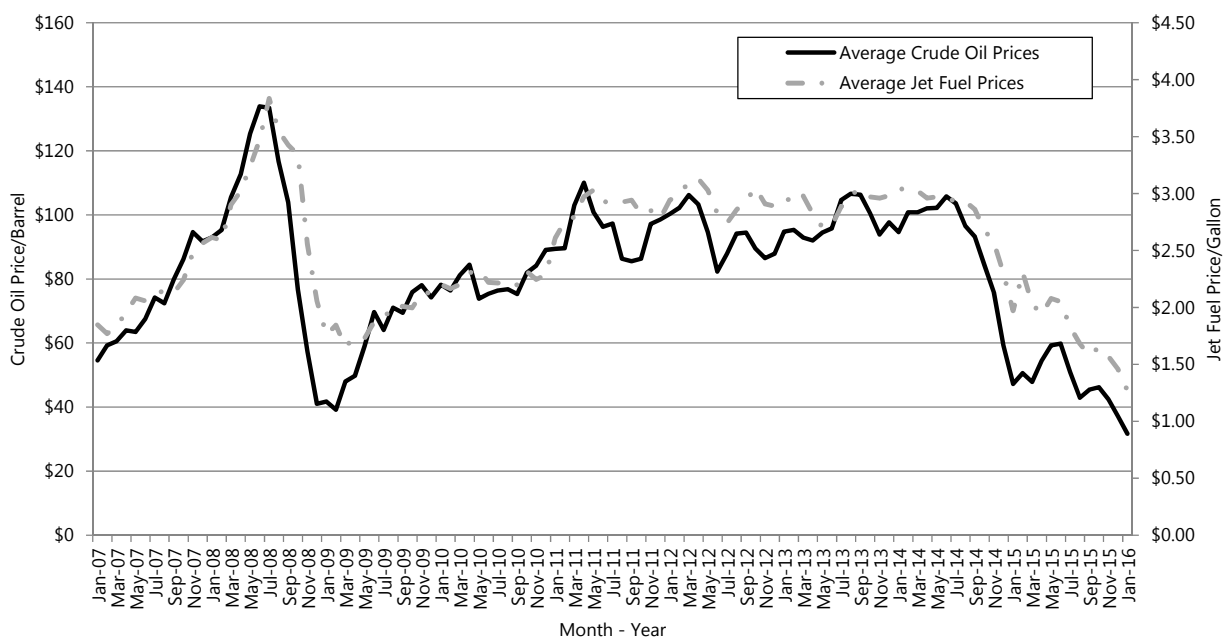
The price of fuel is one of the most significant and volatile expenses for airlines. Historically, fuel has been the first or second largest operating expense for the airline industry, shifting with labor cost. As of the third calendar quarter of 2015, fuel was the second largest operating expense for the airline industry after labor, representing 18.9 percent of operating expenses. **Exhibit 3.2-1** shows the quarterly average prices of jet fuel and crude oil from January 2007 through January 2016. Since 2007, the average quarterly price of jet fuel fluctuated between a high of \$3.84 per gallon in July 2008 to a low of \$1.27 in January 2016.

Fluctuating fuel costs will continue to impact airline profitability, and this could lead to changes in air service as airlines adjust air service to address increases or decreases in this significant expense.

⁴ Airlines for America, *2009 Economic Report*, July 2009.

⁵ International Air Transport Association, *Economic Performance of the Industry*, June 2015.

Exhibit 3.2-1: Historical Monthly Averages of Jet Fuel and Crude Oil Prices



SOURCES: U.S. Bureau of Transportation Statistics (Average Jet Fuel Prices), January 2016; U.S. Energy Information Administration (Average Crude Oil Prices), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

3.2.5 THREAT OF TERRORISM AND GEOPOLITICAL ISSUES

Since September 11, 2001, the recurrence of terrorism incidents against either domestic or world aviation remains a risk to achieving the activity forecasts contained in this report. Tighter security measures have restored the public's confidence in the safety of U.S. and world air travel. However, any terrorist incident aimed at aviation could have an impact on the demand for aviation services.

Additionally, geopolitical issues may affect aviation demand during the forecast period. Potential governmental or regional instability in certain countries or locations may affect access to, or demand for, aviation service in these places. Future governmental or regional instability may have an impact on demand for international aviation service at the Airport.

3.2.6 OPERATIONAL CAPACITY OF THE NATIONAL AIRSPACE SYSTEM

A significant concern of the FAA is how increased delays at busy airports impact the efficiency of the National Airspace System (NAS). In its January 2015 *Airport Capacity Needs in the National Airspace System* report, the FAA stated the need to address delays that remain at key airports since the 2007 assessment, as well as the need to implement NextGen airspace system improvements. The report emphasized the need to continue to invest in system improvements with airfield enhancements and NextGen capabilities.

3.2.7 COMPETING AIRPORTS

The Airport is subject to competition for passengers traveling to and from South Florida, primarily from Miami International Airport (MIA) located approximately 30 miles to the south of FLL and Palm Beach International Airport (PBI) located approximately 50 miles to the north, shown previously on Exhibit 3-1.1.

As shown in **Exhibit 3.2-2**, total airline seat capacity among the region's three airports has remained generally constant, and the Airport has maintained a uniform share relative to MIA and PBI, between 33 and 36 percent. In four of the past five years, FLL's share was 35 percent. These departing airline seat shares are reflective of total enplaned passenger shares among the airports within the region.

FLL and PBI primarily serve passengers traveling to the South Florida region as the origin or destination point of their journeys (O&D passengers). MIA, a major hub for American Airlines, has historically served a greater component of connecting passengers using MIA as a waypoint on journeys between two other airports.

Exhibit 3.2-2: Annual Share of South Florida's Airports Total Departing Airline Seat Capacity



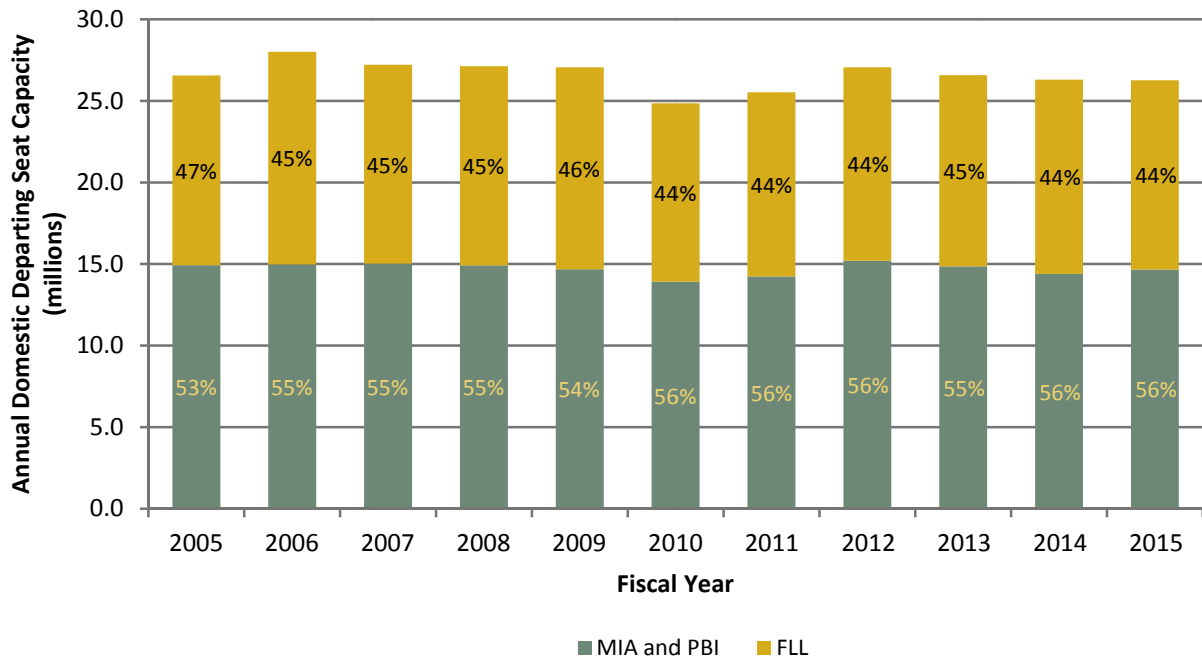
SOURCE: Innovata, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

3.2.7.1 Domestic Passengers

The airlines serving FLL combine to offer the greatest volume of airline seats to domestic destinations among the airports in the region (**Exhibit 3.2-3**). As shown on **Exhibit 3.2-4**, competition among airlines serving domestic destinations differs markedly at the three regional airports, particularly when comparing FLL and PBI to MIA. In MIA, American Airlines provided over 80 percent of domestic seat capacity in FY 2015, while in FLL and PBI, service is spread more evenly across competitors. In FY 2015, no single airline at FLL had more than 22 percent of domestic seat capacity share.

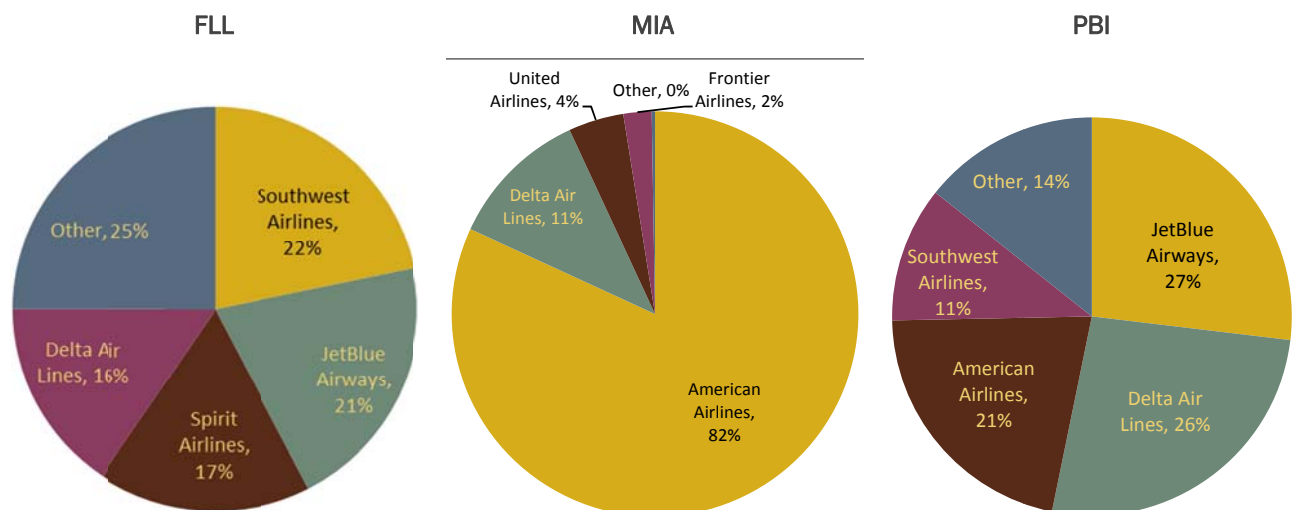
Exhibit 3.2-3: Annual Share of South Florida's Airports Total Domestic Departing Airline Seat Capacity



SOURCE: Innovata, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Exhibit 3.2-4: Airline Shares of Domestic Seat Capacity from South Florida Airports

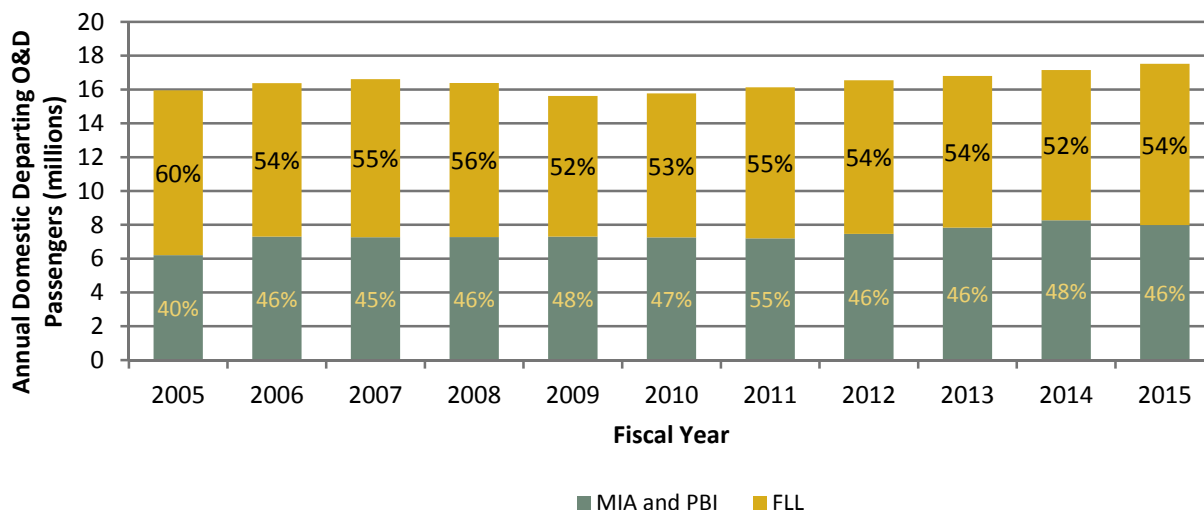


SOURCE: Innovata, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

With the robust competition among airlines operating domestically at the Airport, and because a substantial portion of American Airlines' domestic seat capacity to and from MIA accommodates connecting passengers, FLL maintains a share of domestic O&D passenger activity that is disproportionately higher than its share of domestic airline seat capacity, as illustrated on **Exhibit 3.2-5**. As illustrated in **Table 3.2-2**, both FLL and MIA offered nonstop service to all of the top 20 domestic O&D markets. However, in each market, FLL had a lower average fare than the region as a whole. In 17 of the 20 markets, FLL held the largest share of O&D passengers.

Exhibit 3.2-5: Annual Share of South Florida's Airports Domestic O&D Passengers



SOURCE: U.S. Department of Transportation, DB1B Survey, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Continued robust competition at FLL and the continued use of MIA by American Airlines as a hub supporting both O&D and connecting passengers will support FLL's continued role as the region's primary domestic O&D airport. While American Airlines restructured the scheduling of its hub in MIA (referred to by the airline as "rebanking"), it has done so primarily in order to facilitate more efficient connections for passengers at that airport. Additional capacity from the airlines operating at FLL will further enable the Airport to capture O&D passengers in the South Florida region.

3.2.7.2 International Passengers

With MIA's prominence as an international connecting hub within American Airlines' route network, FLL has maintained a relatively small share of nonstop international airline seat capacity in the South Florida region (**Exhibit 3.2-6**). However, as with domestic O&D markets, and as reflected on **Exhibit 3.2-7**, FLL has maintained a disproportionately high share of international O&D passenger activity among the airports in South Florida, relative to its international seat share. Between FY 2005 and FY 2015, FLL's share of international seat capacity has grown from 13 percent to 20 percent, while its international O&D passenger share has grown from 14 percent to 28 percent. As presented in **Table 3.2-3**, FLL maintains international seat capacity across regions also served from MIA (albeit in different proportions), with a focus primarily on destinations in Latin America, the Caribbean, and Mexico.

