

6 Aviation Activity Forecasts

6.1 Introduction

The development of aviation activity forecasts or projections for Florida's system of airports is a necessary step in assessing the need for and phasing of future airport development. The activity projections presented in this Chapter are used in part to determine the role of airports within the Florida system, evaluate the ability of the existing system to accommodate projected aviation demand, and plan future facilities for the system. Furthermore, understanding projected activity assists airports, Florida Department of Transportation (FDOT) Districts, and the FDOT Aviation and Spaceports Office (ASO) in identifying potential opportunities for the development of facilities at the local, regional, and statewide levels.

In order to determine future needs, forecasts of based aircraft and general aviation (GA) operations were conducted. These two indicators are important in the evaluation of activities and capacity needs at many of Florida's airports, primarily for the GA airports. It should be noted that commercial operations were excluded from this evaluation, as drivers of commercial activity at airports can vary significantly, often due to factors that are beyond an airport's control, such as airline consolidation, route restructuring, and fleet modification. Commercial operations are forecast as part of the Federal Aviation Administration's (FAA's) Terminal Area Forecast (TAF) and by airports during other planning and financial analyses.

The forecasts prepared in this Chapter use calendar year 2014 as the base year, as it was the most recent year in which a full year of data was available at the start of Phase 1 of the Florida Aviation System Plan (FASP) 2035. Future forecasts of activity were prepared for years 2020, 2025, and 2035 for all FASP system airports for both based aircraft and GA operations. These forecasts, while not as comprehensive as those developed as part of the airport master planning process, describe anticipated demand based on numerous factors, including historical activity, local population trends occurring in the county in which an airport is located, state and FAA forecasts of activity, regional drivers of activity, and others. These forecasts are not meant to replace master planning forecasts but are used in the FASP 2035 to evaluate the system-level demand and its impact on system needs. When the situation dictates, the forecasts included in the FASP can be used by an airport as documentation of previous forecasts as part of its master plan.

Multiple methodologies were used to forecast future GA aircraft operations and based aircraft at Florida's airports. Methodologies were tailored to each airport category for both GA operations and based aircraft. Some of the preferred methodologies selected for each airport category are the same, although multiple methodologies were examined for all categories of airports.

Operational forecasts were evaluated to identify airports that have significant operations by aircraft that exceed their existing Airport Reference Code (ARC). The estimation of aircraft operations that exceed an airport's ARC helps identify airports that may be experiencing activity

more demanding than what the airport is currently designed to accommodate on a regular basis. Though an airport might be experiencing operations by aircraft above its ARC, that does not mean that those operations or the airport itself is unsafe. Rather, it indicates the need for additional evaluation during the individual airport's master planning process to identify changes to the airfield to address the new fleet mix of aircraft operating at the airport.

Additionally, a demand/capacity (D/C) analysis was conducted to identify individual airports that may need to enhance airfield capacity currently or in the future and to identify any specific geographical areas in the state that may currently experience issues with airport capacity, or that are anticipated to in the future.

Finally, an analysis of the *2016 Florida Air Cargo Study* and *2016 Florida Air Service Study* was undertaken to highlight commercial air service and air cargo activities that are expected to influence activity forecasts in Florida.

6.2 Airport Categories

Due to the large number of airports in the FASP, and the wide-ranging levels of activity at these airports, it was identified early in the planning process that development of airport categories for forecasting efforts would be an important component to achieve accurate activity projections to the extent possible. The primary factors that influenced the categorization of airports included classification as a commercial service or GA facility, presence of an airport traffic control tower (ATCT), and level of aviation activity (high, medium, or low).

It should be noted that several additional airport categories for both based aircraft and GA operations were examined, including those based on an airport's role as defined in the *2017 – 2021 National Plan of Integrated Airport Systems (NPIAS) Report*. While these roles and classifications are important to acknowledge, in general, the selected airport categories presented in the following two sections are primarily influenced by volume of activity and ability to accurately report activity.

Based Aircraft Categories:

- Primary Commercial Service Airport
- GA Airport (High Activity): 200+ Based Aircraft
- GA Airport (Medium Activity): 50 to 199 Based Aircraft
- GA Airport (Low Activity): Fewer than 50 Based Aircraft

GA Aircraft Operations Categories:

- Primary Commercial Service Airport
- GA Airport with ATCT
- GA Airport (High Activity): 50,000+ Annual Operations
- GA Airport (Medium Activity): 20,000 to 50,000 Annual Operations
- GA Airport (Low Activity): Fewer than 20,000 Annual Operations

It should be noted that base year 2014 data for based aircraft and aircraft operations were obtained from the FAA's 2016 TAF, issued January 2017. Commercial operations were identified as operations categorized by the FAA as either air carrier or air taxi/commuter. Air carrier operations are typically scheduled commercial flights that require an operating certificate from the FAA and are conducted on aircraft with 31 or more seats. Air taxi/commuter operations can be either scheduled commercial flights with an operating certificate from the FAA on an aircraft with 30 or fewer seats, or they can be privately chartered flights on aircraft with no more than 60 seats.

Based on these parameters, airports that are classified as GA facilities can still accommodate commercial operations if they fall into the air taxi/commuter category. Air taxi/commuter operations for both commercial and GA airports are not included in forecasts of GA activity but are included in total operations forecasts as they pertain to the D/C analysis presented in **Section 6.8**. For purposes of the forecasts, all other aircraft operations, including military, are defined as GA operations.

A listing of individual airports by category for based aircraft is shown in **Table 6-1** through **Table 6-4**. A listing of individual airports by category for GA aircraft operations are shown in **Table 6-5** through **Table 6-9**. Airports are listed in alphabetical order.

Table 6-1: Based Aircraft: Commercial Airports

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	Hub Size	ATCT Y/N	2014 Based Aircraft
Based Aircraft: Commercial Airports: 20 Airports							
Daytona Beach	Daytona Beach International Airport	DAB	5	Commercial Service	Non-Hub	Y	269
Fort Lauderdale	Fort Lauderdale-Hollywood International Airport	FLL	4	Commercial Service	Large Hub	Y	94
Fort Myers	Southwest Florida International Airport	RSW	1	Commercial Service	Medium Hub	Y	4
Gainesville	Gainesville Regional Airport	GNV	2	Commercial Service	Non-Hub	Y	146
Jacksonville	Jacksonville International Airport	JAX	2	Commercial Service	Medium Hub	Y	60
Key West	Key West International Airport	EYW	6	Commercial Service	Small Hub	Y	66
Melbourne	Melbourne International Airport	MLB	5	Commercial Service	Non-Hub	Y	235
Miami	Miami International Airport	MIA	6	Commercial Service	Large Hub	Y	28
Orlando	Orlando-Sanford International Airport	SFB	5	Commercial Service	Small Hub	Y	344
Orlando	Orlando International Airport	MCO	5	Commercial Service	Large Hub	Y	34
Panama City	Northwest Florida-Beaches International Airport	ECP	3	Commercial Service	Small Hub	Y	110
Pensacola	Pensacola International Airport	PNS	3	Commercial Service	Small Hub	Y	88
Punta Gorda	Punta Gorda Airport	PGD	1	Commercial Service	Non-Hub	Y	316
Sarasota	Sarasota Bradenton International Airport	SRQ	1	Commercial Service	Small Hub	Y	226
St. Augustine	Northeast Florida Regional Airport	SGJ	2	Commercial Service	Non-Hub	Y	202
St. Petersburg/Clearwater	St. Pete-Clearwater International Airport	PIE	7	Commercial Service	Small Hub	Y	310
Tallahassee	Tallahassee International Airport	TLH	3	Commercial Service	Non-Hub	Y	98
Tampa	Tampa International Airport	TPA	7	Commercial Service	Large Hub	Y	65
Valparaiso	Destin-Fort Walton Beach Airport	VPS	3	Commercial Service	Non-Hub	Y	0
West Palm Beach	Palm Beach International Airport	PBI	4	Commercial Service	Medium Hub	Y	148

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn. Prepared April 2017.

Table 6-2: Based Aircraft: High Activity GA Airports

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	ATCT Y/N	2014 Based Aircraft
Based Aircraft: High Activity GA Airports (200+ Based Aircraft): 13 Airports								
Fort Lauderdale	Fort Lauderdale Executive Airport	FXE	4	GA	National	Reliever	Y	817
Fort Myers	Page Field	FMY	1	GA	Regional	Reliever	Y	252
Fort Pierce	Treasure Coast International Airport	FPR	4	GA	National	GA	Y	216
Hollywood	North Perry Airport	HWO	4	GA	Regional	Reliever	Y	258
Jacksonville	Jacksonville Executive At Craig Airport	CRG	2	GA	National	Reliever	Y	226
Lakeland	Lakeland Linder Regional Airport	LAL	1	GA	National	Reliever	Y	201
Miami	Miami Executive Airport	TMB	6	GA	National	Reliever	Y	445
Miami	Miami-Opa Locka Executive Airport	OPF	6	GA	National	Reliever	Y	287
Naples	Naples Municipal Airport	APF	1	GA	National	GA	Y	365
Venice	Venice Municipal Airport	VNC	1	GA	Regional	Reliever	N	255
Vero Beach	Vero Beach Regional Airport	VRB	4	GA	Regional	GA	Y	209
West Palm Beach	North Palm Beach County General Aviation Airport	F45	4	GA	Regional	Reliever	N	336
West Palm Beach	Palm Beach County Park Airport	LNA	4	GA	Regional	Reliever	N	294

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn. Prepared April 2017.

Table 6-3: Based Aircraft: Medium Activity GA Airports

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	ATCT Y/N	2014 Based Aircraft
Based Aircraft: Medium Activity GA Airports (50-199 Based Aircraft): 44 Airports								
Apopka	Orlando Apopka Airport	X04	5	GA	N/A	N/A	N	127
Bartow	Bartow Municipal Airport	BOW	1	GA	Local	GA	Y	101
Boca Raton	Boca Raton Airport	BCT	4	GA	National	Reliever	Y	182
Brooksville	Brooksville-Tampa Bay Regional Airport	BKV	7	GA	Regional	GA	Y	148
Clearwater	Clearwater Air Park	CLW	7	GA	Local	Reliever	N	85
DeLand	DeLand Municipal-Sidney H. Taylor Field	DED	5	GA	Regional	Reliever	N	197
Dunnellon	Marion County Airport	X35	5	GA	Local	GA	N	104

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	ATCT Y/N	2014 Based Aircraft
Eustis	Mid Florida Air Service Airport	X55	5	GA	N/A	N/A	N	63
Fernandina Beach	Fernandina Beach Municipal Airport	FHB	2	GA	Regional	GA	N	65
Homestead	Miami Homestead General Aviation Airport	X51	6	GA	Local	GA	N	68
Immokalee	Immokalee Regional Airport	IMM	1	GA	Regional	GA	N	60
Indiantown	Indiantown Airport	X58	4	GA	N/A	N/A	N	65
Jacksonville	Herlong Recreational Airport	HEG	2	GA	Regional	Reliever	N	187
Jacksonville	Cecil Airport	VQQ	2	GA	Regional	GA	Y	93
Keystone Heights	Keystone Airpark	42J	2	GA	Local	GA	N	53
Lakeland	South Lakeland Airport	X49	1	GA	N/A	N/A	N	70
Leesburg	Leesburg International Airport	LEE	5	GA	Regional	GA	Y	149
Marathon	The Florida Keys Marathon Airport	MTH	6	GA	Local	GA	N	74
Merritt Island	Merritt Island Airport	COI	5	GA	Regional	GA	N	156
Milton	Peter Prince Field	2R4	3	GA	Local	GA	N	96
New Smyrna Beach	Massey Ranch Airpark	X50	5	GA	N/A	N/A	N	98
New Smyrna Beach	New Smyrna Beach Municipal Airport	EVB	5	GA	Regional	Reliever	Y	90
Ocala	Ocala International-Jim Taylor Field	OCF	5	GA	Regional	GA	Y	116
Orlando	Executive Airport	ORL	5	GA	National	Reliever	Y	197
Orlando	Kissimmee Gateway Airport	ISM	5	GA	Regional	Reliever	Y	147
Ormond Beach	Ormond Beach Municipal Airport	OMN	5	GA	Regional	Reliever	Y	97
Palatka	Palatka Municipal-Lt. Kay Larkin Field	28J	2	GA	Local	GA	N	52
Palm Coast	Flagler County Airport	FIN	5	GA	Regional	GA	Y	75
Palmetto	Airport Manatee	48X	1	GA	N/A	N/A	N	55
Plant City	Plant City Airport	PCM	7	GA	Local	GA	N	89
Pompano Beach	Pompano Beach Airpark	PMP	4	GA	Regional	GA	Y	74
Quincy	Quincy Municipal Airport	2J9	3	GA	Local	GA	N	60
Sebring	Sebring Regional Airport	SEF	1	GA	Regional	GA	N	71
St. Petersburg	Albert Whitted Airport	SPG	7	GA	Regional	Reliever	Y	141
Stuart	Witham Field	SUA	4	GA	National	GA	Y	198

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	ATCT Y/N	2014 Based Aircraft
Tampa	Tampa Executive Airport	VDF	7	GA	Regional	Reliever	N	138
Tampa	Peter O. Knight Airport	TPF	7	GA	Regional	Reliever	N	106
Titusville	Space Coast Regional Airport	TIX	5	GA	Regional	GA	Y	133
Titusville	Arthur Dunn Air Park	X21	5	GA	Local	GA	N	73
Valkaria	Valkaria Airport	X59	5	GA	Local	GA	N	62
Williston	Williston Municipal Airport	X60	2	GA	Local	GA	N	51
Winter Haven	Winter Haven's Gilbert Airport	GIF	1	GA	Regional	GA	N	145
Zellwood	Bob White Field	X61	5	GA	N/A	N/A	N	76
Zephyrhills	Zephyrhills Municipal Airport	ZPH	7	GA	Regional	GA	N	175

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn. Prepared April 2017.

Table 6-4: Based Aircraft: Low Activity GA Airports

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	ATCT Y/N	2014 Based Aircraft
Based Aircraft: Low Activity GA Airports (Fewer than 50 Based Aircraft): 51 Airports								
Apalachicola	Apalachicola Regional-Cleve Randolph Field	AAF	3	GA	Local	GA	N	24
Apalachicola	St. George Island Airport	F47	3	GA	N/A	N/A	N	0
Arcadia	Arcadia Municipal Airport	X06	1	GA	Basic	GA	N	3
Archer	Flying Ten Airport	OJ8	2	GA	N/A	N/A	N	11
Avon Park	Avon Park Executive Airport	AVO	1	GA	Local	GA	N	37
Belle Glade	Belle Glade State Municipal Airport	X10	4	GA	Basic	GA	N	11
Blountstown	Calhoun County Airport	F95	3	GA	Basic	GA	N	12
Bonifay	Tri-County Airport	1J0	3	GA	Local	GA	N	24
Brooksville	Pilot Country Airport	X05	7	GA	Regional	GA	N	27
Carrabelle	Carrabelle-Thompson Airport	X13	3	GA	N/A	N/A	N	10
Cedar Key	George T. Lewis Airport	CDK	2	GA	Basic	GA	N	4
Clewiston	Airglades Airport	2IS	1	GA	Local	GA	N	23
Crestview	Bob Sikes Airport	CEW	3	GA	Regional	GA	N	43

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	ATCT Y/N	2014 Based Aircraft
Cross City	Cross City Airport	CTY	2	GA	Basic	GA	N	12
Crystal River	Crystal River Airport-Captain Tom Davis Field	CGC	7	GA	Regional	GA	N	40
DeFuniak Springs	DeFuniak Springs Airport	54J	3	GA	Local	GA	N	29
DeLand	Bob Lee Flight Strip	1J6	5	GA	N/A	N/A	N	16
Destin	Destin Executive Airport	DTS	3	GA	Regional	GA	N	23
Englewood	Buchan Airport	X36	1	GA	N/A	N/A	N	8
Everglades	Everglades Airpark	X01	1	GA	Unclassified	GA	N	7
Fort Lauderdale	Downtown Fort Lauderdale Heliport	DT1	4	GA	N/A	N/A	N	0
High Springs	Oak Tree Landing Airport	6J8	2	GA	N/A	N/A	N	0
Hilliard	Hilliard Airpark	01J	2	GA	Local	GA	N	30
Inverness	Inverness Airport	INF	7	GA	Local	GA	N	28
La Belle	La Belle Municipal Airport	X14	1	GA	Local	GA	N	49
Lake City	Lake City Gateway Airport	LCQ	2	GA	Regional	GA	Y	32
Lake Wales	Lake Wales Municipal Airport	X07	1	GA	Local	GA	N	32
Lake Wales	Chalet Suzanne Air Strip	X25	1	GA	N/A	N/A	N	6
Live Oak	Suwannee County Airport	24J	2	GA	Local	GA	N	37
Marco Island	Marco Island Airport	MKY	1	GA	Local	GA	N	22
Marianna	Marianna Municipal Airport	MAI	3	GA	Local	GA	N	27
Miami	Dade-Collier Training and Transition Airport	TNT	6	GA	Basic	GA	N	0
Miami	Miami Seaplane Base	X44	6	GA	Basic	GA	N	0
Navarre	Ft. Walton Beach Airport	1J9	3	GA	N/A	N/A	N	8
Okeechobee	Okeechobee County Airport	OBE	1	GA	Local	GA	N	33
Pahokee	Palm Beach County Glades Airport	PHK	4	GA	Local	GA	N	31
Panacea	Wakulla County Airport	2J0	3	GA	N/A	N/A	N	19
Pensacola	Ferguson Airport	82J	3	GA	N/A	N/A	N	33
Perry	Perry-Foley Airport	40J	2	GA	Local	GA	N	16
Pierson	Pierson Municipal Airport	2J8	5	GA	N/A	N/A	N	21
Port St. Joe	Costin Airport	A51	3	GA	N/A	N/A	N	5

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	ATCT Y/N	2014 Based Aircraft
Punta Gorda	Shell Creek Airpark	F13	1	GA	N/A	N/A	N	11
River Ranch	River Ranch Resort Airport	2RR	1	GA	N/A	N/A	N	0
Sebastian	Sebastian Municipal Airport	X26	4	GA	Local	GA	N	40
Tallahassee/Havana*	Tallahassee Commercial Airport	68J	3	GA	N/A	N/A	N	0
Tampa	Tampa North Aero Park	X39	7	GA	N/A	N/A	N	38
Tavares	Tavares Seaplane Base	FA1	5	GA	N/A	N/A	N	4
Umatilla	Umatilla Municipal Airport	X23	5	GA	Basic	GA	N	12
Vero Beach	New Hibiscus Airpark	X52	4	GA	N/A	N/A	N	13
Wauchula	Wauchula Municipal Airport	CHN	1	GA	Local	GA	N	45
Winter Haven	Jack Brown's Seaplane Base	F57	1	GA	N/A	N/A	N	6

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn. Prepared April 2017.

