

## Chapter 6

### Air Cargo Tonnage

### Forecast and Capacity Analysis

#### INTRODUCTION

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Insuring that Florida's airports can plan for and meet anticipated demand is an integral component of this Study. Air cargo development focus for Florida must be on ensuring that the State's airports can accommodate future direct air cargo operations serving each of the State's air cargo market areas. The first step required in planning for future needs is forecasting the magnitude of anticipated demand at each of Florida's SIS and Tier Two air cargo airports. This is accomplished by first forecasting anticipated Florida air cargo volume (2005-2025 forecast period) at each of the State's identified SIS and Tier Two air cargo airports and second, by identifying future air cargo facility requirements (ramp and building) based on the forecasted demand at each airport.

The following sections of this chapter will address the methodology and data used in the forecasting process, followed by a detailed air cargo (freight and mail combined) forecast and facility analysis for each of Florida's SIS and Tier Two air cargo airports.

#### AIR CARGO FORECAST METHODOLOGY

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The primary objective of a forecasting effort is to define the magnitude of change that can be expected over time. Because of the cyclical nature of the economy, it is virtually impossible to predict with certainty year-to-year fluctuations in activity when looking 20 years into the future. However, a trend can be established that characterizes long-term growth potential. While a single line is often used to express the anticipated growth, it is important to remember that actual growth may fluctuate above and below this line. Forecasts serve only as guidelines and planning must remain flexible to respond to unforeseen air cargo facility needs. It should also be noted that the air cargo industry is in continuous change and evolution. For example, an air cargo industry merger or new hub/facility construction during the planning period could have substantial volume and operations implications in any given market area that could not be reasonably predicted or reflected in a forecast exercise.

##### ***Air Cargo Forecast Factors***

Three separate air cargo growth forecasts will be utilized in providing the individual Florida Airport forecasts. These forecasts are based on the following:

- Boeing World Air Cargo Forecast, 2004/2005
- FAA Aerospace Forecasts, Fiscal Years 2005-2016
- Florida Historic Air Cargo Volume, 1990-2005

Of the three, the Boeing air cargo forecast is the most detailed in terms of market analysis and breakdown by world region and market. The forecast summarizes the world's major air trade markets, identifies major trends, and presents forecasts for the future performance and development of markets, as well as for the world freighter airplane fleet. Data for this forecast is compiled from multiple sources, including, but not limited to, Air Cargo Management Group, the Air Transport Association (ATA), the Association of Asia-Pacific Airlines, (AAPA), the Association of European Airlines (AEA), Boeing Foreign Trade Database (TRADE), Global

Insight, the International Air Transport Association (IATA), International Civil Aviation Organization (ICAO), and U.S. Department of Transportation (DOT).<sup>1</sup>

The FAA Aerospace Forecast for air cargo is provided in terms of domestic and international growth rates over the forecast period. U.S. and world economic environment assumptions and predictions are used in developing these forecasts as well as historic data from commercial carriers. Florida historic air cargo volume simply looks at the growth trend for the State’s air cargo volume in total from 1990 through 2005 and applies this growth rate to derive future air cargo volume. **Exhibit 6.1** details the growth rates for each of the forecasts.

**Exhibit 6.1  
Air Cargo Forecast Factors  
Boeing, FAA and Historical Growth Rates**

Market Region	Direction	Annual Growth
<b>Boeing Forecast</b>		
Domestic	Inbound	4.1%
	Outbound	4.1%
US-Latin America/Caribbean	Inbound	6.1%
	Outbound	5.5%
US-Europe	Inbound	5.8%
	Outbound	5.2%
US-NAFTA*	Inbound	6.8%
	Outbound	6.8%
US-Asia Pacific	Inbound	7.3%
	Outbound	7.2%
US-Mid-East/Africa	Inbound	4.7%
	Outbound	4.7%
<b>FAA Forecast</b>		
Domestic		3.3%
International		6.3%
<b>Historic Growth Forecast</b>		
All Cargo (Int'l and Domestic)		4.3%

\*Mexico and Canada  
Source: Boeing World Air Cargo Forecast 2004/2005; FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

<sup>1</sup> Boeing World Air Cargo Forecast, 2004/2005, Boeing Commercial Airplanes

**Forecast Assumptions**

Through the examination of air cargo industry carriers, operations, facilities and growth drivers applicable to Florida's air cargo airports identified in previous chapters of this Study, several reasonable assumptions regarding the future development of the State's air cargo are considered. A "natural" growth rate will be applied to Florida's air cargo volume. A natural growth rate assumes the status quo throughout the forecast period with average growth factors applied to 2005 baseline volume. Industry factors that are expected to remain constant throughout the forecast period include the following:

- Integrated express carriers will generally operate using the same mode of transport throughout the planning period.
- The ratio of trucks-to-aircraft used to serve Florida air cargo markets by the major integrators (FedEx, UPS, DHL) will not change over the forecast period.
- The types of air cargo aircraft operating by the end of the planning period will generally be the same as are currently operating in the air cargo fleet today.
- Florida airports will maintain constant relative market share throughout the forecast period.
- World region splits for international air cargo in the Boeing Forecast are based on commodity flow analysis presented in Chapter 3.

**Air Cargo Facility Capacity Analysis**

Air cargo forecasts for each of Florida's SIS and Tier Two Airports are considered unconstrained, meaning it is assumed that each airport will have the capacity and facilities to meet projected demand. Based upon forecasted demand for each airport, each airport's current and planned air cargo facilities (total cargo building square-feet and cargo ramp square-yards) are analyzed using industry/airport average annual cargo throughput rates. Optimal air cargo building throughput is estimated to be 0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo. The difference between the two is due to additional processing times and requirements for international air cargo – primarily U.S. Customs and USDA inspections and clearance.

Ramp space analysis is based on two types of air cargo activity: air cargo transported on passenger aircraft and air cargo transported on all-cargo aircraft. Since air cargo traveling via commercial passenger aircraft (belly-space) does not require a dedicated air cargo ramp, (these aircraft use the passenger terminal ramp) it is not necessary to include belly freight volume as it relates to ramp capacity. Only aircraft ramp needs for all-cargo aircraft activity are calculated. Through the Study's airport inventory effort, Florida SIS and Tier Two Airports have identified belly-freight to all-cargo carrier volume ratios; these ratios will be used in the cargo ramp requirements analysis.

It is difficult to apply a general square yard per ton requirement across all airports due to differing factors present in each airport's air cargo operations. Unlike warehouse square footage requirements driven by cargo volume, airport ramp requirements are primarily regarded as a function of aircraft mix at peak operations (i.e., the size and number of aircraft at the busiest time of day). Through an examination of several Florida SIS airport master plans and cargo planning documents, ramp throughput factors for a range of air cargo operations were derived. Three throughput factors are used for the following categories of airports; major gateway, primary local market station (trunk-line jet service to national hubs) and secondary local market stations (feeder and ad-hoc service only).

Major gateway airport category has a cargo ramp throughput of four annual tons per square yard. This type of airport has the highest ramp utilization rate (in terms of ton per square foot) due to an aircraft mix comprised of large widebody aircraft and a varied schedule of arrivals and departures which tend to increase ramp utilization rates. Miami International Airport is the only Florida airport in this category.

Primary local market stations feed regional and national air cargo hubs with a mix of widebody and narrowbody aircraft. Due to specific peak hour requirements for these operations (all aircraft must arrive and depart at approximately the same time), ramp utilization is typically lower. There are hours of intense demand and activity followed by limited or no activity. Air cargo ramp throughput for these airports is estimated at two annual tons per square foot. These airports include Orlando International, Tampa International, Jacksonville International, Ft. Lauderdale-Hollywood International, Palm Beach International, Southwest Florida International and St. Petersburg-Clearwater International, Pensacola Regional and Tallahassee Regional.

Secondary local market stations handle feeder aircraft only. These aircraft tend to be smaller turbo-prop aircraft with limited payloads that feed primary local market stations versus air cargo hubs. Ramp throughput for these airports is the lowest, requiring one square yard of ramp per annual ton. These Airports include Orlando-Sanford International, Daytona Beach International, Melbourne International, Panama City-Bay County International, Gainesville Regional, Okaloosa County Regional, Sarasota-Bradenton International and Key West International.

The following sections of this chapter provide the air cargo volume forecast and facility requirements (warehouse and ramp) for each of Florida's SIS airports.

## **MIAMI INTERNATIONAL AIRPORT (MIA)**

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**Exhibit 6.2** provides the 2005 through 2025 air cargo forecast for Miami International Airport. The air cargo volume forecasts for MIA account for the following Airport air cargo operations assumptions through the forecast period:

- MIA will remain the primary U.S. Latin America gateway for air cargo without any significant diversion of freight to alternate gateway airports.
- MIA will continue to operate as the primary local market station for the Miami market area through the end of the planning period.
- All integrated express carriers will continue to serve MIA via direct trunk-line hub flights.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- Anticipated capacity constraint will not limit forecasted air cargo volume growth.

**Exhibit 6.2**  
**Miami International Airport Air Cargo Forecast 2005-2025**  
**Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
<b>Domestic Total:</b>		<b>334,352</b>	<b>408,750</b>	<b>499,702</b>	<b>610,893</b>	<b>746,824</b>
Enplaned	4.1%	151,613	185,349	226,592	277,011	338,650
Deplaned	4.1%	182,739	223,401	273,111	333,881	408,174
<b>US-Latin America/Caribbean Total:</b>		<b>1,441,687</b>	<b>1,915,360</b>	<b>2,545,159</b>	<b>3,382,703</b>	<b>4,496,732</b>
Enplaned	5.5%	613,463	801,772	1,047,883	1,369,542	1,789,936
Deplaned	6.1%	828,224	1,113,588	1,497,275	2,013,161	2,706,796
<b>US-Europe Total:</b>		<b>73,377</b>	<b>96,005</b>	<b>125,637</b>	<b>164,448</b>	<b>215,291</b>
Enplaned	5.2%	34,078	43,909	56,576	72,897	93,927
Deplaned	5.8%	39,299	52,096	69,061	91,551	121,364
<b>US-NAFTA* Total:</b>		<b>37,464</b>	<b>52,056</b>	<b>72,331</b>	<b>100,504</b>	<b>139,649</b>
Enplaned	6.8%	18,470	25,664	35,660	49,550	68,849
Deplaned	6.8%	18,994	26,392	36,671	50,954	70,800
<b>US-Asia Pacific Total:</b>		<b>33,969</b>	<b>48,216</b>	<b>68,439</b>	<b>97,144</b>	<b>137,889</b>
Enplaned	7.2%	14,979	21,206	30,022	42,502	60,170
Deplaned	7.3%	18,990	27,010	38,417	54,642	77,718
<b>US-Mid-East/Africa Total:</b>		<b>13,697</b>	<b>17,232</b>	<b>21,681</b>	<b>27,278</b>	<b>34,320</b>
Enplaned	4.7%	8,241	10,368	13,045	16,412	20,649
Deplaned	4.7%	5,456	6,864	8,636	10,866	13,671
<b>Boeing Forecast Total:</b>		<b>1,934,545</b>	<b>2,537,619</b>	<b>3,332,949</b>	<b>4,382,969</b>	<b>5,770,705</b>
<b>FAA Forecast</b>						
Domestic	3.3%	334,351	393,282	462,600	544,136	640,043
International	6.3%	1,600,194	2,171,896	2,947,849	4,001,028	5,430,476
<b>FAA Forecast Total:</b>		<b>1,934,545</b>	<b>2,565,178</b>	<b>3,410,450</b>	<b>4,545,164</b>	<b>6,070,519</b>
<b>Historic Growth Forecast</b>						
All Air Cargo	4.3%	1,934,545	2,387,813	2,947,284	3,637,839	4,490,193
<b>Historic Growth Forecast Total:</b>		<b>1,934,545</b>	<b>2,387,813</b>	<b>2,947,284</b>	<b>3,637,839</b>	<b>4,490,193</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of 6.07 million tons in 2025 (FAA forecast factors) to a low of 4.49 million tons (historic growth average). The forecast utilizing Boeing forecast factors is deemed to be the preferred forecast for MIA. This forecast anticipates 5.77 million annual tons in 2025. The detailed world region market analysis provides the greatest insights into Miami International Airport's growth potential in each of its international markets, allowing for particular emphasis to be placed on Latin America – MIA's primary trading partner.