Table 3.2-2: Service and Fare Comparison from South Florida's Airports to Top 20 Domestic O&D Markets

O&D MARKET	ANNUAL ONE WAY O&D PASSENGERS	AVERAGE FARE (ONE WAY)			NONSTOP SERVICE			O&D PASSENGER SHARE			
		FLL	REGION	DIFFERENCE	FLL	MIA	PBI	FLL	MIA	PBI	FLL HIGHEST
NYC ^{1/}	3,830,411	147	158	-6.9%	x	x	x	42%	30%	28%	x
CHI ^{2/}	862,907	132	150	-12.1%	x	x	x	53%	35%	12%	x
ATL	847,974	103	116	-11.1%	x	x	x	52%	34%	14%	x
BOS	748,401	154	166	-7.4%	x	x	x	43%	26%	31%	x
WAS ^{3/}	661,331	134	143	-6.3%	x	x	x	38%	44%	18%	
BWI	607,015	93	104	-10.6%	x	x	x	71%	15%	14%	x
LAX	589,737	207	238	-13.0%	x	x	x	47%	48%	6%	
PHL	568,176	146	153	-4.6%	x	x	x	41%	36%	23%	x
DTW	478,240	121	135	-10.5%	x	x	x	66%	24%	10%	x
DFW	361,394	121	153	-21.3%	x	x	x	52%	36%	13%	x
SFO	357,405	221	245	-9.7%	x	x		56%	39%	5%	x
SJU	352,899	130	145	-10.4%	x	x		67%	33%	0%	x
DEN	336,466	143	155	-7.8%	x	x	x	54%	37%	9%	x
LAS	321,882	152	190	-20.0%	x	x		56%	39%	5%	x
IAH	263,396	144	168	-14.3%	x	x	x	46%	48%	6%	
BDL	256,324	134	144	-6.8%	x	x	x	56%	17%	27%	x
MSP	205,683	175	193	-9.0%	x	x		50%	40%	10%	x
RDU	199,677	110	120	-8.4%	x	x		50%	41%	9%	x
PIT	186,376	117	128	-8.2%	x	x	x	62%	23%	15%	x
MSY	174,372	105	130	-19.0%	x	x		58%	36%	6%	x
Total	12,210,066	Average		-10.9%							

NOTES:

Data represents fiscal year 2015 (October – September).

1/ The NYC market includes John F. Kennedy International Airport (JFK), LaGuardia Airport (LGA), Newark Liberty International Airport (EWR), Westchester Airport (HPN), and Long Island MacArthur Airport (ISP)

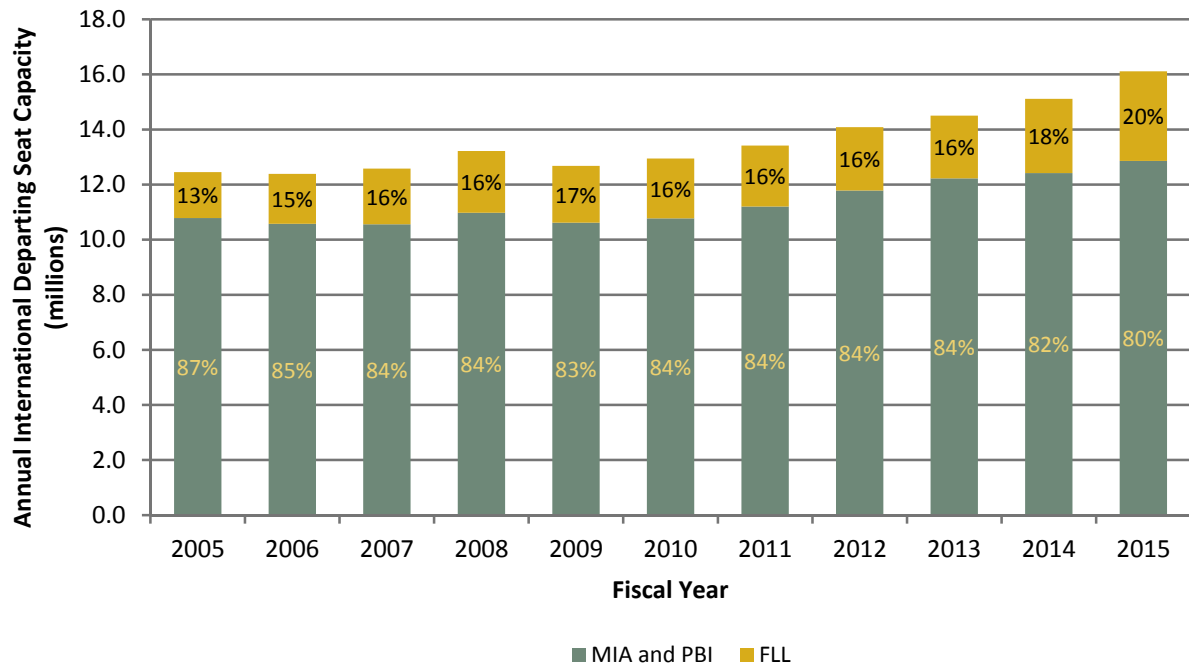
2/ The CHI market includes O'Hare International Airport (ORD) and Midway International Airport (MDW).

3/ The WAS market includes Reagan National Airport (DCA) and Dulles International Airport (IAD).

SOURCES: U.S. Department of Transportation, DB1B Survey; March 2016 Innovata, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

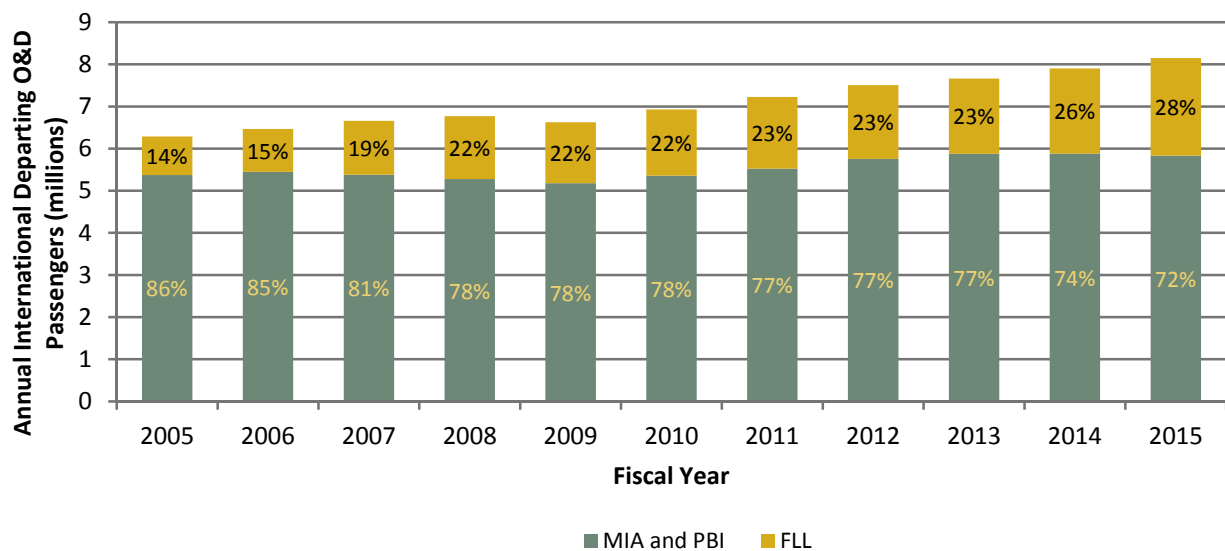
Exhibit 3.2-6: Annual Share of South Florida's Airports International Departing Airline Seat Capacity



SOURCE: Innovata, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Exhibit 3.2-7: Annual Share of South Florida's Airports International O&D Passengers



SOURCE: U.S. Department of Transportation, T-100 and DB1B Survey, March 2016; Ricondo & Associates, Inc., (Analysis), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.2-3: FY 2015 Distribution of International Seats by Region (South Florida Airports)

DESTINATION REGION	SHARE OF AIRPORTS' INTERNATIONAL SEATS		
	FLL	MIA	PBI
Latin / Caribbean	56.7%	45.5%	38.9%
Canada	20.2%	3.8%	61.1%
South America	19.5%	33.4%	0.0%
Europe / Middle East / Africa	3.6%	17.2%	0.0%
Total Annual Departing Seats	3,247,550	12,785,944	76,080

SOURCE: Innovata, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

As illustrated in **Table 3.2-4**, scheduled nonstop international seats grew by approximately 9 percent at the Airport between FY 2015 and FY 2016, supported by both U.S. and international airline growth. Similar to domestic service, international service remains highly competitive at the Airport, with JetBlue having the highest share of international seat capacity, totaling 29 percent, followed by Spirit Airlines with 23 percent. MIA's highest share is held by American Airlines (56 percent) followed by LATAM Airlines having 4 percent.

The competitive environment offered to airlines serving international destinations from the Airport, and the favorable geographic location relative to major focal points of international service (South America and Latin/Caribbean destinations), will support continued growth of service by a variety of airlines. To support this growth, the Airport is modernizing Terminal 1 and Terminal 4 to improve the customer experience and to offer more destinations (domestic and international) through additional gates. Concourse A and Terminal 4 will feature Customs Inspection Facilities with five gates and 14 gates, respectively capable of handling international and domestic operations. The projects are scheduled to be completed by the second to third quarters of calendar year (CY) 2017 (Terminal 1) and early CY 2018 (Terminal 4). As such, the Airport should continue to support a share of international O&D passenger activity in the South Florida region that is at, or above, its historical share of international seats.

3.3 Enplaned Passenger and Aircraft Operations Forecasts

Forecasts of aviation activity were developed considering the following: historical activity, including passenger trends at the Airport and across the industry; trends and projections of local and national socioeconomic factors; and anticipated use of the Airport by airlines. This section presents an overview of the methodologies used in forecasting aviation activity at the Airport, along with the forecast results through FY 2035.

Table 3.2-4: Recent Changes in International Nonstop Airline Service From South Florida Airports

		FY 2015			FY 2016			CHANGE			PERCENT CHANGE		
		FLL	MIA	PBI	FLL	MIA	PBI	FLL	MIA	PBI	FLL	MIA	PBI
U.S. Airlines	Number	4	2	1	6	2	1	2	0	0	50.0%	0.0%	0.0%
	Annual Departing Seats	1,851,118	7,458,319	11,220	2,082,958	7,301,841	12,002	231,840	(156,478)	782	12.5%	0	7.0%
International Airlines	Number	14	42	2	13	45	3	(1)	3	1	-7.1%	0	50.0%
	Annual Departing Seats	1,396,432	5,327,625	64,860	1,446,639	5,801,517	80,688	50,207	473,892	15,828	3.6%	0	24.4%
All Airlines	Number	18	44	3	19	47	4	1	3	1	5.6%	0	33.3%
	Annual Departing Seats	3,247,550	12,785,944	76,080	3,529,597	13,103,358	92,690	282,047	317,414	16,610	8.7%	0	21.8%
Airline Competition	Highest Airline Seat Share	26%	58%	61%	29%	56%	56%						
	Airline	JetBlue Airways	American Airlines	Air Canada	JetBlue Airways	American Airlines	Air Canada						
	Second Highest Seat Share	24%	4%	24%	23%	4%	23%						
	Airline	Spirit Airlines	LATAM	Bahamasair	Spirit Airlines	LATAM	Bahamasair						

SOURCE: Innovata, March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

3.3.1 ASSUMPTIONS UNDERLYING THE FORECASTS

The forecasts of enplaned passengers and aircraft operations were based on a number of underlying assumptions, including:

- Unconstrained forecasts (facility wise).
- The Airport will continue to serve as an O&D market for domestic and international airlines, including traditional network airlines and low-cost airlines.
- The Airport will serve as a connecting point and as a gateway for international travel to destinations largely throughout the Caribbean and Latin/South America.
- For these analyses, and similar to the FAA's nationwide forecasts, it was assumed that there will be no terrorist incidents during the forecast period that would have significant, negative, or prolonged effects on aviation activity at the Airport or nationwide.
- Economic disturbances will occur during the forecast period, causing year-to-year variations in airline traffic. However, long-term increases in nationwide and Airport traffic are forecast.
- It was assumed that no major "acts of God" that may disrupt the national or global airspace system will occur during the forecast period, which would negatively affect aviation activity at the Airport.

Many of the factors influencing aviation activity cannot be quantified, and any forecast is subject to uncertainties. Therefore, the forecasting process should not be viewed as precise. Actual airline traffic at the Airport may differ from the forecasts presented herein, because events and circumstances do not occur as expected, and those differences may be material.

3.3.2 ENPLANED PASSENGER AND PASSENGER AIRCRAFT OPERATIONS FORECAST METHODOLOGY AND RESULTS

Passenger-related activity forecasts were developed for two time horizons: a near-term forecast for FY 2016 and a longer-term forecast for the period FY 2017 through FY 2035. Specific forecasting methodologies are described in the following subsections.

3.3.2.1 Near-Term Forecast (FY 2016) Methodology

Published airline schedules through September 2016 were analyzed, and flight segment-level estimates of airline performance were developed based on trends in load factors and completion rates, which were identified through analysis of actual performance data furnished by the Airport, as well as thorough analysis of U.S. DOT enplaned passenger and O&D data available through June 2015. Estimates of load factors and completion rates were applied to scheduled capacity to derive forecasts of enplaned passengers and aircraft operations for FY 2016.

3.3.2.2 Longer-Term Forecast (FY 2017 through FY 2035) Methodology

Airline service at FLL is supported by the Airport's underlying O&D passenger base and, in the case of hubbing or heavily concentrated airlines, a component of connecting passengers. Growth of the Airport's underlying O&D passenger base was analyzed in the context of the Airport's share of O&D passengers among other South Florida airports, specifically MIA and PBI. The Airport's O&D passenger volume is expected to grow throughout the forecast period, due to a forecast of 2.1 percent overall growth in the South Florida O&D market (Table 3.3-1) and an increase in the Airport's share of the South Florida market, resulting from disproportionately high growth in airline

activity at FLL. Connecting passenger volumes at FLL were forecast on an airline-by-airline basis. Consideration was given to how each airline is expected to develop its route network at the Airport, as well as how the design of those networks may support connecting passengers.

Segmentation of Passengers

Passengers who have historically used the airports in South Florida were categorized into four segments, beyond the more general classification of either a domestic or international enplanement, in order to more accurately identify the nature of passenger journeys and to better understand the drivers of that demand. Those four segments are:

- Domestic O&D: Passengers using the airports as an origin or destination point for journeys within the United States.
- International O&D: Passengers using the airports as an origin or destination point for journeys to or from points outside the United States. This category includes passengers whose ultimate destination is an international point, but who use a flight segment to or from another domestic airport that serves as the international gateway (for example, a passenger flying from FLL to London via Hartsfield-Jackson Atlanta International Airport [ATL]). While this type of passenger is on an international itinerary, this type of passenger is reported as a domestic enplaned passenger.
- Domestic Connecting: Passengers using the airports as a waypoint for journeys between two other airports within the United States.
- International Connecting: Passengers using the airports as a waypoint for journeys between two other airports, at least one of which is an international point. This category includes international-to-international journeys. This category also includes passengers who depart from an airport on a domestic flight after arriving at that airport on a flight from an international origin. While this type of passenger is on an international itinerary, they are reported as a domestic enplaned passenger.

Forecast Growth of the South Florida O&D Passenger Base

South Florida O&D passenger growth was forecast using socioeconomic regression analysis. Socioeconomic regression analysis is used to identify causal relationships between a dependent variable (e.g., number of O&D passengers) and one or more independent variables (e.g., socioeconomic factors, such as population, employment, per capita personal income, etc.). These relationships, in the form of regression models or equations, can be used in conjunction with projections of socioeconomic factors to forecast growth in aviation activity. A standard measure of how well each socioeconomic variable explains passenger demand (the quality of a particular regression model) is the regression model's coefficient of determination, or R-squared value. A result of 100 percent is the maximum value possible for a coefficient of determination, and it represents a perfect fit among the variables analyzed.

Socioeconomic regression analysis was conducted to identify causal relationships between South Florida O&D passenger demand (comprising FLL, MIA, and PBI) and socioeconomic variables for the nation, the Miami-Fort Lauderdale-Port St. Lucie Combined Statistical Area (CSA), and the Miami-Fort Lauderdale-West Palm Beach Metropolitan Statistical Area (MSA). Regression analysis was performed separately for domestic and international O&D passengers. Several reasonable causal relationships were identified for both domestic and international O&D passengers considering R-squared values of those relationships. These relationships are summarized in **Table 3.3-1**.