*Airport closed indefinitely

Table 6-5: Aircraft Operations: Commercial Airports

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	Hub Size	Tower Y/N	2014 Commercial Operations	2014 GA Operations	2014 Total Operations
Operations: Commercial ATCT: 20 Airports									
Daytona Beach	Daytona Beach International Airport	DAB	5	Commercial Service	Non-Hub	Y	10,365	279,171	289,536
Fort Lauderdale	Fort Lauderdale-Hollywood International Airport	FLL	4	Commercial Service	Large Hub	Y	218,797	35,886	254,683
Fort Myers	Southwest Florida International Airport	RSW	1	Commercial Service	Medium Hub	Y	68,888	8,768	77,656
Gainesville	Gainesville Regional Airport	GNV	2	Commercial Service	Non-Hub	Y	11,967	47,527	59,494
Jacksonville	Jacksonville International Airport	JAX	2	Commercial Service	Medium Hub	Y	69,704	18,218	87,922
Key West	Key West International Airport	EYW	6	Commercial Service	Small Hub	Y	23,725	30,100	53,825
Melbourne	Melbourne International Airport	MLB	5	Commercial Service	Non-Hub	Y	6,846	125,470	132,316
Miami	Miami International Airport	MIA	6	Commercial Service	Large Hub	Y	381,609	19,213	400,822
Orlando	Orlando International Airport	MCO	5	Commercial Service	Large Hub	Y	279,487	15,916	295,403
Orlando	Orlando-Sanford International Airport	SFB	5	Commercial Service	Small Hub	Y	35,331	170,915	206,246
Panama City	Northwest Florida-Beaches International Airport	ECP	3	Commercial Service	Small Hub	Y	14,239	42,969	57,208
Pensacola	Pensacola International Airport	PNS	3	Commercial Service	Small Hub	Y	25,997	79,696	105,693

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	Hub Size	Tower Y/N	2014 Commercial Operations	2014 GA Operations	2014 Total Operations
Punta Gorda	Punta Gorda Airport	PGD	1	Commercial Service	Non-Hub	Y	4,075	49,997	54,072
Sarasota	Sarasota/Bradenton International Airport	SRQ	1	Commercial Service	Small Hub	Y	16,362	84,527	100,889
St. Augustine	Northeast Florida Regional Airport	SGJ	2	Commercial Service	Non-Hub	Y	6,264	129,815	136,079
St. Petersburg/Clearwater	St. Pete-Clearwater International Airport	PIE	7	Commercial Service	Small Hub	Y	11,200	117,212	128,412
Tallahassee	Tallahassee International Airport	TLH	3	Commercial Service	Non-Hub	Y	16,084	40,304	56,388
Tampa	Tampa International Airport	TPA	7	Commercial Service	Large Hub	Y	162,059	21,872	183,931
Valparaiso	Destin-Fort Walton Beach Airport	VPS	3	Commercial Service	Non-Hub	Y	12,856	39,285	52,141
West Palm Beach	Palm Beach International Airport	PBI	4	Commercial Service	Medium Hub	Y	77,863	60,122	137,985

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn. Prepared April 2017.

Table 6-6: Aircraft Operations: GA Airports (with ATCT)

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	Tower Y/N	2014 Commercial Operations	2014 GA Operations	2014 Total Operations
Operations: GA ATCT: 26 Airports										
Bartow	Bartow Municipal Airport	BOW	1	GA	Local	GA	Y	0	27,759	27,759
Boca Raton	Boca Raton Airport	BCT	4	GA	National	Reliever	Y	7,504	49,077	56,581
Brooksville	Brooksville - Tampa Bay Regional Airport	BKV	7	GA	Regional	GA	Y	1,823	45,573	47,396
Fort Lauderdale	Fort Lauderdale Executive Airport	FXE	4	GA	National	Reliever	Y	14,969	153,104	168,073
Fort Myers	Page Field	FMY	1	GA	Regional	Reliever	Y	1,999	87,743	89,742
Fort Pierce	Treasure Coast International Airport	FPR	4	GA	National	GA	Y	1,816	152,589	154,405
Hollywood	North Perry Airport	HWO	4	GA	Regional	Reliever	Y	256	154,552	154,808
Jacksonville	Jacksonville Executive At Craig Airport	CRG	2	GA	National	Reliever	Y	1,066	100,073	101,139
Jacksonville	Cecil Airport	VQQ	2	GA	Regional	GA	Y	1,132	91,167	92,299
Lake City	Lake City Gateway Airport	LCQ	2	GA	Regional	GA	Y	1,300	27,414	28,714
Lakeland	Lakeland Linder Regional Airport	LAL	1	GA	National	Reliever	Y	986	96,741	97,727
Leesburg	Leesburg International Airport	LEE	5	GA	Regional	GA	Y	583	51,561	52,144
Miami	Miami Executive Airport	TMB	6	GA	National	Reliever	Y	2,079	252,274	254,353
Miami	Miami-Opa Locka Executive Airport	OPF	6	GA	National	Reliever	Y	7,861	123,975	131,836
Naples	Naples Municipal Airport	APF	1	GA	National	GA	Y	10,452	82,843	93,295

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	Tower Y/N	2014 Commercial Operations	2014 GA Operations	2014 Total Operations
New Smyrna Beach	New Smyrna Beach Municipal Airport	EVB	5	GA	Regional	Reliever	Y	2,296	155,979	158,275
Ocala	Ocala International-Jim Taylor Field	OCF	5	GA	Regional	GA	Y	1,123	48,193	49,316
Orlando	Executive Airport	ORL	5	GA	National	Reliever	Y	5,601	104,177	109,778
Orlando	Kissimmee Gateway Airport	ISM	5	GA	Regional	Reliever	Y	2,989	82,719	85,708
Ormond Beach	Ormond Beach Municipal Airport	OMN	5	GA	Regional	Reliever	Y	3	109,444	109,447
Palm Coast	Flagler County Airport	FIN	5	GA	Regional	GA	Y	262	148,264	148,526
Pompano Beach	Pompano Beach Airpark	PMP	4	GA	Regional	GA	Y	841	132,964	133,805
St. Petersburg	Albert Whitted Airport	SPG	7	GA	Regional	Reliever	Y	4,382	93,535	97,917
Stuart	Witham Field	SUA	4	GA	National	GA	Y	4,990	74,784	79,774
Titusville	Space Coast Regional Airport	TIX	5	GA	Regional	GA	Y	252	97,186	97,438
Vero Beach	Vero Beach Regional Airport	VRB	4	GA	Regional	GA	Y	3,424	207,776	211,200

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn. Prepared April 2017.

Table 6-7: Aircraft Operations: High Activity GA Airports

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	Tower Y/N	2014 Commercial Operations	2014 GA Operations	2014 Total Operations
Operations: High Activity GA (50,000+ Operations): 17 Airports										
Clearwater	Clearwater Air Park	CLW	7	GA	Local	Reliever	N	30	50,560	50,590
DeLand	DeLand Municipal - Sidney H. Taylor Field	DED	5	GA	Regional	Reliever	N	400	117,060	117,460
Destin	Destin Executive Airport	DTS	3	GA	Regional	GA	N	600	62,400	63,000
Homestead	Miami Homestead General Aviation Airport	X51	6	GA	Local	GA	N	2,100	74,517	76,617
Jacksonville	Herlong Recreational Airport	HEG	2	GA	Regional	Reliever	N	0	80,700	80,700
Marathon	The Florida Keys Marathon Airport	MTH	6	GA	Local	GA	N	4,360	63,593	67,953
Merritt Island	Merritt Island Airport	COI	5	GA	Regional	GA	N	1,500	112,000	113,500
Milton	Peter Prince Field	2R4	3	GA	Local	GA	N	0	93,950	93,950
Okeechobee	Okeechobee County Airport	OBE	1	GA	Local	GA	N	0	50,000	50,000
Pensacola	Ferguson Airport	82J	3	GA	N/A	N/A	N	0	67,500	67,500
Sebring	Sebring Regional Airport	SEF	1	GA	Regional	GA	N	0	103,087	103,087
Tampa	Tampa Executive Airport	VDF	7	GA	Regional	Reliever	N	520	94,070	94,590

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	Tower Y/N	2014 Commercial Operations	2014 GA Operations	2014 Total Operations
Tampa	Peter O. Knight Airport	TPF	7	GA	Regional	Reliever	N	3,800	50,000	53,800
Venice	Venice Municipal Airport	VNC	1	GA	Regional	Reliever	N	0	60,834	60,834
West Palm Beach	Palm Beach County Park Airport	LNA	4	GA	Regional	Reliever	N	2,000	124,750	126,750
West Palm Beach	North Palm Beach County General Aviation Airport	F45	4	GA	Regional	Reliever	N	7,300	90,100	97,400
Winter Haven	Winter Haven's Gilbert Airport	GIF	1	GA	Regional	GA	N	0	60,000	60,000

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn. Prepared April 2017.

Table 6-8: Aircraft Operations: Medium Activity GA Airports

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	Tower Y/N	2014 Commercial Operations	2014 GA Operations	2014 Total Operations
Operations: GA Medium Activity (20,000-50,000 Operations): 25 Airports										
Apalachicola	Apalachicola Regional - Cleve Randolph Field	AAF	3	GA	Local	GA	N	1,228	23,147	24,375
Apopka	Orlando Apopka Airport	X04	5	GA	N/A	N/A	N	0	21,900	21,900
Archer	Flying Ten Airport	0J8	2	GA	N/A	N/A	N	0	30,000	30,000
Avon Park	Avon Park Executive Airport	AVO	1	GA	Local	GA	N	0	32,400	32,400
Bonifay	Tri-County Airport	1J0	3	GA	Local	GA	N	104	28,272	28,376
Crestview	Bob Sikes Airport	CEW	3	GA	Regional	GA	N	200	48,400	48,600
Crystal River	Crystal River Airport - Captain Tom Davis Field	CGC	7	GA	Regional	GA	N	416	27,896	28,312
Dunnellon	Marion County Airport	X35	5	GA	Local	GA	N	38,603	0	38,603
Eustis	Mid Florida Air Service Airport	X55	5	GA	N/A	N/A	N	1,000	20,024	21,024
Fernandina Beach	Fernandina Beach Municipal Airport	FHB	2	GA	Regional	GA	N	1,600	45,400	47,000
Immokalee	Immokalee Regional Airport	IMM	1	GA	Regional	GA	N	0	36,500	36,500
Keystone Heights	Keystone Airpark	42J	2	GA	Local	GA	N	500	31,900	32,400
La Belle	La Belle Municipal Airport	X14	1	GA	Local	GA	N	120	21,880	22,000
Lake Wales	Lake Wales Municipal Airport	X07	1	GA	Local	GA	N	800	19,200	20,000
Marco Island	Marco Island Airport	MKY	1	GA	Local	GA	N	3,000	17,000	20,000
Marianna	Marianna Municipal Airport	MAI	3	GA	Local	GA	N	0	28,016	28,016
Pahokee	Palm Beach County Glades Airport	PHK	4	GA	Local	GA	N	250	36,500	36,750
Palatka	Palatka Municipal-Lt. Kay Larkin Field	28J	2	GA	Local	GA	N	280	36,906	37,186

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	Tower Y/N	2014 Commercial Operations	2014 GA Operations	2014 Total Operations
Plant City	Plant City Airport	PCM	7	GA	Local	GA	N	200	47,775	47,975
Sebastian	Sebastian Municipal Airport	X26	4	GA	Local	GA	N	1,000	36,240	37,240
Titusville	Arthur Dunn Air Park	X21	5	GA	Local	GA	N	0	40,450	40,450
Valkaria	Valkaria Airport	X59	5	GA	Local	GA	N	0	33,100	33,100
Vero Beach	New Hibiscus Airpark	X52	4	GA	N/A	N/A	N	0	22,000	22,000
Zellwood	Bob White Field	X61	5	GA	N/A	N/A	N	0	20,000	20,000
Zephyrhills	Zephyrhills Municipal Airport	ZPH	7	GA	Regional	GA	N	150	49,275	49,425

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn. Prepared April 2017.

Table 6-9: Aircraft Operations: Low Activity GA Airports

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	Tower Y/N	2014 Commercial Operations	2014 GA Operations	2014 Total Operations
Operations: GA Low Activity (Fewer than 20,000 Operations): 40 Airports										
Apalachicola	St. George Island Airport	F47	3	GA	N/A	N/A	N	0	500	500
Arcadia	Arcadia Municipal Airport	X06	1	GA	Basic	GA	N	30	19,340	19,370
Belle Glade	Belle Glade State Municipal Airport	X10	4	GA	Basic	GA	N	1,800	0	1,800
Blountstown	Calhoun County Airport	F95	3	GA	Basic	GA	N	1,020	0	1,020
Brooksville	Pilot Country Airport	X05	7	GA	Regional	GA	N	0	10,176	10,176
Carrabelle	Carrabelle - Thompson Airport	X13	3	GA	N/A	N/A	N	0	4,261	4,261
Cedar Key	George T. Lewis Airport	CDK	2	GA	Basic	GA	N	0	4,000	4,000
Clewiston	Airglades Airport	2IS	1	GA	Local	GA	N	0	11,527	11,527
Cross City	Cross City Airport	CTY	2	GA	Basic	GA	N	0	18,000	18,000
DeFuniak Springs	DeFuniak Springs Airport	54J	3	GA	Local	GA	N	200	16,000	16,200
DeLand	Bob Lee Flight Strip	1J6	5	GA	N/A	N/A	N	0	6,000	6,000
Englewood	Buchan Airport	X36	1	GA	N/A	N/A	N	0	2,701	2,701
Everglades	Everglades Airpark	X01	1	GA	Unclassified	GA	N	200	6,000	6,200
Fort Lauderdale	Downtown Fort Lauderdale Heliport	DT1	4	GA	N/A	N/A	N	0	0	0
High Springs	Oak Tree Landing Airport	6J8	2	GA	N/A	N/A	N	0	200	200
Hilliard	Hilliard Airpark	01J	2	GA	Local	GA	N	0	5,000	5,000

Associated City	Airport Name	FAA ID	FDOT District	Airport Classification	NPIAS Role	ASSET Classification	Tower Y/N	2014 Commercial Operations	2014 GA Operations	2014 Total Operations
Indiantown	Indiantown Airport	X58	4	GA	N/A	N/A	N	0	5,000	5,000
Inverness	Inverness Airport	INF	7	GA	Local	GA	N	0	15,000	15,000
Lake Wales	Chalet Suzanne Air Strip	X25	1	GA	N/A	N/A	N	60	2,412	2,472
Lakeland	South Lakeland Airport	X49	1	GA	N/A	N/A	N	0	12,000	12,000
Live Oak	Suwannee County Airport	24J	2	GA	Local	GA	N	0	16,300	16,300
Miami	Dade-Collier Training and Transition Airport	TNT	6	GA	Basic	GA	N	0	14,468	14,468
Miami	Miami Seaplane Base	X44	6	GA	Basic	GA	N	1,950	0	1,950
Navarre	Ft. Walton Beach Airport	1J9	3	GA	N/A	N/A	N	0	8,030	8,030
New Smyrna Beach	Massey Ranch Airpark	X50	5	GA	N/A	N/A	N	0	9,750	9,750
Palmetto	Airport Manatee	48X	1	GA	N/A	N/A	N	0	7,100	7,100
Panacea	Wakulla County Airport	2J0	3	GA	N/A	N/A	N	0	2,380	2,380
Perry	Perry-Foley Airport	40J	2	GA	Local	GA	N	200	18,200	18,400
Pierson	Pierson Municipal Airport	2J8	5	GA	N/A	N/A	N	0	14,040	14,040
Port St. Joe	Costin Airport	A51	3	GA	N/A	N/A	N	0	12,500	12,500
Punta Gorda	Shell Creek Airpark	F13	1	GA	N/A	N/A	N	0	2,190	2,190
Quincy	Quincy Municipal Airport	2J9	3	GA	Local	GA	N	0	6,240	6,240
River Ranch	River Ranch Resort Airport	2RR	1	GA	N/A	N/A	N	0	0	0
Tallahassee/Havana*	Tallahassee Commercial Airport	68J	3	GA	N/A	N/A	N	0	0	0
Tampa	Tampa North Aero Park	X39	7	GA	N/A	N/A	N	0	11,000	11,000
Tavares	Tavares Seaplane Base	FA1	5	GA	N/A	N/A	N	0	7,000	7,000
Umatilla	Umatilla Municipal Airport	X23	5	GA	Basic	GA	N	0	5,000	5,000
Wauchula	Wauchula Municipal Airport	CHN	1	GA	Local	GA	N	0	8,200	8,200
Williston	Williston Municipal Airport	X60	2	GA	Local	GA	N	0	16,250	16,250
Winter Haven	Jack Brown's Seaplane Base	F57	1	GA	N/A	N/A	N	0	10,000	10,000

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn. Prepared April 2017.

*Airport closed indefinitely

6.3 Data Collection

As previously mentioned, the forecasting element of the FASP 2035 considers two metrics of activity—based aircraft and GA operations. Based aircraft are defined as aircraft that are considered airworthy and stored at an airport for the majority of the year. Per FDOT guidance, GA operations that are evaluated in the FASP include all aircraft operations categorized by the FAA as GA or military. The FAA categories included under this definition include local GA, itinerant GA, local military, and itinerant military operations. The forecasts do not include air taxi operations regardless if they are scheduled or non-scheduled; however, these operations are included in the D/C analysis presented in **Section 6.8**. Data used for the forecasts of these two metrics were obtained from several sources summarized in the following sections.

It is important to note that while most Florida airports, including commercial service airports, accommodate some level of GA activity, many are within proximity of airports that serve as “relievers” to attract GA activity from the commercial airport to a facility that “relieves” congestion and allows for greater capacity at the commercial service airport. While GA operations forecasts are included for commercial service airports in this analysis, it is important to remember that some of the factors and industry trends that impact GA are not experienced at commercial service airports. As such, individual airport master plan forecasts were reviewed as a measure to obtain more “in-depth” forecasting data for GA operations at commercial service airports. The information provided in these sources, while reliable, proved difficult to incorporate into FASP 2035 forecasts because the various planning studies were not completed in the same general timeframe. Trends that were occurring at the time those forecasts were developed were not consistent from airport to airport and resulted in wide ranges of projected activity. As such, FAA TAF data was utilized for all base year estimates of based aircraft and GA operations at both GA airports and commercial service airports. Where TAF data were not available, 5010 Airport Master Record data were utilized for base year estimates. The 5010 Airport Master Record is encouraged by the FAA to be updated annually. Based aircraft data were obtained from this database in January 2017, indicating that counts would likely reflect individual airport based aircraft from 2016 or 2015. It should be noted that data obtained from the 5010 Airport Master Record were primarily at lower-activity airports, and the number of based aircraft at these types of airports typically does not fluctuate significantly over short periods of time.