**Exhibit 6.3** examines MIA air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.3**  
**Miami International Airport Air Cargo Building Analysis 2005-2025**  
**Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	334,352	408,750	499,702	610,893	746,824
International	1,600,193	2,128,870	2,833,247	3,772,076	5,023,881
<b>Building Analysis - Square Footage</b>					
Current/Planned	2,795,148	2,795,148	2,795,148	2,795,148	2,795,148
Projected Requirements	1,904,119	2,500,423	3,287,476	4,327,378	5,702,744
<b>Building Surplus/Deficit:</b>	<b>891,029</b>	<b>294,725</b>	<b>(492,328)</b>	<b>(1,532,230)</b>	<b>(2,907,596)</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that MIA will reach capacity in 2013 unless new facilities are constructed or throughput can be increased. This estimation of capacity is relatively in-line with the Airport's estimation that MIA will reach air cargo capacity in 2014.

**Exhibit 6.4** examines MIA air cargo ramp requirements based on preferred forecast volume at optimal throughput of 4 annual tons per square yard of ramp. Note that this analysis is for all-cargo/freighter tonnage only which accounts for 59 percent of MIA air cargo volume.

**Exhibit 6.4**  
**Miami International Airport Air Cargo Ramp Analysis 2005-2025**  
**Requirements Based on Optimal Throughput**

Percent All-Cargo Carrier	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - All-Cargo Carrier Annual Tons</b>					
All-Cargo 59%	1,141,382	1,497,195	1,966,440	2,585,952	3,404,716
<b>Ramp Analysis - Square Yards</b>					
Current/Planned*	411,250	411,250	511,250	511,250	511,250
Projected Requirements	285,345	374,299	491,610	646,488	851,179
<b>Ramp Surplus/Deficit:</b>	<b>125,905</b>	<b>36,951</b>	<b>19,640</b>	<b>(135,238)</b>	<b>(339,929)</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

\*Includes multi-use ramp space

Miami International Airport is projected to reach air cargo ramp capacity in 2017, in line with MIA planning and reported estimates. Note that Current/Planned air cargo ramp space includes both dedicated air cargo ramp and multi-use ramp space. MIA will need to add approximately 334 thousand square yards of ramp in order to meet projected 2025 demand at current throughput rates.

## **ORLANDO INTERNATIONAL AIRPORT (MCO)**

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**Exhibit 6.5** provides the 2005 through 2025 air cargo forecast for Orlando International Airport. The air cargo volume forecasts for MCO account for the following Airport air cargo operations assumptions through the forecast period:

- MCO will continue to operate as the primary local market station for the Orlando market area through the end of the planning period.
- All integrated express carriers will continue to serve MCO via direct trunk-line hub flights.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- MCO international traffic will continue to move exclusively via commercial passenger belly-space.

**Exhibit 6.5**  
**Orlando International Airport Air Cargo Forecast 2005-2025**  
**Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
<b>Domestic Total:</b>		<b>212,910</b>	<b>260,285</b>	<b>318,202</b>	<b>389,007</b>	<b>475,566</b>
Enplaned	4.1%	98,578	120,513	147,329	180,111	220,188
Deplaned	4.1%	114,332	139,772	170,874	208,895	255,377
<b>US-Europe Total:</b>		<b>10,662</b>	<b>13,928</b>	<b>18,197</b>	<b>23,779</b>	<b>31,081</b>
Enplaned	5.2%	5,561	7,166	9,233	11,896	15,328
Deplaned	5.8%	5,101	6,762	8,964	11,883	15,753
<b>US-Asia Pacific Total:</b>		<b>1,340</b>	<b>1,904</b>	<b>2,704</b>	<b>3,842</b>	<b>5,458</b>
Enplaned	7.2%	353	500	708	1,002	1,419
Deplaned	7.3%	987	1,404	1,997	2,840	4,039
<b>US-Mid-East/Africa Total:</b>		<b>778</b>	<b>978</b>	<b>1,231</b>	<b>1,549</b>	<b>1,949</b>
Enplaned	4.7%	364	458	576	725	912
Deplaned	4.7%	414	520	655	824	1,036
<b>US-Latin America/Caribbean Total:</b>		<b>150</b>	<b>200</b>	<b>267</b>	<b>355</b>	<b>474</b>
Enplaned	5.5%	45	59	77	101	132
Deplaned	6.1%	105	141	189	255	343
<b>US-NAFTA* Total:</b>		<b>88</b>	<b>122</b>	<b>170</b>	<b>236</b>	<b>328</b>
Enplaned	6.8%	57	80	111	154	214
Deplaned	6.8%	31	43	59	82	114
<b>Boeing Forecast Total:</b>		<b>225,928</b>	<b>277,417</b>	<b>340,771</b>	<b>418,769</b>	<b>514,856</b>
<b>FAA Forecast</b>						
Domestic	3.3%	212,910	250,437	294,577	346,498	407,570
International	6.3%	13,018	17,669	23,982	32,549	44,178
<b>FAA Forecast Total:</b>		<b>225,928</b>	<b>268,105</b>	<b>318,559</b>	<b>379,048</b>	<b>451,749</b>
<b>Historic Growth Forecast</b>						
All Air Cargo	4.3%	225,928	278,863	344,202	424,849	524,392
<b>Historic Growth Forecast Total:</b>		<b>225,928</b>	<b>278,863</b>	<b>344,202</b>	<b>424,849</b>	<b>524,392</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of 524 thousand tons in 2025 (historic growth average) to a low of 452 thousand tons (FAA forecast factors). The forecast utilizing Boeing forecast factors is deemed to be the preferred forecast for MCO. This forecast anticipates nearly 515 thousand annual tons in 2025. The detailed world region market analysis provides the greatest insights into Orlando International Airport's growth potential in each of its international markets, allowing for particular emphasis to be placed on Europe – MCO's primary trading partner. Note that international market's not served by direct flights are accounted for in the Boeing forecast. As

discussed in Chapter Three, international freight may arrive from a U.S. gateway in-bond, be transloaded onto an MCO bound flight, and be cleared at Orlando International Airport. Conversely, outbound international freight may depart MCO to a European gateway airport and be transloaded to an alternate foreign destination. The lack of direct connectivity to foreign markets does not necessarily preclude international air trade with these markets.

**Exhibit 6.6** examines MCO air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.6  
Orlando International Airport Air Cargo Building Analysis 2005-2025  
Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	212,910	260,285	318,202	389,007	475,566
International	13,018	17,132	22,569	29,762	39,290
<b>Building Analysis - Square Footage</b>					
Current/Planned	630,444	630,444	630,444	630,444	630,444
Projected Requirements	206,553	253,731	311,815	383,369	471,579
<b>Building Surplus/Deficit:</b>	<b>423,891</b>	<b>376,713</b>	<b>318,629</b>	<b>247,075</b>	<b>158,865</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that MCO will have sufficient air cargo building space to accommodate forecasted demand. Operating at optimal facility throughput, MCO will require approximately 472 thousand square feet of air cargo building space; the Airport currently has over 630 thousand square feet.

**Exhibit 6.7** examines MCO air cargo ramp requirements based on preferred forecast volume at optimal throughput of two annual tons per square yard of ramp. Note that this analysis is for all-cargo/freighter tonnage only which accounts for 83 percent of MCO air cargo volume.

**Exhibit 6.7  
Orlando International Airport Air Cargo Ramp Analysis 2005-2025  
Square Yard Requirements Based on Optimal Throughput**

Percent All-Cargo Carrier	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - All-Cargo Carrier Annual Tons</b>					
All-Cargo 83%	187,520	230,256	282,840	347,578	427,330
<b>Ramp Analysis - Square Yards</b>					
Current/Planned*	419,941	419,941	419,941	419,941	419,941
Projected Requirements	93,760	115,128	141,420	173,789	213,665
<b>Ramp Surplus/Deficit:</b>	<b>326,181</b>	<b>304,813</b>	<b>278,521</b>	<b>246,152</b>	<b>206,276</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

\*Includes multi-use ramp space

The facility analysis based upon forecasted all-cargo/freighter volume indicates that MCO will have sufficient air cargo ramp space to accommodate forecasted demand. Operating at optimal throughput, MCO will require approximately 214 thousand square yards of air cargo ramp space; the Airport currently has 420 thousand square yards. Note that Current/Planned air cargo ramp space includes both dedicated air cargo ramp and multi-use ramp space.

## **FT. LAUDERDALE-HOLLYWOOD INTERNATIONAL AIRPORT (FLL)**

**Exhibit 6.8** provides the 2005 through 2025 air cargo forecast for Ft. Lauderdale-Hollywood International Airport. The air cargo volume forecasts for MCO account for the following Airport air cargo operations assumptions through the forecast period:

- FLL will continue to serve FedEx and DHL as the primary local market station for the Ft. Lauderdale market area through the end of the planning period.
- FedEx and DHL will continue to serve FLL via direct trunk-line hub flights.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- FLL international traffic will continue to move exclusively via commercial passenger belly-space. Direct international flights will be limited to North American and Caribbean markets.

**Exhibit 6.8**  
**Ft. Lauderdale-Hollywood International Airport Air Cargo Forecast 2005-2025**  
**Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
<b>Domestic Total:</b>		<b>174,707</b>	<b>213,582</b>	<b>261,106</b>	<b>319,206</b>	<b>390,234</b>
Enplaned	4.1%	93,705	114,556	140,046	171,208	209,304
Deplaned	4.1%	81,002	99,026	121,061	147,998	180,930
<b>US-Europe Total:</b>		<b>461</b>	<b>602</b>	<b>787</b>	<b>1,029</b>	<b>1,346</b>
Enplaned	5.2%	230	296	381	491	633
Deplaned	5.8%	231	306	406	538	714
<b>US-Asia Pacific Total:</b>		<b>200</b>	<b>284</b>	<b>404</b>	<b>573</b>	<b>814</b>
Enplaned	7.2%	62	88	125	177	250
Deplaned	7.3%	138	196	279	397	564
<b>US-NAFTA* Total:</b>		<b>82</b>	<b>115</b>	<b>159</b>	<b>221</b>	<b>307</b>
Enplaned	6.8%	77	107	149	207	287
Deplaned	6.8%	5	7	10	14	20
<b>US-Mid-East/Africa Total:</b>		<b>74</b>	<b>93</b>	<b>118</b>	<b>148</b>	<b>186</b>
Enplaned	4.7%	7	9	11	14	18
Deplaned	4.7%	67	84	106	134	168
<b>US-Latin America/Caribbean Total:</b>		<b>8</b>	<b>11</b>	<b>15</b>	<b>19</b>	<b>25</b>
Enplaned	5.5%	8	10	14	18	23
Deplaned	6.1%	1	1	1	1	2
<b>Boeing Forecast Total:</b>		<b>175,533</b>	<b>214,687</b>	<b>262,589</b>	<b>321,197</b>	<b>392,913</b>
<b>FAA Forecast</b>						
Domestic	3.3%	174,707	205,500	241,721	284,325	334,439
International	6.3%	826	1,121	1,522	2,065	2,803
<b>FAA Forecast Total:</b>		<b>175,533</b>	<b>206,621</b>	<b>243,242</b>	<b>286,390</b>	<b>337,242</b>
<b>Historic Growth Forecast</b>						
All Air Cargo	4.3%	175,533	216,661	267,425	330,083	407,422
<b>Historic Growth Forecast Total:</b>		<b>175,533</b>	<b>216,661</b>	<b>267,425</b>	<b>330,083</b>	<b>407,422</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of 407 thousand tons in 2025 (historic growth average) to a low of 337 thousand tons (FAA forecast factors). The forecast utilizing Boeing forecast factors is deemed to be the preferred forecast for FLL. This forecast anticipates nearly 393 thousand annual tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and historic rates), coupled with detailed world region market analysis. Note again that international markets not served by direct flights are accounted for in the Boeing forecast. As discussed in Chapter Three, international freight may arrive from a U.S. gateway in-bond, be transloaded onto an FLL bound flight, and be cleared at Ft. Lauderdale-Hollywood

International Airport. Conversely, outbound international freight may depart FLL to a European gateway airport and be transloaded to an alternate foreign destination. The lack of direct connectivity to foreign markets does not necessarily preclude international air trade with these markets. It is likely that the majority of this international material is transiting via Miami International and Atlanta-Hartsfield Jackson International Airport via commercial passenger aircraft.

**Exhibit 6.9** examines FLL air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.9**  
**Ft. Lauderdale-Hollywood International Airport Air Cargo Building Analysis 2005-2025**  
**Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	174,707	213,582	261,106	319,206	390,234
International	826	1,105	1,482	1,991	2,679
<b>Building Analysis - Square Footage</b>					
Current/Planned	225,000	225,000	225,000	225,000	225,000
Projected Requirements	159,635	195,251	238,828	292,149	357,402
<b>Building Surplus/Deficit:</b>	<b>65,365</b>	<b>29,749</b>	<b>(13,828)</b>	<b>(67,149)</b>	<b>(132,402)</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that FLL will reach capacity in 2014 unless new facilities are constructed or throughput can be increased. The Airport’s master plan calls for new air cargo facilities on a 130-acre parcel of Airport land, however no specific details on the exact size and date of construction are provided. It can be assumed that as planning progresses, FLL will make every effort to accommodate anticipated air cargo volume prior to reaching capacity.