These regression models were used in conjunction with independent projections of the relevant socioeconomic variables obtained from Woods & Poole Economics, Inc. to forecast South Florida domestic and international O&D passengers through FY 2035. Forecast results from the individual models were averaged to provide a consensus forecast for both domestic and international O&D passengers. Combining domestic and international O&D passenger forecasts of South Florida enplaned passengers resulted in a CAGR of 2.1 percent between FY 2015 and FY 2035.

Table 3.3-1: Summary of Regression Analysis Results

DEPENDENT VARIABLE	INDEPENDENT VARIABLE	RANGE OF R-SQUARED	2015-2035 CAGR RANGE	CONSENSUS GROWTH
South Florida Domestic O&D Passengers	Population (U.S./CSA/MSA)			
	Employment (U.S./CSA/MSA)			
	Earnings (U.S./CSA/MSA)			
	Personal Income (U.S./CSA/MSA)	82% – 97%	1.6% – 2.2%	1.9%
	Net Earnings (U.S./CSA/MSA)			
	Per Capita Personal Income (U.S./CSA/MSA)			
	GDP/GRP ^{1/} (U.S./CSA/MSA)			
South Florida International O&D Passengers	Year (Time Series)			
	Personal Income (U.S.)			
	Net Earnings (U.S./CSA/MSA)	74% – 81%	2.0% – 3.0%	2.6%
	Per Capita Personal Income (U.S.)			
	GDP (U.S.)			
South Florida Total O&D Passengers			1.7% – 2.4%	2.1%

NOTE:

^{1/} Gross Regional Product (GRP)

SOURCES: 2015 CEEDS Woods and Poole Economics, Inc March 2016; Ricondo & Associates, Inc. (Analysis), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

O&D Passenger Growth at FLL and Apportioning of O&D Passengers by Airline

FLL domestic and international O&D passengers were grown at the rates forecast for the South Florida region through FY 2035. In addition to the O&D passenger growth at FLL resulting from the overall growth in the South Florida region, additional FLL O&D passenger growth was forecast to result from an O&D market share shift from other South Florida airports, as shown in **Table 3.3-2**.

Table 3.3-2: Airport Shares of Regional O&D Passengers (Baseline)

FISCAL YEAR	FLL SHARE OF O&D PASSENGERS			MIA AND PBI SHARE OF O&D PASSENGERS		
	DOMESTIC	INTERNATIONAL	TOTAL	DOMESTIC	INTERNATIONAL	TOTAL
Historical						
2005	60%	14%	47%	40%	86%	53%
2006	54%	15%	43%	46%	85%	57%
2007	55%	19%	45%	45%	81%	55%
2008	56%	22%	46%	44%	78%	54%
2009	52%	22%	43%	48%	78%	57%
2010	53%	22%	44%	47%	78%	56%
2011	55%	23%	45%	45%	77%	55%
2012	54%	23%	45%	46%	77%	55%
2013	54%	23%	44%	46%	77%	56%
2014	52%	26%	43%	48%	74%	57%
2015	54%	28%	46%	46%	72%	54%
Forecast						
2016	58%	30%	49%	42%	70%	51%
2017	58%	31%	49%	42%	69%	51%
2018	58%	33%	50%	42%	67%	50%
2019	58%	34%	50%	42%	66%	50%
2020	58%	34%	50%	42%	66%	50%
2025	58%	34%	50%	42%	66%	50%
2030	58%	34%	50%	42%	66%	50%
2035	58%	34%	50%	42%	66%	50%

SOURCES: U.S. Department of Transportation, T-100 and DB1B Survey (Historical) March 2016; Ricondo & Associates, Inc. (Projected), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

O&D market share shift was estimated through the analysis of publicly available airline growth plans, as well as expectations of service changes at the Airport as new terminal facilities become available, enabling domestic and international service expansion.

The competitive cost environment offered to airlines serving international destinations from the Airport, and the favorable geographic location relative to major focal points of international service (South America and Latin/Caribbean destinations), are expected to support continued growth of service by a variety of airlines. As described in section 3.2.7, the Airport is modernizing Terminal 1 and Terminal 4. As such, it is forecast that the Airport will support a share of international O&D passenger activity in the South Florida region that is above its historical share. FLL's O&D passenger volumes are forecast to grow 2.5 percent (CAGR) between 2015 and 2035, which is above the 2.1 percent forecast for the South Florida market.

Forecast FLL domestic and international O&D passengers were subsequently apportioned to airlines according to historical airline shares, which was then adjusted for changes in airline share expected to result from the service evolution previously described. O&D passengers were further segmented according to how each airline was expected to route its passengers, in order to accurately categorize those O&D passengers as enplaned passengers and to facilitate the forecasting of connecting passengers at FLL. Thus, for an airline that has historically routed outbound FLL international O&D passengers on an initial flight segment to another U.S. gateway airport (reported by the Airport as a domestic enplaned passenger), it was assumed to continue to accommodate future international O&D passengers in a similar way. However, if a change was expected to occur in that airline's route network at FLL, such as the addition of new international nonstop flights, more of that airline's international O&D passengers were forecast to be routed on nonstop international flights, resulting in an increase in international enplaned passengers.

Development of Connecting Passenger Forecast

To forecast connecting passengers, airline-specific ratios were developed between O&D passengers by routing and connecting passengers. These ratios were developed based on observations of historical passenger traffic at FLL and in other airports with similar types of geographies, airlines, and airline route networks. Ratios were constructed separately for each type of connecting passenger: domestic-to-domestic, international-to-domestic, domestic-to-international, and international-to-international. These ratios were applied to forecast O&D values to derive connecting passenger volumes.

For example, if a carrier historically carried one connecting passenger for every two O&D passengers carried on a nonstop international routing, a ratio of one connecting passenger per every two nonstop international O&D passengers was applied to the growth of nonstop international O&D passengers, as forecast for that particular airline. Ratios were assumed to remain constant throughout the forecast period. Therefore, if that particular airline's volume of nonstop international O&D passengers was forecast to increase, connecting passengers associated with that nonstop international O&D passenger volume would grow in proportion to that O&D passenger type.

Fleet Mix and Operations Forecast to Accommodate Forecast Enplaned Passengers

Table 3.3-3 presents aggregated near-term, medium-term, and longer-term fleet mix forecasts for total passenger aircraft departures, categorized by average seat capacity.

Airline-specific forecasts of domestic and international enplaned passengers were used to develop the forecasts of passenger aircraft operations. Similar to the near-term forecasts of aircraft operations, trends in completion rates and load factors were applied across the fleet mix as presented in schedule data published through September 2016. To extrapolate an airline-specific fleet mix between FY 2017 and FY 2035 for both domestic and international aircraft operations, fleet plans for JetBlue, Southwest Airlines, and Spirit Airlines were specifically examined, and more general industry fleet trends were applied to other airlines serving FLL. Notable elements of the fleet mix analysis are the following:

- JetBlue: Airbus A320neo, Airbus A321neo, and Embraer 190 aircraft are currently on order. The fleet will continue to consist of these three aircraft types over the forecast period.

- Southwest Airlines: The use of larger 175-seat Boeing 737-800 and Boeing 737 MAX-8 aircraft (Boeing 737-700 aircraft have 143 seats) will increase. Southwest's fleet mix will consist of the Boeing 737-700 and 737-800 series aircraft over the forecast period.
- Spirit Airlines: Airbus A320neo and Airbus A321 aircraft are currently on order. In addition to these aircraft, Airbus A319s operate as part of Spirit Airlines' fleet mix, and forecast operations in these aircraft indicate a decrease over the forecast period as the airlines transitions to the larger A320 and A321 aircraft. Spirit Airlines operates its aircraft with a high-density seating configuration.
- In FY 2015 Norwegian Air Shuttle operated high-density Boeing 787-800s at the Airport. Norwegian Air Shuttle is expected to transition their operations from the Boeing 787-800 series aircraft (291 seats) to larger Boeing 787-900 series aircraft (344 seats) in order to meet projected passenger demand and align with the airline's fleet mix and aircraft orders.
- No large wide-body or large wide-body, high-density aircraft (i.e., Airbus 380 or Boeing 747-800 with all-coach seating configuration) are assumed to operate at the Airport over the forecast period.

Table 3.3-3: FLL Passenger Aircraft Fleet Mix (Baseline) ^{1/}

AIRCRAFT ^{2/}	SEAT CAPACITY	FY 2015		FY 2020		FY 2025		FY 2035	
		OPERATIONS	SHARE (%)	OPERATIONS	SHARE (%)	OPERATIONS	SHARE (%)	OPERATIONS	SHARE (%)
Piston/Small Prop (Cessna, Saab)	0 - 49	16,462	7.6%	18,803	7.1%	19,445	6.8%	21,213	6.3%
Regional Jets (Canadair CRJ)	50 - 97	2,617	1.2%	2,301	0.9%	2,551	0.9%	3,088	0.9%
Small Narrow-body (Airbus 319, Boeing 717)	97 - 149	76,946	35.8%	74,100	28.1%	64,414	22.4%	45,025	13.3%
Large Narrow-body (Airbus 321, Boeing 737-900)	150 - 225	117,559	54.6%	165,491	62.8%	198,856	69.0%	264,968	78.6%
Small Wide-body (Airbus 330-200, Boeing 787-800/900)	226 - 350	1,609	0.7%	2,700	1.0%	2,767	1.0%	3,014	0.9%
Large Wide-body (Airbus 380-800, Boeing 747-800)	351+ seats	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total Passenger Aircraft Operations		215,192		263,395		288,033		337,308	

NOTE:

1/ Fleet mix includes scheduled passenger airlines and regional and commuter activity only. Nonscheduled passenger operations are excluded.

2/ Examples of representative aircraft are included; however these aircraft may not operate in every year shown.

SOURCES: Broward County Aviation Department; U.S. Department of Transportation, Form T-100; Innovata (Historical) March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., June 2016.

3.3.2.3 Enplaned Passenger and Passenger Aircraft Operations Forecast Results (FY 2016– FY 2035)

Enplaned passengers

Table 3.3-4 presents forecast domestic, international, and total enplaned passengers at the Airport through FY 2035. In FY 2016, total enplaned passengers are forecast to grow 8.2 percent to 14.3 million, comprising approximately 90 percent O&D and 10 percent connecting passengers, similar to FY 2015 levels. International enplaned passengers are forecast to comprise approximately 21 percent of total enplaned passengers. Enplaned passenger growth is supported by a 9.3 percent increase in scheduled seat capacity spread proportionally across domestic and international flight segments. Spirit Airlines, Southwest Airlines, and, most notably, JetBlue are providing over 75 percent of the new seat capacity. JetBlue's FY 2016 scheduled seat capacity growth at FLL is 21 percent, and this includes 13 new destinations (4 international and 9 domestic) on a FY 2015 base of 35 destinations.

The total number of enplaned passengers at the Airport is forecast to increase at a CAGR of 2.6 percent for the entire forecast period, from 13.2 million in FY 2015 to 22.3 million in FY 2035. The number of domestic enplaned passengers is forecast to increase from 10.5 million in FY 2015 to 17.1 million in FY 2035, a CAGR of 2.5 percent. The number of international enplaned passengers is forecast to increase at a higher CAGR (3.3 percent) than domestic enplaned passengers, partially due to the opportunity for expansion into Caribbean and Latin/South American markets by the Airport's primary airlines, as well as from support by infrastructure improvements.

This expansion enables airlines at the Airport to capture O&D growth expected to occur in the South Florida market and to garner a higher share of the South Florida market overall. O&D passenger volumes, presented in **Table 3.3-5**, are forecast to increase from 11.8 million in FY 2015 to 19.3 million in FY 2035 (a 2.5 percent CAGR). FLL's growing O&D market base, coupled with the expansion of service from the Airport, contribute to an increase in connecting passenger enplanements over the forecast period. This is particularly true for passengers making connections between domestic airports to airports in the Caribbean and Latin/South America. Connecting passengers are forecast to grow from 1.4 million in FY 2015 to 3.0 million in FY 2035 (a 4.0 percent CAGR), increasing from 10.3 percent of total enplaned passengers to 13.4 percent in 2035.

The percentage of total enplaned passengers flown on regional aircraft, presented in **Table 3.3-6**, is forecast to remain low, declining from 1.6 percent in FY 2015 to 1.4 percent in FY 2035. Demand in smaller and closer markets will continue to support some small aircraft use, while demand levels in the majority of markets served from FLL will be served by mainline aircraft.

Passenger Airline Operations

Forecasts of domestic, international, and total passenger airline aircraft operations are summarized in **Tables 3.3-7, 3.3-8, and 3.3-9**, respectively. Domestic passenger airline aircraft operations are forecast to increase from 169,399 in FY 2015 to 252,000 in FY 2035, a CAGR of 2.0 percent. During this period, the average domestic load factor is forecast to grow to 87.5 percent, while average seats per departure is forecast to increase from 145.8 in FY 2015 to 155.1 in FY 2035. International passenger aircraft operations are forecast to increase from 45,793 in FY 2015 to 85,300 in FY 2035, a CAGR of 3.2 percent. This increase is supported by a growth in load factor from 85.7 percent to 86.9 percent, as well as growth in average international aircraft seat capacity from 137.5 in FY 2015 to 140.2 in FY 2035. Total passenger airline aircraft operations are forecast to increase from 215,192 in FY 2015 to 337,300 in FY 2035, a CAGR of 2.3 percent.

Table 3.3-4: Historical and Forecast Domestic and International Enplaned Passengers (Baseline)

FISCAL YEAR	ENPLANED PASSENGERS					ANNUAL CHANGE (%)
	DOMESTIC ^{1/}	DOMESTIC SHARE (%)	INTERNATIONAL	INTERNATIONAL SHARE (%)	TOTAL	
Historical						
2005	10,303,438	90.6%	1,063,553	9.4%	11,366,991	13.2%
2006	9,503,386	89.0%	1,177,350	11.0%	10,680,736	-6.0%
2007	9,776,771	87.7%	1,365,898	12.3%	11,142,669	4.3%
2008	10,006,392	86.3%	1,584,047	13.7%	11,590,439	4.0%
2009	8,947,048	85.5%	1,520,840	14.5%	10,467,888	-9.7%
2010	9,260,615	84.9%	1,652,303	15.1%	10,912,918	4.3%
2011	9,836,257	84.3%	1,835,273	15.7%	11,671,530	7.0%
2012	9,962,653	84.8%	1,779,080	15.2%	11,741,733	0.6%
2013	10,033,252	85.1%	1,761,019	14.9%	11,794,271	0.4%
2014	9,844,866	81.9%	2,179,848	18.1%	12,024,714	2.0%
2015	10,515,257	79.6%	2,699,212	20.4%	13,214,469	9.9%
Forecast						
2016	11,365,000	79.5%	2,931,000	20.5%	14,295,000	8.2%
2017	11,830,000	79.3%	3,088,000	20.7%	14,918,000	4.4%
2018	12,227,000	79.1%	3,234,000	20.9%	15,461,000	3.6%
2019	12,542,000	78.3%	3,477,000	21.7%	16,019,000	3.6%
2020	12,813,000	78.2%	3,580,000	21.8%	16,393,000	2.3%
2025	14,213,000	77.6%	4,113,000	22.4%	18,327,000	
2030	15,652,000	77.1%	4,658,000	22.9%	20,310,000	
2035	17,095,000	76.7%	5,197,000	23.3%	22,293,000	
Compound Annual Growth Rate						
2005 – 2015	0.2%		9.8%		1.5%	
2009 – 2015	2.7%		10.0%		4.0%	
2015 – 2016	8.1%		8.6%		8.2%	
2015 – 2035	2.5%		3.3%		2.6%	

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

1/ Includes international-bound passengers whose flight segment from the Airport is domestic with a connecting international flight segment at another U.S. gateway airport.