As previously noted, commercial operations (air carrier and air taxi) are excluded from this evaluation and forecasts of these types of operations are not provided. However, total operations including air carrier and air taxi operations are incorporated into the calculation of the number of operations that exceed an airport's ARC found in **Section 6.6**, and are also included as part of the D/C analysis in **Section 6.8**.

6.3.1 Based Aircraft Data Sources

For the preparation of based aircraft forecasts, three sources were utilized to obtain base year data and indicators of industry growth. These sources are described below:

- **FAA TAF:** Base year 2014 based aircraft data were obtained from the FAA's TAF issued January 2017 for all airports included in the FAA's NPIAS, meaning they are eligible for FAA Airport Improvement Program (AIP) funding. This database is the official FAA forecast used for airport planning and investment for NPIAS facilities. The database contains historical based aircraft and aircraft operations data from 1990 through 2015, and estimates of projected activity for 2016 through 2040. Of the 128 airports examined in the FASP, 100 are included in the NPIAS.
- **5010 Airport Master Records:** Base year 2014 based aircraft data for the 28 non-NPIAS airports were obtained from the 5010 Airport Master Record. While data identified in the 5010 Airport Master Record is regularly updated, not all data are specific to calendar year 2014; some have been updated more recently. For the purposes of the FASP 2035, it is assumed that based aircraft data identified in the 5010 Airport Master Record are applicable for base year 2014, regardless of the year that an individual airport may have updated it.
- **FAA Aerospace Forecast 2017 – 2037:** The *FAA Aerospace Forecast* is an annually updated report that identifies historical economic, airline, and aviation industry trends as well as 20-year forecasts of demand for a variety of commercial and GA industry elements. As it pertains to based aircraft forecasts presented in this Chapter, the *FAA Aerospace Forecast 2017 – 2037* was consulted for growth rate estimates of active aircraft in the United States (U.S.) GA fleet. Active aircraft are used by FAA in relation to based aircraft.

6.3.2 GA Aircraft Operations Data Sources

For the preparation of GA operation forecasts, four sources were utilized to obtain base year data and indicators of industry growth. These sources are described below:

- **FAA TAF:** For base year 2014 GA operations data, the FAA TAF issued January 2017 was utilized for all Florida NPIAS airports. As previously noted, per FDOT guidance, GA operations include all that are not classified as air taxi or air carrier. The FAA TAF identifies historical operations data from 1990 to 2015, and estimates of projected activity for 2016 through 2040.
- **5010 Airport Master Record:** Base year 2014 GA operations data for all non-NPIAS airports were obtained from the 5010 Airport Master Record. While data identified in the 5010 Airport Master Record is regularly updated, not all data are specific to calendar year 2014; some have been updated more recently. For the purposes of the FASP 2035, it is assumed that airport activity data identified in the 5010 Airport Master Record are applicable for base year 2014, regardless of the year that an individual airport may have updated it.
- **FAA Aerospace Forecast 2017 – 2037:** As previously noted, the *FAA Aerospace Forecast* is an annual report that identifies historical and projected economic trends and aviation activity. For GA operation forecasts, this report was consulted to identify projected growth rates of GA operations in the U.S. through 2035.

- **FAA Traffic Flow Management System Counts (TFMSC) Database:** To identify the number of operations that exceeded an airport's ARC in 2016, the FAA's TFMSC database was utilized. This database includes data for flights that fly under Instrument Flight Rules (IFR) and are captured by the FAA's enroute computers. TFMSC source data are created when pilots file flight plans and/or when flights are detected by the National Airspace System (NAS), usually via RADAR. The TFMSC database also identifies operations by type of equipment (aircraft type), which was used to produce the number of operations that exceeded each airport's ARC

6.3.3 Socioeconomic Data Source

Socioeconomic data can often indicate the strength of an area's economy. This information can be used to make assumptions about a local population base's propensity for aviation-related activity. To assist with the development of socioeconomic methodologies of based aircraft and GA operation forecasts, historical and projected data were obtained from Woods & Poole, Inc., an independent firm that specializes in long-term county economic and demographic projections. Population data for all Florida counties were obtained from Woods & Poole. One of the forecast methodologies used for both based aircraft and GA operations assumed that activity would increase at the same rate as projected population growth for each airport's host county.

6.4 Based Aircraft Forecast

The number of based aircraft at an airport determines aircraft parking apron needs and aircraft storage requirements, such as tie-downs, T-hangar spaces, and executive or box hangars. These are important indicators to understand, as the space preserved for airside and landside facilities can become constrained without proper planning. Based aircraft can also impact operations at an airport as the aircraft travel from the local airport to other airports and return.

6.4.1 Based Aircraft Methodologies

The based aircraft forecasts presented in this Chapter were produced using two methodologies for commercial airports and three methodologies for GA airports. **Table 6-10** below identifies the methodologies used for each of the airport categories identified in **Section 6.2**.

Table 6-10: Airport Category Methodologies: Based Aircraft

Airport Category	Methodology 1	Methodology 2	Methodology 3
Airport Category Methodologies: Based Aircraft			
Commercial Service	County Population Growth	N/A	FAA TAF or Straight-Line
High Activity GA	County Population Growth	FAA Aerospace Forecast	FAA TAF or Straight-Line
Medium Activity GA	County Population Growth	FAA Aerospace Forecast	FAA TAF or Straight-Line
Low Activity GA	County Population Growth	FAA Aerospace Forecast	FAA TAF or Straight-Line

Source: Kimley-Horn. Prepared April 2017.

- County Population Growth:** This methodology assumes that the growth in the number of based aircraft at an airport will mimic the projected growth rate of population for the county in which it is located. For each airport, the number of based aircraft in base year 2014 is assumed to grow at the same rate as population projections obtained from Woods & Poole, Inc. through 2035.
- FAA Aerospace Forecast:** The *FAA Aerospace Forecast 2017 – 2037* identifies that the active GA fleet in the U.S. is anticipated to increase 0.1 percent annually through 2035. While the FAA projects a decrease in the number of piston-powered aircraft in the U.S. fleet through 2035, overall growth is projected to be fueled by turboprop, jet, and rotorcraft type aircraft. In general, the number of based aircraft at Florida's airports and Florida's GA sector has not been impacted on the same level as has been experienced nationwide. The economic downturn that occurred between 2008 and 2010 negatively influenced GA activity throughout the U.S. and aircraft ownership has been declining for several years. While several airports in Florida also experienced declines in activity during the economic turmoil, the state as a whole fared relatively well compared to the nation in terms of GA activity. This speaks to the strength of Florida's GA system, as tourism, flight schools, hospitable flying climate, and other drivers of activity remain strong. Because of these factors, the FAA Aerospace Forecast methodology applies Florida-specific growth rates for each airport category to project based aircraft at the GA airports. As noted in Table 6-10, this methodology is not applied to commercial service airports. It is assumed that GA airports with higher levels of activity have a greater proportion of based turboprop, jet, and rotorcraft aircraft compared with lower-activity airports. As such, this methodology applies a 0.2 percent annual growth rate (twice FAA Aerospace growth rate) in the number of based aircraft at High Activity GA airports through 2035. For Medium Activity GA airports, it is assumed that there is a more balanced based aircraft fleet, and the FAA Aerospace annual growth rate of 0.1 percent is applied from 2014 through 2035. For Low Activity GA airports, it is assumed that most of the based aircraft fleet is comprised of single-engine and multi-engine piston aircraft. As such, a 0.05

percent annual growth rate (half the FAA Aerospace Forecast growth rate) is applied from 2014 through 2035.

- **FAA TAF or Straight-Line Methodology:** For all categories of airports, this methodology applies projected levels of based aircraft identified in the FAA TAF to all NPIAS airports through 2035. For non-NPIAS airports, this methodology assumes that number of based aircraft will remain constant from base year 2014 through 2035. This “straight-line” growth assumption is consistent with FAA TAF forecasts for lower activity airports.

6.4.2 Based Aircraft Forecast Results

Results for each of the based aircraft forecast methodologies are presented in the following pages. Forecasts are presented for each individual methodology and summarized by airport category. A summary table detailing the preferred methodology for based aircraft for each airport category is presented in **Section 6.4.2.4**. Individual airport forecasts for each of the methodologies are presented in **Appendix B – Forecasting Tables**.

6.4.2.1 County Population Growth Rate Methodology

The first methodology utilized county population projections obtained from Woods & Poole, Inc. Population rates can provide insight into the health of a local economy, as people tend to migrate toward areas that offer ample employment, lower tax rates, educational opportunities, and other quality-of-life incentives. A region with an increasing population and growing economy often experiences a corresponding rise in aviation-related activity.

The County Population Growth Rate Methodology assumes that the number of based aircraft at an airport in base year 2014 will increase at the same rate as the population of the county in which it is located. Results are shown in **Table 6-11**. As shown, this methodology projects an increase in based aircraft in Florida from 12,628 in 2014 to 16,704 in 2035, which reflects an average annual growth rate (AAGR) of 1.54 percent.

Table 6-11: Based Aircraft Forecast: County Population Growth Rate Methodology

Airport Category	2014 Based Aircraft	2020 Based Aircraft	2025 Based Aircraft	2035 Based Aircraft	Avg. Annual Growth Rate 2014 – 2035
Based Aircraft Forecast: County Population Growth					
Commercial Service	2,843	3,052	3,239	3,655	1.36%
High Activity GA	4,101	4,459	4,783	5,508	1.63%
Medium Activity GA	4,722	5,118	5,476	6,276	1.57%
Low Activity GA	962	1,039	1,108	1,264	1.49%
State Total	12,628	13,668	14,606	16,704	1.54%

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Woods and Poole, Inc.; Kimley-Horn. Prepared April 2017.

6.4.2.2 FAA Aerospace Forecast Methodology

As previously presented, the FAA develops economic and aviation-related forecasts in its *Aerospace Forecast*, a report that is updated annually. As identified in the *FAA Aerospace Forecast 2017 – 2037*, the active GA fleet in the U.S. is anticipated to increase 0.1 percent annually through 2035. This modest growth is attributed to an expected decrease in piston-powered aircraft and strong growth in jet, turboprop, and rotorcraft type aircraft.

The FAA Aerospace Forecast Methodology assumes that higher activity airports in Florida have a greater proportion of jet, turboprop, and rotorcraft aircraft, and that lower activity airports have mostly piston-powered aircraft. As such, between base year 2014 and 2035, this methodology applies a 0.2 percent growth rate in based aircraft at High Activity GA airports, a 0.1 percent growth rate at Medium Activity GA airports, and a 0.05 percent growth rate at Low Activity GA airports. It should be noted that changes in the number of based aircraft at commercial airports do not always follow industry trends. As referenced earlier in Table 6-10, this methodology is only applied to GA airports. Results of this methodology are shown in **Table 6-12**. As shown, this methodology projects an increase from 9,785 based aircraft at GA airports in 2014, to 10,072 based aircraft in 2035, which represents an AAGR of 0.14 percent.

Table 6-12: Based Aircraft Forecast: FAA Aerospace Forecast

Airport Category	2014 Based Aircraft	2020 Based Aircraft	2025 Based Aircraft	2035 Based Aircraft	Avg. Annual Growth Rate 2014 – 2035
Based Aircraft Forecast: FAA Aerospace Growth Rate (GA Airports)					
Commercial Service	N/A	N/A	N/A	N/A	N/A
High Activity GA	4,101	4,150	4,192	4,277	0.20%
Medium Activity GA	4,722	4,750	4,774	4,822	0.10%
Low Activity GA	962	965	967	972	0.05%
State Total (minus commercial service airports)	9,785	9,866	9,934	10,071	0.14%

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn. Prepared April 2017.

6.4.2.3 FAA TAF/Straight-Line Growth Methodology

As discussed earlier, 100 of the 128 airports examined in the FASP 2035 are NPIAS facilities. The FAA maintains forecasts of aviation-related activity for all NPIAS airports. For NPIAS airports, the FAA TAF/Straight-Line Growth Methodology incorporates projections of based aircraft listed in the FAA TAF, issued January 2017. For non-NPIAS airports, this methodology assumes flat growth through the projection period, which is consistent with FAA TAF projections at lower-activity airports. Results of this methodology are shown in **Table 6-13**. As shown, this methodology

projects an increase in based aircraft from 12,628 in 2014 to 15,595 in 2035, which represents an AAGR of 1.12 percent.

It should be noted that several airports experienced declines in the number of based aircraft at their facility between base year 2014 and the time when the most recent version of the FAA TAF was released (January 2017). As such, TAF projections have been updated to reflect these declines leading to negative projected growth rates at some airports even if growth rates in the TAF between 2016 and 2035 are actually positive. For airport categories whose preferred methodology is the FAA TAF/Straight-Line Growth Methodology, **Table B-5 in Appendix B – Forecasting Tables** compares based aircraft growth rates for individual airports for the years 2014 – 2035 as well as 2016 – 2035 to indicate if an airport is actually projected to lose based aircraft or if the negative growth rate is attributed to a decrease that occurred between 2014 and 2016.

Table 6-13: Based Aircraft Forecast: FAA TAF or Straight-Line Methodology

Airport Category	2014 Based Aircraft	2020 Based Aircraft	2025 Based Aircraft	2035 Based Aircraft	Avg. Annual Growth Rate 2014 – 2035
Based Aircraft Forecast: FAA TAF or Straight-Line Growth Rate					
Commercial Service	2,843	2,980	3,222	3,734	1.49%
High Activity GA	4,101	4,265	4,592	5,305	1.40%
Medium Activity GA	4,722	4,787	5,072	5,603	0.89%
Low Activity GA	962	919	933	953	-0.04%
State Total	12,628	12,951	13,819	15,595	1.12%

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn. Prepared April 2017.

6.4.2.4 Preferred Methodology

Based on an analysis of historical activity, Florida county socioeconomic projections, and aviation industry trends, preferred based aircraft forecast methodologies have been selected for each of the airport categories described at the beginning of this Chapter. The preferred methodologies for each airport category are listed below:

- Commercial Service: FAA TAF/Straight-Line Methodology
- High Activity GA: FAA TAF/Straight-Line Methodology
- Medium Activity GA: County Population Growth Rate Methodology
- Low Activity GA: County Population Growth Rate Methodology

A summary of preferred based aircraft methodology results is shown in **Table 6-14**. As shown, the preferred methodologies result in an increase in based aircraft from 12,628 in base year 2014 to 16,579 in 2035, which represents an AAGR of 1.49 percent. Based aircraft forecast

methodologies and preferred methodologies for individual airports can be found in **Tables B-1** through **B-4** listed in **Appendix B – Forecasting Tables**.

As part of this forecasting effort, a sensitivity analysis representing an anticipated range of projected based aircraft for each airport in the system was conducted. This analysis assumes that the likely range of based aircraft will be ± 10 percent of the preferred methodology. The results of this analysis can provide airports, FDOT Districts, and the state with a better understanding of potential based aircraft for planning and funding purposes. The sensitivity analysis for based aircraft is summarized in **Table B-11** listed in **Appendix B – Forecasting Tables**.

Table 6-14: Based Aircraft Forecast: Preferred Methodology

Airport Category	2014 Based Aircraft	2020 Based Aircraft	2025 Based Aircraft	2035 Based Aircraft	Avg. Annual Growth Rate 2014 – 2035
Based Aircraft Forecast: Preferred Methodology					
Commercial Service	2,843	2,980	3,222	3,734	1.49%
High Activity GA	4,101	4,265	4,592	5,305	1.40%
Medium Activity GA	4,722	5,118	5,476	6,276	1.57%
Low Activity GA	962	1,039	1,108	1,264	1.49%
State Total	12,628	13,402	14,398	16,579	1.49%

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Woods and Poole, Inc.; Kimley-Horn. Prepared April 2017.

6.4.2.5 Preferred Based Aircraft Forecast: FDOT Districts

A specific element for this task is to identify based aircraft forecasts for each of the seven FDOT Districts. Knowledge of projected activity assists the Districts in understanding trends in local growth as well as aids in facility planning and making funding decisions. **Table 6-15** depicts the preferred forecast methodology results categorized by FDOT District. As shown, the AAGRs for the various Districts between 2014 and 2036 range from 0.57 percent (District 6) to 1.77 percent (District 2). **Figure 6-1** identifies the overall proportion of based aircraft by District between 2014 and 2036. As shown, these proportions are anticipated to remain relatively stable throughout the projection period.