**Exhibit 6.10** examines FLL air cargo ramp requirements based on preferred forecast volume at optimal throughput of two annual tons per square yard of ramp. Note that this analysis is for all-cargo/freighter tonnage only which accounts for 81 percent of FLL air cargo volume.

**Exhibit 6.10**  
**Ft. Lauderdale-Hollywood International Airport Air Cargo Ramp Analysis 2005-2025**  
**Square Yard Requirements Based on Optimal Throughput**

	Percent All-Cargo Carrier	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - All-Cargo Carrier Annual Tons</b>						
All-Cargo	81%	142,182	173,897	212,697	260,170	318,259
<b>Ramp Analysis - Square Yards</b>						
Current/Planned*		116,667	116,667	116,667	116,667	116,667
Projected Requirements		71,091	86,948	106,348	130,085	159,130
<b>Ramp Surplus/Deficit:</b>		<b>45,576</b>	<b>29,719</b>	<b>10,319</b>	<b>(13,418)</b>	<b>(42,463)</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

\*Includes multi-use ramp space

The facility analysis based upon forecasted all-cargo/freighter volume indicates that FLL will reach air cargo ramp capacity in 2018. Operating at optimal throughput, FLL will require approximately 159 thousand square yards of air cargo ramp space; the Airport currently has nearly 117 thousand square yards. Note that Current/Planned air cargo ramp space includes both dedicated air cargo ramp and multi-use ramp space. FLL will need to add approximately 42 thousand square yards of ramp in order to meet projected 2025 demand at optimal throughput rates.

## TAMPA INTERNATIONAL AIRPORT (TPA)

**Exhibit 6.11** provides the 2005 through 2025 air cargo forecast for Tampa International Airport. The air cargo volume forecasts for TPA account for the following Airport air cargo operations assumptions through the forecast period:

- TPA will continue to serve FedEx and DHL as the primary local market station for the Tampa/Sarasota market area through the end of the planning period.
- FedEx and DHL will continue to serve TPA via direct trunk-line hub flights.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- TPA international traffic will continue to move exclusively via commercial passenger belly-space.

**Exhibit 6.11**  
**Tampa International Airport Air Cargo Forecast 2005-2025**  
**Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
<b>Domestic Total:</b>		<b>95,217</b>	<b>116,404</b>	<b>142,306</b>	<b>173,970</b>	<b>212,681</b>
Enplaned	4.1%	41,059	50,195	61,364	75,019	91,711
Deplaned	4.1%	54,158	66,209	80,941	98,952	120,970
<b>US-Europe Total:</b>		<b>2,782</b>	<b>3,640</b>	<b>4,763</b>	<b>6,235</b>	<b>8,162</b>
Enplaned	5.2%	1,292	1,665	2,145	2,764	3,562
Deplaned	5.8%	1,490	1,975	2,618	3,471	4,601
<b>US-Asia Pacific Total:</b>		<b>1,239</b>	<b>1,760</b>	<b>2,501</b>	<b>3,552</b>	<b>5,046</b>
Enplaned	7.2%	350	496	702	994	1,408
Deplaned	7.3%	889	1,264	1,798	2,558	3,638
<b>US-NAFTA* Total:</b>		<b>468</b>	<b>651</b>	<b>904</b>	<b>1,256</b>	<b>1,746</b>
Enplaned	6.8%	434	602	837	1,163	1,616
Deplaned	6.8%	35	48	67	93	129
<b>US-Mid-East/Africa Total:</b>		<b>473</b>	<b>595</b>	<b>749</b>	<b>943</b>	<b>1,186</b>
Enplaned	4.7%	40	51	64	80	101
Deplaned	4.7%	433	545	685	862	1,085
<b>US-Latin America/Caribbean Total:</b>		<b>48</b>	<b>63</b>	<b>83</b>	<b>108</b>	<b>142</b>
Enplaned	5.5%	45	58	76	99	130
Deplaned	6.1%	4	5	7	9	12
<b>Boeing Forecast Total:</b>		<b>100,228</b>	<b>123,114</b>	<b>151,305</b>	<b>186,064</b>	<b>228,962</b>
<b>FAA Forecast</b>						
Domestic	3.3%	95,217	112,000	131,740	154,960	182,272
International	6.3%	5,011	6,801	9,231	12,529	17,006
<b>FAA Forecast Total:</b>		<b>100,228</b>	<b>118,801</b>	<b>140,971</b>	<b>167,489</b>	<b>199,278</b>
<b>Historic Growth Forecast</b>						
All Air Cargo	4.3%	100,228	123,712	152,698	188,475	232,635
<b>Historic Growth Forecast Total:</b>		<b>100,228</b>	<b>123,712</b>	<b>152,698</b>	<b>188,475</b>	<b>232,635</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of 233 thousand tons in 2025 (historic growth average) to a low of 199 thousand tons (FAA forecast factors). The forecast utilizing Boeing factors is deemed to be the preferred forecast for TPA. This forecast anticipates nearly 229 thousand annual tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and historic rates), coupled with detailed world region market analysis. Note again that international market's not served by direct flights are accounted for in the Boeing forecast. This accounts for international material originating from or destined to TPA, but transiting another

gateway. The lack of direct connectivity to foreign markets does not necessarily preclude international air trade with these markets.

**Exhibit 6.12** examines TPA air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.12  
Tampa International Airport Air Cargo Building Analysis 2005-2025  
Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	95,217	116,404	142,306	173,970	212,681
International	5,011	6,709	9,000	12,094	16,281
<b>Building Analysis - Square Footage</b>					
Current/Planned	225,000	225,000	297,900	297,900	297,900
Projected Requirements	91,563	112,521	138,356	170,233	209,608
<b>Building Surplus/Deficit:</b>	<b>133,437</b>	<b>112,479</b>	<b>159,544</b>	<b>127,667</b>	<b>88,292</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that TPA facilities are sufficient to meet projected demand through 2025. The Airport’s current multi-tenant air cargo building (113,500 square feet) housing DHL and many of the airports passenger carrier cargo operations is scheduled to be relocated by 2011. The new air cargo buildings and ramp are to be located on recently acquired land on the east side of the Airport (to the north of the existing FedEx facility). Phase one to be completed in 2011 will consist of new access roadways in addition to expanded airside facilities including 186,400 square feet of air cargo building space. This net increase of 72,900 square feet of air cargo building space is reflected in Exhibit 6.12.

**Exhibit 6.13** examines TPA air cargo ramp requirements based on preferred forecast volume at optimal throughput of two annual tons per square yard of ramp. Note that this analysis is for all-cargo/freighter tonnage only which accounts for 85 percent of TPA air cargo volume.

**Exhibit 6.13**  
**Tampa International Airport Air Cargo Ramp Analysis 2005-2025**  
**Square Yard Requirements Based on Optimal Throughput**

	Percent All-Cargo Carrier	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - All-Cargo Carrier Annual Tons</b>						
All-Cargo	85%	85,194	104,647	128,610	158,155	194,618
<b>Ramp Analysis - Square Yards</b>						
Current/Planned*		146,600	146,600	186,700	186,700	186,700
Projected Requirements		42,597	52,323	64,305	79,077	97,309
<b>Ramp Surplus/Deficit:</b>		<b>104,003</b>	<b>94,277</b>	<b>122,395</b>	<b>107,623</b>	<b>89,391</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

\*Includes multi-use ramp space

The facility analysis based upon forecasted all-cargo/freighter volume indicates that TPA will have sufficient air cargo ramp space to accommodate forecasted demand. Operating at optimal throughput, TPA will require approximately 97 thousand square yards of air cargo ramp space; the Airport will have nearly 187 thousand square yards once the Airport's planned cargo facility is complete in 2011. Note that Current/Planned air cargo ramp space includes both dedicated air cargo ramp and multi-use ramp space.

## **JACKSONVILLE INTERNATIONAL AIRPORT (JAX)**

**Exhibit 6.14** provides the 2005 through 2025 air cargo forecast for Jacksonville International Airport. The air cargo volume forecasts for JAX account for the following Airport air cargo operations assumptions through the forecast period:

- JAX will continue to serve as the primary local market station for the Jacksonville market area through the end of the planning period.
- The integrated express carriers will continue to serve JAX via direct trunk-line hub flights.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- JAX will see limited international traffic due a lack of international passenger carrier activity.
- JAX facility function will be limited to local market station operations through the end of the planning period.

**Exhibit 6.14**  
**Jacksonville International Airport Air Cargo Forecast 2005-2025**  
**Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
Domestic						
Enplaned	4.1%	34,907	42,674	52,170	63,778	77,970
Deplaned	4.1%	49,068	59,986	73,334	89,652	109,601
<b>Boeing Forecast Total:</b>		<b>83,975</b>	<b>102,661</b>	<b>125,504</b>	<b>153,430</b>	<b>187,571</b>
<b>FAA Forecast</b>						
Domestic	3.3%	83,975	98,776	116,186	136,664	160,752
<b>FAA Forecast Total:</b>		<b>83,975</b>	<b>98,776</b>	<b>116,186</b>	<b>136,664</b>	<b>160,752</b>
<b>Historic Growth Forecast</b>						
Domestic	4.3%	83,975	103,651	127,936	157,912	194,911
<b>Historic Growth Forecast Total:</b>		<b>83,975</b>	<b>103,651</b>	<b>127,936</b>	<b>157,912</b>	<b>194,911</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of 195 thousand tons in 2025 (historic growth average) to a low of 161 thousand tons (FAA forecast factors). The forecast utilizing Boeing factors is deemed to be the preferred forecast for JAX. This forecast anticipates nearly 188 thousand annual tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and historic rates).

**Exhibit 6.15** examines JAX air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.15**  
**Jacksonville International Airport Air Cargo Building Analysis 2005-2025**  
**Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	83,975	102,661	125,504	153,430	187,571
International	-	-	-	-	-
<b>Building Analysis - Square Footage</b>					
Current/Planned	414,000	414,000	414,000	414,000	414,000
Projected Requirements	76,333	93,318	114,083	139,468	170,502
<b>Building Surplus/Deficit:</b>	<b>337,667</b>	<b>320,682</b>	<b>299,917</b>	<b>274,532</b>	<b>243,498</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that JAX facilities are sufficient to meet projected demand through 2025. The Airport has indicated that there are three buildings available in the air cargo area that can be demolished to make way for additional air cargo facilities should demand warrant.

**Exhibit 6.16** examines JAX air cargo ramp requirements based on preferred forecast volume at optimal throughput of two annual tons per square yard of ramp. Note that this analysis is for all-cargo/freighter tonnage only which accounts for 48 percent of JAX air cargo volume.

**Exhibit 6.16  
Jacksonville International Airport Air Cargo Ramp Analysis 2005-2025  
Square Yard Requirements Based on Optimal Throughput**

	Percent All-Cargo Carrier	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - All-Cargo Carrier Annual Tons</b>						
All-Cargo	48%	40,308	49,277	60,242	73,647	90,034
<b>Ramp Analysis - Square Yards</b>						
Current/Planned*		45,161	45,161	45,161	45,161	45,161
Projected Requirements		20,154	24,639	30,121	36,823	45,017
<b>Ramp Surplus/Deficit:</b>		<b>25,007</b>	<b>20,522</b>	<b>15,040</b>	<b>8,338</b>	<b>144</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

\*Includes multi-use ramp space

The facility analysis based upon forecasted all-cargo/freighter volume indicates that JAX will reach air cargo ramp capacity near the end of the forecast period. Operating at optimal throughput, JAX will require approximately 45 thousand square yards of air cargo ramp space in 2025; the Airport currently has approximately 45 thousand square yards. Note that Current/Planned air cargo ramp space includes both dedicated air cargo ramp and multi-use ramp space.

### **ST. PETERSBURG-CLEARWATER INTERNATIONAL AIRPORT (PIE)**

**Exhibit 6.17** provides the 2005 through 2025 air cargo forecast for St. Petersburg-Clearwater International Airport. The air cargo volume forecasts for PIE account for the following Airport air cargo operations assumptions through the forecast period:

- PIE will continue to serve as the primary local market station for UPS operations serving the Tampa-St. Petersburg-Clearwater market area through the end of the planning period.
- DHL will continue to operate a feeder flight from PIE.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- PIE international traffic will be limited to Canadian markets via Canadian passenger carrier activity.
- PIE facility function will be limited to local market station operations through the end of the planning period.