SOURCES: Broward County Aviation Department; U.S. Department of Transportation T-100 and DB1B Survey (Historical) March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.3-5: Historical and Forecast O&D and Connecting Enplaned Passengers (Baseline)

FISCAL YEAR	ENPLANED PASSENGERS				TOTAL	ANNUAL CHANGE (%)
	ORIGINATING	ORIGINATING SHARE (%)	CONNECTING	CONNECTING SHARE (%)		
Historical						
2005	10,663,925	93.8%	703,066	6.2%	11,366,991	13.2%
2006	10,086,533	94.4%	594,203	5.6%	10,680,736	-6.0%
2007	10,623,944	95.3%	518,725	4.7%	11,142,669	4.3%
2008	10,611,068	91.6%	979,371	8.4%	11,590,439	4.0%
2009	9,764,042	93.3%	703,846	6.7%	10,467,888	-9.7%
2010	10,089,564	92.5%	823,354	7.5%	10,912,918	4.3%
2011	10,637,212	91.1%	1,034,318	8.9%	11,671,530	7.0%
2012	10,832,881	92.3%	908,852	7.7%	11,741,733	0.6%
2013	10,757,238	91.2%	1,037,033	8.8%	11,794,271	0.4%
2014	10,909,227	90.7%	1,115,487	9.3%	12,024,714	2.0%
2015	11,849,538	89.7%	1,364,931	10.3%	13,214,469	9.9%
Forecast						
2016	12,806,000	89.6%	1,489,000	10.4%	14,295,000	8.2%
2017	13,256,000	88.9%	1,661,000	11.1%	14,918,000	4.4%
2018	13,662,000	88.4%	1,800,000	11.6%	15,461,000	3.6%
2019	14,076,000	87.9%	1,944,000	12.1%	16,019,000	3.6%
2020	14,390,000	87.8%	2,003,000	12.2%	16,393,000	2.3%
2025	16,013,000	87.4%	2,314,000	12.6%	18,327,000	
2030	17,669,000	87.0%	2,642,000	13.0%	20,310,000	
2035	19,315,000	86.6%	2,978,000	13.4%	22,293,000	
Compound Annual Growth Rate						
2005 – 2015	1.1%		6.9%		1.5%	
2009 – 2015	3.3%		11.7%		4.0%	
2015 – 2016	8.1%		9.1%		8.2%	
2015 – 2035	2.5%		4.0%		2.6%	

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

SOURCES: Broward County Aviation Department; U.S. Department of Transportation, T-100 and DB1B Survey (Historical) March 2016; Ricondo & Associates, Inc. (Analysis and Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.3-6: Historical and Forecast Mainline and Regional Enplaned Passengers (Baseline)

FISCAL YEAR	ENPLANED PASSENGERS				TOTAL	ANNUAL CHANGE (%)
	MAINLINE	MAINLINE SHARE (%)	REGIONAL/ COMMUTER	REGIONAL/ COMMUTER SHARE (%)		
Historical						
2005	10,700,688	94.1%	666,303	5.9%	11,366,991	13.2%
2006	10,090,621	94.5%	590,115	5.5%	10,680,736	-6.0%
2007	10,671,841	95.8%	470,828	4.2%	11,142,669	4.3%
2008	11,216,547	96.8%	373,892	3.2%	11,590,439	4.0%
2009	10,299,605	98.4%	168,283	1.6%	10,467,888	-9.7%
2010	10,765,310	98.6%	147,608	1.4%	10,912,918	4.3%
2011	11,562,052	99.1%	109,478	0.9%	11,671,530	7.0%
2012	11,604,546	98.8%	137,187	1.2%	11,741,733	0.6%
2013	11,619,869	98.5%	174,402	1.5%	11,794,271	0.4%
2014	11,847,300	98.5%	177,414	1.5%	12,024,714	2.0%
2015	12,998,259	98.4%	216,210	1.6%	13,214,469	9.9%
Forecast						
2016	14,062,000	98.4%	233,000	1.6%	14,295,000	8.2%
2017	14,680,000	98.4%	238,000	1.6%	14,918,000	4.4%
2018	15,218,000	98.4%	243,000	1.6%	15,461,000	3.6%
2019	15,771,000	98.5%	248,000	1.5%	16,019,000	3.6%
2020	16,141,000	98.5%	252,000	1.5%	16,393,000	2.3%
2025	18,053,000	98.5%	274,000	1.5%	18,327,000	
2030	20,016,000	98.5%	295,000	1.5%	20,310,000	
2035	21,977,000	98.6%	315,000	1.4%	22,293,000	
Compound Annual Growth Rate						
2005 – 2015	2.0%		-10.6%		1.5%	
2009 – 2015	4.0%		4.3%		4.0%	
2015 – 2016	8.2%		7.7%		8.2%	
2015 – 2035	2.7%		1.9%		2.6%	

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

Regional/commuter enplaned passengers included aircraft with less than 97 seats.

SOURCES: Broward County Aviation Department; Innovata; U.S. Department of Transportation, Form T-100 (Historical), March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.3-7: Domestic Passenger Airline Operations (Baseline)

FISCAL YEAR	PASSENGERS	LOAD FACTOR	AVERAGE SEATS	OPERATIONS	DOMESTIC SHARE OF TOTAL (%)
Historical					
2005	10,303,438	78.5%	135.4	193,791	82.5%
2006	9,503,386	78.5%	136.9	176,813	80.9%
2007	9,776,771	79.8%	139.8	175,278	79.9%
2008	10,006,392	80.7%	138.8	178,633	79.5%
2009	8,947,048	81.6%	140.9	155,718	79.5%
2010	9,260,615	82.4%	141.5	158,958	79.6%
2011	9,836,257	83.0%	144.9	163,535	81.0%
2012	9,962,653	84.5%	143.9	163,994	80.8%
2013	10,033,252	84.5%	144.0	164,884	81.7%
2014	9,844,866	85.1%	146.1	158,293	79.5%
2015	10,515,257	85.1%	145.8	169,399	78.7%
Forecast					
2016	11,365,000	84.4%	149.9	179,800	77.4%
2017	11,830,000	85.6%	150.3	184,000	76.1%
2018	12,227,000	85.8%	150.6	189,200	75.8%
2019	12,542,000	85.5%	150.9	194,500	75.4%
2020	12,813,000	85.7%	151.2	197,800	75.1%
2025	14,213,000	86.3%	152.5	215,800	74.9%
2030	15,652,000	87.0%	153.8	233,900	74.8%
2035	17,095,000	87.5%	155.1	252,000	74.7%
Compound Annual Growth Rate					
2005 – 2015	0.2%			-1.3%	
2009 – 2015	2.7%			1.4%	
2015 – 2016	8.1%			6.1%	
2015 – 2035	2.5%			2.0%	

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

SOURCES: Broward County Aviation Department; Innovata; U.S. Department of Transportation, Form T-100 (Historical), March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.3-8: International Passenger Airline Operations (Baseline)

FISCAL YEAR	PASSENGERS	LOAD FACTOR	AVERAGE SEATS	OPERATIONS	INTERNATIONAL SHARE OF TOTAL (%)
Historical					
2005	1,063,553	74.6%	69.4	41,055	17.5%
2006	1,177,350	71.9%	78.7	41,625	19.1%
2007	1,365,898	72.3%	85.7	44,056	20.1%
2008	1,584,047	72.9%	94.4	46,063	20.5%
2009	1,520,840	75.8%	100.0	40,114	20.5%
2010	1,652,303	78.2%	103.8	40,732	20.4%
2011	1,835,273	83.2%	114.8	38,431	19.0%
2012	1,779,080	80.7%	113.0	38,998	19.2%
2013	1,761,019	78.9%	120.7	36,972	18.3%
2014	2,179,848	83.1%	128.2	40,911	20.5%
2015	2,699,212	85.7%	137.5	45,793	21.3%
Forecast					
2016	2,931,000	83.9%	132.8	52,600	22.6%
2017	3,088,000	79.7%	134.3	57,700	23.9%
2018	3,234,000	79.2%	134.9	60,500	24.2%
2019	3,477,000	81.0%	135.5	63,400	24.6%
2020	3,580,000	80.2%	136.1	65,600	24.9%
2025	4,113,000	82.9%	137.5	72,200	25.1%
2030	4,658,000	85.2%	138.9	78,800	25.2%
2035	5,197,000	86.9%	140.2	85,300	25.3%
Compound Annual Growth Rate					
2005 – 2015	9.8%			1.1%	
2009 – 2015	10.0%			2.2%	
2015 – 2016	8.6%			14.8%	
2015 – 2035	3.3%			3.2%	

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

SOURCES: Broward County Aviation Department; Innovata; U.S. Department of Transportation, Form T-100 (Historical), March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.3-9: Total Passenger Airline Operations (Baseline)

FISCAL YEAR	PASSENGERS	LOAD FACTOR	AVERAGE SEATS	PASSENGER OPERATIONS	ANNUAL CHANGE (%)
Historical					
2005	11,366,991	78.1%	123.9	234,846	15.1%
2006	10,680,736	77.8%	125.8	218,438	-7.0%
2007	11,142,669	78.8%	129.0	219,334	0.4%
2008	11,590,439	79.6%	129.7	224,696	2.4%
2009	10,467,888	80.7%	132.5	195,832	-12.8%
2010	10,912,918	81.7%	133.8	199,690	2.0%
2011	11,671,530	83.1%	139.1	201,966	1.1%
2012	11,741,733	83.9%	137.9	202,992	0.5%
2013	11,794,271	83.6%	139.7	201,856	-0.6%
2014	12,024,714	84.8%	142.4	199,204	-1.3%
2015	13,214,469	85.3%	144.0	215,192	8.0%
Forecast					
2016	14,295,000	84.3%	146.0	232,300	8.0%
2017	14,918,000	84.3%	146.5	241,700	4.0%
2018	15,461,000	84.3%	146.8	249,700	3.3%
2019	16,019,000	84.4%	147.1	257,900	3.3%
2020	16,393,000	84.4%	147.5	263,400	2.1%
2025	18,327,000	85.5%	148.8	288,000	
2030	20,310,000	86.6%	150.1	312,700	
2035	22,293,000	87.3%	151.4	337,300	
Compound Annual Growth Rate					
2005 – 2015	1.5%			-0.9%	
2009 – 2015	4.0%			1.6%	
2015 – 2016	8.2%			8.0%	
2015 – 2035	2.6%			2.3%	

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

SOURCES: Broward County Aviation Department; Innovata; U.S. Department of Transportation, Form T-100 (Historical), March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

3.3.3 ALL-CARGO

FLL served approximately 4,700 all-cargo aircraft operations in FY 2015, which is a decrease from approximately 6,900 in FY 2005. Over the past four years, this total has been relatively stable with all but a few operations provided by two express freight airlines and one specialty document airline. Cargo demand has decreased partly due to reduced nationwide demand for overnight and expedited cargo services, as shippers increasingly opt for less expensive, time-definite deliveries.

- Air freight activity has been steadily declining from approximately 167,000 (U.S. tons) in FY 2005 to approximately 80,000 in FY 2015. Future growth is predicted at a 0.7 percent CAGR using the FAA's 2015

Aerospace Forecast. For this analysis, FLL's air freight results are forecast to reach approximately 90,000 (U.S. tons) in FY 2035.

- Despite historical declines, and as a conservative measure, mail cargo was assumed to remain at current share levels of approximately 2.0 percent of total cargo tons through FY 2035.
- Air freight and mail cargo tons are presented in **Table 3.3-10**. Total cargo operations are forecast to increase from 4,704 in FY 2015 to 5,300 in FY 2035, a CAGR of 0.6 percent. Total cargo operations were based on historical ratios of cargo volume to all-cargo aircraft operations. The all-cargo fleet mix is presented in **Table 3.3-11**.

Table 3.3-10: Air Freight and Mail Cargo Tons (Baseline)

FISCAL YEAR	AIR FREIGHT	MAIL	TOTAL	SHARE	
				AIR FREIGHT	MAIL
Historical					
2005	167,237	11,922	179,159	93%	7%
2006	154,333	10,853	165,186	93%	7%
2007	147,870	7,207	155,077	95%	5%
2008	131,053	6,782	137,835	95%	5%
2009	96,075	6,071	102,146	94%	6%
2010	93,024	2,186	95,210	98%	2%
2011	94,148	2,715	96,863	97%	3%
2012	93,777	2,803	96,580	97%	3%
2013	85,732	2,774	88,506	97%	3%
2014	82,583	4,329	86,911	95%	5%
2015	79,898	1,424	81,322	98%	2%
Forecast					
2016	81,000	1,000	82,000	98%	2%
2017	82,000	1,000	83,000	98%	2%
2018	83,000	1,000	84,000	98%	2%
2019	84,000	1,000	85,000	98%	2%
2020	85,000	1,000	86,000	98%	2%
2025	88,000	1,000	89,000	98%	2%
2030	89,000	1,000	91,000	98%	2%
2035	90,000	1,000	92,000	98%	2%
Compound Annual Growth Rate					
2005 – 2015	-7.1%	-19.1%	-7.6%		
2009 – 2015	-3.0%	-21.5%	-3.7%		
2015 – 2016	1.0%	-1.7%	0.9%		
2015 – 2035	0.6%	-0.1%	0.6%		

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

Figures in U.S. tons.

SOURCES: Broward County Aviation Department; U.S. Department of Transportation, Form T-100 (Historical), March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.3-11: All-Cargo Aircraft Fleet Mix (Baseline)

AIRCRAFT ^{1/}	FY 2015		FY 2020		FY 2025		FY 2035	
	OPERATIONS	SHARE (%)	OPERATIONS	SHARE (%)	OPERATIONS	SHARE (%)	OPERATIONS	SHARE (%)
Piston/Small Prop (Cessna, Saab)	1,630	34.7%	1,729	34.5%	1,770	34.4%	1,802	33.9%
Narrow-body (Boeing 757)	1,112	23.6%	1,174	23.5%	1,201	23.2%	1,225	23.0%
Wide-body (Airbus 300, Boeing DC10)	1,962	41.7%	2,104	42.0%	2,182	42.4%	2,296	43.1%
Total All-Cargo Aircraft Operations	4,704	100.0%	5,007	100.0%	5,153	100.0%	5,323	100.0%

NOTE:

1/ Examples of representative aircraft are included; however these aircraft may not operate in every year shown.

SOURCES: Broward County Aviation Department; Federal Aviation Administration Traffic Flow Management System Counts; U.S. Department of Transportation, Form T-100; Innovata (Historical) March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., June 2016.

3.3.4 OTHER AIRCRAFT OPERATIONS FORECASTS

Forecasts of non-passenger aircraft operations at the Airport, including all-cargo, other air taxi, general aviation, and military aircraft operations, are discussed in this section. The operations forecast for each category is presented in **Table 3.3-12**.

3.3.4.1 Other Air Taxi/General Aviation/Military

Other air taxi operators include for-hire passenger charters, medical flights, and transportation of property by aircraft. General aviation includes all facets of civil aviation, with the exception of activity by certificated route airlines and commuter aircraft. General aviation at the Airport decreased from FY 2005 to FY 2015 at a CAGR of 6.3 percent; however, from FY 2012 to FY 2015 general aviation operations remained stable and averaged approximately 36,000 operations.

General forecasts of other air taxi and general aviation are based on a constant market share average of national, regional, and state forecasts presented in the *FAA Terminal Area Forecast* (TAF). The results reflect a continued decline of other air taxi operations over the forecast period. Under the same approach, general aviation operations are forecast to increase to approximately 41,300 in FY 2035, similar to the level of operations experienced in FY 2011.

For purposes of the military aircraft operations forecast, recent activity at the Airport were used, and the forecast is assumed to remain constant at approximately 400 per year for the forecast period. Both general aviation and military aircraft operations are assumed to be 100 percent itinerant operations over the forecast period.