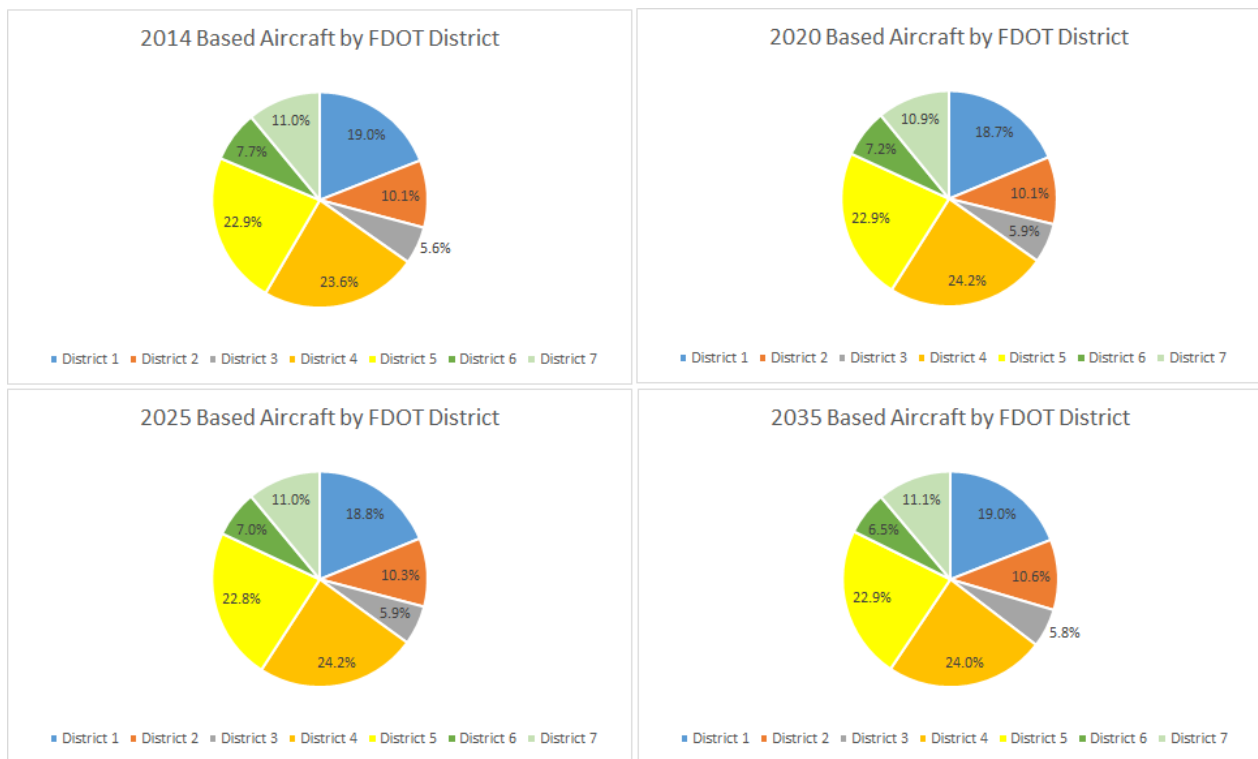
Table 6-15: Preferred Based Aircraft Forecast: FDOT Districts

FDOT District	2014 Based Aircraft	2020 Based Aircraft	2025 Based Aircraft	2035 Based Aircraft	Avg. Annual Growth Rate 2014 – 2035
Based Aircraft Forecast by FDOT District					
1	2,403	2,508	2,711	3,156	1.49%
2	1,277	1,354	1,479	1,751	1.77%

FDOT District	2014 Based Aircraft	2020 Based Aircraft	2025 Based Aircraft	2035 Based Aircraft	Avg. Annual Growth Rate 2014 – 2035
3	709	796	846	961	1.69%
4	2,986	3,244	3,478	3,977	1.58%
5	2,895	3,066	3,290	3,803	1.49%
6	968	969	1,009	1,083	0.57%
7	1,390	1,464	1,586	1,847	1.57%
State Total	12,628	13,402	14,398	16,579	1.49%

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Woods and Poole, Inc.; Kimley-Horn. Prepared April 2017.

Figure 6-1: Preferred Based Aircraft Forecast: FDOT Districts



Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Woods and Poole, Inc.; Kimley-Horn. Prepared April 2017.

6.5 GA Operations Forecast

Forecasts of GA operations are important, as the number of operations at an airport can impact airfield capacity and airside facility needs as well as affect the useful life of aircraft movement areas, including runways, taxiways, and parking aprons. As noted, forecasts presented in this

Chapter include non-scheduled GA and military operations. This is important to note, as factors that impact GA activity are often different than those that affect commercial activity.

6.5.1 GA Operations Methodologies

Similar to forecasts of based aircraft, GA operations forecasts include one methodology for commercial airports, and three methodologies for each of the GA airport categories. The methodologies employed for forecasts of GA operations for each airport category are identified in **Table 6-16**. Descriptions of each of the methodologies are provided following the table.

Table 6-16: Airport Category Methodologies: GA Operations

Airport Category	Methodology 1	Methodology 2	Methodology 3
Airport Category Methodologies: GA Operations			
Commercial Service	N/A	N/A	FAA TAF
ATCT GA	County Population Growth	FAA Aerospace Forecast	FAA TAF
High Activity GA	County Population Growth	FAA Aerospace Forecast	FAA TAF (or Straight-Line)
Medium Activity GA	County Population Growth	FAA Aerospace Forecast	FAA TAF (or Straight-Line)
Low Activity GA	County Population Growth	FAA Aerospace Forecast	FAA TAF (or Straight-Line)

Source: Kimley-Horn. Prepared April 2017.

- County Population Growth:** As noted previously, this methodology assumes that the number of GA operations at an airport will mimic the projected growth rate of population for the county in which it is located. For each airport, the number of GA operations in base year 2014 is assumed to grow at the same rate as population projections obtained from Woods & Poole, Inc. through 2035. This methodology was not employed for commercial service airports.
- FAA Aerospace Forecast:** The *FAA Aerospace Forecast 2017 – 2037* projects that total GA operations at airports with FAA and contract ATCTs are anticipated to increase 0.3 percent annually through 2035. Similar to based aircraft, while several airports in Florida experienced declines in activity during the economic turmoil that occurred between 2008 and 2010, the state as a whole fared relatively well compared to the nation in terms of aviation-related activity. As noted in the matrix above, this methodology is not applied to commercial service airports. This methodology assumes that higher activity GA airports will experience greater than national average growth in operations and lower activity airports will experience lower than national average growth in operations. As such, this methodology applies a 0.6 percent annual growth rate (twice the FAA Aerospace Forecast growth rate) to the number of GA operations in base year 2014 at GA airports equipped with an ATCT through 2035. For High Activity and Medium Activity GA airports, this methodology assumes that the national average growth rate of 0.3 percent will

occur, and for Low Activity GA airports, it is assumed that 0.15 percent annual growth (half the FAA Aerospace Forecast growth rate) will occur through 2035.

- **FAA TAF or Straight-Line Methodology:** For all categories of airports, this methodology applies the actual FAA TAF forecast estimate to all NPIAS airports through 2035. For non-NPIAS airports, this methodology assumes that activity in the number of GA operations will remain constant from base year 2014 through 2035. Similar to based aircraft, this “straight-line” growth assumption is consistent with FAA TAF forecasts for lower activity airports.

6.5.2 GA Operations Forecast Results

Results for each of the GA operations forecast methodologies are presented in the following sections. Forecasts are presented for each individual methodology and summarized by airport category. A summary table detailing the preferred methodology for GA operations for each aircraft category is presented in **Section 6.5.2.4**. Individual airport forecasts for each of the methodologies and the preferred methodology are presented in **Tables B-6** through **B-10** in **Appendix B – Forecasting Tables**.

6.5.2.1 County Population Growth Rate Methodology

Similar to based aircraft forecasts, this methodology applies projected county population growth rates through 2035 to the number of GA operations at an airport in base year 2014. This methodology is applied to all GA category airports, and results are presented in **Table 6-17**. As shown, this methodology projects an increase in GA operations from 5,209,356 in 2014 to 6,888,934 in 2035, which represents an AAGR of 1.54 percent.

Table 6-17: GA Operations Forecast: County Population Growth Methodology (GA Airports Only)

Airport Category	2014 GA Operations	2020 GA Operations	2025 GA Operations	2035 GA Operations	Avg. Annual Growth Rate 2014 – 2035
GA Operations Forecast: County Population Growth (GA Airports)					
Commercial Service	N/A	N/A	N/A	N/A	N/A
ATCT GA	2,751,866	2,984,955	3,195,836	3,668,477	1.09%
High Activity GA	1,355,121	1,456,393	1,547,462	1,749,867	0.96%
Medium Activity GA	792,784	861,555	923,831	1,063,549	1.12%
Low Activity GA	309,585	334,318	356,718	407,041	1.04%
State Total	5,209,356	5,637,221	6,023,847	6,888,934	1.54%

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Woods and Poole, Inc.; Kimley-Horn. Prepared April 2017.

6.5.2.2 FAA Aerospace Forecast Methodology

The FAA Aerospace Forecast 2017 – 2037 was consulted to examine appropriate growth rates for GA operations that incorporate national trends, but that are also tailored to projected activity in Florida. The FAA anticipates 0.3 percent growth in GA operations at airports with FAA and contract towers nationwide through 2035. Similar to based aircraft forecasts, this methodology assumes that operations at busier airports consist of a greater proportion of jet, turboprop, and rotorcraft aircraft, which are projected to experience strong growth through 2035. Lower activity airports are expected to see less than average growth, as they experience a higher proportion of piston-powered aircraft operations.

This methodology assumes that GA airports equipped with an ATCT will experience 0.6 percent annual growth through 2035, High and Medium Activity GA airports will see 0.3 percent annual growth, and Low Activity GA airports will see 0.15 percent annual growth during this timeframe. Results of this methodology are shown in **Table 6-18**. As shown, this methodology projects an increase from 5,209,356 GA operations at GA airports in base year 2014 to 5,727,063 operations in 2035, an AAGR of 0.47 percent.

Table 6-18: GA Operations Forecast: FAA Aerospace Forecast Methodology (GA Airports Only)

Airport Category	2014 GA Operations	2020 GA Operations	2025 GA Operations	2035 GA Operations	Avg. Annual Growth Rate 2014 – 2035
GA Operations Forecast: FAA Aerospace Forecast (GA Airports)					
Commercial Service	N/A	N/A	N/A	N/A	N/A
ATCT GA	2,751,866	2,852,431	2,939,037	3,120,218	0.60%
High Activity GA	1,355,121	1,379,697	1,400,517	1,443,104	0.30%
Medium Activity GA	792,784	807,162	819,342	844,257	0.30%
Low Activity GA	309,585	312,382	314,732	319,485	0.15%
State Total	5,209,356	5,351,671	5,473,627	5,727,063	0.47%

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; FAA Aerospace Forecast 2017 – 2037; Kimley-Horn. Prepared April 2017.

6.5.2.3 FAA TAF/Straight-Line Growth Methodology

The final methodology used to project GA operations at Florida airports involves the application of FAA TAF forecasts to NPIAS airports, and a flat growth rate to non-NPIAS airports. This flat growth rate is consistent with FAA TAF forecasts for lower-activity airports. Similar to the scenario described for based aircraft, several airports experienced declines in the number of GA operations at their facility between base year 2014 and 2016, which is reflected in the FAA TAF issued January 2017. For airport categories whose preferred methodology is the FAA TAF/Straight-Line Growth Methodology, **Table B-10 in Appendix B – Forecasting Tables** compares GA operations growth rates for individual airports for the years 2014 – 2035 as well as 2016 – 2035

to indicate if an airport is actually projected to experience declines in GA operations or if the negative growth rate is attributed to a decrease that occurred between 2014 and 2016.

Results of the FAA TAF/Straight-Line Growth Methodology are shown in **Table 6-19**. As shown, this methodology, which includes GA operations at commercial airports that account for 1,416,983 GA operations in 2014, projects a collective increase for all airports in GA operations from 6,626,339 in base year 2014 to 7,528,751 in 2035, which represents an AAGR of 0.65 percent.

Table 6-19: GA Operations Forecast: FAA TAF or Straight-Line Methodology

Airport Category	2014 GA Operations	2020 GA Operations	2025 GA Operations	2035 GA Operations	Avg. Annual Growth Rate 2014 – 2035
GA Operations Forecast: FAA TAF or Straight-Line Methodology					
Commercial Service	1,416,983	1,346,668	1,364,094	1,400,416	-0.06%
ATCT GA	2,751,866	2,912,114	2,962,456	3,068,361	0.55%
High Activity GA	1,355,121	1,460,907	1,558,165	1,782,619	1.50%
Medium Activity GA	792,784	843,280	876,202	954,411	0.97%
Low Activity GA	309,585	315,331	317,639	322,944	0.21%
State Total	6,626,339	6,878,300	7,078,556	7,528,751	0.65%

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn. Prepared April 2017.

6.5.2.4 Preferred Methodology

Based on historical and projected aviation industry trends, FAA forecasts, and local socioeconomic forecasts, preferred GA operations forecast methodologies have been selected for each of the airport categories described at the beginning of this section. The preferred methodologies for each airport category are listed below:

- Commercial Service: FAA TAF/Straight-Line Methodology
- ATCT GA: County Population Growth Rate Methodology
- High Activity GA: County Population Growth Rate Methodology
- Medium Activity GA: County Population Growth Rate Methodology
- Low Activity GA: FAA Aerospace Forecast Methodology

A summary of preferred GA operations methodology results is shown in **Table 6-20**. As shown, the preferred methodologies project an increase in GA operations from 6,626,339 in base year 2014 to 8,201,794 in 2035, which represents an AAGR of 1.13 percent. GA forecast methodologies and preferred methodologies for individual airports can be found in **Tables B-6 through B-10** in **Appendix B – Forecasting Tables**.

Similar to based aircraft, a sensitivity analysis representing an anticipated range of projected GA operations for each airport in the system was conducted. This analysis assumes that the likely range of GA operations will be ± 10 percent of the preferred methodology. The results of this analysis are incorporated into the D/C analysis in **Section 6.8**. The sensitivity analysis for GA operations is summarized in **Table B-12** in **Appendix B – Forecasting Tables**.

Table 6-20: GA Operations Forecast: Preferred Methodology

Airport Category	2014 GA Operations	2020 GA Operations	2025 GA Operations	2035 GA Operations	Avg. Annual Growth Rate 2014 – 2035
GA Operations Forecast: Preferred Methodology					
Commercial Service	1,416,983	1,346,668	1,364,094	1,400,416	-0.06%
ATCT GA	2,751,866	2,984,955	3,195,836	3,668,477	1.59%
High Activity GA	1,355,121	1,456,393	1,547,462	1,749,867	1.39%
Medium Activity GA	792,784	861,555	923,831	1,063,549	1.63%
Low Activity GA	309,585	312,382	314,732	319,485	0.15%
State Total	6,626,339	6,961,953	7,345,954	8,201,794	1.13%

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn; Federal Aviation Administration (FAA) Aerospace Forecast 2017 – 2037; Woods & Poole, Inc. Prepared April 2017.

6.5.2.5 Preferred GA Operations Forecast: FDOT Districts

Knowledge of projected operational activity assists FDOT Districts and Central Office in understanding trends in local growth, airport system capacity, and facility planning needs. Preferred GA operations forecasts for individual FDOT Districts and the state as a whole are presented in **Table 6-21**. The AAGRs for the various Districts from 2014 to 2036 are anticipated to increase from 0.77 percent (District 5) to 1.76 percent (District 4). **Figure 6-2** identifies the overall proportion of GA operations by District between 2014 and 2036. As shown, these proportions are anticipated to remain relatively stable throughout the projection period.

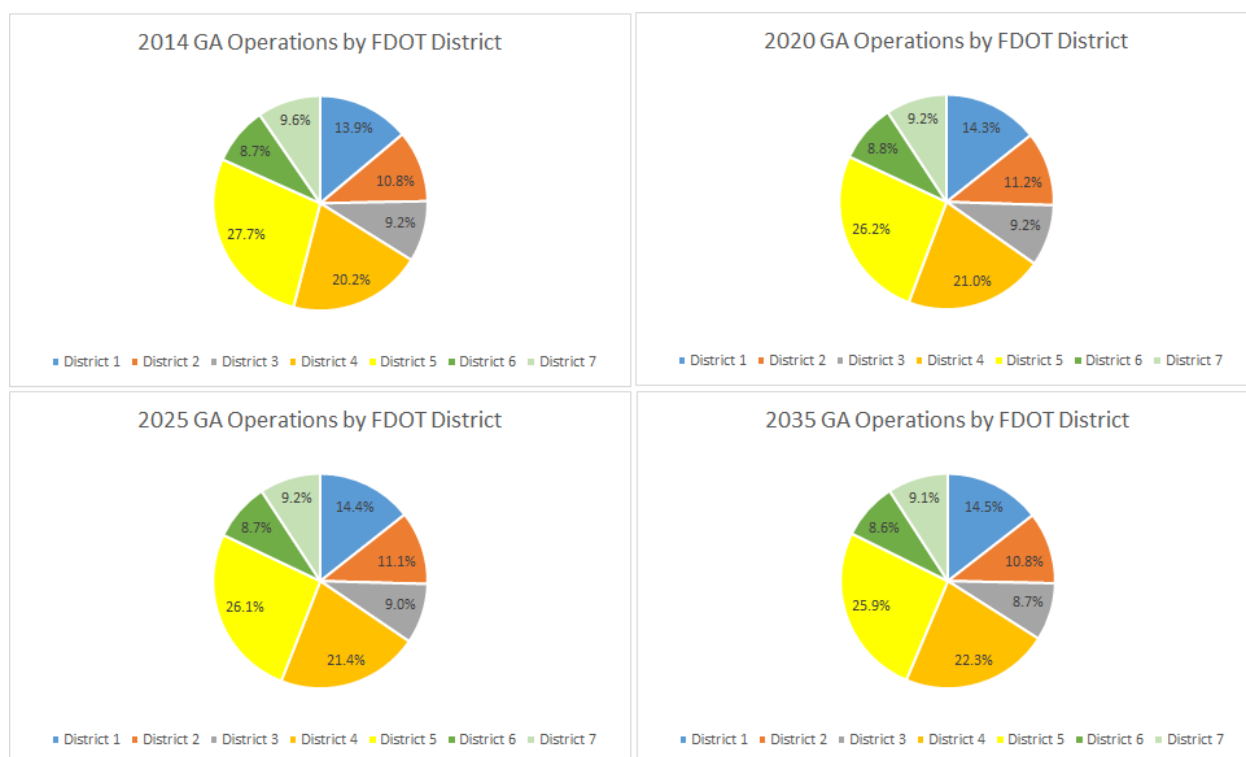
Table 6-21: Preferred GA Operations Forecast: FDOT District

FDOT District	2014 GA Operations	2020 GA Operations	2025 GA Operations	2035 GA Operations	Avg. Annual Growth Rate 2014 – 2035
GA Operations Forecast: FDOT Districts					
1	920,749	997,711	1,056,971	1,189,580	1.39%
2	717,070	778,164	813,014	889,389	1.14%
3	607,495	643,717	665,030	712,364	0.82%
4	1,337,244	1,463,068	1,576,161	1,831,592	1.76%

FDOT District	2014 GA Operations	2020 GA Operations	2025 GA Operations	2035 GA Operations	Avg. Annual Growth Rate 2014 – 2035
5	1,833,922	1,823,851	1,918,342	2,128,577	0.77%
6	578,140	614,409	642,501	703,093	1.03%
7	634,344	643,682	676,604	749,909	0.87%
State Total	6,628,964	6,964,602	7,348,623	8,204,503	1.13%

Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn; Federal Aviation Administration (FAA) Aerospace Forecast 2017 – 2037; Woods & Poole, Inc. Prepared April 2017.

Figure 6-2: Preferred GA Operations Forecast: FDOT Districts



Source: Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; 5010 Airport Master Record; Kimley-Horn; Federal Aviation Administration (FAA) Aerospace Forecast 2017 – 2037; Woods & Poole, Inc. Prepared April 2017.