**Exhibit 6.17**  
**St. Petersburg-Clearwater International Airport Air Cargo Forecast 2005-2025**  
**Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
<b>Domestic Total:</b>		<b>22,923</b>	<b>28,024</b>	<b>34,259</b>	<b>41,882</b>	<b>51,202</b>
Enplaned	4.1%	10,270	12,555	15,349	18,764	22,940
Deplaned	4.1%	12,653	15,468	18,910	23,118	28,262
<b>US-NAFTA* Total:</b>		<b>277</b>	<b>385</b>	<b>535</b>	<b>743</b>	<b>1,033</b>
Enplaned	6.8%	98	136	189	263	365
Deplaned	6.8%	179	249	346	480	667
<b>Boeing Forecast Total:</b>		<b>23,200</b>	<b>28,409</b>	<b>34,794</b>	<b>42,626</b>	<b>52,234</b>
<b>FAA Forecast</b>						
Domestic	3.3%	22,923	26,963	31,716	37,306	43,881
International	6.3%	277	376	510	693	940
<b>FAA Forecast Total:</b>		<b>23,200</b>	<b>27,339</b>	<b>32,226</b>	<b>37,998</b>	<b>44,821</b>
<b>Historic Growth Forecast</b>						
All Air Cargo	4.3%	23,200	28,636	35,345	43,627	53,849
<b>Historic Growth Forecast Total:</b>		<b>23,200</b>	<b>28,636</b>	<b>35,345</b>	<b>43,627</b>	<b>53,849</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of nearly 54 thousand tons in 2025 (historic growth average) to a low of just under 45 thousand tons (FAA forecast factors). The forecast utilizing Boeing factors is deemed to be the preferred forecast for PIE. This forecast anticipates nearly over 52 thousand annual tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and historic rates).

**Exhibit 6.18** examines PIE air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.18**  
**St. Petersburg-Clearwater International Airport Air Cargo Building Analysis 2005-2025**  
**Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	22,923	28,024	34,259	41,882	51,202
International	277	385	535	743	1,033
<b>Building Analysis - Square Footage</b>					
Current/Planned	2,500	2,500	2,500	2,500	2,500
Projected Requirements	21,114	25,858	31,677	38,814	47,575
<b>Building Surplus/Deficit:</b>	<b>(18,614)</b>	<b>(23,358)</b>	<b>(29,177)</b>	<b>(36,314)</b>	<b>(45,075)</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that PIE facilities are not sufficient to meet current and future demand. However, the primary air cargo carrier at the Airport, UPS, operates an off-airport sort facility approximately five miles from the Airport. UPS aircraft are unloaded on the ramp, and freight is immediately loaded onto trucks for transit to the off-airport facility for processing. Through this type of operation, the need for airside air cargo facilities is minimized. The Airport has indicated that DHL has expressed interest in a 3,500 square foot airside building, however planning for this facility has not been finalized.

**Exhibit 6.19** examines PIE air cargo ramp requirements based on preferred forecast volume at optimal throughput of two annual tons per square yard of ramp. Note that this analysis is for all-cargo/freighter tonnage only which accounts for an estimated 95 percent of PIE air cargo volume.

**Exhibit 6.19**  
**St. Petersburg-Clearwater International Airport Air Cargo Ramp Analysis 2005-2025**  
**Square Yard Requirements Based on Optimal Throughput**

	Percent All-Cargo Carrier	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - All-Cargo Carrier Annual Tons</b>						
All-Cargo	95%	22,040	26,988	33,054	40,494	49,623
<b>Ramp Analysis - Square Yards</b>						
Current/Planned*		25,700	25,700	25,700	25,700	25,700
Projected Requirements		11,020	13,494	16,527	20,247	24,811
<b>Ramp Surplus/Deficit:</b>		<b>14,680</b>	<b>12,206</b>	<b>9,173</b>	<b>5,453</b>	<b>889</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

\*Includes multi-use ramp space

The facility analysis based upon forecasted all-cargo/freighter volume indicates that PIE will near air cargo ramp capacity at the end of the forecast period. Operating at optimal throughput, PIE will require nearly 25 thousand square yards of air cargo ramp space in 2025; the Airport currently has approximately 26 thousand square yards. Note that Current/Planned air cargo ramp space includes both dedicated air cargo ramp and multi-use ramp space.

## SOUTHWEST FLORIDA INTERNATIONAL AIRPORT (RSW)

**Exhibit 6.20** provides the 2005 through 2025 air cargo forecast for Southwest Florida International Airport. The air cargo volume forecasts for RSW account for the following Airport air cargo operations assumptions through the forecast period:

- RSW will continue to operate as the primary local market station for the Lee County/Collier County market area through the end of the planning period.
- All integrated express carriers will continue to serve RSW via direct trunk-line hub flights.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- RSW international traffic will be limited to European markets via passenger carrier activity (belly-space).

**Exhibit 6.20**  
**Southwest Florida International Airport Air Cargo Forecast 2005-2025**  
**Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
<b>Domestic Total:</b>		<b>19,967</b>	<b>24,410</b>	<b>29,841</b>	<b>36,482</b>	<b>44,599</b>
Enplaned	4.1%	7,932	9,697	11,855	14,493	17,717
Deplaned	4.1%	12,035	14,713	17,987	21,989	26,882
<b>US-Europe Total:</b>		<b>1,181</b>	<b>1,543</b>	<b>2,017</b>	<b>2,636</b>	<b>3,447</b>
Enplaned	5.2%	603	777	1,001	1,290	1,662
Deplaned	5.8%	578	766	1,016	1,347	1,785
<b>Boeing Forecast Total:</b>		<b>21,148</b>	<b>25,953</b>	<b>31,858</b>	<b>39,118</b>	<b>48,046</b>
<b>FAA Forecast</b>						
Domestic	3.3%	19,967	23,486	27,626	32,495	38,223
International	6.3%	1,181	1,603	2,176	2,953	4,008
<b>FAA Forecast Total:</b>		<b>21,148</b>	<b>25,089</b>	<b>29,801</b>	<b>35,448</b>	<b>42,230</b>
<b>FAA Forecast Total:</b>		<b>21,148</b>	<b>25,089</b>	<b>29,801</b>	<b>35,448</b>	<b>42,230</b>
<b>Historic Growth Forecast</b>						
All Air Cargo	4.3%	21,148	26,103	32,219	39,768	49,086
<b>Historic Growth Forecast Total:</b>		<b>21,148</b>	<b>26,103</b>	<b>32,219</b>	<b>39,768</b>	<b>49,086</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of 49 thousand tons in 2025 (historic growth average) to a low of 42 thousand tons (FAA forecast factors). The forecast utilizing Boeing factors is deemed to be the preferred forecast for RSW. This forecast anticipates 48 thousand annual tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and historic rates) while accounting for the more rapid growth anticipated in U.S.-Europe trade.

**Exhibit 6.21** examines RSW air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.21  
Southwest Florida International Airport Air Cargo Building Analysis 2005-2025  
Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	19,967	24,410	29,841	36,482	44,599
International	1,181	1,543	2,017	2,636	3,447
<b>Building Analysis - Square Footage</b>					
Current/Planned	39,500	39,500	39,500	39,500	39,500
Projected Requirements	19,331	23,732	29,143	35,798	43,988
<b>Building Surplus/Deficit:</b>	<b>20,169</b>	<b>15,768</b>	<b>10,357</b>	<b>3,702</b>	<b>(4,488)</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that RSW facilities will reach capacity in 2023. However, the Airport has indicated that there is sufficient space for air cargo expansion on the Airport’s north-side where the old passenger terminal was located. The terminal building was demolished in 2005, but the ramp, access roads and vehicle parking remain. The area totals 280 acres with airside access and is zoned for aviation-related land uses.

**Exhibit 6.22** examines RSW air cargo ramp requirements based on preferred forecast volume at optimal throughput of two annual tons per square yard of ramp. Note that this analysis is for all-cargo/freighter tonnage only which accounts for 78 percent of RSW air cargo volume.

**Exhibit 6.22  
Southwest Florida International Airport Air Cargo Ramp Analysis 2005-2025  
Square Yard Requirements Based on Optimal Throughput**

	Percent All-Cargo Carrier	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - All-Cargo Carrier Annual Tons</b>						
All-Cargo	78%	16,495	20,243	24,849	30,512	37,476
<b>Ramp Analysis - Square Yards</b>						
Current/Planned*		69,000	69,000	69,000	69,000	69,000
Projected Requirements		8,248	10,122	12,425	15,256	18,738
<b>Ramp Surplus/Deficit:</b>		<b>60,752</b>	<b>58,878</b>	<b>56,575</b>	<b>53,744</b>	<b>50,262</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

\*Includes multi-use ramp space

The facility analysis based upon forecasted all-cargo/freighter volume indicates that RSW will have sufficient air cargo ramp space to accommodate forecasted demand. Operating at optimal throughput, RSW will require approximately 50 thousand square yards of air cargo ramp space;

the Airport currently has 69 thousand square yards. Note that Current/Planned air cargo ramp space includes both dedicated air cargo ramp and multi-use ramp space.

### **PALM BEACH INTERNATIONAL AIRPORT (PBI)**

**Exhibit 6.23** provides the 2005 through 2025 air cargo forecast for Palm Beach International Airport. The air cargo volume forecasts for PBI account for the following Airport air cargo operations assumptions through the forecast period:

- PBI will continue to operate as the primary UPS local market station for the Palm Beach-Ft. Lauderdale market area through the end of the planning period.
- UPS will continue to serve RSW via direct trunk-line hub flights.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- PBI will see limited international traffic due to a lack of international passenger carrier activity.
- PBI facility function will be limited to local market station operations through the end of the planning period.

**Exhibit 6.23  
Palm Beach International Airport Air Cargo Forecast 2005-2025  
Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	<b>Annual Growth</b>	<b>2005 (Actual)</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
<b>Boeing Forecast</b>						
Domestic						
Enplaned	4.1%	7,135	8,723	10,664	13,036	15,937
Deplaned	4.1%	12,180	14,890	18,203	22,254	27,206
<b>Boeing Forecast Total:</b>		<b>19,315</b>	<b>23,613</b>	<b>28,867</b>	<b>35,290</b>	<b>43,143</b>
<b>FAA Forecast</b>						
Domestic	3.3%	19,315	22,719	26,724	31,434	36,974
<b>FAA Forecast Total:</b>		<b>19,315</b>	<b>22,719</b>	<b>26,724</b>	<b>31,434</b>	<b>36,974</b>
<b>Historic Growth Forecast</b>						
Domestic	4.3%	19,315	23,841	29,426	36,321	44,831
<b>Historic Growth Forecast Total:</b>		<b>19,315</b>	<b>23,841</b>	<b>29,426</b>	<b>36,321</b>	<b>44,831</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of nearly 45 thousand tons in 2025 (historic growth average) to a low of just under 37 thousand tons (FAA forecast factors). The forecast utilizing Boeing factors is deemed to be the preferred forecast for PBI. This forecast anticipates just over 43 thousand annual tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and historic rates).

**Exhibit 6.24** examines PBI air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.24  
Palm Beach International Airport Air Cargo Building Analysis 2005-2025  
Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	19,315	23,613	28,867	35,290	43,143
International	-	-	-	-	-
<b>Building Analysis - Square Footage</b>					
Current/Planned	69,350	69,350	69,350	69,350	69,350
Projected Requirements	17,557	21,464	26,240	32,079	39,217
<b>Building Surplus/Deficit:</b>	<b>51,793</b>	<b>47,886</b>	<b>43,110</b>	<b>37,271</b>	<b>30,133</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that PBI facilities are sufficient to meet projected demand through 2025. Operating at optimal facility throughput, PBI will require approximately 39 thousand square feet of air cargo building space; the Airport currently has over 69 thousand square feet.

**Exhibit 6.25** examines PBI air cargo ramp requirements based on preferred forecast volume at optimal throughput of two annual tons per square yard of ramp. Note that this analysis is for all-cargo/freighter tonnage only which accounts for 60 percent of PBI air cargo volume.

**Exhibit 6.25  
Palm Beach International Airport Air Cargo Ramp Analysis 2005-2025  
Square Yard Requirements Based on Optimal Throughput**

		2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>						
Total Air Cargo	<b>60.0%</b>	11,589	14,168	17,320	21,174	25,886
<b>Ramp Analysis - Square Yards</b>						
Current/Planned*		12,850	12,850	12,850	12,850	12,850
Projected Requirements		5,795	7,084	8,660	10,587	12,943
<b>Ramp Surplus/Deficit:</b>		<b>7,056</b>	<b>5,766</b>	<b>4,190</b>	<b>2,263</b>	<b>(93)</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

\*Includes multi-use ramp space

The facility analysis based upon forecasted all-cargo/freighter volume indicates that PBI will reach air cargo ramp capacity near the end of the forecast period. Operating at optimal throughput, PBI will require approximately 13 thousand square yards of air cargo ramp space in 2025; the Airport currently has just under 13 thousand square yards. Note that Current/Planned air cargo ramp space includes both dedicated air cargo ramp and multi-use ramp space.