3.3.5 BASED AIRCRAFT

The 2015 FAA TAF (published January 2016) was used to represent the based aircraft forecast for FLL. The based aircraft forecast in each aircraft category is presented in **Table 3.3-13**.

Table 3.3-12: Non-Passenger Airline Operations (Baseline)

FISCAL YEAR	ALL-CARGO	OTHER AIR TAXI	GENERAL AVIATION	MILITARY	NON-PASSENGER TOTAL	SHARE OF AIRPORT TOTAL	AIRPORT TOTAL
Historical							
2005	6,938	22,020	71,955	352	101,265	30.1%	336,111
2006	6,783	18,202	56,686	370	82,041	27.3%	300,479
2007	6,763	22,853	55,038	639	85,293	28.0%	304,627
2008	6,392	25,016	48,183	529	80,120	26.3%	304,816
2009	5,083	20,975	43,303	784	70,145	26.4%	265,977
2010	5,336	21,310	45,041	905	72,592	26.7%	272,282
2011	6,053	19,915	41,589	477	68,034	25.2%	270,000
2012	4,561	20,256	35,798	451	61,066	23.1%	264,058
2013	4,279	15,039	35,399	572	55,289	21.5%	257,145
2014	4,318	15,275	35,391	495	55,479	21.8%	254,683
2015	4,704	16,723	37,704	431	59,562	21.7%	274,754
Forecast							
2016	4,700	16,100	37,900	400	59,200	20.3%	291,500
2017	4,800	16,000	38,000	400	59,300	19.7%	301,000
2018	4,900	15,700	38,200	400	59,200	19.2%	309,000
2019	4,900	15,500	38,400	400	59,200	18.7%	317,000
2020	5,000	15,200	38,500	400	59,200	18.3%	322,600
2025	5,200	14,400	39,400	400	59,400	17.1%	347,400
2030	5,200	15,100	40,300	400	61,100	16.4%	373,800
2035	5,300	15,900	41,300	400	63,000	15.7%	400,300
Compound Annual Growth Rate							
2005 – 2015	-3.8%	-2.7%	-6.3%	2.0%	-5.2%		-2.0%
2009 – 2015	-1.3%	-3.7%	-2.3%	-9.5%	-2.7%		0.5%
2015 – 2016	1.0%	-3.8%	0.5%	0.0%	-0.7%		6.1%
2015 – 2035	0.6%	-0.2%	0.5%	0.0%	0.3%		1.9%

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

SOURCES: Broward County Aviation Department; Federal Aviation Administration, Air Traffic Activity Data System (ATADS); U.S. Department of Transportation, Form T-100 (Historical), March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.3-13: Based Aircraft (Baseline)

FISCAL YEAR	SINGLE	JET	MULTI	HELICOPTER	TOTAL
Historical					
2005	53	17	83	6	159
2006	9	40	48	3	100
2007	10	57	58	4	129
2008	8	40	42	4	94
2009	1	29	23	2	55
2010	5	38	12	2	57
2011	2	31	15	1	49
2012	7	43	23	3	76
2013	8	43	17	3	71
2014	12	54	22	6	94
2015	12	54	22	6	94
Forecast					
2016	12	54	22	6	94
2017	12	54	22	6	94
2018	12	54	22	6	94
2019	12	54	22	6	94
2020	12	54	22	6	94
2025	12	54	22	6	94
2030	12	54	22	6	94
2035	12	54	22	6	94
Compound Annual Growth Rate					
2005 – 2015	-13.8%	12.3%	-12.4%	0.0%	-5.1%
2009 – 2015	51.3%	10.9%	-0.7%	20.1%	9.3%
2015 – 2016	0.0%	0.0%	0.0%	0.0%	0.0%
2015 – 2035	0.0%	0.0%	0.0%	0.0%	0.0%

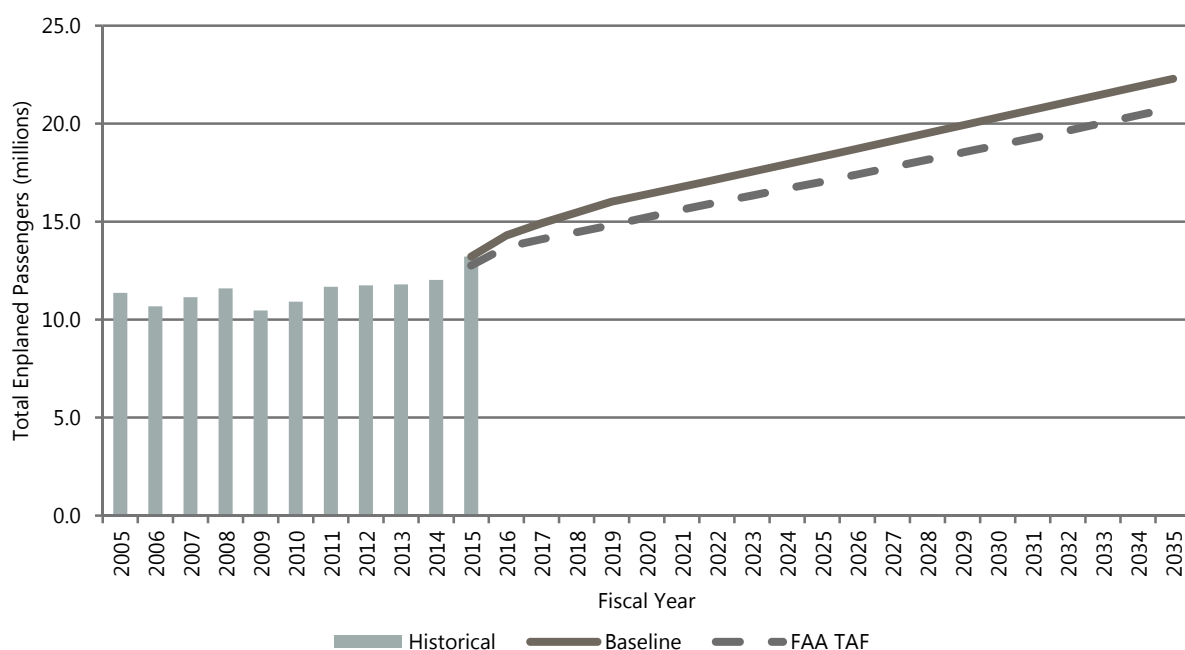
SOURCE: Federal Aviation Administration, Terminal Area Forecast (TAF), March 2016.

PREPARED BY: Ricondo & Associates, Inc., June 2016.

3.3.6 ANNUAL ACTIVITY FORECAST COMPARISONS

Table 3.3-14 and **Exhibit 3.3-1** present a comparison of the total enplaned passenger forecasts prepared for FLL's Master Plan Update presented herein referenced as the Baseline Forecasts and the 2015 FAA Terminal Area Forecast (TAF). In assessing the reasonableness of a forecast, the FAA will typically evaluate the forecast against the latest approved TAF for variance at two time horizons—at five years a variance in excess of 10 percent and at ten years a variance in excess of 15 percent. The Baseline Forecast of enplaned passengers is 7.7 percent higher than the 2015 TAF forecast for FY 2020 and 7.6 percent higher in for FY 2025, which are both within the variance guidelines established by the FAA. In FY 2020, enplaned passengers in the Baseline Forecasts are projected to reach 16.4 million, compared to 15.2 million in the TAF. In FY 2025, enplaned passengers in the Baseline Forecasts reach 18.3 million, compared to 17.0 million in the TAF. It should be noted that forecast enplaned passenger amounts include nonrevenue passengers, while TAF amounts do not.

Exhibit 3.3-1: Enplaned Passengers Forecast Comparison—Baseline Forecasts versus TAF



NOTES:

Fiscal Year (October – September).

The FAA TAF is based on Federal Fiscal Year (October–September) and excludes nonrevenue passengers.

SOURCES: Broward County Aviation Department (Historical), March 2016; Federal Aviation Administration, *Terminal Area Forecast*, January 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.3-14: Enplaned Passengers Forecast Comparison—Baseline Forecasts versus TAF

FISCAL YEAR	BASLINE FORECASTS	2015 FAA TAF	VARIANCE (BASELINE FORECASTS VS. TAF)
Historical			
2005	11,366,991		
2006	10,680,736		
2007	11,142,669		
2008	11,590,439		
2009	10,467,888		
2010	10,912,918		
2011	11,671,530		
2012	11,744,478		
2013	11,794,271		
2014	12,024,714		
2015	13,214,469	12,760,232	3.6%
Forecast			
2016	14,295,000	13,708,574	4.3%
2017	14,918,000	14,096,665	5.8%
2018	15,461,000	14,456,073	7.0%
2019	16,019,000	14,822,277	8.1%
2020	16,393,000	15,219,539	7.7%
2025	18,327,000	17,034,391	7.6%
2030	20,310,000	18,894,322	7.5%
2035	22,293,000	20,815,595	7.1%
Compound Annual Growth Rate			
2005 – 2015	1.5%	N/A	
2009 – 2015	4.0%	N/A	
2015 – 2035	2.6%	2.5%	

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

The FAA TAF is based on Federal FY (October–September) and excludes nonrevenue passengers.

SOURCES: Broward County Aviation Department (Historical), March 2016; Federal Aviation Administration, *Terminal Area Forecast*, January 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.3-15 and **Exhibit 3.3-2** present a similar comparison of total aircraft operations between the Master Plan Update's Baseline Forecasts and the TAF. The forecast of operations does not exceed the variance thresholds set forth by the FAA. The Baseline Forecasts of total operations is 7.7 percent higher than the 2015 TAF for 2020 and 6.5 percent higher in 2025; however, both are within the variance guidelines established by the FAA.

Table 3.3-15: Operations Forecast Comparison—Baseline Forecasts versus TAF

FISCAL YEAR	BASLINE FORECASTS	2015 FAA TAF	VARIANCE (BASELINE FORECASTS VS. TAF)
Historical			
2005	336,111		
2006	300,479		
2007	304,627		
2008	304,816		
2009	265,977		
2010	272,282		
2011	270,000		
2012	264,058		
2013	257,145		
2014	254,683		
2015	274,754	270,540	1.6%
Forecast			
2016	291,500	276,511	5.4%
2017	301,000	282,807	6.4%
2018	309,000	288,619	7.1%
2019	317,100	294,088	7.8%
2020	322,600	299,564	7.7%
2025	347,400	326,352	6.5%
2030	373,800	355,374	5.2%
2035	400,300	387,160	3.4%
Compound Annual Growth Rate			
2005 – 2015	-2.0%	N/A	
2009 – 2015	0.5%	N/A	
2015 – 2035	1.9%	1.8%	

NOTES:

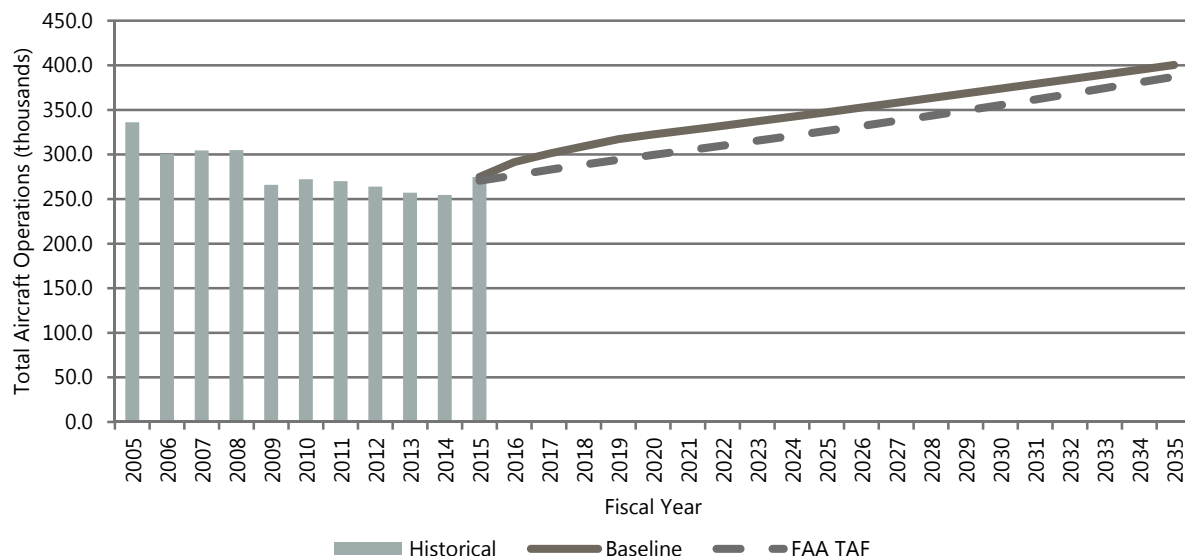
Fiscal Year (October – September). Fiscal Year 2015 represents the base year.

Totals and percentages may not match due to rounding.

The FAA TAF is based on Federal FY (October–September).

SOURCES: Broward County Aviation Department (Historical March 2016); Federal Aviation Administration, *Terminal Area Forecast*, January 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Exhibit 3.3-2: Operations Forecast Comparison—Baseline Forecasts versus TAF

NOTE: The FAA TAF is based on Federal FY (October–September).

SOURCES: Broward County Aviation Department (Historical), March 2016; Federal Aviation Administration, *Terminal Area Forecast*, January 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

3.3.7 ANNUAL ITINERANT OPERATIONS BY FUTURE CRITICAL DESIGN AIRCRAFT

The analysis included in the Master Plan Update concluded that the Airport would be served by air carrier aircraft as large as full ADG V aircraft (typical aircraft Boeing 787). The Boeing 787 aircraft had 700 scheduled operations in 2015 and is projected to increase to 2,280 annual operations in 2035. In order to protect the Airport's ability to accommodate widebody passenger aircraft, the ADG V aircraft (represented by the B787-900) was designated as FLL's future critical aircraft. Forecast operations by the future critical design aircraft are presented in **Table 3.3-16**.

Table 3.3-16: Forecast Annual Itinerant Operations by Future Critical Design Aircraft

FISCAL YEAR	OPERATIONS BY CRITICAL AIRCRAFT
2015 (Base Year)	700
2020	740
2025	1,810
2035	2,280
CAGR 2015 - 2035	6.1%

NOTE: CAGR = Compound Annual Growth Rate.

SOURCES: Innovata, March 2016; Ricondo & Associates, Inc., March 2016.

PREPARED BY: Ricondo & Associates, Inc., April 2016

3.3.8 ALTERNATIVE FORECAST SCENARIO – ACCELERATED BASELINE FORECASTS

In addition to the Baseline forecasts presented in this report, a second forecast scenario was developed for purposes of sensitivity analyses in the Master Plan Update that estimated the effect of accelerated passenger airline growth at the Airport. Assumptions on the magnitude and timing of passenger airline growth in this scenario were developed considering information gathered during individual discussions with several of the Airport's airlines regarding growth plans at FLL, which included details such as daily activity levels for FLL, regions and timing of growth, capacity increases, load factor estimates, and potential aircraft use. O&D revenue market share analysis was subsequently conducted to determine the ability of the airlines to concurrently implement and sustain various levels of that potential service, and the alternative forecast levels were adjusted to fall within those potentially sustainable levels.

3.3.9 ASSUMPTIONS UNDERLYING THE ACCELERATED BASELINE FORECASTS

Similar to the Baseline forecast, the Accelerated Baseline forecasts of enplaned passengers and aircraft operations were based on a number of underlying assumptions, including:

- Assumes no facility constraints. Certain domestic and international facilities were limited based on gate availability through FY 2020.
- The Airport will continue to serve as an O&D market for domestic and international airlines, including traditional network airlines and low-cost airlines.
- The Airport will serve as a connecting point and as a gateway for international travel to destinations largely throughout the Caribbean and Latin/South America.
- For these analyses, and similar to the FAA's nationwide forecasts, it was assumed that there will be no terrorist incidents during the forecast period that would have significant, negative, or prolonged effects on aviation activity at the Airport or nationwide.
- Economic disturbances will occur during the forecast period, causing year-to-year variations in airline traffic. However, long-term increases in nationwide and Airport traffic are forecast.
- It was assumed that no major "acts of God" that may disrupt the national or global airspace system will occur during the forecast period, which would negatively affect aviation activity at the Airport.