6.6 Forecasts of Operations Above Airport ARC

Aircraft operations at all system airports were evaluated to identify those by aircraft that exceed an airport's ARC. The ARC is an airport designation that is used for planning and design and indicates the size and type of aircraft that operate at a particular facility. The ARC is comprised of two components: the Aircraft Approach Category (AAC) and the Airplane Design Group (ADG). The AAC is represented by a letter A through E that indicates the approach speed of an

airport's design aircraft (the most demanding aircraft or group of similar aircraft that conducts 500 annual operations). The ADG is represented by a Roman numeral I through VI that indicates the wingspan and tail height of an airport's design aircraft. The combination of the AAC and ADG represents an airport's ARC. ARCs for individual airports were obtained from individual airport master plans and airport layout plans.

In general, smaller ARCs (A-I through B-I) are represented by small, single- and multi-piston aircraft, while ARCs in the B-II to C-III categories are represented by turbo-prop and corporate aircraft. The largest categories (C-IV and up) are generally represented by commercial airliners and heavy military aircraft.

Data from the FAA's TFMSC database were obtained for calendar year 2016 for all Florida system airports. This database is designed to provide information on traffic counts by aircraft that filed flight plans by airport for various data groupings, such as by aircraft type or by hour of the day.

TFMSC source data are created when pilots file flight plans and/or when flights are detected by the National Airspace System (NAS), usually via RADAR. TFMSC records are assembled by the FAA Air Traffic Airspace (ATA) Lab by combining electronic messages transmitted to the Host (En Route) computer for each flight into a complete record of that flight. It includes data for flights that fly under IFR and are captured by the FAA's enroute computers. Most Visual Flight Rules (VFR) and some non-enroute IFR traffic is excluded.

The TFMSC database contains every flight record constructed. It includes information about commercial traffic (air carriers and air taxis), GA, and military to and from every landing facility both in the U.S. and in nearby countries that participate in the TFMSC system. While this database does not necessarily capture every aircraft operation that exceeds an airport's ARC, it provides the most reliable data available for this analysis.

Data for each individual airport were examined, and operations that were equal to or below an airport's ARC were removed from the dataset. The result is the number of total operations that exceed each airport's ARC. As noted, an airport's ARC is based off the most demanding aircraft or group of similar aircraft that conducts 500 operations annually. In total, the analysis identified 14 system airports that experienced at least 500 operations that exceeded their ARC in 2016.

Based on an analysis of the airports that experienced over 500 operations exceeding their ARC, it was determined that activity at these airports generally fit into one of two conditions:

1. The airport is a GA airport with an ARC in the B-I to C-II range but experienced significant corporate activity that exceeded its designation.
2. The airport is a commercial service facility where larger scheduled airline aircraft exceeded the airport's designation.

Examples of the latter condition include Miami International Airport and Fort Lauderdale-Hollywood International Airport, where the airports have high ARCs, but scheduled commercial aircraft such as the Airbus A-380 or Boeing DC 10 operate there. This analysis is useful to indicate

where activity by larger aircraft is occurring and may influence FASP 2035 study recommendations. It is important to recognize that many of the design standards for different ARCs are the same, so even if an airport has over 500 operations that exceed its ARC, it does not pose any threat to safe operations at the facility. Airports whose total aircraft operations exceeded its ARC are shown in **Table 6-22**. It should be noted that ARCs were not available for 15 airports in the system. These airports included 11 NPIAS and 4 non-NPIAS facilities that did not have an airport master plan or airport layout plan available.

Table 6-22: Total Aircraft Operations Exceeding ARC

Associated City	Airport Name	FAA ID	Commercial/GA	FDOT District	Airport ARC	2016 Total Operations Above ARC	Primary ARCs Exceeding Existing
Total Aircraft Operations Exceeding ARC							
Boca Raton	Boca Raton Airport	BCT	GA	4	C-II	952	C-III, D-I, D-III
Destin	Destin Executive Airport	DTS	GA	3	B-II	2,224	C-I, C-II, D-I
Fort Lauderdale	Fort Lauderdale-Hollywood International Airport	FLL	Commercial Service	4	D-IV	1,673	C-V
Marathon	The Florida Keys Marathon Airport	MTH	GA	6	B-II	992	C-I, C-II
Marco Island	Marco Island Airport	MKY	GA	1	B-II	652	C-I, C-II
Miami	Miami International Airport	MIA	Commercial Service	6	D-V	3,318	D-VI
Orlando	Executive Airport	ORL	GA	5	C-II	538	C-III, D-I, D-III
Panama City	Northwest Florida-Beaches International Airport	ECP	Commercial Service	3	C-III	2,961	C-IV, D-III
Pensacola	Pensacola International Airport	PNS	Commercial Service	3	C-III	4,854	C-IV, D-III
Punta Gorda	Punta Gorda Airport	PGD	Commercial Service	1	C-III	692	D-I, D-III
St. Augustine	Northeast Florida Regional Airport	SGJ	Commercial Service	2	C-II	738	C-III, D-III
St. Petersburg	Albert Whitted Airport	SPG	GA	7	B-I	674	A-II, B-II
Tallahassee	Tallahassee International Airport	TLH	Commercial Service	3	C-IV	1,268	D-I, D-III
Tampa	Peter O. Knight Airport	TPF	GA	7	B-I	537	A-II, B-II

Source: Federal Aviation Administration (FAA) Traffic Flow Management System Counts (TFMSC) Database; Kimley-Horn. Prepared April 2017.

6.7 Coordination with Forecasting Methodology Tool Update

During the FASP 2035 development, the FDOT ASO was also underway with a project to update the forecast methodology used for a variety of aviation forecasts within the Florida Aviation Database (FAD). Since the forecasting methodology study was not far enough along to guide the FASP forecasts, the FASP forecasts reviewed and tested a variety of methodologies as previously noted. To best align the forecasting efforts of the FASP with the forecasting methodology study, the FDOT ASO provided input during the methodology study on the findings of the FASP forecasting effort. The methodology study was completed in Fall 2017 and will be used during subsequent updates of the FASP to provide continuity between FDOT ASO forecasting efforts.

6.8 D/C Analysis

To evaluate the future needs of Florida's aviation system at the FDOT District and statewide levels, an updated D/C analysis was conducted based on forecasts of total aircraft operations at all Florida system airports.

Forecasts of total aircraft operations were determined by combining preferred methodology GA operations described in **Section 6.5.2.4** and commercial operations (defined as air taxi or air carrier operations) obtained from the FAA TAF issued January 2017. The D/C analysis compared operational activity in base year 2014, and forecast years 2020, 2025, and 2035 with individual airports' annual service volume (ASV) obtained from airport master plans and other system plan data collection efforts.

There are two primary objectives associated with the D/C analysis:

1. Identify individual airports that may need to enhance airfield capacity currently or in the future
2. Identify any specific geographical areas in the state that may currently experience (or are anticipated to experience) issues with airport capacity

The results of the D/C analysis assist the FDOT ASO in understanding gaps or opportunities within the system of airports and identifying expansion or capacity enhancement needs at a local or regional level.

6.8.1 D/C Process

Individual airports' ASV were calculated based on metrics detailed in *FAA Advisory Circular 150/5060-5, Airport Capacity and Delay*. The FAA defines ASV as a reasonable estimate of an airport's annual capacity accounting for runway use, taxiway configuration, presence of a control tower, aircraft fleet mix, weather conditions, and other factors. The ASV values were compared to total operational counts in 2014 and forecast years 2020, 2025, and 2035, resulting in D/C ratios for each airport for each timeframe.

According to the FAA, when the ratio of an airport's annual operations to its ASV reaches 60 percent, an airport should begin planning for capacity enhancements. When this ratio reaches

80 percent, implementation (construction) of airport capacity enhancements should begin. It should be noted that ASV estimates were not available for five airports included in FASP 2035. These airports include:

- Downtown Fort Lauderdale Heliport
- Miami Seaplane Base
- Tallahassee Commercial Airport (closed)
- Jack Browns Seaplane Base
- Tavares Seaplane Base

D/C ratios for these airports were not calculated, and these airports are not included in FDOT District D/C analyses presented in this section.

6.8.2 D/C Methodology and Results

As noted, total operation forecasts for individual airports were developed by combining GA operations forecasts from **Section 6.5.2.4** and commercial operations from the FAA TAF issued January 2017. Base year and projected total operations were compared with ASV calculations to identify existing and projected D/C ratios. Results of this analysis for individual airports are shown in **Table 6-23**. Results for FDOT Districts are shown in **Table 6-24**.

As shown in Table 6-23, in base year 2014, there were five airports that exceeded the FAA's recommended 60 percent D/C ratio threshold to plan for capacity enhancements (highlighted in yellow), and three airports that exceeded the 80 percent threshold to start implementation for capacity enhancements (highlighted in orange). By 2035, it is projected that 11 airports will exceed the 60 percent threshold, six will exceed the 80 percent threshold, and three will exceed their ASV altogether (highlighted in red). It should be noted that ASV isn't necessarily an effective indicator of capacity for larger commercial airports. *ACRP Report 104: Defining and Measuring Aircraft Delay and Airport Capacity Thresholds* offers guidance to help airports, particularly larger commercial airports, understand, select, calculate, and report measures of delay and capacity that may be more effective than the calculations outlined in this analysis. Of the previously noted 20 airports that are projected to exceed the 60 percent, 80 percent, and 100 percent capacity thresholds, seven are designated as commercial service.

The majority of airports that are projected to see D/C ratios of 60 percent or above by 2035 are concentrated in FDOT Districts 4, 5, and 6. As part of FASP 2035, additional follow-on studies are recommended in **Chapter 10 – Recommendations** to continuously monitor the performance of the state's aviation system. Additional D/C analyses for the previously noted FDOT Districts are included as recommended follow-on studies. Another recommendation is that FDOT maintain a version of the D/C analysis presented in FASP 2035 and update spreadsheets as individual airport master plans and other planning-study forecasts are submitted. This will assist FDOT to not only identify impacts on District capacity and help identify when follow-on studies may be needed, but also prepare for individual airport capacity enhancements that may be needed in the future.

Table 6-23: FASP 2035 Airport D/C Ratios

Associated City	Airport Name	FAA ID	CS/ GA	2014 Total Operations	ASV	D/C Ratio	2020 Total Operations	ASV	D/C Ratio	2025 Total Operations	ASV	D/C Ratio	2035 Total Operations	ASV	D/C Ratio
D/C Analysis by Airport															
Apalachicola	St. George Island Airport	F47	GA	500	149,500	0.3%	505	149,500	0.3%	508	149,500	0.3%	516	149,500	0.3%
Apalachicola	Apalachicola Regional-Cleve Randolph Field	AAF	GA	24,375	319,500	7.6%	26,015	319,500	8.1%	27,470	319,500	8.6%	30,642	319,500	9.6%
Apopka	Orlando Apopka Airport	X04	GA	21,900	210,000	10.4%	23,991	210,000	11.4%	25,886	210,000	12.3%	30,135	210,000	14.3%
Arcadia	Arcadia Municipal Airport	X06	GA	19,370	184,000	10.5%	19,545	184,000	10.6%	19,692	184,000	10.7%	19,988	184,000	10.9%
Archer	Flying Ten Airport	0J8	GA	30,000	126,500	23.7%	31,971	126,500	25.3%	33,712	126,500	26.6%	37,484	126,500	29.6%
Avon Park	Avon Park Executive Airport	AVO	GA	32,400	211,548	15.3%	35,869	211,548	17.0%	39,043	211,548	18.5%	46,257	211,548	21.9%
Bartow	Bartow Municipal Airport	BOW	GA	27,759	275,000	10.1%	29,733	275,000	10.8%	31,485	275,000	11.4%	35,305	275,000	12.8%
Belle Glade	Belle Glade State Municipal Airport	X10	GA	1,800	195,500	0.9%	1,816	195,500	0.9%	1,830	195,500	0.9%	1,858	195,500	1.0%
Blountstown	Calhoun County Airport	F95	GA	1,020	195,500	0.5%	1,029	195,500	0.5%	1,037	195,500	0.5%	1,053	195,500	0.5%
Boca Raton	Boca Raton Airport	BCT	GA	56,581	185,250	30.5%	64,353	185,250	34.7%	70,196	185,250	37.9%	83,503	185,250	45.1%
Bonifay	Tri-County Airport	1J0	GA	28,376	195,500	14.5%	30,076	195,500	15.4%	31,570	195,500	16.1%	34,786	195,500	17.8%
Brooksville	Pilot Country Airport	X05	GA	10,176	195,500	5.2%	10,268	195,500	5.3%	10,345	195,500	5.3%	10,501	195,500	5.4%
Brooksville	Brooksville-Tampa Bay Regional Airport	BKV	GA	47,396	230,000	20.6%	52,125	230,000	22.7%	56,560	230,000	24.6%	66,597	230,000	29.0%
Carrabelle	Carrabelle-Thompson Airport	X13	GA	4,261	195,500	2.2%	4,299	195,500	2.2%	4,332	195,500	2.2%	4,397	195,500	2.2%
Cedar Key	George T. Lewis Airport	CDK	GA	4,000	161,000	2.5%	4,036	161,000	2.5%	4,066	161,000	2.5%	4,128	161,000	2.6%
Clearwater	Clearwater Air Park	CLW	GA	50,590	184,000	27.5%	52,104	184,000	28.3%	53,401	184,000	29.0%	56,092	184,000	30.5%
Clewiston	Airglades Airport	2IS	GA	11,527	195,500	5.9%	11,631	195,500	5.9%	11,719	195,500	6.0%	11,896	195,500	6.1%
Crestview	Bob Sikes Airport	CEW	GA	48,600	230,000	21.1%	50,601	230,000	22.0%	52,333	230,000	22.8%	55,974	230,000	24.3%
Cross City	Cross City Airport	CTY	GA	18,000	195,500	9.2%	18,163	195,500	9.3%	18,299	195,500	9.4%	18,576	195,500	9.5%
Crystal River	Crystal River Airport-Captain Tom Davis Field	CGC	GA	28,312	173,077	16.4%	30,917	173,077	17.9%	33,277	173,077	19.2%	38,552	173,077	22.3%
Daytona Beach	Daytona Beach International Airport	DAB	CS	289,536	485,000	59.7%	314,453	485,000	64.8%	322,947	485,000	66.6%	340,873	485,000	70.3%
DeFuniak Springs	DeFuniak Springs Airport	54J	GA	16,200	184,000	8.8%	16,345	184,000	8.9%	16,466	184,000	8.9%	16,712	184,000	9.1%
DeLand	Bob Lee Flight Strip	1J6	GA	6,000	132,250	4.5%	6,054	132,250	4.6%	6,100	132,250	4.6%	6,192	132,250	4.7%
DeLand	DeLand Municipal-Sidney H. Taylor Field	DED	GA	117,460	230,000	51.1%	123,179	230,000	53.6%	128,158	230,000	55.7%	138,730	230,000	60.3%
Destin	Destin Executive Airport	DTS	GA	63,000	230,000	27.4%	65,610	230,000	28.5%	67,877	230,000	29.5%	72,645	230,000	31.6%
Dunnellon	Marion County Airport	X35	GA	38,603	152,833	25.3%	42,201	152,833	27.6%	45,455	152,833	29.7%	52,733	152,833	34.5%
Englewood	Buchan Airport	X36	GA	2,701	126,500	2.1%	2,725	126,500	2.2%	2,746	126,500	2.2%	2,787	126,500	2.2%

Associated City	Airport Name	FAA ID	CS/ GA	2014 Total Operations	ASV	D/C Ratio	2020 Total Operations	ASV	D/C Ratio	2025 Total Operations	ASV	D/C Ratio	2035 Total Operations	ASV	D/C Ratio
Eustis	Mid Florida Air Service Airport	X55	GA	21,024	126,500	16.6%	23,518	126,500	18.6%	25,831	126,500	20.4%	31,196	126,500	24.7%
Everglades	Everglades Airpark	X01	GA	6,200	184,000	3.4%	6,254	184,000	3.4%	6,300	184,000	3.4%	6,392	184,000	3.5%
Fernandina Beach	Fernandina Beach Municipal Airport	FHB	GA	47,000	169,304	27.8%	52,185	169,304	30.8%	56,955	169,304	33.6%	67,887	169,304	40.1%
Fort Lauderdale	Fort Lauderdale Executive Airport	FXE	GA	168,073	192,100	87.5%	179,626	192,100	93.5%	191,564	192,100	99.7%	217,890	192,100	113.4%
Fort Lauderdale	Fort Lauderdale-Hollywood International Airport	FLL	CS	254,683	565,000	45.1%	324,488	565,000	57.4%	355,234	565,000	62.9%	421,752	565,000	74.6%
Fort Lauderdale	Downtown Fort Lauderdale Heliport	DT1	GA	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A
Fort Myers	Page Field	FMY	GA	89,742	202,699	44.3%	99,558	202,699	49.1%	107,558	202,699	53.1%	125,602	202,699	62.0%
Fort Myers	Southwest Florida International Airport	RSW	CS	77,656	210,000	37.0%	82,153	210,000	39.1%	89,824	210,000	42.8%	107,126	210,000	51.0%
Fort Pierce	Treasure Coast International Airport	FPR	GA	154,405	369,192	41.8%	173,497	369,192	47.0%	191,405	369,192	51.8%	233,014	369,192	63.1%
Gainesville	Gainesville Regional Airport	GNV	CS	59,494	255,045	23.3%	63,223	255,045	24.8%	62,814	255,045	24.6%	64,171	255,045	25.2%
High Springs	Oak Tree Landing Airport	6J8	GA	200	126,500	0.2%	202	126,500	0.2%	203	126,500	0.2%	206	126,500	0.2%
Hilliard	Hilliard Airpark	01J	GA	5,000	126,500	4.0%	5,045	126,500	4.0%	5,083	126,500	4.0%	5,160	126,500	4.1%
Hollywood	North Perry Airport	HWO	GA	154,808	440,000	35.2%	167,331	440,000	38.0%	178,667	440,000	40.6%	203,697	440,000	46.3%
Miami	Miami Homestead General Aviation Airport	X51	GA	76,617	221,000	34.7%	81,376	221,000	36.8%	85,574	221,000	38.7%	94,647	221,000	42.8%
Immokalee	Immokalee Regional Airport	IMM	GA	36,500	230,000	15.9%	40,962	230,000	17.8%	45,095	230,000	19.6%	54,653	230,000	23.8%
Indiantown	Indiantown Airport	X58	GA	5,000	126,500	4.0%	5,045	126,500	4.0%	5,083	126,500	4.0%	5,160	126,500	4.1%
Inverness	Inverness Airport	INF	GA	15,000	230,000	6.5%	15,136	230,000	6.6%	15,249	230,000	6.6%	15,480	230,000	6.7%
Jacksonville	Jacksonville Executive At Craig Airport	CRG	GA	101,139	197,449	51.2%	108,597	197,449	55.0%	114,759	197,449	58.1%	128,175	197,449	64.9%
Jacksonville	Herlong Recreational Airport	HEG	GA	80,700	204,128	39.5%	86,165	204,128	42.2%	91,000	204,128	44.6%	101,501	204,128	49.7%
Jacksonville	Cecil Airport	VQQ	GA	92,299	264,890	34.8%	98,925	264,890	37.3%	104,387	264,890	39.4%	116,250	264,890	43.9%
Jacksonville	Jacksonville International Airport	JAX	CS	87,922	334,000	26.3%	109,908	334,000	32.9%	117,585	334,000	35.2%	134,301	334,000	40.2%
Key West	Key West International Airport	EYW	CS	53,825	165,792	32.5%	55,061	165,792	33.2%	57,178	165,792	34.5%	61,294	165,792	37.0%
Keystone Heights	Keystone Airpark	42J	GA	32,400	229,500	14.1%	36,236	229,500	15.8%	39,782	229,500	17.3%	47,965	229,500	20.9%
La Belle	La Belle Municipal Airport	X14	GA	22,000	195,500	11.3%	23,551	195,500	12.0%	24,927	195,500	12.8%	27,926	195,500	14.3%
Lake City	Lake City Gateway Airport	LCQ	GA	28,714	230,000	12.5%	30,830	230,000	13.4%	32,748	230,000	14.2%	36,979	230,000	16.1%
Lake Wales	Chalet Suzanne Air Strip	X25	GA	3,212	126,500	2.5%	3,234	126,500	2.6%	3,252	126,500	2.6%	3,289	126,500	2.6%
Lake Wales	Lake Wales Municipal Airport	X07	GA	19,260	163,045	11.8%	20,626	163,045	12.7%	21,837	163,045	13.4%	24,479	163,045	15.0%
Lakeland	South Lakeland Airport	X49	GA	12,000	161,000	7.5%	12,108	161,000	7.5%	12,199	161,000	7.6%	12,384	161,000	7.7%
Lakeland	Lakeland Linder Regional Airport	LAL	GA	97,727	230,000	42.5%	104,649	230,000	45.5%	110,755	230,000	48.2%	124,068	230,000	53.9%