### TALLAHASSEE REGIONAL AIRPORT (TLH)

Exhibit 6.26 provides the 2005 through 2025 air cargo forecast for Tallahassee Regional Airport. The air cargo volume forecasts for TLH account for the following Airport air cargo operations assumptions through the forecast period:

- TLH will continue to operate as the primary FedEx and DHL local market station for the Tallahassee market area through the end of the planning period.
- UPS will continue to serve the Tallahassee market area via truck from Albany, Georgia.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- TLH will see limited to no international traffic due to a lack of international passenger carrier activity.
- TLH facility function will be limited to local market station operations through the end of the planning period.

**Exhibit 6.26  
Tallahassee Regional Airport Air Cargo Forecast 2005-2025  
Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
Domestic						
Enplaned	4.1%	6,229	7,615	9,309	11,381	13,913
Deplaned	4.1%	6,752	8,254	10,091	12,337	15,082
<b>Boeing Forecast Total:</b>		<b>12,981</b>	<b>15,869</b>	<b>19,401</b>	<b>23,718</b>	<b>28,995</b>
<b>FAA Forecast</b>						
Domestic	3.3%	12,981	15,269	17,960	21,126	24,849
<b>FAA Forecast Total:</b>		<b>12,981</b>	<b>15,269</b>	<b>17,960</b>	<b>21,126</b>	<b>24,849</b>
<b>Historic Growth Forecast</b>						
Domestic	4.3%	12,981	16,022	19,777	24,410	30,130
<b>Historic Growth Forecast Total:</b>		<b>12,981</b>	<b>16,022</b>	<b>19,777</b>	<b>24,410</b>	<b>30,130</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of just over 30 thousand tons in 2025 (historic growth average) to a low of just under 25 thousand tons (FAA forecast factors). The forecast utilizing Boeing factors is deemed to be the preferred forecast for TLH. This forecast anticipates nearly 29

thousand annual tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and historic rates).

**Exhibit 6.27** examines TLH air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.27**  
**Tallahassee Regional Airport Air Cargo Building Analysis 2005-2025**  
**Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	12,981	15,869	19,401	23,718	28,995
International	-	-	-	-	-
<b>Building Analysis - Square Footage</b>					
Current/Planned	12,000	32,000	32,000	32,000	32,000
Projected Requirements	11,800	14,425	17,635	21,559	26,356
<b>Building Surplus/Deficit:</b>	<b>200</b>	<b>17,575</b>	<b>14,365</b>	<b>10,441</b>	<b>5,644</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that current TLH facilities are sufficient to meet future demand. A 20,000 square foot FedEx sort facility coupled with a 3,500 square yard ramp is currently under construction. This new construction, as illustrated in Exhibit 6.27, will adequately facilitate projected demand through the forecast period.

**Exhibit 6.28** examines TLH air cargo ramp requirements based on preferred forecast volume at optimal throughput of two annual tons per square yard of ramp. Note that this analysis is for all-cargo/freighter tonnage only which accounts for 82 percent of TLH air cargo volume.

**Exhibit 6.28**  
**Tallahassee Regional Airport Air Cargo Ramp Analysis 2005-2025**  
**Square Yard Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025	
<b>Preferred Forecast - Annual Tons</b>						
Total Air Cargo	<b>82.0%</b>	10,644	13,013	15,909	19,448	23,776
<b>Ramp Analysis - Square Yards</b>						
Current/Planned*	128,000	128,000	128,000	128,000	128,000	
Projected Requirements	5,322	6,506	7,954	9,724	11,888	
<b>Ramp Surplus/Deficit:</b>	<b>122,678</b>	<b>121,494</b>	<b>120,046</b>	<b>118,276</b>	<b>116,112</b>	

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

\*Includes multi-use ramp space

The facility analysis based upon forecasted all-cargo/freighter volume indicates that TLH will have sufficient air cargo ramp space to accommodate forecasted demand. Operating at optimal

throughput, TLH will require approximately 12 thousand square yards of air cargo ramp space; the Airport currently has 128 thousand square yards. Note that Current/Planned air cargo ramp space includes both dedicated air cargo ramp and multi-use ramp space.

### ORLANDO-SANFORD INTERNATIONAL AIRPORT (SFB)

**Exhibit 6.29** provides the 2005 through 2025 air cargo forecast for Orlando-Sanford International Airport. The air cargo volume forecasts for SFB account for the following Airport air cargo operations assumptions through the forecast period:

- SFB will continue to operate as an international gateway for European air cargo arriving via charter passenger aircraft.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- SFB will see limited domestic traffic due to a lack of scheduled commercial passenger and integrated express carrier activity.
- SFB facility function will be limited to international gateway operations through the end of the planning period.

**Exhibit 6.29**  
**Orlando-Sanford International Airport Air Cargo Forecast 2005-2025**  
**Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
<b>US-Europe Total:</b>		<b>7,833</b>	<b>10,277</b>	<b>13,485</b>	<b>17,698</b>	<b>23,232</b>
Enplaned	5.2%	2,886	3,719	4,791	6,174	7,954
Deplaned	5.8%	4,947	6,558	8,694	11,525	15,278
<b>Boeing Forecast Total:</b>		<b>7,833</b>	<b>10,277</b>	<b>13,485</b>	<b>17,698</b>	<b>23,232</b>
<b>FAA Forecast</b>						
Domestic	3.3%	-	-	-	-	-
International	6.3%	7,833	10,631	14,430	19,585	26,582
<b>FAA Forecast Total:</b>		<b>7,833</b>	<b>10,631</b>	<b>14,430</b>	<b>19,585</b>	<b>26,582</b>
<b>Historic Growth Forecast</b>						
All Air Cargo	4.3%	7,833	9,668	11,934	14,730	18,181
<b>Historic Growth Forecast Total:</b>		<b>7,833</b>	<b>9,668</b>	<b>11,934</b>	<b>14,730</b>	<b>18,181</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of nearly 27 thousand tons in 2025 (FAA forecast factors) to a low of just over 18 thousand tons (historic growth average). The forecast utilizing Boeing factors is deemed to be the preferred forecast for TLH. This forecast anticipates 23.2 thousand annual tons in 2025. The detailed world region market analysis in the Boeing forecast allows for particular emphasis to be placed on Europe – SFB’s sole air cargo market.

**Exhibit 6.30** examines SFB air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.30**  
**Orlando-Sanford International Airport Air Cargo Building Analysis 2005-2025**  
**Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	-	-	-	-	-
International	7,833	10,277	13,485	17,698	23,232
<b>Building Analysis - Square Footage</b>					
Current/Planned	45,000	45,000	45,000	45,000	45,000
Projected Requirements	7,833	10,277	13,485	17,698	23,232
<b>Building Surplus/Deficit:</b>	<b>37,167</b>	<b>34,723</b>	<b>31,515</b>	<b>27,302</b>	<b>21,768</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that SFB will have sufficient air cargo building space to accommodate forecasted demand. Operating at optimal facility throughput, SFB will require approximately 22 thousand square feet of air cargo building space; the Airport currently has 45 thousand square feet.

Orlando-Sanford International Airport currently has a 34,600 square yard air cargo ramp. SFB is not likely to require dedicated air cargo ramp expansion through the forecast period. All forecasted air cargo activity anticipated to occur at the Airport will be transported via charter passenger carriers utilizing the passenger terminal ramp. Orlando International Airport is anticipated to retain all integrated express and scheduled all-cargo activity for the Orlando market area throughout the forecast period.

**PENSACOLA REGIONAL AIRPORT (PNS)**

**Exhibit 6.31** provides the 2005 through 2025 air cargo forecast for Pensacola Regional Airport. The air cargo volume forecasts for SFB account for the following Airport air cargo operations assumptions through the forecast period:

- PNS will continue as the primary DHL local market station for the Pensacola market area through the end of the planning period.
- UPS and FedEx will continue to serve the Pensacola market area via truck from Mobile, Alabama.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- PNS will see limited to no international traffic due to a lack of international passenger carrier activity.
- PNS facility function will be limited to local market station operations through the end of the planning period.

**Exhibit 6.31  
Pensacola Regional Airport Air Cargo Forecast 2005-2025  
Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	<b>Annual Growth</b>	<b>2005 (Actual)</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
<b>Boeing Forecast</b>						
Domestic						
Enplaned	4.1%	1,275	1,559	1,906	2,330	2,848
Deplaned	4.1%	2,392	2,924	3,575	4,370	5,343
<b>Boeing Forecast Total:</b>		<b>3,667</b>	<b>4,483</b>	<b>5,480</b>	<b>6,700</b>	<b>8,191</b>
<b>FAA Forecast</b>						
Domestic	3.3%	3,667	4,313	5,074	5,968	7,020
<b>FAA Forecast Total:</b>		<b>3,667</b>	<b>4,313</b>	<b>5,074</b>	<b>5,968</b>	<b>7,020</b>
<b>Historic Growth Forecast</b>						
Domestic	4.3%	3,667	4,526	5,587	6,896	8,511
<b>Historic Growth Forecast Total:</b>		<b>3,667</b>	<b>4,526</b>	<b>5,587</b>	<b>6,896</b>	<b>8,511</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of just over 8,500 tons in 2025 (historic growth average) to a low of 7,020 tons (FAA forecast factors). The forecast utilizing Boeing factors is deemed to be the preferred forecast for PNS. This forecast anticipates 8,191 annual tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and Historic rates).

**Exhibit 6.32** examines PNS air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.32  
Pensacola Regional Airport Air Cargo Building Analysis 2005-2025  
Square Footage Requirements Based on Optimal Throughput**

	<b>2005 (Actual)</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
<b>Preferred Forecast - Annual Tons</b>					
Domestic	3,667	4,483	5,480	6,700	8,191
International	-	-	-	-	-
<b>Building Analysis - Square Footage</b>					
Current/Planned	14,500	14,500	14,500	14,500	14,500
Projected Requirements	3,334	4,076	4,983	6,091	7,446
<b>Building Surplus/Deficit:</b>	<b>11,166</b>	<b>10,424</b>	<b>9,517</b>	<b>8,409</b>	<b>7,054</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that PNS will have sufficient air cargo building space to accommodate forecasted demand. Operating at optimal facility throughput, PNS will require approximately 7,000 square feet of air cargo building space; the Airport currently has 14,500 square feet.

**Exhibit 6.33** examines PNS air cargo ramp requirements based on preferred forecast volume at optimal throughput of two annual tons per square yard of ramp. Note that this analysis is for all-cargo/freighter tonnage only which accounts for 83 percent of PNS air cargo volume.

**Exhibit 6.33**  
**Pensacola Regional Airport Air Cargo Ramp Analysis 2005-2025**  
**Square Yard Requirements Based on Optimal Throughput**

		2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>						
Total Air Cargo	<b>98.0%</b>	3,594	4,393	5,371	6,566	8,027
<b>Ramp Analysis - Square Yards</b>						
Current/Planned*		2,166	2,166	2,166	2,166	2,166
Projected Requirements		1,797	2,197	2,685	3,283	4,013
<b>Ramp Surplus/Deficit:</b>		<b>369</b>	<b>(31)</b>	<b>(519)</b>	<b>(1,117)</b>	<b>(1,847)</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

\*Includes multi-use ramp space

The facility analysis based upon forecasted all-cargo/freighter volume indicates that PNS will reach air cargo ramp capacity in 2010. Operating at optimal throughput, PNS will require approximately 2,200 square yards of air cargo ramp space in 2010 and over 4,000 square yards at the end of the forecast period; the Airport currently has approximately 2,200 square yards. Note that Current/Planned air cargo ramp space includes both dedicated air cargo ramp and multi-use ramp space. PNS will need to add approximately two thousand square yards of ramp in order to meet projected 2025 demand at optimal throughput rates. Airport management has noted that the Airport Master Plan has called for additional air cargo facilities and ramp; however exact scale and timing of the planned facilities have not yet been determined.

### **PANAMA CITY-BAY COUNTY INTERNATIONAL AIRPORT (PFN)**

**Exhibit 6.34** provides the 2005 through 2025 air cargo forecast for Panama City-Bay County International Airport. The air cargo volume forecasts for PFN account for the following Airport air cargo operations assumptions through the forecast period:

- PFN will continue as the primary UPS and DHL local market station for the Panama City market area through the end of the planning period.
- FedEx will continue to serve the Panama City market area by truck.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- PFN will see limited to no international traffic due to a lack of international passenger carrier activity.
- PFN facility function will be limited to local market station operations through the end of the planning period.