Initial Baseline forecast results were shared with the Airport's three primary airlines (JetBlue, Spirit, and Southwest) during separate discussions. All expressed concern that the Baseline forecast values were too low, and individually discussed their plans for growth at the Airport. Based on information gathered during those discussions, several additional data points and assumptions were incorporated in the development of an Accelerate Baseline forecast:

- More aggressive planned capacity increases by the Airport's primary carriers over the next three to five years, which are expected to materialize through larger aircraft and additional operations relative to the Baseline forecast.
- Total daily departures operated by these carriers increase from 183 in FY 2015 to 365 in FY 2020 based on a peak month average day.
- Capacity increases will occur in a combination of current routes and new destinations. New destinations will be added with minimal overlap (however, no market-specific new market details were provided).
- Average annual load factors adjusted to not exceed 85 to 87 percent for these primary carriers.

- The Airport's share of South Florida's O&D market will increase over the forecast period relative to the Baseline forecast.
- Increased capacity by these carriers will lead to an increase in connecting passenger volumes, primarily through domestic/international and international/international connections with relatively little change in domestic/domestic connections.

Using on the information provided by the airlines individually, subsequent analyses were conducted to determine the economic feasibility of these growth plans when considered collectively. Adjustments were made accordingly to reduce growth assumptions to levels estimated to be sustainable from an airline profitability perspective.

3.3.10 ENPLANED PASSENGER AND PASSENGER AIRCRAFT OPERATIONS FORECAST METHODOLOGY AND RESULTS

Passenger-related activity forecasts were developed for two time horizons: a near-term forecast for FY 2016 and a longer-term forecast for the period FY 2017 through FY 2035. Specific forecasting methodologies are described in the following subsections.

3.3.10.1 Near-Term Forecast (FY 2016) Methodology

Published airline schedules through September 2016 were analyzed, and flight segment-level estimates of airline performance were developed based on trends in load factors and completion rates, which were identified through analysis of actual performance data furnished by the Airport, as well as thorough analysis of U.S. DOT enplaned passenger and O&D data available through June 2015. Estimates of load factors and completion rates were applied to scheduled capacity to derive forecasts of enplaned passengers and aircraft operations for FY 2016.

3.3.10.2 Longer-Term Forecast (FY 2017 through FY 2035) Methodology

Based on information gathered during discussions with the Airport's three primary carriers, a longer-term forecast was developed that incorporated the information provided by these carriers. In some instances, additional capacity growth described by the carriers was allocated beyond the carrier's estimated time horizon in consideration of the economic feasibility of the carriers' collective growth plans. The development process for each primary carrier is listed below.

- Carrier 1: FY 2020 capacity targets (operations, average seat capacity, and load factor) described by the airline were modeled to fully materialize in FY 2020. In this timeframe, the targets of domestic and international average daily departures were incorporated on an annual basis commencing in FY 2015. Enplaned passenger forecasts for domestic and international segments were developed by applying the average seat size and load factor information to the annual departures as described by the carrier. For the remainder of the forecast period (FY 2021 – FY 2035), this carrier's forecast was developed in accordance with the long-term operational metrics provided by the carrier (i.e., turns per gate, average seats size, fleet mix, load factors, and O&D percentages).
- Carrier 2: FY 2020 capacity targets (operations, average seat capacity, and load factor) described by the airline were modeled to fully materialize in FY 2025. Using a process that is similar to Carrier 1, enplaned passenger forecasts for domestic and international segments were developed by applying average seat size and load factor targets. Average daily departures were increased at a constant annual rate from FY 2015 to the departure targets developed for FY 2025 (originally FY 2020 targets as described by the

carrier). For the remainder of the forecast period (FY 2026 – FY 2035), this carrier's forecast was developed in accordance with the long-term operational metrics provided by the carrier.

- Carrier 3: FY 2020 capacity targets (operations, average seat capacity, and load factor) described by the airline were modeled to fully materialize in FY 2035. Enplaned passenger forecasts for domestic and international segments were developed by applying average seat size and load factor targets. Average daily departures were increased at a constant annual rate from FY 2015 to the departure targets developed for FY 2035 (originally FY 2020 targets as described by the carrier).
- Other Carriers: Enplaned passengers and average departures declined when compared to the Baseline forecast due to a reduced share of total Airport O&D passengers. Incorporated O&D targets provided by the three primary carriers resulted in a lower allocation of O&D passengers for the other carriers. The other carriers' allocation of O&D passengers were applied to similar operational metrics used in the Baseline forecast. Other carriers' O&D percentage was assumed to remain stable (lower 90th percentile) over the forecast period.

O&D Passenger Growth at FLL Relative to the South Florida Market

The Airport's O&D passenger share of the South Florida market is projected to increase due to disproportionately high growth in airline activity at FLL, as shown in **Table 3.3-17**. South Florida's O&D market share shift was estimated through information gathered from the Airport's primary airlines (both in private individual airline meetings and through publicly available airline growth plans), as well as through expectations of service changes at the Airport as new terminal facilities become available enabling domestic and international service expansion. In FY 2017, international O&D passengers are forecast to increase at all South Florida airports; however the majority of the passenger volume increase is allocated to FLL. FLL's share of South Florida's international O&D is forecast to increase from 30 percent (FY 2016) to 42 percent (FY 2017) as new international gate capacity becomes available upon completion of new terminal facilities. From FY 2018 to FY 2035, international O&D passenger volumes are forecast to continue to increase at all South Florida airports; however FLL's international O&D passenger volumes are projected to increase at a rates equal to or slightly greater than other South Florida airports, based on carrier discussions and the incorporated timeline of capacity targets noted above. As a result, FLL's share of international O&D passengers is forecast to increase from 42 percent (FY 2018) to 46 percent (FY 2035). FLL's O&D passenger volumes are forecast to grow at a 2.6 percent CAGR between 2015 and 2035, which is above the 2.1 percent CAGR forecast for the South Florida market. This disproportionately high growth at FLL is due, in part, to a significant increase in international operations expected to begin in FY 2017.

Development of Connecting Passenger Forecast

To forecast connecting passengers for the Airport's primary carriers, airline-specific O&D to connecting passenger ratios were developed based on guidance provided by those airlines, adjusted for subsequent 'feasibility' analyses described above. Those ratios were incorporated into the forecast at a high level, but were constructed separately for each type of connecting passenger: domestic-to-domestic, international-to-domestic, domestic-to-international, and international-to-international. Connection percentages for all other carriers remain minimal and align with connection percentages projected in the Baseline Forecast.

As presented in the Baseline forecast, **Table 3.3-18** through **Table 3.3-24** provide the Accelerated Baseline forecast results for the following: South Florida O&D market share, passenger aircraft fleet mix, enplaned passengers breakout (domestic vs. international, originating vs. connecting, and mainline vs. regional/commuter), and passenger aircraft operations segmented by domestic, international, and total. The Accelerated Baseline forecast

for non-passenger aircraft operations remains unchanged when compared to the Baseline forecast. **Table 3.3-25** presents the Airport's Total Aircraft Operations.

Table 3.3-17: Airport Shares of Regional O&D Passengers (Accelerated Baseline)

FISCAL YEAR	FLL SHARE OF O&D PASSENGERS			MIA AND PBI SHARE OF O&D PASSENGERS		
	DOMESTIC	INTERNATIONAL	TOTAL	DOMESTIC	INTERNATIONAL	TOTAL
Historical						
2005	60%	14%	47%	40%	86%	53%
2006	54%	15%	43%	46%	85%	57%
2007	55%	19%	45%	45%	81%	55%
2008	56%	22%	46%	44%	78%	54%
2009	52%	22%	43%	48%	78%	57%
2010	53%	22%	44%	47%	78%	56%
2011	55%	23%	45%	45%	77%	55%
2012	54%	23%	45%	46%	77%	55%
2013	54%	23%	44%	46%	77%	56%
2014	52%	26%	43%	48%	74%	57%
2015	54%	28%	46%	46%	72%	54%
Forecast						
2016	57%	30%	48%	43%	70%	52%
2017	57%	42%	52%	43%	58%	48%
2018	57%	42%	52%	43%	58%	48%
2019	57%	42%	52%	43%	58%	48%
2020	57%	43%	52%	43%	57%	48%
2025	57%	44%	53%	43%	56%	47%
2030	57%	45%	53%	43%	55%	47%
2035	57%	46%	53%	43%	54%	47%

SOURCES: U.S. Department of Transportation, T-100 and DB1B Survey (Historical) March 2016; Ricondo & Associates, Inc. (Projected), March 2016.
 PREPARED BY: Ricondo & Associates, Inc., June 2016.

Table 3.3-18: FLL Passenger Aircraft Fleet Mix (Accelerated Baseline) ^{1/}

AIRCRAFT ^{2/}	SEAT CAPACITY	FY 2015		FY 2020		FY 2025		FY 2035	
		OPERATIONS	SHARE (%)	OPERATIONS	SHARE (%)	OPERATIONS	SHARE (%)	OPERATIONS	SHARE (%)
Piston/Small Prop (Cessna, Saab)	0 - 49	16,462	7.6%	17,093	5.9%	16,956	5.3%	16,788	4.5%
Regional Jets (Canadair CRJ)	50 - 97	2,617	1.2%	2,219	0.8%	1,687	0.5%	1,467	0.4%
Small Narrow- body (Airbus 319, Boeing 717)	97 - 149	76,946	35.8%	84,456	29.4%	69,548	21.9%	45,811	12.4%
Large Narrow- body (Airbus 321, Boeing 737-900)	150 - 225	117,559	54.6%	180,409	62.8%	226,254	71.1%	294,459	79.7%
Small Wide- body (Airbus 330-200, Boeing 787- 900)	226 - 350	1,609	0.7%	3,227	1.1%	3,619	1.1%	11,003	3.0%
Large Wide- body (Airbus 380-800, Boeing 747- 800)	351+ seats	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total Passenger Aircraft Operations		215,192		287,404		318,064		369,529	

NOTE:

1/ Fleet mix includes scheduled passenger airlines and regional and commuter activity only. Nonscheduled passenger operations are excluded.

2/ Examples of representative aircraft are included; however these aircraft may not operate in every year shown.

SOURCES: Broward County Aviation Department; U.S. Department of Transportation, Form T-100; Innovata (Historical) March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., June 2016.

Table 3.3-19: Historical and Forecast Domestic and International Enplaned Passengers (Accelerated Baseline)

FISCAL YEAR	ENPLANED PASSENGERS					ANNUAL CHANGE (%)
	DOMESTIC ^{1/}	DOMESTIC SHARE (%)	INTERNATIONAL	INTERNATIONAL SHARE (%)	TOTAL	
Historical						
2005	10,303,438	90.6%	1,063,553	9.4%	11,366,991	13.2%
2006	9,503,386	89.0%	1,177,350	11.0%	10,680,736	-6.0%
2007	9,776,771	87.7%	1,365,898	12.3%	11,142,669	4.3%
2008	10,006,392	86.3%	1,584,047	13.7%	11,590,439	4.0%
2009	8,947,048	85.5%	1,520,840	14.5%	10,467,888	-9.7%
2010	9,260,615	84.9%	1,652,303	15.1%	10,912,918	4.3%
2011	9,836,257	84.3%	1,835,273	15.7%	11,671,530	7.0%
2012	9,962,653	84.8%	1,779,080	15.2%	11,741,733	0.6%
2013	10,033,252	85.1%	1,761,019	14.9%	11,794,271	0.4%
2014	9,844,866	81.9%	2,179,848	18.1%	12,024,714	2.0%
2015	10,515,257	79.6%	2,699,212	20.4%	13,214,469	9.9%
Forecast						
2016	11,650,000	79.9%	2,930,000	20.1%	14,579,000	10.3%
2017	12,404,000	73.6%	4,440,000	26.4%	16,843,000	15.5%
2018	12,727,000	73.4%	4,622,000	26.6%	17,349,000	3.0%
2019	13,051,000	73.1%	4,807,000	26.9%	17,858,000	2.9%
2020	13,378,000	72.8%	4,993,000	27.2%	18,372,000	2.9%
2025	15,057,000	71.9%	5,897,000	28.1%	20,955,000	
2030	16,783,000	71.0%	6,841,000	29.0%	23,624,000	
2035	18,386,000	70.2%	7,812,000	29.8%	26,198,000	
Compound Annual Growth Rate						
2005 – 2015	0.2%		9.8%		1.5%	
2009 – 2015	2.7%		10.0%		4.0%	
2015 – 2016	10.8%		8.5%		10.3%	
2015 – 2035	2.8%		5.5%		3.5%	

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

1/ Includes international-bound passengers whose flight segment from the Airport is domestic with a connecting international flight segment at another U.S. gateway airport.

SOURCES: Broward County Aviation Department; U.S. Department of Transportation T-100 and DB1B Survey (Historical) March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., April 2016.

Table 3.3-20: Historical and Forecast O&D and Connecting Enplaned Passengers (Accelerated Baseline)

FISCAL YEAR	ENPLANED PASSENGERS				ANNUAL CHANGE (%)	
	ORIGINATING	ORIGINATING SHARE (%)	CONNECTING	CONNECTING SHARE (%)		TOTAL
Historical						
2005	10,663,925	93.8%	703,066	6.2%	11,366,991	13.2%
2006	10,086,533	94.4%	594,203	5.6%	10,680,736	-6.0%
2007	10,623,944	95.3%	518,725	4.7%	11,142,669	4.3%
2008	10,611,068	91.6%	979,371	8.4%	11,590,439	4.0%
2009	9,764,042	93.3%	703,846	6.7%	10,467,888	-9.7%
2010	10,089,564	92.5%	823,354	7.5%	10,912,918	4.3%
2011	10,637,212	91.1%	1,034,318	8.9%	11,671,530	7.0%
2012	10,832,881	92.3%	908,852	7.7%	11,741,733	0.6%
2013	10,757,238	91.2%	1,037,033	8.8%	11,794,271	0.4%
2014	10,909,227	90.7%	1,115,487	9.3%	12,024,714	2.0%
2015	11,849,538	89.7%	1,364,931	10.3%	13,214,469	9.9%
Forecast						
2016	12,806,000	87.8%	1,773,000	12.2%	14,579,000	10.3%
2017	13,959,000	82.9%	2,884,000	17.1%	16,843,000	15.5%
2018	14,337,000	82.6%	3,012,000	17.4%	17,349,000	3.0%
2019	14,716,000	82.4%	3,142,000	17.6%	17,858,000	2.9%
2020	15,098,000	82.2%	3,274,000	17.8%	18,372,000	2.9%
2025	17,012,000	81.2%	3,943,000	18.8%	20,955,000	
2030	18,973,000	80.3%	4,651,000	19.7%	23,624,000	
2035	20,829,000	79.5%	5,369,000	20.5%	26,198,000	
Compound Annual Growth Rate						
2005 – 2015	1.1%		6.9%		1.5%	
2009 – 2015	3.3%		11.7%		4.0%	
2015 – 2016	8.1%		29.9%		10.3%	
2015 – 2035	2.9%		7.1%		3.5%	

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

SOURCES: Broward County Aviation Department; U.S. Department of Transportation, T-100 and DB1B Survey (Historical) March 2016; Ricondo & Associates, Inc. (Analysis and Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., April 2016.