Associated City	Airport Name	FAA ID	CS/ GA	2014 Total Operations	ASV	D/C Ratio	2020 Total Operations	ASV	D/C Ratio	2025 Total Operations	ASV	D/C Ratio	2035 Total Operations	ASV	D/C Ratio
Leesburg	Leesburg International Airport	LEE	GA	52,144	230,000	22.7%	58,908	230,000	25.6%	64,865	230,000	28.2%	78,679	230,000	34.2%
Live Oak	Suwannee County Airport	24J	GA	16,300	195,500	8.3%	16,447	195,500	8.4%	16,571	195,500	8.5%	16,821	195,500	8.6%
Marathon	The Florida Keys Marathon Airport	MTH	GA	67,953	195,500	34.8%	71,114	195,500	36.4%	73,851	195,500	37.8%	79,528	195,500	40.7%
Marco Island	Marco Island Airport	MKY	GA	20,000	218,500	9.2%	22,078	218,500	10.1%	24,003	218,500	11.0%	28,455	218,500	13.0%
Marianna	Marianna Municipal Airport	MAI	GA	28,016	195,500	14.3%	29,228	195,500	15.0%	30,279	195,500	15.5%	32,494	195,500	16.6%
Melbourne	Melbourne International Airport	MLB	CS	132,316	374,500	35.3%	99,236	374,500	26.5%	100,742	374,500	26.9%	106,864	374,500	28.5%
Merritt Island	Merritt Island Airport	COI	GA	113,500	196,634	57.7%	119,679	196,634	60.9%	125,089	196,634	63.6%	136,661	196,634	69.5%
Miami	Miami-Opa Locka Executive Airport	OPF	GA	131,836	163,020	80.9%	142,755	163,020	87.6%	150,811	163,020	92.5%	168,403	163,020	103.3%
Miami	Dade-Collier Training and Transition Airport	TNT	GA	14,468	189,000	7.7%	14,599	189,000	7.7%	14,709	189,000	7.8%	14,931	189,000	7.9%
Miami	Miami Executive Airport	TMB	GA	254,353	256,752	99.1%	270,640	256,752	105.4%	284,850	256,752	110.9%	315,568	256,752	122.9%
Miami	Miami International Airport	MIA	CS	400,822	658,000	60.9%	439,449	658,000	66.8%	472,961	658,000	71.9%	554,213	658,000	84.2%
Miami	Miami Seaplane Base	X44	GA	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A
Milton	Peter Prince Field	2R4	GA	93,950	195,500	48.1%	105,799	195,500	54.1%	116,808	195,500	59.7%	142,379	195,500	72.8%
Naples	Naples Municipal Airport	APF	GA	93,295	230,000	40.6%	105,846	230,000	46.0%	115,472	230,000	50.2%	137,685	230,000	59.9%
Navarre	Ft. Walton Beach Airport	1J9	GA	8,030	126,500	6.3%	8,103	126,500	6.4%	8,163	126,500	6.5%	8,287	126,500	6.6%
New Smyrna Beach	Massey Ranch Airpark	X50	GA	12,046	195,500	6.2%	11,628	195,500	5.9%	11,702	195,500	6.0%	11,852	195,500	6.1%
New Smyrna Beach	New Smyrna Beach Municipal Airport	EVB	GA	158,275	230,000	68.8%	165,390	230,000	71.9%	172,024	230,000	74.8%	186,111	230,000	80.9%
Ocala	Ocala International-Jim Taylor Field	OCF	GA	49,316	225,000	21.9%	53,880	225,000	23.9%	57,997	225,000	25.8%	67,194	225,000	29.9%
Okeechobee	Okeechobee County Airport	OBE	GA	50,000	195,500	25.6%	52,049	195,500	26.6%	53,821	195,500	27.5%	57,548	195,500	29.4%
Orlando	Kissimmee Gateway Airport	ISM	GA	85,708	230,000	37.3%	94,151	230,000	40.9%	101,706	230,000	44.2%	118,712	230,000	51.6%
Orlando	Executive Airport	ORL	GA	109,778	267,300	41.1%	120,177	267,300	45.0%	129,189	267,300	48.3%	149,402	267,300	55.9%
Orlando	Orlando-Sanford International Airport	SFB	CS	206,246	406,089	50.8%	296,306	406,089	73.0%	307,209	406,089	75.7%	327,397	406,089	80.6%
Orlando	Orlando International Airport	MCO	CS	295,403	740,000	39.9%	353,875	740,000	47.8%	393,744	740,000	53.2%	479,088	740,000	64.7%
Ormond Beach	Ormond Beach Municipal Airport	OMN	GA	109,447	218,500	50.1%	114,796	218,500	52.5%	119,451	218,500	54.7%	129,335	218,500	59.2%
Pahokee	Palm Beach County Glades Airport	PHK	GA	36,750	69,253	53.1%	40,627	69,253	58.7%	44,171	69,253	63.8%	52,218	69,253	75.4%
Palatka	Palatka Municipal-Lt. Kay Larkin Field	28J	GA	37,186	319,500	11.6%	38,960	319,500	12.2%	40,502	319,500	12.7%	43,775	319,500	13.7%
Palm Coast	Flagler County Airport	FIN	GA	148,526	259,300	57.3%	170,022	259,300	65.6%	190,290	259,300	73.4%	238,374	259,300	91.9%
Palmetto	Airport Manatee	48X	GA	7,100	126,500	5.6%	7,164	126,500	5.7%	7,218	126,500	5.7%	7,327	126,500	5.8%
Panacea	Wakulla County Airport	2J0	GA	2,380	126,500	1.9%	2,402	126,500	1.9%	2,420	126,500	1.9%	2,456	126,500	1.9%
Panama City	Northwest Florida-Beaches International Airport	ECP	CS	57,208	225,000	25.4%	64,913	225,000	28.9%	66,409	225,000	29.5%	69,591	225,000	30.9%

Associated City	Airport Name	FAA ID	CS/ GA	2014 Total Operations	ASV	D/C Ratio	2020 Total Operations	ASV	D/C Ratio	2025 Total Operations	ASV	D/C Ratio	2035 Total Operations	ASV	D/C Ratio
Pensacola	Ferguson Airport	82J	GA	67,500	149,500	45.2%	69,455	149,500	46.5%	71,126	149,500	47.6%	74,592	149,500	49.9%
Pensacola	Pensacola International Airport	PNS	CS	105,693	215,000	49.2%	109,258	215,000	50.8%	110,195	215,000	51.3%	114,369	215,000	53.2%
Perry	Perry-Foley Airport	40J	GA	18,400	301,750	6.1%	18,564	301,750	6.2%	18,703	301,750	6.2%	18,982	301,750	6.3%
Pierson	Pierson Municipal Airport	2J8	GA	14,040	126,500	11.1%	14,167	126,500	11.2%	14,273	126,500	11.3%	14,489	126,500	11.5%
Plant City	Plant City Airport	PCM	GA	47,975	195,500	24.5%	52,676	195,500	26.9%	56,947	195,500	29.1%	66,558	195,500	34.0%
Pompano Beach	Pompano Beach Airpark	PMP	GA	133,805	230,000	58.2%	144,174	230,000	62.7%	153,927	230,000	66.9%	175,460	230,000	76.3%
Port St. Joe	Costin Airport	A51	GA	12,500	126,500	9.9%	12,613	126,500	10.0%	12,708	126,500	10.0%	12,900	126,500	10.2%
Punta Gorda	Shell Creek Airpark	F13	GA	2,190	149,500	1.5%	2,210	149,500	1.5%	2,226	149,500	1.5%	2,260	149,500	1.5%
Punta Gorda	Punta Gorda Airport	PGD	CS	54,072	355,000	15.2%	74,312	355,000	20.9%	76,785	355,000	21.6%	82,025	355,000	23.1%
Quincy	Quincy Municipal Airport	2J9	GA	6,240	195,500	3.2%	6,296	195,500	3.2%	6,344	195,500	3.2%	6,440	195,500	3.3%
River Ranch	River Ranch Resort Airport	2RR	GA	0	172,500	0.0%	0	172,500	0.0%	0	172,500	0.0%	0	172,500	0.0%
Sarasota	Sarasota Bradenton International Airport	SRQ	CS	100,889	243,600	41.4%	104,509	243,600	42.9%	106,795	243,600	43.8%	111,684	243,600	45.8%
Sebastian	Sebastian Municipal Airport	X26	GA	37,240	200,313	18.6%	41,089	200,313	20.5%	44,607	200,313	22.3%	52,596	200,313	26.3%
Sebring	Sebring Regional Airport	SEF	GA	103,087	355,000	29.0%	114,126	355,000	32.1%	124,223	355,000	35.0%	147,175	355,000	41.5%
St. Augustine	Northeast Florida Regional Airport	SGJ	CS	136,079	188,930	72.0%	148,623	188,930	78.7%	153,458	188,930	81.2%	163,758	188,930	86.7%
St. Petersburg	Albert Whitted Airport	SPG	GA	98,317	218,500	45.0%	99,132	218,500	45.4%	101,541	218,500	46.5%	106,540	218,500	48.8%
St. Petersburg/ Clearwater	St. Pete-Clearwater International Airport	PIE	CS	128,412	215,000	59.7%	110,677	215,000	51.5%	112,795	215,000	52.5%	117,366	215,000	54.6%
Stuart	Witham Field	SUA	GA	79,774	221,840	36.0%	88,079	221,840	39.7%	94,994	221,840	42.8%	110,614	221,840	49.9%
Tallahassee/ Havana*	Tallahassee Commercial Airport	68J	GA	0	0	0%	0	0	0%	0	0	0%	0	0	0%
Tallahassee	Tallahassee International Airport	TLH	CS	56,388	235,721	23.9%	56,010	235,721	23.8%	56,334	235,721	23.9%	58,898	235,721	25.0%
Tampa	Tampa North Aero Park	X39	GA	11,000	161,000	6.8%	11,099	161,000	6.9%	11,183	161,000	6.9%	11,352	161,000	7.1%
Tampa	Peter O. Knight Airport	TPF	GA	53,800	195,500	27.5%	58,879	195,500	30.1%	63,505	195,500	32.5%	73,884	195,500	37.8%
Tampa	Tampa Executive Airport	VDF	GA	94,590	270,000	35.0%	103,802	270,000	38.4%	112,165	270,000	41.5%	130,976	270,000	48.5%
Tampa	Tampa International Airport	TPA	CS	183,931	575,000	32.0%	196,925	575,000	34.2%	213,111	575,000	37.1%	248,742	575,000	43.3%
Tavares	Tavares Seaplane Base	FA1	GA	7,000	N/A	N/A	7,063	N/A	N/A	7,116	N/A	N/A	7,224	N/A	N/A
Titusville	Arthur Dunn Air Park	X21	GA	40,702	184,000	22.1%	42,879	184,000	23.3%	44,832	184,000	24.4%	49,012	184,000	26.6%
Titusville	Space Coast Regional Airport	TIX	GA	97,438	340,789	28.6%	102,745	340,789	30.1%	107,439	340,789	31.5%	117,481	340,789	34.5%
Umatilla	Umatilla Municipal Airport	X23	GA	5,000	195,500	2.6%	5,045	195,500	2.6%	5,083	195,500	2.6%	5,160	195,500	2.6%
Valkaria	Valkaria Airport	X59	GA	33,100	230,000	14.4%	34,926	230,000	15.2%	36,525	230,000	15.9%	39,945	230,000	17.4%

Associated City	Airport Name	FAA ID	CS/ GA	2014 Total Operations	ASV	D/C Ratio	2020 Total Operations	ASV	D/C Ratio	2025 Total Operations	ASV	D/C Ratio	2035 Total Operations	ASV	D/C Ratio
Valparaiso	Destin-Fort Walton Beach Airport	VPS	CS	52,141	230,000	22.7%	55,016	230,000	23.9%	56,608	230,000	24.6%	60,210	230,000	26.2%
Venice	Venice Municipal Airport	VNC	GA	60,834	230,000	26.4%	65,032	230,000	28.3%	68,752	230,000	29.9%	76,840	230,000	33.4%
Vero Beach	New Hibiscus Airpark	X52	GA	25,424	126,500	20.1%	28,627	126,500	22.6%	30,762	126,500	24.3%	35,612	126,500	28.2%
Vero Beach	Vero Beach Regional Airport	VRB	GA	211,200	337,250	62.6%	234,133	337,250	69.4%	254,303	337,250	75.4%	300,107	337,250	89.0%
Wauchula	Wauchula Municipal Airport	CHN	GA	8,200	195,500	4.2%	8,274	195,500	4.2%	8,336	195,500	4.3%	8,462	195,500	4.3%
West Palm Beach	Palm Beach International Airport	PBI	CS	137,985	221,039	62.4%	149,503	221,039	67.6%	156,839	221,039	71.0%	172,731	221,039	78.1%
West Palm Beach	North Palm Beach County General Aviation Airport	F45	GA	97,400	280,912	34.7%	106,970	280,912	38.1%	115,718	280,912	41.2%	135,583	280,912	48.3%
West Palm Beach	Palm Beach County Park Airport	LNA	GA	126,750	447,139	28.3%	140,001	447,139	31.3%	152,113	447,139	34.0%	179,618	447,139	40.2%
Williston	Williston Municipal Airport	X60	GA	16,250	221,000	7.4%	16,397	221,000	7.4%	16,520	221,000	7.5%	16,770	221,000	7.6%
Winter Haven	Winter Haven's Gilbert Airport	GIF	GA	60,000	208,896	28.7%	64,267	208,896	30.8%	68,054	208,896	32.6%	76,311	208,896	36.5%
Winter Haven	Jack Browns Seaplane Base	F57	GA	10,000	N/A	N/A	10,090	N/A	N/A	10,166	N/A	N/A	10,320	N/A	N/A
Zellwood	Bob White Field	X61	GA	20,000	161,000	12.4%	21,910	161,000	13.6%	23,640	161,000	14.7%	27,520	161,000	17.1%
Zephyrhills	Zephyrhills Municipal Airport	ZPH	GA	49,425	226,200	21.9%	54,501	226,200	24.1%	59,127	226,200	26.1%	69,596	226,200	30.8%

Source: Florida Aviation System Plan (FASP) 2035 Phase 1 Airport Demand/Capacity Analysis; Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; Kimley-Horn. Prepared April 2017.

*Airport closed indefinitely

As shown in Table 6-24, capacity constraints are anticipated to occur primarily in FDOT District 6, and to a lesser extent, Districts 4 and 5. While the results of this analysis do not necessarily trigger a need for FDOT Districts to implement capacity enhancements at airports, they do identify geographical areas that could face capacity constraints in the future. As such, it is recommended that these FDOT Districts be monitored for activity and trends in the future to identify if capacity enhancements at specific airports or in specific districts may be needed.

Table 6-24: FASP 2035 FDOT District D/C Ratios

FDOT District	2014 Total Operations	ASV	D/C Ratio	2020 Total Operations	ASV	D/C Ratio	2025 Total Operations	ASV	D/C Ratio	2035 Total Operations	ASV	D/C Ratio
D/C Analysis by FDOT District												
1	1,017,721	5,375,788	18.9%	1,112,468	5,375,788	20.7%	1,182,117	5,375,788	22.0%	1,337,924	5,375,788	24.9%
2	811,083	3,846,996	21.1%	884,475	3,846,996	23.0%	927,149	3,846,996	24.1%	1,022,889	3,846,996	26.6%
3	676,378	3,720,721	18.2%	713,572	3,720,721	19.2%	738,986	3,720,721	19.9%	799,340	3,720,721	21.5%
4	1,681,678	4,207,788	40.0%	1,889,360	4,207,788	44.9%	2,041,412	4,207,788	48.5%	2,381,414	4,207,788	56.6%
5	2,177,508	6,147,195	35.4%	2,413,117	6,147,195	39.3%	2,560,176	6,147,195	41.6%	2,883,135	6,147,195	46.9%
6	999,874	1,849,064	54.1%	1,074,994	1,849,064	58.1%	1,139,933	1,849,064	61.6%	1,288,584	1,849,064	69.7%
7	818,924	3,069,277	26.7%	848,240	3,069,277	27.6%	899,207	3,069,277	29.3%	1,012,236	3,069,277	33.0%
State Total	8,183,166	28,216,829	29.0%	8,936,226	28,216,829	31.7%	9,488,981	28,216,829	33.6%	10,725,520	28,216,829	38.0%

Source: Florida Aviation System Plan (FASP) 2035 Phase 1 Airport Demand/Capacity Analysis; Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; Kimley-Horn. Prepared April 2017.