**Exhibit 6.34  
Panama City-Bay County International Airport Air Cargo Forecast 2005-2025  
Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
Domestic						
Enplaned	4.1%	351	429	525	641	784
Deplaned	4.1%	479	586	716	875	1,070
<b>Boeing Forecast Total:</b>		<b>830</b>	<b>1,015</b>	<b>1,240</b>	<b>1,516</b>	<b>1,854</b>
<b>FAA Forecast</b>						
Domestic	3.3%	830	976	1,148	1,351	1,589
<b>FAA Forecast Total:</b>		<b>830</b>	<b>976</b>	<b>1,148</b>	<b>1,351</b>	<b>1,589</b>
<b>Historic Growth Forecast</b>						
Domestic	4.3%	830	1,024	1,265	1,561	1,926
<b>Historic Growth Forecast Total:</b>		<b>830</b>	<b>1,024</b>	<b>1,265</b>	<b>1,561</b>	<b>1,926</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of 1,926 tons in 2025 (historic growth average) to a low of 1,589 tons (FAA forecast factors). The forecast utilizing Boeing factors is deemed to be the preferred forecast for PFN. This forecast anticipates 1,854 annual tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and Historic rates).

**Exhibit 6.35** examines PFN air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.35  
Panama City-Bay County International Airport Air Cargo Building Analysis 2005-2025  
Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	830	1,015	1,240	1,516	1,854
International	-	-	-	-	-
<b>Building Analysis - Square Footage</b>					
Current/Planned	-	4,000	4,000	4,000	4,000
Projected Requirements	754	922	1,128	1,378	1,685
<b>Building Surplus/Deficit:</b>	<b>(754)</b>	<b>3,078</b>	<b>2,872</b>	<b>2,622</b>	<b>2,315</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that current PFN facilities (2005) are not sufficient to meet existing demand. However, Panama City is breaking ground on a new airport in early 2007. Once complete (scheduled opening in mid-2009), the new Panama City-Bay County Airport will have a 4,000 square foot air cargo building and an adjacent 2,230 square yard air cargo ramp. New construction will provide PFN with sufficient capacity through the end of the forecast period.

**Exhibit 6.36** examines PFN air cargo ramp requirements based on preferred forecast volume at optimal throughput of 1 annual tons per square yard of ramp. Note that this analysis is for all-cargo/freighter tonnage only which accounts for 96 percent of PFN air cargo volume.

**Exhibit 6.36  
Panama City-Bay County Airport Air Cargo Ramp Analysis 2005-2025  
Square Yard Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025	
<b>Preferred Forecast - Annual Tons</b>						
Total Air Cargo	96.0%	797	974	1,191	1,456	1,780
<b>Ramp Analysis - Square Yards</b>						
Current/Planned	79,900	2,230	2,230	2,230	2,230	
Projected Requirements	797	974	1,191	1,456	1,780	
<b>Ramp Surplus/Deficit:</b>	<b>79,103</b>	<b>1,256</b>	<b>1,039</b>	<b>774</b>	<b>450</b>	

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted all-cargo/freighter volume indicates that PFN will have sufficient air cargo ramp space to accommodate forecasted demand. Operating at optimal throughput, PFN will require approximately 1,780 square yards of air cargo ramp space; the new Airport will have a 2,230 square yard dedicated air cargo ramp. Note that Current/Planned air cargo ramp space for 2005 is multi-use ramp space only, PFN does not have a dedicated air cargo ramp. The 2,230 square yard air cargo ramp figure beginning in 2010 does not include additional multi-use ramp space that will be available at the new airport.

## **KEY WEST INTERNATIONAL AIRPORT (EYW)**

**Exhibit 6.37** provides the 2005 through 2025 air cargo forecast for Key West International Airport. The air cargo volume forecasts for EYW account for the following Airport air cargo operations assumptions through the forecast period:

- EYW will continue as the primary FedEx local market station for the Key West market area through the end of the planning period.
- UPS and DHL will continue to serve the Key West market area by truck.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- EYW international traffic will be limited to Caribbean markets via passenger carrier activity (belly-space).

**Exhibit 6.37**  
**Key West International Airport Air Cargo Forecast 2005-2025**  
**Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
<b>Domestic Total:</b>		<b>561</b>	<b>686</b>	<b>838</b>	<b>1,025</b>	<b>1,253</b>
Enplaned	4.1%	233	285	348	426	520
Deplaned	4.1%	328	401	490	599	733
<b>US-Latin America/Caribbean Total:</b>		<b>95</b>	<b>125</b>	<b>164</b>	<b>215</b>	<b>282</b>
Enplaned	5.5%	80	105	137	179	233
Deplaned	6.1%	15	20	27	36	49
<b>Boeing Forecast Total:</b>		<b>656</b>	<b>811</b>	<b>1,002</b>	<b>1,240</b>	<b>1,536</b>
<b>FAA Forecast</b>						
Domestic	3.3%	561	660	776	913	1,074
International	6.3%	95	129	175	238	322
<b>FAA Forecast Total:</b>		<b>656</b>	<b>789</b>	<b>951</b>	<b>1,151</b>	<b>1,396</b>
<b>Historic Growth Forecast</b>						
All Air Cargo	4.3%	656	810	999	1,234	1,523
<b>Historic Growth Forecast Total:</b>		<b>656</b>	<b>810</b>	<b>999</b>	<b>1,234</b>	<b>1,523</b>

Source: Bureau of Transportation Statistics T-100 Data, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of 1,536 tons in 2025 (Boeing forecast factors) to a low of 1,396 tons (FAA forecast factors). The forecast utilizing Boeing factors is deemed to be the preferred forecast for EYW. This forecast anticipates 1,536 tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and historic rates) and accounts for the Airport's relatively significant Caribbean air cargo activity.

**Exhibit 6.38** examines EYW air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.38**  
**Key West International Airport Air Cargo Building Analysis 2005-2025**  
**Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	561	686	838	1,025	1,253
International	95	125	164	215	282
<b>Building Analysis - Square Footage</b>					
Current/Planned	4,000	4,000	4,000	4,000	4,000
Projected Requirements	605	748	926	1,147	1,421
<b>Building Surplus/Deficit:</b>	<b>3,395</b>	<b>3,252</b>	<b>3,074</b>	<b>2,853</b>	<b>2,579</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that EYW facilities are sufficient to meet current and future demand. Operating at optimal facility throughput, EYW will require approximately 1,400 square feet of air cargo building space; the Airport currently has 4,000 square feet.

**Exhibit 6.39** examines EYW air cargo ramp requirements based on preferred forecast volume at optimal throughput of two annual tons per square yard of ramp. Note that this analysis is for all-cargo/freighter tonnage only which accounts for 85 percent of EYW air cargo volume.

**Exhibit 6.39**  
**Key West International Airport Air Cargo Ramp Analysis 2005-2025**  
**Square Yard Requirements Based on Optimal Throughput**

	Percent All-Cargo Carrier	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - All-Cargo Carrier Annual Tons</b>						
All-Cargo	85%	558	689	852	1,054	1,305
<b>Ramp Analysis - Square Yards</b>						
Current/Planned*		5,000	5,000	5,000	5,000	5,000
Projected Requirements		279	344	426	527	653
<b>Ramp Surplus/Deficit:</b>		<b>4,721</b>	<b>4,656</b>	<b>4,574</b>	<b>4,473</b>	<b>4,347</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

\*Includes multi-use ramp space

The facility analysis based upon forecasted all-cargo/freighter volume indicates that EYW will have sufficient air cargo ramp space to accommodate forecasted demand. Operating at optimal throughput, EYW will require less than one thousand square yards of air cargo ramp space; the Airport currently has five thousand square yards. Note that Current/Planned air cargo ramp space includes both dedicated air cargo ramp and multi-use ramp space.

## MELBOURNE INTERNATIONAL AIRPORT (MLB)

Exhibit 6.40 provides the 2005 through 2025 air cargo forecast for Melbourne International Airport. The air cargo volume forecasts for MLB account for the following Airport air cargo operations assumptions through the forecast period:

- Integrated express carriers FedEx, UPS and DHL will continue to serve the Melbourne market area by truck from Orlando through the end of the planning period.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- MLB international traffic will be limited to Caribbean markets via passenger carrier activity (belly-space).

**Exhibit 6.40  
Melbourne International Airport Air Cargo Forecast 2005-2025  
Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
<b>Domestic Total:</b>		<b>152</b>	<b>186</b>	<b>227</b>	<b>278</b>	<b>340</b>
Enplaned	4.1%	110	134	164	201	246
Deplaned	4.1%	42	51	63	77	94
<b>US-Latin America/Caribbean Total:</b>		<b>176</b>	<b>234</b>	<b>310</b>	<b>412</b>	<b>547</b>
Enplaned	5.5%	80	105	137	179	233
Deplaned	6.1%	96	129	174	233	314
<b>Boeing Forecast Total:</b>		<b>328</b>	<b>419</b>	<b>537</b>	<b>690</b>	<b>887</b>
<b>FAA Forecast</b>						
Domestic	3.3%	152	179	210	247	291
International	6.3%	176	239	324	440	597
<b>FAA Forecast Total:</b>		<b>328</b>	<b>418</b>	<b>535</b>	<b>687</b>	<b>888</b>
<b>Historic Growth Forecast</b>						
All Air Cargo	4.3%	328	405	500	617	761
<b>Historic Growth Forecast Total:</b>		<b>328</b>	<b>405</b>	<b>500</b>	<b>617</b>	<b>761</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of 888 tons in 2025 (FAA forecast factors) to a low of 761 tons (historic growth average). The forecast utilizing Boeing factors is deemed to be the preferred forecast for MLB. This forecast anticipates 887 tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and historic rates) and accounts for the Airport’s relatively significant Caribbean air cargo activity.

**Exhibit 6.41** examines MLB air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.41  
Melbourne International Airport Air Cargo Building Analysis 2005-2025  
Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	152	186	227	278	340
International	176	234	310	412	547
<b>Building Analysis - Square Footage</b>					
Current/Planned	120,000	120,000	120,000	120,000	120,000
Projected Requirements	314	403	517	664	856
<b>Building Surplus/Deficit:</b>	<b>119,686</b>	<b>119,597</b>	<b>119,483</b>	<b>119,336</b>	<b>119,144</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that MLB facilities are sufficient to meet current and future demand. Operating at optimal facility throughput, MLB will require approximately 1,000 square feet of air cargo building space; the Airport currently has 120,000 square feet. The Airport reports that approximately 40,000 square feet of surplus air cargo building capacity is being leased to an aircraft manufacturing company (Liberty Aircraft).

Melbourne International Airport currently has a 44,500 square yard air cargo ramp adjacent to one of the Airport’s air cargo buildings with access to the Airport’s second air cargo building provided to the passenger terminal ramp by a dedicated airside access road. MLB is not likely to require dedicated air cargo ramp expansion through the forecast period. All forecasted air cargo activity anticipated to occur at the Airport will be transported via commercial passenger carriers utilizing the passenger terminal ramp or air taxi operations utilizing the Airport’s FBO facilities.

## **GAINESVILLE REGIONAL AIRPORT (GNV)**

**Exhibit 6.42** provides the 2005 through 2025 air cargo forecast for Gainesville Regional Airport. The air cargo volume forecasts for GNV account for the following Airport air cargo operations assumptions through the forecast period:

- GNV will continue as the primary FedEx local market station for the Gainesville market area through the end of the planning period.
- UPS and DHL will continue to truck cargo to the Gainesville market area.
- Ratio of belly-freight to all-cargo carrier volume will remain constant.
- GNV will see limited to no international traffic due to a lack of international passenger carrier activity.
- GNV facility function will be limited to local market station operations through the end of the planning period.

**Exhibit 6.42  
Gainesville Regional Airport Air Cargo Forecast 2005-2025  
Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	<b>Annual Growth</b>	<b>2005 (Actual)</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
<b>Boeing Forecast</b>						
Domestic						
Enplaned	4.1%	61	75	91	111	136
Deplaned	4.1%	211	258	315	386	471
<b>Boeing Forecast Total:</b>		<b>272</b>	<b>333</b>	<b>407</b>	<b>497</b>	<b>608</b>
<b>FAA Forecast</b>						
Domestic	3.3%	272	320	376	443	521
<b>FAA Forecast Total:</b>		<b>272</b>	<b>320</b>	<b>376</b>	<b>443</b>	<b>521</b>
<b>Historic Growth Forecast</b>						
Domestic	4.3%	272	336	414	511	631
<b>Historic Growth Forecast Total:</b>		<b>272</b>	<b>336</b>	<b>414</b>	<b>511</b>	<b>631</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of 631 tons in 2025 (historic growth average) to a low of 521 tons (FAA forecast factors). The forecast utilizing Boeing factors is deemed to be the preferred forecast for GNV. This forecast anticipates 608 annual tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and historic rates).