Table 3.3-21: Historical and Forecast Mainline and Regional Enplaned Passengers (Accelerated Baseline)

ENPLANED PASSENGERS						
FISCAL YEAR	MAINLINE	MAINLINE SHARE (%)	REGIONAL/COMMUTER	REGIONAL/COMMUTER SHARE (%)	TOTAL	ANNUAL CHANGE (%)
Historical						
2005	10,700,688	94.1%	666,303	5.9%	11,366,991	13.2%
2006	10,090,621	94.5%	590,115	5.5%	10,680,736	-6.0%
2007	10,671,841	95.8%	470,828	4.2%	11,142,669	4.3%
2008	11,216,547	96.8%	373,892	3.2%	11,590,439	4.0%
2009	10,299,605	98.4%	168,283	1.6%	10,467,888	-9.7%
2010	10,765,310	98.6%	147,608	1.4%	10,912,918	4.3%
2011	11,562,052	99.1%	109,478	0.9%	11,671,530	7.0%
2012	11,604,546	98.8%	137,187	1.2%	11,741,733	0.6%
2013	11,619,869	98.5%	174,402	1.5%	11,794,271	0.4%
2014	11,847,300	98.5%	177,414	1.5%	12,024,714	2.0%
2015	12,998,259	98.4%	216,210	1.6%	13,214,469	9.9%
Forecast						
2016	14,346,000	98.4%	233,000	1.6%	14,579,000	10.3%
2017	16,605,000	98.6%	238,000	1.4%	16,843,000	15.5%
2018	17,105,000	98.6%	243,000	1.4%	17,349,000	3.0%
2019	17,610,000	98.6%	248,000	1.4%	17,858,000	2.9%
2020	18,120,000	98.6%	252,000	1.4%	18,372,000	2.9%
2025	20,681,000	98.7%	274,000	1.3%	20,955,000	
2030	23,329,000	98.8%	295,000	1.2%	23,624,000	
2035	25,882,000	98.8%	315,000	1.2%	26,198,000	
Compound Annual Growth Rate						
2005 – 2015	2.0%		-0.1%		1.5%	
2009 – 2015	4.0%		4.3%		4.0%	
2015 – 2016	10.4%		7.7%		10.3%	
2015 – 2035	3.5%		1.9%		3.5%	

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

Regional/commuter enplaned passengers included aircraft with less than 97 seats.

SOURCES: Broward County Aviation Department; Innovata; U.S. Department of Transportation, Form T-100 (Historical), March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., April 2016.

Table 3.3-22: Domestic Passenger Airline Operations (Accelerated Baseline)

FISCAL YEAR	PASSENGERS	LOAD FACTOR	AVERAGE SEATS	OPERATIONS	DOMESTIC SHARE OF TOTAL (%)
Historical					
2005	10,303,438	78.5%	135.4	193,791	82.5%
2006	9,503,386	78.5%	136.9	176,813	80.9%
2007	9,776,771	79.8%	139.8	175,278	79.9%
2008	10,006,392	80.7%	138.8	178,633	79.5%
2009	8,947,048	81.6%	140.9	155,718	79.5%
2010	9,260,615	82.4%	141.5	158,958	79.6%
2011	9,836,257	83.0%	144.9	163,535	81.0%
2012	9,962,653	84.5%	143.9	163,994	80.8%
2013	10,033,252	84.5%	144.0	164,884	81.7%
2014	9,844,866	85.1%	146.1	158,293	79.5%
2015	10,515,257	85.1%	145.8	169,399	78.7%
Forecast					
2016	11,650,000	85.5%	150.8	180,700	77.4%
2017	12,404,000	85.4%	151.9	191,200	70.8%
2018	12,727,000	85.4%	153.0	194,700	70.6%
2019	13,051,000	85.5%	154.1	198,200	70.4%
2020	13,378,000	85.5%	155.2	201,800	70.2%
2025	15,057,000	86.0%	157.8	222,000	69.8%
2030	16,783,000	86.4%	160.3	242,300	69.5%
2035	18,386,000	87.1%	164.9	256,000	69.3%
Compound Annual Growth Rate					
2005 – 2015	0.2%			-1.3%	
2009 – 2015	2.7%			1.4%	
2015 – 2016	10.8%			6.7%	
2015 – 2035	2.8%			2.1%	

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

SOURCES: Broward County Aviation Department; Innovata; U.S. Department of Transportation, Form T-100 (Historical), March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., April 2016.

Table 3.3-23: International Passenger Airline Operations (Accelerated Baseline)

FISCAL YEAR	PASSENGERS	LOAD FACTOR	AVERAGE SEATS	OPERATIONS	INTERNATIONAL SHARE OF TOTAL (%)
Historical					
2005	1,063,553	74.6%	69.4	41,055	17.5%
2006	1,177,350	71.9%	78.7	41,625	19.1%
2007	1,365,898	72.3%	85.7	44,056	20.1%
2008	1,584,047	72.9%	94.4	46,063	20.5%
2009	1,520,840	75.8%	100.0	40,114	20.5%
2010	1,652,303	78.2%	103.8	40,732	20.4%
2011	1,835,273	83.2%	114.8	38,431	19.0%
2012	1,779,080	80.7%	113.0	38,998	19.2%
2013	1,761,019	78.9%	120.7	36,972	18.3%
2014	2,179,848	83.1%	128.2	40,911	20.5%
2015	2,699,212	85.7%	137.5	45,793	21.3%
Forecast					
2016	2,930,000	82.9%	133.7	52,800	22.6%
2017	4,440,000	82.0%	137.3	78,800	29.2%
2018	4,622,000	82.2%	138.7	81,100	29.4%
2019	4,807,000	82.4%	140.0	83,400	29.6%
2020	4,993,000	82.6%	141.3	85,600	29.8%
2025	5,897,000	83.0%	148.0	96,000	30.2%
2030	6,841,000	83.5%	154.0	106,400	30.5%
2035	7,812,000	84.2%	163.5	113,500	30.7%
Compound Annual Growth Rate					
2005 – 2015	9.8%			1.1%	
2009 – 2015	10.0%			2.2%	
2015 – 2016	8.5%			15.4%	
2015 – 2035	5.5%			4.6%	

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

SOURCES: Broward County Aviation Department; Innovata; U.S. Department of Transportation, Form T-100 (Historical), March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., April 2016.

Table 3.3-24: Total Passenger Airline Operations (Accelerated Baseline)

FISCAL YEAR	PASSENGERS	LOAD FACTOR	AVERAGE SEATS	PASSENGER OPERATIONS	ANNUAL CHANGE (%)
Historical					
2005	11,366,991	78.1%	123.9	234,846	15.1%
2006	10,680,736	77.8%	125.8	218,438	-7.0%
2007	11,142,669	78.8%	129.0	219,334	0.4%
2008	11,590,439	79.6%	129.7	224,696	2.4%
2009	10,467,888	80.7%	132.5	195,832	-12.8%
2010	10,912,918	81.7%	133.8	199,690	2.0%
2011	11,671,530	83.1%	139.1	201,966	1.1%
2012	11,741,733	83.9%	137.9	202,992	0.5%
2013	11,794,271	83.6%	139.7	201,856	-0.6%
2014	12,024,714	84.8%	142.4	199,204	-1.3%
2015	13,214,469	85.3%	144.0	215,192	8.0%
Forecast					
2016	14,579,000	85.0%	147.0	233,500	8.5%
2017	16,843,000	84.5%	147.6	270,000	15.6%
2018	17,349,000	84.6%	148.8	275,800	2.1%
2019	17,858,000	84.6%	149.9	281,600	2.1%
2020	18,372,000	84.7%	151.0	287,400	2.1%
2025	20,955,000	85.1%	154.8	318,100	
2030	23,624,000	85.5%	158.4	348,700	
2035	26,198,000	86.2%	164.5	369,500	
Compound Annual Growth Rate					
2005 – 2015	1.5%			-0.9%	
2009 – 2015	4.0%			1.6%	
2015 – 2016	10.3%			8.5%	
2015 – 2035	3.5%			2.7%	

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

SOURCES: Broward County Aviation Department; Innovata; U.S. Department of Transportation, Form T-100 (Historical), March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., April 2016.

Table 3.3-25: Non-Passenger Airline Operations (Accelerated Baseline)

FISCAL YEAR	ALL-CARGO	OTHER AIR TAXI	GENERAL AVIATION	MILITARY	NON-PASSENGER TOTAL	SHARE OF AIRPORT TOTAL	AIRPORT TOTAL
Historical							
2005	6,938	22,020	71,955	352	101,265	30.1%	336,111
2006	6,783	18,202	56,686	370	82,041	27.3%	300,479
2007	6,763	22,853	55,038	639	85,293	28.0%	304,627
2008	6,392	25,016	48,183	529	80,120	26.3%	304,816
2009	5,083	20,975	43,303	784	70,145	26.4%	265,977
2010	5,336	21,310	45,041	905	72,592	26.7%	272,282
2011	6,053	19,915	41,589	477	68,034	25.2%	270,000
2012	4,561	20,256	35,798	451	61,066	23.1%	264,058
2013	4,279	15,039	35,399	572	55,289	21.5%	257,145
2014	4,318	15,275	35,391	495	55,479	21.8%	254,683
2015	4,704	16,723	37,704	431	59,562	21.7%	274,754
Forecast							
2016	4,700	16,100	37,900	400	59,200	20.2%	292,700
2017	4,800	16,000	38,000	400	59,300	18.0%	329,300
2018	4,900	15,700	38,200	400	59,200	17.7%	335,000
2019	4,900	15,500	38,400	400	59,200	17.4%	340,800
2020	5,000	15,200	38,500	400	59,200	17.1%	346,600
2025	5,200	14,400	39,400	400	59,400	15.7%	377,400
2030	5,200	15,100	40,300	400	61,100	14.9%	409,800
2035	5,300	15,900	41,300	400	63,000	14.6%	432,600
Compound Annual Growth Rate							
2005 – 2015	-3.8%	-2.7%	-6.3%	2.0%	-5.2%		-2.0%
2009 – 2015	-1.3%	-3.7%	-2.3%	-9.5%	-2.7%		0.5%
2015 – 2016	1.0%	-3.8%	0.5%	0.0%	-0.7%		6.5%
2015 – 2035	0.6%	-0.2%	0.5%	0.0%	0.3%		2.3%

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

SOURCES: Broward County Aviation Department; Federal Aviation Administration, Air Traffic Activity Data System (ATADS); U.S. Department of Transportation, Form T-100 (Historical), March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., April 2016.

Table 3.3-26, Table 3.3-27, Exhibit 3.3-3, and Exhibit 3.3-4 present a comparison of the enplaned passenger and operations results of the Baseline, as well as the Accelerated Baseline forecasts through FY 2035. Passenger growth in the Accelerated Baseline forecast scenario increases at a CAGR of 3.5 percent and totals approximately 26.2 million enplaned passengers annually through FY 2035, compared with a 2.6 percent CAGR and 22.3 million annual enplaned passenger total in the Baseline forecasts. Annual aircraft operations also grow at a faster pace in the Accelerated Baseline forecast scenario (a 2.3 percent CAGR to 432,600 in FY 2035) than in the Baseline forecasts (a 1.9 percent CAGR to 400,300 in FY 2035).

Table 3.3-26: Enplaned Passengers Forecast Comparison—Baseline versus Accelerated Baseline Forecasts

FISCAL YEAR	BASILINE FORECASTS	ACCELERATED BASELINE FORECASTS
Historical		
2005	11,366,991	
2006	10,680,736	
2007	11,142,669	
2008	11,590,439	
2009	10,467,888	
2010	10,912,918	
2011	11,671,530	
2012	11,744,478	
2013	11,794,271	
2014	12,024,714	
2015	13,214,469	13,214,469
Forecast		
2016	14,295,000	14,579,000
2017	14,918,000	16,843,000
2018	15,461,000	17,349,000
2019	16,019,000	17,858,000
2020	16,393,000	18,372,000
2025	18,327,000	20,955,000
2030	20,310,000	23,624,000
2035	22,293,000	26,198,000
Compound Annual Growth Rate		
2005 – 2015	1.5%	1.5%
2009 – 2015	4.0%	4.0%
2015 – 2016	8.2%	10.3%
2015 – 2035	2.6%	3.5%

NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

SOURCES: Broward County Aviation Department (Historical) March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table 3.3-27: Operations Forecast Comparison— Baseline versus Accelerated Baseline Forecasts

FISCAL YEAR	BASLINE FORECASTS	ACCELERATED BASELINE FORECASTS
Historical		
2005	336,111	
2006	300,479	
2007	304,627	
2008	304,816	
2009	265,977	
2010	272,282	
2011	270,000	
2012	264,058	
2013	257,145	
2014	254,683	
2015	274,754	274,754
Forecast		
2016	291,500	292,700
2017	301,000	329,300
2018	309,000	335,000
2019	317,100	340,800
2020	322,600	346,600
2025	347,400	377,400
2030	373,800	409,800
2035	400,300	432,600
Compound Annual Growth Rate		
2005 – 2015	-2.0%	-2.0%
2009 – 2015	0.5%	0.5%
2015 – 2016	6.1%	6.5%
2015 – 2035	1.9%	2.3%

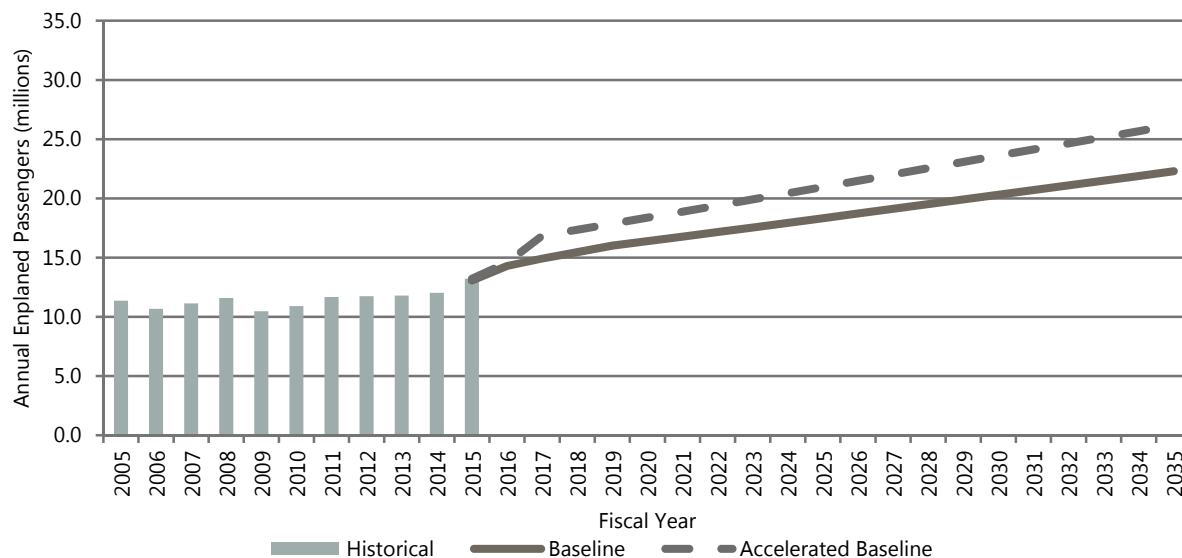
NOTES:

Fiscal Year (October – September).

Totals and percentages may not match due to rounding.