Based on forecasts of GA operations presented in **Section 6.5.2.4**, a sensitivity analysis was developed, which is presented in **Appendix B – Forecasting Tables**. This sensitivity analysis identified GA operations by airport with a low growth scenario (10 percent below preferred forecast) and a high growth scenario (10 percent above preferred forecast). This analysis was developed to provide a range of potential activity levels to help FDOT and airports plan in the event that forecasted activity exceeds or falls short of the preferred forecast. GA operations identified in the high growth scenario from **Appendix B – Forecasting Tables** are combined with commercial operations to determine total operations. A summary of the high growth scenario from the sensitivity analysis is shown in **Table 6-25**. As shown, by 2035 under the high growth scenario described in the sensitivity analysis, it is projected that 11 airports will exceed the 60 percent threshold, nine will exceed the 80 percent threshold, and four will exceed their ASV altogether.

Table 6-25: FASP 2035 Airport D/C Ratios: Sensitivity Analysis High Growth

Associated City	Airport Name	FAA ID	CS/ GA	2014 Total Operations	ASV	D/C Ratio	2020 Total Operations	ASV	D/C Ratio	2025 Total Operations	ASV	D/C Ratio	2035 Total Operations	ASV	D/C Ratio
D/C Analysis by Airport: Sensitivity Analysis															
Apalachicola	St. George Island Airport	F47	GA	500	149,500	0.3%	555	149,500	0.4%	559	149,500	0.4%	568	149,500	0.4%
Apalachicola	Apalachicola Regional-Cleve Randolph Field	AAF	GA	24,375	319,500	7.6%	28,494	319,500	8.9%	30,094	319,500	9.4%	33,583	319,500	10.5%
Apopka	Orlando Apopka Airport	X04	GA	21,900	210,000	10.4%	26,390	210,000	12.6%	28,474	210,000	13.6%	33,148	210,000	15.8%
Arcadia	Arcadia Municipal Airport	X06	GA	19,370	184,000	10.5%	21,496	184,000	11.7%	21,658	184,000	11.8%	21,984	184,000	11.9%
Archer	Flying Ten Airport	OJ8	GA	30,000	126,500	23.7%	35,168	126,500	27.8%	37,083	126,500	29.3%	41,232	126,500	32.6%
Avon Park	Avon Park Executive Airport	AVO	GA	32,400	211,548	15.3%	39,456	211,548	18.7%	42,947	211,548	20.3%	50,882	211,548	24.1%
Bartow	Bartow Municipal Airport	BOW	GA	27,759	275,000	10.1%	32,707	275,000	11.9%	34,634	275,000	12.6%	38,836	275,000	14.1%
Belle Glade	Belle Glade State Municipal Airport	X10	GA	1,800	195,500	0.9%	1,998	195,500	1.0%	2,013	195,500	1.0%	2,043	195,500	1.0%
Blountstown	Calhoun County Airport	F95	GA	1,020	195,500	0.5%	1,132	195,500	0.6%	1,141	195,500	0.6%	1,158	195,500	0.6%
Boca Raton	Boca Raton Airport	BCT	GA	56,581	185,250	30.5%	69,782	185,250	37.7%	76,101	185,250	41.1%	90,491	185,250	48.8%
Bonifay	Tri-County Airport	1J0	GA	28,376	195,500	14.5%	33,073	195,500	16.9%	34,717	195,500	17.8%	38,254	195,500	19.6%
Brooksville	Pilot Country Airport	X05	GA	10,176	195,500	5.2%	11,295	195,500	5.8%	11,380	195,500	5.8%	11,552	195,500	5.9%
Brooksville	Brooksville-Tampa Bay Regional Airport	BKV	GA	47,396	230,000	20.6%	57,156	230,000	24.9%	62,023	230,000	27.0%	73,039	230,000	31.8%
Carrabelle	Carrabelle-Thompson Airport	X13	GA	4,261	195,500	2.2%	4,729	195,500	2.4%	4,765	195,500	2.4%	4,837	195,500	2.5%
Cedar Key	George T. Lewis Airport	CDK	GA	4,000	161,000	2.5%	4,440	161,000	2.8%	4,473	161,000	2.8%	4,541	161,000	2.8%
Clearwater	Clearwater Air Park	CLW	GA	50,590	184,000	27.5%	57,312	184,000	31.1%	58,738	184,000	31.9%	61,698	184,000	33.5%
Clewiston	Airglades Airport	2IS	GA	11,527	195,500	5.9%	12,794	195,500	6.5%	12,890	195,500	6.6%	13,085	195,500	6.7%
Crestview	Bob Sikes Airport	CEW	GA	48,600	230,000	21.1%	55,639	230,000	24.2%	57,543	230,000	25.0%	61,545	230,000	26.8%
Cross City	Cross City Airport	CTY	GA	18,000	195,500	9.2%	19,979	195,500	10.2%	20,129	195,500	10.3%	20,433	195,500	10.5%
Crystal River	Crystal River Airport-Captain Tom Davis Field	CGC	GA	28,312	173,077	16.4%	33,964	173,077	19.6%	36,557	173,077	21.1%	42,352	173,077	24.5%
Daytona Beach	Daytona Beach International Airport	DAB	CS	289,536	485,000	59.7%	334,550	485,000	69.0%	343,280	485,000	70.8%	361,687	485,000	74.6%
DeFuniak Springs	DeFuniak Springs Airport	54J	GA	16,200	184,000	8.8%	17,959	184,000	9.8%	18,093	184,000	9.8%	18,363	184,000	10.0%
DeLand	Bob Lee Flight Strip	1J6	GA	6,000	132,250	4.5%	6,660	132,250	5.0%	6,710	132,250	5.1%	6,811	132,250	5.2%
DeLand	DeLand Municipal-Sidney H. Taylor Field	DED	GA	117,460	230,000	51.1%	135,457	230,000	58.9%	140,934	230,000	61.3%	152,563	230,000	66.3%
Destin	Destin Executive Airport	DTS	GA	63,000	230,000	27.4%	72,106	230,000	31.4%	74,594	230,000	32.4%	79,828	230,000	34.7%
Dunnellon	Marion County Airport	X35	GA	38,603	152,833	25.3%	46,421	152,833	30.4%	50,000	152,833	32.7%	58,007	152,833	38.0%

Associated City	Airport Name	FAA ID	CS/ GA	2014 Total Operations	ASV	D/C Ratio	2020 Total Operations	ASV	D/C Ratio	2025 Total Operations	ASV	D/C Ratio	2035 Total Operations	ASV	D/C Ratio
Englewood	Buchan Airport	X36	GA	2,701	126,500	2.1%	2,998	126,500	2.4%	3,020	126,500	2.4%	3,066	126,500	2.4%
Eustis	Mid Florida Air Service Airport	X55	GA	21,024	126,500	16.6%	25,769	126,500	20.4%	28,314	126,500	22.4%	34,215	126,500	27.0%
Everglades	Everglades Airpark	X01	GA	6,200	184,000	3.4%	6,860	184,000	3.7%	6,910	184,000	3.8%	7,011	184,000	3.8%
Fernandina Beach	Fernandina Beach Municipal Airport	FHB	GA	47,000	169,304	27.8%	57,243	169,304	33.8%	62,490	169,304	36.9%	74,516	169,304	44.0%
Fort Lauderdale	Fort Lauderdale Executive Airport	FXE	GA	168,073	192,100	87.5%	196,190	192,100	102.1%	209,252	192,100	108.9%	238,057	192,100	123.9%
Fort Lauderdale	Fort Lauderdale-Hollywood International Airport	FLL	CS	254,683	565,000	45.1%	328,148	565,000	58.1%	358,894	565,000	63.5%	425,412	565,000	75.3%
Fort Lauderdale	Downtown Fort Lauderdale Heliport	DT1	GA	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A
Fort Myers	Page Field	FMY	GA	89,742	202,699	44.3%	109,212	202,699	53.9%	118,012	202,699	58.2%	137,860	202,699	68.0%
Fort Myers	Southwest Florida International Airport	RSW	CS	77,656	210,000	37.0%	82,940	210,000	39.5%	90,592	210,000	43.1%	107,856	210,000	51.4%
Fort Pierce	Treasure Coast International Airport	FPR	GA	154,405	369,192	41.8%	190,684	369,192	51.6%	210,382	369,192	57.0%	256,152	369,192	69.4%
Gainesville	Gainesville Regional Airport	GNV	CS	59,494	255,045	23.3%	68,670	255,045	26.9%	68,271	255,045	26.8%	69,647	255,045	27.3%
High Springs	Oak Tree Landing Airport	6J8	GA	200	126,500	0.2%	222	126,500	0.2%	224	126,500	0.2%	227	126,500	0.2%
Hilliard	Hilliard Airpark	01J	GA	5,000	126,500	4.0%	5,550	126,500	4.4%	5,591	126,500	4.4%	5,676	126,500	4.5%
Hollywood	North Perry Airport	HWO	GA	154,808	440,000	35.2%	184,052	440,000	41.8%	196,522	440,000	44.7%	224,054	440,000	50.9%
Miami	Miami Homestead General Aviation Airport	X51	GA	76,617	221,000	34.7%	89,304	221,000	40.4%	93,921	221,000	42.5%	103,902	221,000	47.0%
Immokalee	Immokalee Regional Airport	IMM	GA	36,500	230,000	15.9%	45,059	230,000	19.6%	49,605	230,000	21.6%	60,119	230,000	26.1%
Indiantown	Indiantown Airport	X58	GA	5,000	126,500	4.0%	5,550	126,500	4.4%	5,591	126,500	4.4%	5,676	126,500	4.5%
Inverness	Inverness Airport	INF	GA	15,000	230,000	6.5%	16,649	230,000	7.2%	16,774	230,000	7.3%	17,028	230,000	7.4%
Jacksonville	Jacksonville Executive At Craig Airport	CRG	GA	101,139	197,449	51.2%	119,282	197,449	60.4%	126,044	197,449	63.8%	140,761	197,449	71.3%
Jacksonville	Herlong Recreational Airport	HEG	GA	80,700	204,128	39.5%	94,781	204,128	46.4%	100,101	204,128	49.0%	111,651	204,128	54.7%
Jacksonville	Cecil Airport	VQQ	GA	92,299	264,890	34.8%	108,659	264,890	41.0%	114,668	264,890	43.3%	127,717	264,890	48.2%
Jacksonville	Jacksonville International Airport	JAX	CS	87,922	334,000	26.3%	112,834	334,000	33.8%	120,526	334,000	36.1%	137,276	334,000	41.1%
Key West	Key West International Airport	EYW	CS	53,825	165,792	32.5%	58,510	165,792	35.3%	60,644	165,792	36.6%	64,799	165,792	39.1%
Keystone Heights	Keystone Airpark	42J	GA	32,400	229,500	14.1%	39,809	229,500	17.3%	43,710	229,500	19.0%	52,712	229,500	23.0%
La Belle	La Belle Municipal Airport	X14	GA	22,000	195,500	11.3%	25,894	195,500	13.2%	27,407	195,500	14.0%	30,707	195,500	15.7%
Lake City	Lake City Gateway Airport	LCQ	GA	28,714	230,000	12.5%	33,768	230,000	14.7%	35,861	230,000	15.6%	40,474	230,000	17.6%
Lake Wales	Chalet Suzanne Air Strip	X25	GA	3,212	126,500	2.5%	3,477	126,500	2.7%	3,497	126,500	2.8%	3,538	126,500	2.8%
Lake Wales	Lake Wales Municipal Airport	X07	GA	19,260	163,045	11.8%	22,682	163,045	13.9%	24,015	163,045	14.7%	26,921	163,045	16.5%
Lakeland	South Lakeland Airport	X49	GA	12,000	161,000	7.5%	13,319	161,000	8.3%	13,419	161,000	8.3%	13,622	161,000	8.5%

Associated City	Airport Name	FAA ID	CS/ GA	2014 Total Operations	ASV	D/C Ratio	2020 Total Operations	ASV	D/C Ratio	2025 Total Operations	ASV	D/C Ratio	2035 Total Operations	ASV	D/C Ratio
Lakeland	Lakeland Linder Regional Airport	LAL	GA	97,727	230,000	42.5%	115,011	230,000	50.0%	121,728	230,000	52.9%	136,372	230,000	59.3%
Leesburg	Leesburg International Airport	LEE	GA	52,144	230,000	22.7%	64,706	230,000	28.1%	71,259	230,000	31.0%	86,454	230,000	37.6%
Live Oak	Suwannee County Airport	24J	GA	16,300	195,500	8.3%	18,092	195,500	9.3%	18,228	195,500	9.3%	18,503	195,500	9.5%
Marathon	The Florida Keys Marathon Airport	MTH	GA	67,953	195,500	34.8%	77,752	195,500	39.8%	80,730	195,500	41.3%	86,917	195,500	44.5%
Marco Island	Marco Island Airport	MKY	GA	20,000	218,500	9.2%	23,986	218,500	11.0%	26,103	218,500	11.9%	31,000	218,500	14.2%
Marianna	Marianna Municipal Airport	MAI	GA	28,016	195,500	14.3%	32,151	195,500	16.4%	33,307	195,500	17.0%	35,743	195,500	18.3%
Melbourne	Melbourne International Airport	MLB	CS	132,316	374,500	35.3%	108,252	374,500	28.9%	109,990	374,500	29.4%	116,598	374,500	31.1%
Merritt Island	Merritt Island Airport	COI	GA	113,500	196,634	57.7%	131,497	196,634	66.9%	137,447	196,634	69.9%	150,177	196,634	76.4%
Miami	Miami-Opa Locka Executive Airport	OPF	GA	131,836	163,020	80.9%	155,945	163,020	95.7%	164,698	163,020	101.0%	183,800	163,020	112.7%
Miami	Dade-Collier Training and Transition Airport	TNT	GA	14,468	189,000	7.7%	16,059	189,000	8.5%	16,179	189,000	8.6%	16,424	189,000	8.7%
Miami	Miami Executive Airport	TMB	GA	254,353	256,752	99.1%	297,478	256,752	115.9%	313,110	256,752	122.0%	346,900	256,752	135.1%
Miami	Miami International Airport	MIA	CS	400,822	658,000	60.9%	441,388	658,000	67.1%	474,900	658,000	72.2%	556,152	658,000	84.5%
Miami	Miami Seaplane Base	X44	GA	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A	0	N/A	N/A
Milton	Peter Prince Field	2R4	GA	93,950	195,500	48.1%	116,379	195,500	59.5%	128,488	195,500	65.7%	156,617	195,500	80.1%
Naples	Naples Municipal Airport	APF	GA	93,295	230,000	40.6%	115,143	230,000	50.1%	125,707	230,000	54.7%	150,089	230,000	65.3%
Navarre	Ft. Walton Beach Airport	1J9	GA	8,030	126,500	6.3%	8,913	126,500	7.0%	8,980	126,500	7.1%	9,115	126,500	7.2%
New Smyrna Beach	Massey Ranch Airpark	X50	GA	12,046	195,500	6.2%	12,612	195,500	6.5%	12,693	195,500	6.5%	12,858	195,500	6.6%
New Smyrna Beach	New Smyrna Beach Municipal Airport	EVN	GA	158,275	230,000	68.8%	181,750	230,000	79.0%	189,048	230,000	82.2%	204,543	230,000	88.9%
Ocala	Ocala International-Jim Taylor Field	OCF	GA	49,316	225,000	21.9%	59,149	225,000	26.3%	63,671	225,000	28.3%	73,777	225,000	32.8%
Okeechobee	Okeechobee County Airport	OBE	GA	50,000	195,500	25.6%	57,254	195,500	29.3%	59,203	195,500	30.3%	63,303	195,500	32.4%
Orlando	Kissimmee Gateway Airport	ISM	GA	85,708	230,000	37.3%	103,212	230,000	44.9%	111,483	230,000	48.5%	130,094	230,000	56.6%
Orlando	Executive Airport	ORL	GA	109,778	267,300	41.1%	131,590	267,300	49.2%	141,502	267,300	52.9%	163,737	267,300	61.3%
Orlando	Orlando-Sanford International Airport	SFB	CS	206,246	406,089	50.8%	314,313	406,089	77.4%	325,609	406,089	80.2%	346,612	406,089	85.4%
Orlando	Orlando International Airport	MCO	CS	295,403	740,000	39.9%	355,395	740,000	48.0%	395,264	740,000	53.4%	480,608	740,000	64.9%
Ormond Beach	Ormond Beach Municipal Airport	OMN	GA	109,447	218,500	50.1%	126,275	218,500	57.8%	131,396	218,500	60.1%	142,268	218,500	65.1%
Pahokee	Palm Beach County Glades Airport	PHK	GA	36,750	69,253	53.1%	44,665	69,253	64.5%	48,563	69,253	70.1%	57,415	69,253	82.9%
Palatka	Palatka Municipal-Lt. Kay Larkin Field	28J	GA	37,186	319,500	11.6%	42,827	319,500	13.4%	44,525	319,500	13.9%	48,125	319,500	15.1%
Palm Coast	Flagler County Airport	FIN	GA	148,526	259,300	57.3%	186,998	259,300	72.1%	209,292	259,300	80.7%	262,184	259,300	101.1%
Palmetto	Airport Manatee	48X	GA	7,100	126,500	5.6%	7,881	126,500	6.2%	7,940	126,500	6.3%	8,060	126,500	6.4%