**Exhibit 6.43** examines GNV air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.43  
Gainesville Regional Airport Air Cargo Building Analysis 2005-2025  
Square Footage Requirements Based on Optimal Throughput**

	<b>2005 (Actual)</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
<b>Preferred Forecast - Annual Tons</b>					
Domestic	272	333	407	497	608
International	-	-	-	-	-
<b>Building Analysis - Square Footage</b>					
Current/Planned	-	-	-	-	-
Projected Requirements	247	302	370	452	552
<b>Building Surplus/Deficit:</b>	<b>(247)</b>	<b>(302)</b>	<b>(370)</b>	<b>(452)</b>	<b>(552)</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that GNV facilities are not sufficient to meet current and future demand. However, the Airport has indicated plans to construct a multi-tenant air cargo building on the south-side of the Airport to the east of the passenger terminal. It has been noted that commercial passenger carriers’ belly-freight volume is low enough to allow the respective carriers to handle the cargo from the passenger terminal building.

**Exhibit 6.44** examines GNV air cargo ramp requirements based on preferred forecast volume at optimal throughput of 1 annual tons per square yard of ramp. Note that this analysis is for all-cargo/freighter tonnage only which accounts for 80 percent of GNV air cargo volume.

**Exhibit 6.44  
Gainesville Regional Airport Air Cargo Ramp Analysis 2005-2025  
Square Yard Requirements Based on Optimal Throughput**

		2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>						
Total Air Cargo	<b>80.0%</b>	218	266	325	398	486
<b>Ramp Analysis - Square Yards</b>						
Current/Planned*		30,000	30,000	30,000	30,000	30,000
Projected Requirements		218	266	325	398	486
<b>Ramp Surplus/Deficit:</b>		<b>29,782</b>	<b>29,734</b>	<b>29,675</b>	<b>29,602</b>	<b>29,514</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

\*Includes multi-use ramp space

The facility analysis based upon forecasted all-cargo/freighter volume indicates that GNV will have sufficient air cargo ramp space to accommodate forecasted demand. Operating at optimal throughput, GNV will require approximately 500 square yards of air cargo ramp space; the Airport currently has 30,000 square yards. Note that Current/Planned air cargo ramp space includes both dedicated air cargo ramp and multi-use ramp space.

## **DAYTONA BEACH INTERNATIONAL AIRPORT (DAB)**

**Exhibit 6.45** provides the 2005 through 2025 air cargo forecast for Daytona Beach International Airport. The air cargo volume forecasts for DAB account for the following Airport air cargo operations assumptions through the forecast period:

- Integrated express carriers FedEx, UPS and DHL will continue to truck cargo to the Daytona Beach market area.
- Belly-freight will continue to constitute all of DAB air cargo volume.
- DAB will see limited to no international traffic due to a lack of international passenger carrier activity.
- DAB facility function will be limited to local market station operations through the end of the planning period.

**Exhibit 6.45**  
**Daytona Beach International Airport Air Cargo Forecast 2005-2025**  
**Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
Domestic						
Enplaned	4.1%	98	120	146	179	219
Deplaned	4.1%	94	115	140	172	210
<b>Boeing Forecast Total:</b>		<b>192</b>	<b>235</b>	<b>287</b>	<b>351</b>	<b>429</b>
<b>FAA Forecast</b>						
Domestic	3.3%	192	226	266	312	368
<b>FAA Forecast Total:</b>		<b>192</b>	<b>226</b>	<b>266</b>	<b>312</b>	<b>368</b>
<b>Historic Growth Forecast</b>						
Domestic	4.3%	192	237	293	361	446
<b>Historic Growth Forecast Total:</b>		<b>192</b>	<b>237</b>	<b>293</b>	<b>361</b>	<b>446</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of 446 tons in 2025 (historic growth average) to a low of 368 tons (FAA forecast factors). The forecast utilizing Boeing factors is deemed to be the preferred forecast for DAB. This forecast anticipates 429 annual tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and historic rates).

**Exhibit 6.46** examines DAB air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.46**  
**Daytona Beach International Airport Air Cargo Building Analysis 2005-2025**  
**Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	192	235	287	351	429
International	-	-	-	-	-
<b>Building Analysis - Square Footage</b>					
Current/Planned	5,300	5,300	5,300	5,300	5,300
Projected Requirements	175	213	261	319	390
<b>Building Surplus/Deficit:</b>	<b>5,125</b>	<b>5,087</b>	<b>5,039</b>	<b>4,981</b>	<b>4,910</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that DAB facilities are sufficient to meet current and future demand. Operating at optimal facility throughput, DAB will require approximately 400 square feet of air cargo building space; the Airport currently has 5,300 square feet.

Daytona Beach International Airport currently does not have a dedicated air cargo ramp; access to the Airport’s air cargo building from the passenger terminal ramp is provided by an airside access road. DAB is not likely to have dedicated air cargo ramp requirements through the forecast period. All forecasted air cargo activity anticipated to occur at the Airport will be transported via commercial passenger carriers utilizing the passenger terminal ramp.

### SARASOTA-BRADENTON INTERNATIONAL AIRPORT (SRQ)

Exhibit 6.47 provides the 2005 through 2025 air cargo forecast for Sarasota-Bradenton International Airport. The air cargo volume forecasts for SRQ account for the following Airport air cargo operations assumptions through the forecast period:

- Integrated express carriers FedEx, UPS and DHL will continue to truck cargo to the Sarasota-Bradenton market area.
- Belly-freight will continue to constitute all of SRQ air cargo volume.
- SRQ will see limited to no international traffic due to a lack of international passenger carrier activity.
- SRQ facility function will be limited to local market station operations through the end of the planning period.

**Exhibit 6.47  
Sarasota-Bradenton International Airport Air Cargo Forecast 2005-2025  
Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
Domestic						
Enplaned	4.1%	47	57	70	86	105
Deplaned	4.1%	109	133	163	199	243
<b>Boeing Forecast Total:</b>		<b>156</b>	<b>191</b>	<b>233</b>	<b>285</b>	<b>348</b>
<b>FAA Forecast</b>						
Domestic	3.3%	156	183	216	254	299
<b>FAA Forecast Total:</b>		<b>156</b>	<b>183</b>	<b>216</b>	<b>254</b>	<b>299</b>
<b>Historic Growth Forecast</b>						
Domestic	4.3%	156	193	238	293	362
<b>Historic Growth Forecast Total:</b>		<b>156</b>	<b>193</b>	<b>238</b>	<b>293</b>	<b>362</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of 362 tons in 2025 (historic growth average) to a low of 299 tons (FAA forecast factors). The forecast utilizing Boeing factors is deemed to be the preferred forecast for SRQ. This forecast anticipates 348 annual tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and historic rates).

**Exhibit 6.48** examines SRQ air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.48  
Sarasota-Bradenton International Airport Air Cargo Building Analysis 2005-2025  
Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	156	191	233	285	348
International	-	-	-	-	-
<b>Building Analysis - Square Footage</b>					
Current/Planned	19,200	19,200	19,200	19,200	19,200
Projected Requirements	142	173	212	259	317
<b>Building Surplus/Deficit:</b>	<b>19,058</b>	<b>19,027</b>	<b>18,988</b>	<b>18,941</b>	<b>18,883</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that SRQ facilities are sufficient to meet current and future demand. Operating at optimal facility throughput, SRQ will require approximately 320 square feet of air cargo building space; the Airport currently has 19,200 square feet.

Sarasota-Bradenton International Airport currently does not have a dedicated air cargo ramp; access to the Airport’s air cargo building from the passenger terminal ramp is provided by an airside access road. SRQ is not likely to have dedicated air cargo ramp requirements through the forecast period. All forecasted air cargo activity anticipated to occur at the Airport will be transported via commercial passenger carriers utilizing the passenger terminal ramp.

## **OKALOOSA COUNTY REGIONAL AIRPORT (VPS)**

**Exhibit 6.49** provides the 2005 through 2025 air cargo forecast for Okaloosa County Regional Airport. The air cargo volume forecasts for VPS account for the following Airport air cargo operations assumptions through the forecast period:

- Integrated express carriers FedEx, UPS and DHL will continue to truck cargo to the Okaloosa County-Valparaiso market area.
- Belly-freight will continue to constitute all VPS air cargo volume.
- VPS will see limited to no international traffic due to a lack of international passenger carrier activity.
- VPS facility function will be limited to local market station operations through the end of the planning period.

**Exhibit 6.49  
Okaloosa County Regional Airport Air Cargo Forecast 2005-2025  
Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

	<b>Annual Growth</b>	<b>2005 (Actual)</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
<b>Boeing Forecast</b>						
Domestic						
Enplaned	4.1%	13	16	19	24	29
Deplaned	4.1%	54	66	81	99	121
<b>Boeing Forecast Total:</b>		<b>67</b>	<b>82</b>	<b>100</b>	<b>122</b>	<b>150</b>
<b>FAA Forecast</b>						
Domestic	3.3%	67	79	93	109	128
<b>FAA Forecast Total:</b>		<b>67</b>	<b>79</b>	<b>93</b>	<b>109</b>	<b>128</b>
<b>Historic Growth Forecast</b>						
Domestic	4.3%	67	83	102	126	156
<b>Historic Growth Forecast Total:</b>		<b>67</b>	<b>83</b>	<b>102</b>	<b>126</b>	<b>156</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of 156 tons in 2025 (historic growth average) to a low of 128 tons (FAA forecast factors). The forecast utilizing Boeing factors is deemed to be the preferred forecast for VPS. This forecast anticipates 150 annual tons in 2025. The Boeing forecast provides a modest domestic growth rate (falling between the FAA and historic rates).

**Exhibit 6.50** examines VPS air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo).

**Exhibit 6.50  
Okaloosa Regional Airport Air Cargo Building Analysis 2005-2025  
Square Footage Requirements Based on Optimal Throughput**

	<b>2005 (Actual)</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
<b>Preferred Forecast - Annual Tons</b>					
Domestic	67	82	100	122	150
International	-	-	-	-	-
<b>Building Analysis - Square Footage</b>					
Current/Planned	-	15,000	15,000	15,000	15,000
Projected Requirements	61	74	91	111	136
<b>Building Surplus/Deficit:</b>	<b>(61)</b>	<b>14,926</b>	<b>14,909</b>	<b>14,889</b>	<b>14,864</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

The facility analysis based upon forecasted volume indicates that VPS facilities are not sufficient to meet current and future demand. A 15,000 square foot multi-tenant building that will house TSA offices as well as air cargo warehouse space is planned for construction in 2007. The new building will be immediately adjacent the terminal ramp allowing for both cargo and passenger activity to occur on the existing ramp. Once complete, the new facility will provide VPS with sufficient air cargo capacity to meet demand through the end of the forecast period.

Okaloosa County Regional Airport currently does not have a dedicated air cargo ramp, nor is it anticipated to have dedicated air cargo ramp requirements through the forecast period. All forecasted air cargo activity anticipated to occur at the Airport will be transported via commercial passenger carriers utilizing the passenger terminal ramp.

## **FLORIDA FORECAST AND CAPACITY SUMMARY**

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The following section examines Florida's SIS airport air cargo forecasts and capacity in total, providing a statewide picture of anticipated air cargo volume and facility needs. **Exhibit 6.51** provides the 2005 through 2025 air cargo forecast for the State. The statewide air cargo volume forecast is a summation of the individual airport forecasts presented in the previous sections.