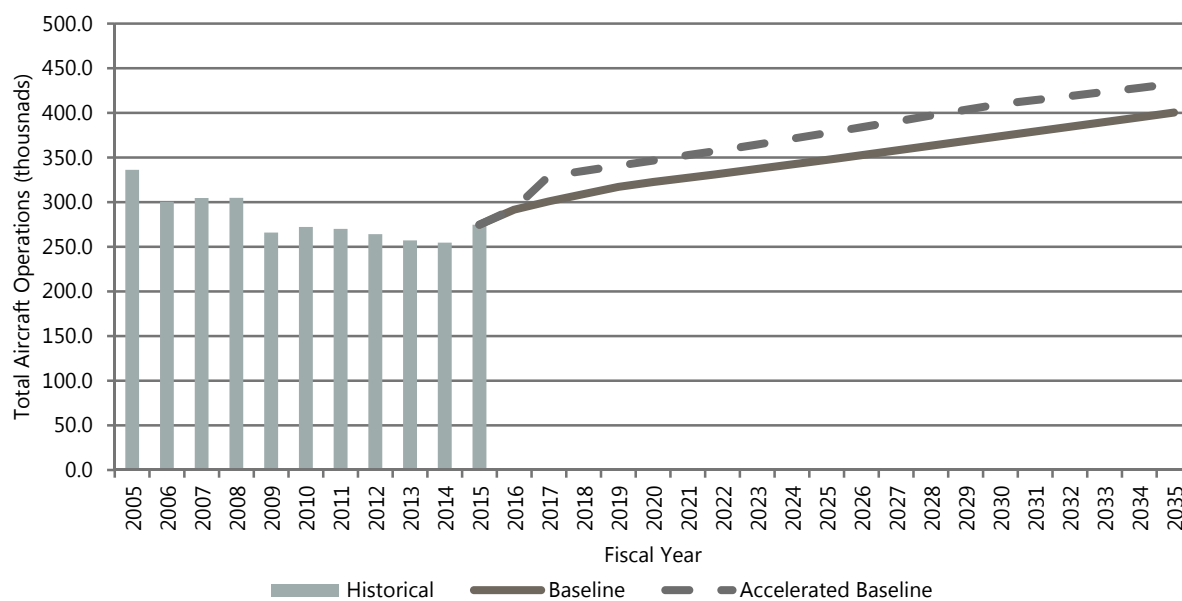
SOURCES: Broward County Aviation Department (Historical) March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Exhibit 3.3-3: Enplaned Passengers Forecast Comparison— Baseline versus Accelerated Baseline Forecasts

SOURCES: Broward County Aviation Department (Historical); Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Exhibit 3.3-4: Operations Forecast Comparison— Baseline versus Accelerated Baseline Forecasts

SOURCES: Broward County Aviation Department (Historical) March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

3.3.11 PEAKING PROFILE

The derivation of peak month and peak month average day (PMAD) is typically based on average percentages – the historical ratio of activity in the peak month to annual activity levels. The peak month for enplaned passengers and operations at the Airport has historically been March. Peak month accounts for approximately 10.2 percent of annual enplaned passengers and 10.0 percent of annual operations. Peak month, PMAD, and peak hour enplaned passengers and operations are presented in **Table 3.3-28**.

Table 3.3-28: Peaking Profiles

	BASELINE				ACCELERATED BASELINE			
	FY 2015	FY 2020	FY 2025	FY 2035	FY 2015	FY 2020	FY 2025	FY 2035
Annual								
Enplaned Passengers	13,214,469	16,393,000	18,327,000	22,293,000	13,214,469	18,372,000	20,955,000	26,198,000
Operations	274,754	322,600	347,400	400,300	274,754	346,600	377,400	432,600
Peak Month ^{1/}								
Enplaned Passengers	1,329,882	1,674,000	1,871,500	2,276,500	1,329,882	1,876,100	2,139,900	2,675,300
Operations	27,487	32,170	34,640	39,920	27,487	34,560	37,630	43,140
PMAD ^{2/}								
Enplaned Passengers	42,900	52,300	58,200	70,400	42,900	58,600	66,600	82,700
Operations	887	1,041	1,116	1,280	887	1,119	1,213	1,384
Peak Hour ^{2/}								
Enplaned Passengers	4,136	4,944	5,201	6,224	4,136	5,540	5,952	7,312
Operations	57	70	75	89	57	75	81	96

NOTES:

PMAD = Peak month average day

1/ FY 2015 is actual data. Historical 5-year average of peak month to annual data used to calculate FY 2020, FY 2025, and FY 2035.

2/ Peak data represents Design Day Flight Schedule results for Accelerated Baseline. Baseline results based on Accelerated Baseline ratios.

SOURCES: Broward County Aviation Department (Historical) March 2016; Ricondo & Associates, Inc. (Forecast), June 2016.

PREPARED BY: Ricondo & Associates, Inc., June 2016.

3.4 Preferred Forecasts

The Accelerated Baseline forecasts are the preferred forecast and being sought for the FAA's approval in the master planning process. Based on information gathered during discussions with the Airport's three primary carriers, the Accelerated Baseline forecasts were developed and incorporated the information provided by these carriers. The expansion/redevelopment of Terminals 1 and 4 will increase Airport gate capacity/capabilities and likely lead to increased passenger airline activity (domestic and international) as described by the Airport's three primary carriers.

As noted in section 3.3, the primary carriers provided projected peak day operation targets for FY 2020 and overall annualized load factors, average seat size, and O&D percentages for the forecast period. The Accelerated Baseline forecast incorporated these targets; however peak daily operations for two carriers were incorporated at a later date than provided by these carriers. The Accelerated Baseline forecast does not incorporate all three carriers' planned FY 2020 peak day operations targets in FY 2020. FAA summary tables are provided in Appendix A for the Baseline and Accelerate Baseline forecasts.



FORT LAUDERDALE-HOLLYWOOD
INTERNATIONAL AIRPORT
BROWARD COUNTY, FLORIDA

Appendix A

Federal Aviation Administration Review

Tables A-1 through **A-3** include data provided for internal FAA review. Data are presented in templates provided in the document *Forecasting Aviation Activity By Airport*.⁶

⁶ GRA, Incorporated, *Forecasting Aviation Activity By Airport*, July 2001.

Table A-1 (1 of 2): FAA Forecast Summary

BASE YEAR: 2015	A. FORECAST LEVELS AND GROWTH RATES					AVERAGE ANNUAL COMPOUND GROWTH RATES			
	BASE YEAR LEVEL	BASE YEAR + 1 YEAR	BASE YEAR + 5 YEARS	BASE YEAR + 10 YEARS	BASE YEAR + 15 YEARS	BASE YEAR TO +1	BASE YEAR TO +5	BASE YEAR TO +10	BASE YEAR TO +15
PASSENGER ENPLANEMENTS									
Air Carrier	13,034,774	14,117,086	16,196,223	18,122,455	20,098,901	8.3%	4.4%	3.4%	2.9%
Commuter ^{1/}	179,695	178,290	197,006	204,161	211,316	-0.8%	1.9%	1.3%	1.1%
Total Enplanements	13,214,469	14,295,376	16,393,229	18,326,616	20,310,217	8.2%	4.4%	3.3%	2.9%
OPERATIONS									
Itinerant									
Air Carrier (incl. Air Cargo)	198,668	217,311	247,129	271,970	295,793	9.4%	4.5%	3.2%	2.7%
Commuter/Air Taxi	37,951	35,863	36,458	35,601	37,217	-5.5%	-0.8%	-0.6%	-0.1%
Total Commercial Operations	236,619	253,174	283,587	307,571	333,010	7.0%	3.7%	2.7%	2.3%
General Aviation	37,704	37,890	38,541	39,408	40,341	0.5%	0.4%	0.4%	0.5%
Military	431	431	431	431	431	0.0%	0.0%	0.0%	0.0%
Local									
General Aviation	0	0	0	0	0	-	-	-	-
Military	0	0	0	0	0	-	-	-	-
Total Operations	274,754	291,495	322,559	347,410	373,782	6.1%	3.3%	2.4%	2.1%
Instrument Operations	259,926	275,763	305,151	328,660	353,620	6.1%	3.3%	2.4%	2.1%
Peak Hour Operations	57	60	67	72	78	5.3%	3.3%	2.4%	2.1%

Table A-1 (2 of 2): FAA Forecast Summary

BASE YEAR: 2015	A. FORECAST LEVELS AND GROWTH RATES					AVERAGE ANNUAL COMPOUND GROWTH RATES			
	BASE YEAR LEVEL	BASE YEAR + 1 YEAR	BASE YEAR + 5 YEARS	BASE YEAR + 10 YEARS	BASE YEAR + 15 YEARS	BASE YEAR TO +1	BASE YEAR TO +5	BASE YEAR TO +10	BASE YEAR TO +15
CARGO									
Cargo/mail (tons) ^{2/}	81,322	82,062	86,438	88,916	90,544	0.9%	1.2%	0.9%	0.7%
BASED AIRCRAFT									
Single Engine (Nonjet)	12	12	12	12	12	0.0%	0.0%	0.0%	0.0%
Multi Engine (Nonjet)	22	22	22	22	22	0.0%	0.0%	0.0%	0.0%
Jet Engine	54	54	54	54	54	0.0%	0.0%	0.0%	0.0%
Helicopter	6	6	6	6	6	0.0%	0.0%	0.0%	0.0%
Other	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
Total	94	94	94	94	94	0.0%	0.0%	0.0%	0.0%
B. OPERATIONAL FACTORS									
Average aircraft size (seats)									
Air carrier	154.6	155.6	156.8	157.5	158.3				
Commuter	34.0	31.5	31.5	29.0	26.5				
Average enplaning load factor									
Air carrier	85.7%	84.6%	84.7%	85.8%	86.9%				
Commuter	63.0%	63.0%	64.0%	64.5%	65.0%				
General aviation operations per based aircraft									
	531	534	543	555	568				

NOTES:

1/ Commuter as defined by FAA. Commuter operations include takeoff and landings by aircraft with 60 or fewer seats that transport regional passengers on scheduled commercial flights.

2/ Cargo/mail in total U.S. tons (enplaned and deplaned).

SOURCES: Federal Aviation Administration (Template); Broward County Aviation Department; Federal Aviation Administration, Air Traffic Activity Data System (ATADS); U.S. Department of Transportation, Form T-100 (Historical), March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table A-2 (1 of 2): FAA Forecast Summary (Accelerated Baseline)

BASE YEAR: 2015	A. FORECAST LEVELS AND GROWTH RATES					AVERAGE ANNUAL COMPOUND GROWTH RATES			
	BASE YEAR LEVEL	BASE YEAR + 1 YEAR	BASE YEAR + 5 YEARS	BASE YEAR + 10 YEARS	BASE YEAR + 15 YEARS	BASE YEAR TO +1	BASE YEAR TO +5	BASE YEAR TO +10	BASE YEAR TO +15
PASSENGER ENPLANEMENTS									
Air Carrier	13,034,774	14,398,694	18,191,978	20,796,026	23,478,859	10.5%	6.9%	4.8%	4.0%
Commuter ^{1/}	179,695	180,718	179,763	158,577	144,905	0.6%	0.0%	-1.2%	-1.4%
Total Enplanements	13,214,469	14,579,412	18,371,741	20,954,603	23,623,764	10.3%	6.8%	4.7%	3.9%
OPERATIONS									
Itinerant									
Air Carrier (incl. Air Cargo)	198,668	218,390	272,848	304,491	335,327	9.9%	6.6%	4.4%	3.6%
Commuter/Air Taxi	37,951	35,954	34,748	33,111	33,713	-5.3%	-1.7%	-1.4%	-0.8%
Total Commercial Operations	236,619	254,344	307,596	337,602	369,040	7.5%	5.4%	3.6%	3.0%
General Aviation	37,704	37,890	38,541	39,408	40,341	0.5%	0.4%	0.4%	0.5%
Military	431	431	431	431	431	0.0%	0.0%	0.0%	0.0%
Local									
General Aviation	0	0	0	0	0	-	-	-	-
Military	0	0	0	0	0	-	-	-	-
Total Operations	274,754	292,665	346,568	377,441	409,812	6.5%	4.8%	3.2%	2.7%
Instrument Operations	259,926	276,870	327,865	357,072	387,695	6.5%	4.8%	3.2%	2.7%
Peak Hour Operations	57	60	75	81	88	5.3%	5.6%	3.6%	2.9%

Table A-2 (2 of 2): FAA Forecast Summary (Accelerated Baseline)

BASE YEAR: 2015	A. FORECAST LEVELS AND GROWTH RATES					AVERAGE ANNUAL COMPOUND GROWTH RATES			
	BASE YEAR LEVEL	BASE YEAR + 1 YEAR	BASE YEAR + 5 YEARS	BASE YEAR + 10 YEARS	BASE YEAR + 15 YEARS	BASE YEAR TO +1	BASE YEAR TO +5	BASE YEAR TO +10	BASE YEAR TO +15
CARGO									
Cargo/mail (tons) ^{2/}	81,322	82,062	86,438	88,916	90,544	0.9%	1.2%	0.9%	0.7%
BASED AIRCRAFT									
Single Engine (Nonjet)	12	12	12	12	12	0.0%	0.0%	0.0%	0.0%
Multi Engine (Nonjet)	22	22	22	22	22	0.0%	0.0%	0.0%	0.0%
Jet Engine	54	54	54	54	54	0.0%	0.0%	0.0%	0.0%
Helicopter	6	6	6	6	6	0.0%	0.0%	0.0%	0.0%
Other	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
Total	94	94	94	94	94	0.0%	0.0%	0.0%	0.0%
B. OPERATIONAL FACTORS									
Average aircraft size (seats)									
Air carrier	154.6	157.1	159.4	162.2	165.1				
Commuter	34.0	31.5	31.5	29.0	26.5				
Average enplaning load factor									
Air carrier	85.7%	85.4%	84.8%	85.1%	85.5%				
Commuter	63.0%	63.0%	64.0%	64.5%	65.0%				
General aviation operations per based aircraft									
	531	534	543	555	568				

NOTES:

1/ Commuter as defined by FAA. Commuter operations include takeoff and landings by aircraft with 60 or fewer seats that transport regional passengers on scheduled commercial flights.

2/ Cargo/mail in total U.S. tons (enplaned and deplaned).

SOURCES: Federal Aviation Administration (Template); Broward County Aviation Department; Federal Aviation Administration, Air Traffic Activity Data System (ATADS); U.S. Department of Transportation, Form T-100 (Historical), March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.

Table A-3: FAA TAF Comparison

	FISCAL YEAR	BASLINE FORECASTS	FAA TAF	BASLINE VS. TAF (% DIFFERENCE)	ACCELERATED BASLINE FORECASTS	ACCELERATED BASLINE VS. TAF (% DIFFERENCE)
Passenger Enplanements						
Base year	2015	13,214,469	12,760,232	3.6%	13,214,469	3.6%
Base year + 5 years	2020	16,393,229	15,219,539	7.7%	18,371,741	20.7%
Base year + 10 years	2025	18,326,616	17,034,391	7.6%	20,954,603	23.0%
Base year + 15 years	2030	20,310,217	18,894,322	7.5%	23,623,764	25.0%
Commercial Operations						
Base year	2015	236,619	234,899	0.7%	236,619	0.7%
Base year + 5 years	2020	283,587	263,393	7.7%	307,596	16.8%
Base year + 10 years	2025	307,570	289,643	6.2%	337,602	16.6%
Base year + 15 years	2030	333,021	318,118	4.7%	369,040	16.0%
Total Operations						
Base year	2015	274,754	270,540	1.6%	274,754	1.6%
Base year + 5 years	2020	322,559	299,564	7.7%	346,568	15.7%
Base year + 10 years	2025	347,409	326,352	6.5%	377,441	15.7%
Base year + 15 years	2030	373,793	355,374	5.2%	409,812	15.3%

NOTE: Year = Fiscal Year (October–September).

FAA TAF excludes nonrevenue passengers.

SOURCES: Federal Aviation Administration (Template); Broward County Aviation Department; Federal Aviation Administration, Air Traffic Activity Data System (ATADS); U.S. Department of Transportation, Form T-100 (Historical), March 2016; Ricondo & Associates, Inc. (Forecast), March 2016.

PREPARED BY: Ricondo & Associates, Inc., March 2016.