**Exhibit 6.51**  
**Florida Statewide SIS Airport Air Cargo Forecast 2005-2025**  
**Boeing, FAA and Historical Growth Forecast Factors (Annual Tons)**

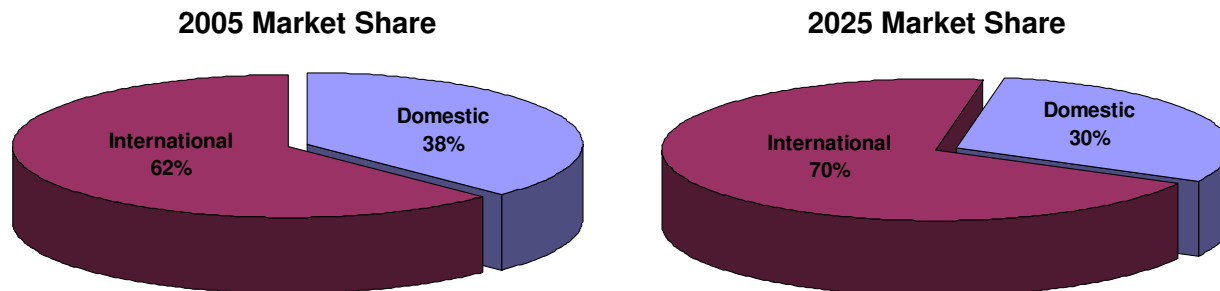
	Annual Growth	2005 (Actual)	2010	2015	2020	2025
<b>Boeing Forecast</b>						
<b>Domestic Total:</b>		<b>982,244</b>	<b>1,200,807</b>	<b>1,468,002</b>	<b>1,794,652</b>	<b>2,193,987</b>
Enplaned	4.1%	453,616	554,552	677,947	828,799	1,013,218
Deplaned	4.1%	528,628	646,255	790,055	965,853	1,180,768
<b>US-Latin America/Caribbean Total:</b>		<b>1,442,165</b>	<b>1,915,992</b>	<b>2,545,996</b>	<b>3,383,813</b>	<b>4,498,202</b>
Enplaned	5.5%	613,721	802,108	1,048,323	1,370,117	1,790,688
Deplaned	6.1%	828,444	1,113,884	1,497,673	2,013,696	2,707,515
<b>US-Europe Total:</b>		<b>96,295</b>	<b>125,994</b>	<b>164,886</b>	<b>215,826</b>	<b>282,560</b>
Enplaned	5.2%	44,650	57,531	74,127	95,512	123,065
Deplaned	5.8%	51,645	68,464	90,759	120,314	159,494
<b>US-NAFTA* Total:</b>		<b>38,380</b>	<b>53,328</b>	<b>74,099</b>	<b>102,960</b>	<b>143,063</b>
Enplaned	6.8%	19,136	26,590	36,946	51,336	71,331
Deplaned	6.8%	19,243	26,739	37,153	51,624	71,731
<b>US-Asia Pacific Total:</b>		<b>36,749</b>	<b>52,165</b>	<b>74,048</b>	<b>105,111</b>	<b>149,207</b>
Enplaned	7.2%	15,745	22,290	31,557	44,675	63,247
Deplaned	7.3%	21,004	29,874	42,491	60,436	85,960
<b>US-Mid-East/Africa Total:</b>		<b>15,022</b>	<b>18,900</b>	<b>23,779</b>	<b>29,918</b>	<b>37,641</b>
Enplaned	4.7%	8,652	10,886	13,696	17,232	21,680
Deplaned	4.7%	6,370	8,014	10,083	12,686	15,960
<b>Boeing Forecast Total:</b>		<b>2,610,854</b>	<b>3,367,186</b>	<b>4,350,810</b>	<b>5,632,280</b>	<b>7,304,659</b>
<b>FAA Forecast</b>						
Domestic	3.3%	982,244	1,155,369	1,359,008	1,598,541	1,880,292
International	6.3%	1,628,610	2,210,465	3,000,199	4,072,080	5,526,913
<b>FAA Forecast Total:</b>		<b>2,610,854</b>	<b>3,365,834</b>	<b>4,359,207</b>	<b>5,670,621</b>	<b>7,407,206</b>
<b>Historic Growth Forecast</b>						
All Air Cargo	4.3%	2,610,854	3,222,584	3,977,642	4,909,613	6,059,947
<b>Historic Growth Forecast Total:</b>		<b>2,610,854</b>	<b>3,222,584</b>	<b>3,977,642</b>	<b>4,909,613</b>	<b>6,059,947</b>

Source: Airport Surveys, Stat-USA 2005 Data, Boeing World Air Cargo Forecast 2004/2005, FAA Aerospace Forecasts, Fiscal Years 2005-2016; FL Airport reported cargo, 1990-2005

The forecasts range from a high of 7.4 million tons in 2025 (FAA forecast factors) to a low of nearly 6.1 million tons (historic growth average). As with the individual airport forecasts, the forecast utilizing Boeing forecast factors is deemed to be the preferred forecast for the State. This forecast anticipates 7.3 million annual tons of air cargo statewide in 2025. Due to Florida's significant amount of international air trade (62 percent of total tonnage), the detailed world region market analysis in the Boeing forecast provides the greatest insights into Florida's air cargo growth potential.

Due to the differing growth rates of domestic versus international air cargo (4.1 percent versus an average 6 percent respectively), international air cargo will comprise an even larger share of Florida’s future air cargo activity. As illustrated in **Exhibit 6.52**, international air cargo will grow from 62 percent market share in 2005 to 70 percent in 2025.

**Exhibit 6.52  
Florida Air Cargo Forecast 2005-2025  
International versus Domestic Tons Market Share**



Source: WSA Air Cargo Forecast 2005-2025

As a secondary result of the differing international versus domestic growth rates, assuming all airports are operating in an unconstrained capacity environment, Miami International Airport will increase market share at the expense of the State’s other airports. Nearly 83 percent of MIA’s 2005 air cargo tonnage was international, accounting for approximately 97 percent of the State’s international air cargo total. As illustrated in **Exhibit 6.53**, air cargo is forecasted to grow significantly among all Florida airports, however the robust growth driven by international air trade anticipated at MIA will result in the Airport increasing market share from 74.1 percent to 79 percent of Florida’s total air cargo tonnage by 2025.

**Exhibit 6.53  
Florida Air Cargo Forecast 2005-2025  
Airport Market Share Forecast**

	2005 Tons	2005 Market Share	2025 Tons	2025 Market Share	Market Share Gain/Loss
Miami International	1,934,545	74.1%	5,770,705	79.0%	4.9%
Orlando International	225,928	8.7%	514,856	7.0%	-1.6%
Ft. Lauderdale-Hollywood International	175,533	6.7%	392,913	5.4%	-1.3%
Tampa International	100,228	3.8%	228,962	3.1%	-0.7%
Jacksonville International	83,975	3.2%	187,571	2.6%	-0.6%
All Others	90,645	3.5%	209,652	2.9%	-0.6%
<b>Florida Total</b>	<b>2,610,854</b>	<b>100%</b>	<b>7,304,659</b>	<b>100%</b>	<b>0%</b>

Source: WSA Air Cargo Forecast 2005-2025

It is questionable, however, whether or not MIA has the capacity to meet this demand. As previously noted, forecast assumptions state that all airports are considered unconstrained throughout the forecast period. In relation to current and forecasted demand, MIA is the most capacity constrained Florida airport. As detailed in the Miami International Airport forecast section in this chapter, MIA is anticipated to reach airside air cargo building capacity in 2013

and air cargo ramp capacity in 2017. The extent to which Miami International can accommodate forecasted demand is dependant upon several factors, including the following:

- Expanding air cargo facilities (particularly ramp space) on existing Airport land.
- Acquiring additional land (limited possibility due to surrounding development).
- Relocating warehouse/processing facilities off-airport.
- Increasing utilization/efficiency of existing facilities.

Should MIA be unable to accommodate forecasted demand, there is the potential that freight would be diverted to alternate Florida airports. The individual airport forecasts and facility analyses presented in the previous sections of this chapter indicate that most Florida SIS airports have excess air cargo capacity (current and forecasted). The extent and scope of this diversion is unclear and dependant on several operations factors and market forces including the following:

- Air cargo infrastructure at alternate airports.
- International lift available to accommodate gateway traffic (particularly to Latin America).
- Proximity to domestic markets (i.e., Miami metro area).
- Integrated express carrier network development (possible relocation of southern gateways).
- Migration of freight forwarders and support service providers to alternate airports.

**Exhibit 6.54** examines statewide air cargo building requirements based on preferred forecast volume at optimal facility throughput (0.9 annual tons per square foot for international cargo and one annual ton per square foot for domestic cargo). The statewide air cargo building analysis is a summation of the individual airport forecasts presented in the previous sections.

**Exhibit 6.54**  
**Florida Statewide SIS Airport Air Cargo Building Analysis 2005-2025**  
**Square Footage Requirements Based on Optimal Throughput**

	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - Annual Tons</b>					
Domestic	982,244	1,200,807	1,468,002	1,794,652	2,193,987
International	1,628,610	2,166,380	2,882,808	3,837,628	5,110,672
<b>Building Analysis - Square Footage</b>					
Current/Planned	4,620,942	4,659,942	4,732,842	4,732,842	4,732,842
Projected Requirements	2,521,471	3,257,914	4,217,223	5,468,968	7,105,007
<b>Building Surplus/Deficit:</b>	<b>2,099,471</b>	<b>1,402,028</b>	<b>515,619</b>	<b>(736,126)</b>	<b>(2,372,165)</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data

On a statewide level, Florida is anticipated to reach air cargo building capacity in 2018. It is important to note that this deficit in air cargo building space is driven almost in entirety by Miami International Airport’s projected capacity shortfall. MIA is projected to encounter a 2.9 million square foot cargo building deficit by 2025. In addition to MIA, the following three SIS airports are also expected to experience air cargo building capacity deficits by the end of the forecast period:

- Ft. Lauderdale-Hollywood International will require and additional 132,400 square feet.
- St. Petersburg-Clearwater International will require and additional 45,100 square feet.
- Southwest Florida International will require and additional 4,500 square feet.

Unlike landlocked MIA however, these three airports currently have airside land set aside or available for additional air cargo facilities when demand reaches the limits of current capacity.

The remaining SIS airports in total are all projected to have excess air cargo building capacity totaling 717,400 square feet at the end of the forecast period. The excess capacity at these airports is still not sufficient to meet statewide forecasted demand, as illustrated in Exhibit 6.54. Assuming that MIA reaches air cargo building capacity in 2013 as the forecast predicts, and select MIA air cargo operations begin to devolve to alternate Florida airports (also making the assumption, however unlikely, that there will be minimal leakage to out-of-state airports), there will still be a requirement to construct additional air cargo buildings at alternate airports within the State. The State’s excess air cargo building capacity is sufficient to handle MIA overflow through 2018 only in the highly unlikely event that MIA overflow is evenly and efficiently distributed throughout the State’s excess capacity airports. It is more than likely that overflow operations will concentrate on a few Florida airports’ tailored for specific carrier operations and markets.

Statewide, Florida currently has, and is projected to maintain, sufficient air cargo ramp space to meet demand through the end of the forecast period. **Exhibit 6.55** examines Florida air cargo ramp requirements based on the statewide preferred forecast volume at optimal throughput of 1 annual tons per square yard of ramp. Note that this analysis is for all-cargo/freighter tonnage only which accounts for 64 percent of Florida’s air cargo volume. The statewide air cargo ramp analysis is a summation of the individual airport forecasts presented in the previous sections.

**Exhibit 6.55  
Florida Statewide SIS Airport Air Cargo Ramp Analysis 2005-2025  
Square Yard Requirements Based on Optimal Throughput**

	Percent All-Cargo Carrier	2005 (Actual)	2010	2015	2020	2025
<b>Preferred Forecast - All-Cargo Carrier Annual Tons</b>						
All-Cargo	64%	1,662,801	2,136,355	2,750,132	3,547,139	4,583,983
<b>Ramp Analysis - Square Yards</b>						
Current/Planned*		1,773,468	1,695,798	1,835,898	1,835,898	1,835,898
Projected Requirements		546,703	694,673	884,430	1,128,276	1,442,279
<b>Ramp Surplus/Deficit:</b>		<b>1,226,765</b>	<b>1,001,125</b>	<b>951,468</b>	<b>707,622</b>	<b>393,619</b>

Source: WSA Air Cargo Forecast 2005-2025, Airport Reported Data  
\*Includes multi-use ramp space

Though on a statewide level ramp capacity is sufficient (current and forecasted), three individual airport are anticipated to experience ramp capacity issues. Miami International Airport is expected to reach ramp capacity in 2017 and require an additional 340 thousand square yards of ramp by 2025. In addition to MIA, the following airports are also expected to experience air cargo ramp capacity deficits by the end of the forecast period:

- Ft. Lauderdale-Hollywood International will require and additional 42,500 square yards.
- Pensacola Regional will require and additional 2,000 square yards.

These two airports currently have airside land set aside or available for additional air cargo facilities when demand reaches the limits of current capacity.

The excess air cargo ramp capacity at the remaining Florida SIS airports is sufficient to meet statewide forecasted demand in total through 2025. The issue again, as with air cargo building utilization, is the efficient transfer of MIA overflow to alternate airports in order to utilize the State's excess capacity. The extent to which transfer of MIA overflow air cargo to alternate Florida airports can be accomplished (without significant leakage to out-of-state Airports) remains to be seen. Florida SIS airports in total have the ability to handle existing and forecasted air cargo volume either through existing or planned infrastructure. Yet the intense concentration of the State's air cargo activity at Miami International Airport will prove to be the single biggest obstacle to the efficient and full utilization of Florida's air cargo assets. Devolving MIA's activity to alternate Florida airports will prove to be a difficult task. Air cargo is service and market driven, and despite adequate infrastructure at alternate airports, it is the service levels (i.e., abundant international widebody lift, concentration of freight forwarders, customs brokers, integrated express and all-cargo carriers) to select markets (i.e., Latin America) available only at Miami International that will inhibit transfer of activity to other airports. It will be market forces and a shift in service levels provided by carriers and freight forwarders that will ultimately cause a shift in MIA air cargo. Once this service shift begins, Florida's SIS airports are well positioned in terms of both capacity and infrastructure to capitalize.