Associated City	Airport Name	FAA ID	CS/GA	2014 Total Operations	ASV	D/C Ratio	2020 Total Operations	ASV	D/C Ratio	2025 Total Operations	ASV	D/C Ratio	2035 Total Operations	ASV	D/C Ratio
Panacea	Wakulla County Airport	2J0	GA	2,380	126,500	1.9%	2,642	126,500	2.1%	2,662	126,500	2.1%	2,702	126,500	2.1%
Panama City	Northwest Florida-Beaches International Airport	ECP	CS	57,208	225,000	25.4%	70,053	225,000	31.1%	71,579	225,000	31.8%	74,821	225,000	33.3%
Pensacola	Ferguson Airport	82J	GA	67,500	149,500	45.2%	76,400	149,500	51.1%	78,239	149,500	52.3%	82,051	149,500	54.9%
Pensacola	Pensacola International Airport	PNS	CS	105,693	215,000	49.2%	117,624	215,000	54.7%	118,561	215,000	55.1%	122,735	215,000	57.1%
Perry	Perry-Foley Airport	40J	GA	18,400	301,750	6.1%	20,401	301,750	6.8%	20,553	301,750	6.8%	20,860	301,750	6.9%
Pierson	Pierson Municipal Airport	2J8	GA	14,040	126,500	11.1%	15,584	126,500	12.3%	15,701	126,500	12.4%	15,938	126,500	12.6%
Plant City	Plant City Airport	PCM	GA	47,975	195,500	24.5%	57,921	195,500	29.6%	62,617	195,500	32.0%	73,183	195,500	37.4%
Pompano Beach	Pompano Beach Airpark	PMP	GA	133,805	230,000	58.2%	158,560	230,000	68.9%	169,287	230,000	73.6%	192,974	230,000	83.9%
Port St. Joe	Costin Airport	A51	GA	12,500	126,500	9.9%	13,874	126,500	11.0%	13,979	126,500	11.1%	14,190	126,500	11.2%
Punta Gorda	Shell Creek Airpark	F13	GA	2,190	149,500	1.5%	2,431	149,500	1.6%	2,449	149,500	1.6%	2,486	149,500	1.7%
Punta Gorda	Punta Gorda Airport	PGD	CS	54,072	355,000	15.2%	80,654	355,000	22.7%	83,287	355,000	23.5%	88,858	355,000	25.0%
Quincy	Quincy Municipal Airport	2J9	GA	6,240	195,500	3.2%	6,926	195,500	3.5%	6,978	195,500	3.6%	7,083	195,500	3.6%
River Ranch	River Ranch Resort Airport	2RR	GA	0	172,500	0.0%	0	172,500	0.0%	0	172,500	0.0%	0	172,500	0.0%
Sarasota	Sarasota Bradenton International Airport	SRQ	CS	100,889	243,600	41.4%	113,106	243,600	46.4%	115,473	243,600	47.4%	120,528	243,600	49.5%
Sebastian	Sebastian Municipal Airport	X26	GA	37,240	200,313	18.6%	45,098	200,313	22.5%	48,968	200,313	24.4%	57,756	200,313	28.8%
Sebring	Sebring Regional Airport	SEF	GA	103,087	355,000	29.0%	125,538	355,000	35.4%	136,645	355,000	38.5%	161,892	355,000	45.6%
St. Augustine	Northeast Florida Regional Airport	SGJ	CS	136,079	188,930	72.0%	162,530	188,930	86.0%	167,801	188,930	88.8%	179,031	188,930	94.8%
St. Petersburg	Albert Whitted Airport	SPG	GA	98,317	218,500	45.0%	108,807	218,500	49.8%	111,456	218,500	51.0%	116,956	218,500	53.5%
St. Petersburg/Clearwater	St. Pete-Clearwater International Airport	PIE	CS	128,412	215,000	59.7%	119,742	215,000	55.7%	121,923	215,000	56.7%	126,622	215,000	58.9%
Stuart	Witham Field	SUA	GA	79,774	221,840	36.0%	96,317	221,840	43.4%	103,923	221,840	46.8%	121,105	221,840	54.6%
Tallahassee/Havana*	Tallahassee Commercial Airport	68J	GA	0	0	0%	0	0	0%	0	0	0%	0	0	0%
Tallahassee	Tallahassee International Airport	TLH	CS	56,388	235,721	23.9%	60,084	235,721	25.5%	60,408	235,721	25.6%	62,972	235,721	26.7%
Tampa	Tampa North Aero Park	X39	GA	11,000	161,000	6.8%	12,209	161,000	7.6%	12,301	161,000	7.6%	12,487	161,000	7.8%
Tampa	Peter O. Knight Airport	TPF	GA	53,800	195,500	27.5%	64,368	195,500	32.9%	69,439	195,500	35.5%	80,818	195,500	41.3%
Tampa	Tampa Executive Airport	VDF	GA	94,590	270,000	35.0%	114,131	270,000	42.3%	123,329	270,000	45.7%	144,021	270,000	53.3%
Tampa	Tampa International Airport	TPA	CS	183,931	575,000	32.0%	199,119	575,000	34.6%	215,304	575,000	37.4%	250,932	575,000	43.6%
Tavares	Tavares Seaplane Base	FA1	GA	7,000	N/A	N/A	7,770	N/A	N/A	7,828	N/A	N/A	7,946	N/A	N/A
Titusville	Arthur Dunn Air Park	X21	GA	40,702	184,000	22.1%	47,147	184,000	25.6%	49,296	184,000	26.8%	53,893	184,000	29.3%
Titusville	Space Coast Regional Airport	TIX	GA	97,438	340,789	28.6%	113,000	340,789	33.2%	118,163	340,789	34.7%	129,209	340,789	37.9%

Associated City	Airport Name	FAA ID	CS/ GA	2014 Total Operations	ASV	D/C Ratio	2020 Total Operations	ASV	D/C Ratio	2025 Total Operations	ASV	D/C Ratio	2035 Total Operations	ASV	D/C Ratio
Umatilla	Umatilla Municipal Airport	X23	GA	5,000	195,500	2.6%	5,550	195,500	2.8%	5,591	195,500	2.9%	5,676	195,500	2.9%
Valkaria	Valkaria Airport	X59	GA	33,100	230,000	14.4%	38,419	230,000	16.7%	40,177	230,000	17.5%	43,939	230,000	19.1%
Valparaiso	Destin-Fort Walton Beach Airport	VPS	CS	52,141	230,000	22.7%	58,945	230,000	25.6%	60,537	230,000	26.3%	64,139	230,000	27.9%
Venice	Venice Municipal Airport	VNC	GA	60,834	230,000	26.4%	71,536	230,000	31.1%	75,627	230,000	32.9%	84,524	230,000	36.7%
Vero Beach	New Hibiscus Airpark	X52	GA	25,424	126,500	20.1%	31,060	126,500	24.6%	33,409	126,500	26.4%	38,744	126,500	30.6%
Vero Beach	Vero Beach Regional Airport	VRB	GA	211,200	337,250	62.6%	257,118	337,250	76.2%	279,304	337,250	82.8%	329,689	337,250	97.8%
Wauchula	Wauchula Municipal Airport	CHN	GA	8,200	195,500	4.2%	9,101	195,500	4.7%	9,170	195,500	4.7%	9,308	195,500	4.8%
West Palm Beach	Palm Beach International Airport	PBI	CS	137,985	221,039	62.4%	155,709	221,039	70.4%	163,136	221,039	73.8%	179,213	221,039	81.1%
West Palm Beach	North Palm Beach County General Aviation Airport	F45	GA	97,400	280,912	34.7%	116,938	280,912	41.6%	126,560	280,912	45.1%	148,412	280,912	52.8%
West Palm Beach	Palm Beach County Park Airport	LNA	GA	126,750	447,139	28.3%	153,801	447,139	34.4%	167,124	447,139	37.4%	197,380	447,139	44.1%
Williston	Williston Municipal Airport	X60	GA	16,250	221,000	7.4%	18,036	221,000	8.2%	18,172	221,000	8.2%	18,447	221,000	8.3%
Winter Haven	Winter Haven's Gilbert Airport	GIF	GA	60,000	208,896	28.7%	70,694	208,896	33.8%	74,860	208,896	35.8%	83,942	208,896	40.2%
Winter Haven	Jack Browns Seaplane Base	F57	GA	10,000	N/A	N/A	11,099	N/A	N/A	11,183	N/A	N/A	11,352	N/A	N/A
Zellwood	Bob White Field	X61	GA	20,000	161,000	12.4%	24,101	161,000	15.0%	26,004	161,000	16.2%	30,272	161,000	18.8%
Zephyrhills	Zephyrhills Municipal Airport	ZPH	GA	49,425	226,200	21.9%	59,936	226,200	26.5%	65,025	226,200	28.7%	76,541	226,200	33.8%

Source: Florida Aviation System Plan (FASP) 2035 Phase 1 Airport Demand/Capacity Analysis; Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF), issued January 2017; Kimley-Horn. Prepared April 2017.

*Airport closed indefinitely

6.9 Air Service & Air Cargo

An analysis of the 2016 *Florida Air Cargo Study* and 2016 *Florida Air Service Study* was conducted to highlight how commercial air service and air cargo activities have changed over time, as well as how they have and will continue to influence aviation in Florida. The information contained in these reports is useful in planning for future airside and landside facilities—just as the forecasts in this Chapter are also useful in identifying future system capacity needs.

6.9.1 Overview of the 2016 Florida Air Cargo System Plan Study (2016)

With a robust multimodal infrastructure, business-friendly climate, skilled workforce, and diverse business and cultural connections, Florida is a hub for domestic and international trade. Imports and exports rely on Florida's transportation infrastructure and the state serves as a gateway between the U.S., the Caribbean, and Latin America.

Air cargo serves as a vital link of this complex network by securely, reliably, and efficiently transporting goods between their points of origin and final destinations. Air cargo is typified by time-sensitive, high-value, low-volume shipments. In 2014, the world's airlines transported 51.3 million metric tons of air cargo, representing more than 35 percent of global trade by value, but less than one percent by volume.

FDOT conducted the *Florida Air Cargo Study* in 2016 to comprehensively review global air cargo trends and their implications for the Florida air cargo market. The state's air cargo system spans airports ranging from Miami International Airport, one of the world's most important international hubs, to small GA facilities like the Florida Keys Marathon Airport, which plays an important role in the local business community. According to the Air Cargo Study, "air cargo is a necessary part of Florida's industrial fabric and provides many benefits to local economies in the form of jobs, payroll, and airline sales." Overall, Florida's commercial airports provide air cargo services and fill a variety of roles from major international gateways to regional and secondary airports serving small- and medium-size metropolitan areas.

6.9.1.1 Global and Local Air Cargo Usage

Based on an analysis of historical air cargo data, the *Florida Air Cargo Study* discusses a number of global, regional, and statewide trends within the industry. On a global scale, revenues steadily rose between the early 1980s and 2008, before experiencing a decline following the Great Recession of 2008 and 2009. While revenues rebounded in 2010 and reached a highpoint in 2011, growth has flattened in recent years. Rising fuel prices after 2005 were primarily responsible for the slowdown as shippers began to divert freight to less expensive modes of travel (e.g., trucks and ships). As of 2013, Asia has held the largest market share of the global air cargo industry, followed by North America, Europe, and the Middle East, respectively.

Florida experienced a similar trend, with total emplaned and deplaned cargo totaling between 2.6 and 2.8 U.S. tons in the late 1990s, declining to approximately 2.2 million tons in 2008, then

rising again to nearly 2.7 million tons in 2014.¹ Miami International Airport witnessed one of the largest gains from 2010 to 2014, reaching a total of over 2.2 million tons. The airport also has a significant majority of the market (81.3 percent), followed by Orlando International Airport (6.4 percent), Tampa International Airport (3.5 percent), and Fort Lauderdale-Hollywood International Airport (3.2 percent).

Several other airports also experienced notable growth between 2010 and 2014, including Orlando International Airport, Jacksonville International Airport, Palm Beach International Airport, Pensacola International Airport, and St. Pete-Clearwater International Airport. Conversely, total tonnage declined for six Florida airports, with Fort Lauderdale-Hollywood International Airport experiencing the most significant decline since 2010 (3.2 percent). However, air cargo at Fort Lauderdale-Hollywood International Airport increased by six percent between 2015 and 2016 based on a review of airport records, which may be attributed to the opening of a new runway in September 2014, constructed to alleviate airfield congestion.² **Table 6-26** presents the total air cargo tonnage trends from 2010 to 2014 for Florida's 20 commercial service airports.

¹ One U.S. ton or "short ton" is equivalent to 2,000 pounds.

² 2015 – 2016 information was added in February 2017 after the *Air Cargo Study* was published and based on airport records (Monthly FLL Stats, December 2016, available at www.broward.org/Airport/About/Pages/Statistics.aspx [accessed February 22, 2017]). The initial Study utilized the Airports Council International – North America air cargo database, which reports data slightly differently.

Table 6-26: Historic Air Cargo Tonnage at Florida Commercial Service Airports, 2010 – 2014 (in U.S. Short Tons)

Airport		2010	2011	2012	2013	2014	Percentage of Total (2014)	2012 – 2014 CAGR	2010 – 2014 CAGR
Daytona Beach	Daytona Beach International Airport	93	108	139	155	146	0.0%	2.5%	11.9%
Fort Myers	Southwest Florida International Airport	17,083	16,274	17,589	16,085	16,735	0.6%	-2.5%	-0.5%
Fort Lauderdale	Fort Lauderdale-Hollywood International Airport	98,067	95,931	96,935	84,115	85,945	3.2%	-5.8%	-3.2%
Gainesville	Gainesville Regional Airport	117	31	2	3	1	0.0%	-29.3%	-69.6%
Jacksonville	Jacksonville International Airport	59,962	72,658	74,897	73,061	71,308	2.6%	-2.4%	4.4%
Key West	Key West International Airport	-	-	-	-	510	0.0%	100.0%	100.0%
Melbourne	Melbourne International Airport	79	554	783	-	134	0.0%	-58.6%	14.1%
Miami	Miami International Airport	2,023,617	2,030,377	2,127,336	2,144,007	2,203,725	81.3%	1.8%	2.2%
Orlando	Orlando International Airport	149,798	161,462	190,647	187,015	172,869	6.4%	-4.8%	3.6%
Orlando	Orlando-Sanford International Airport	3,919	3,331	3,504	3,431	1,793	0.1%	-28.5%	-17.8%
Panama City	Northwest Florida Beaches International Airport	-	-	-	-	51	0.0%	100.0%	100.0%
Pensacola	Pensacola International Airport	305	1,456	6,444	6,506	6,668	0.2%	1.7%	116.2%
Punta Gorda	Punta Gorda Airport	-	-	-	-	-	0.0%	-	-
Sarasota/Bradenton	Sarasota Bradenton International Airport	215	199	208	201	224	0.0%	3.8%	1.0%
St. Augustine	Northeast Florida Regional Airport	-	-	-	-	-	0.0%	-	-

Airport		2010	2011	2012	2013	2014	Percentage of Total (2014)	2012 – 2014 CAGR	2010 – 2014 CAGR
St. Petersburg/Clearwater	St. Pete-Clearwater International Airport	15,508	15,060	18,779	19,845	21,570	0.8%	7.2%	8.6%
Tallahassee	Tallahassee International Airport	10,417	10,688	9,929	8,439	7,893	0.3%	-10.8%	-6.7%
Tampa	Tampa International Airport	96,873	95,876	94,253	93,557	93,684	3.5%	-0.3%	-0.8%
Valparaiso	Destin-Ft. Walton Beach Airport	-	-	-	-	-	0.0%	-	-
West Palm Beach	Palm Beach International Airport	19,014	20,118	20,613	21,889	27,642	1.0%	15.8%	9.8%
Total		2,495,067	2,524,123	2,662,058	2,658,309	2,710,898	100%	0.9%	2.1%

Source: Airport Records; Airports Council International; CDM Smith

Notes: CAGR = compound annual growth rate; 2014 (base year) uses a combination of the above sources; 2009 – 2014 uses Airports Council International – North America (ACI-NA) due to data availability

While each of these airports fills an important role in the market, Miami International Airport is undoubtedly the most significant player in the international trade arena. The airport is the leader in the Americas in international freight and controls north/south cargo in the Western Hemisphere. Total air trade in 2014 was valued at \$61.6 billion, or 96 percent of the dollar value of Florida's total air imports and exports. In 2016, the top international destinations originating at the airport include Bogotá, Colombia; Cotopaxi, Ecuador; and Buenos Aires, Argentina.

Domestically, Tampa to Memphis provides the largest trade lane from Florida, followed by Orlando to Louisville, and Miami to New York (via John F. Kennedy International Airport).

6.9.1.2 Emerging Market Trends

The shifting demands on the air cargo industry that have spurred the changes at these airports are driven by a number of domestic and international trends affecting Florida's airport system. The stronger U.S. dollar coupled with lower oil prices has led to fewer outbound shipments and more imports. The e-commerce industry, clustering around the Lakeland and Davenport areas along the Interstate 4 corridor, is also experiencing rapid growth.

Much of this growth is driven by Florida's aging population. By 2030, the over-60 age bracket is projected to reach 9.5 million residents—nearly doubling today's population for this group. This group will also increasingly depend on the home delivery of retail and medical pharmaceutical products ordered online. The rapid expansion of the e-commerce industry pressures logistics systems to find new and ever-faster ways to deliver goods to the marketplace, catalyzing growth in both air cargo and the trucking networks required to transport goods on the final legs of their journeys.

This final trend alludes to one of the most significant factors affecting air cargo demands. Over the last decade, trucking and air cargo have formed an increasingly interdependent relationship. Logistics systems rely on intermodal transport systems to provide connectivity between producers and consumers. Better technologies are emerging to facilitate the point of connection between airports and the customer or freight forwarder. As a result, airports must develop the infrastructure required to seamlessly transition goods from the air to the surface network. Yet airports only have limited control over this transition, as roadways at and adjacent to airports can severely impact air cargo services.

The *Florida Air Cargo Study* examined a number of Florida's transportation system plans that discuss the issue of traffic bottlenecks at airports, including the *Florida Freight Mobility and Trade Plan*, the Florida Transportation and Strategic Intermodal System Policy Plans, FDOT District freight planning efforts, and metropolitan planning organizations' (MPOs') plans and studies. Traffic bottlenecks limit the ability of airports to serve the new larger cargo aircraft entering service and can delay and hinder intermodal connections required for freight services. Notably, the *Unclogging America's Arteries 2015* study identified several locations adjacent to Miami International Airport as three of the nation's 50 worst traffic bottlenecks. I-4 congestion north of Orlando-Sanford International Airport is another problematic area.

Concurrently, a robust trucking industry can be a major competitor to air cargo. Trucking is not constrained by enhanced security regulations, many of the fuel surcharges imposed in 2008 have not yet been lifted by air carriers, and cargo tracking information systems have improved over time. Industry guidelines estimate that trucking is seven to ten times less expensive than air shipments. In some case, both passenger and cargo airlines use trucking services, known as road feeder service (RFS), as a substitute for air shipment. Alternatively, some commodities are switching to maritime transport, although the expansion of the Panama Canal is not anticipated to impact air cargo in Florida.

Other factors limiting the expansion of air cargo services include basic infrastructure requirements, including flight support services necessary for operations; adequate runway lengths, lighting, aprons, and taxiways; and access to aircraft and cargo processing facilities for trucks. Airports must also meet air cargo security requirements and have sufficient U.S. Customs and Border Patrol staff to improve cargo clearance times at international airports.

6.9.1.3 Commercial Service Air Cargo Forecasts

While air transport has not yet returned to the historic, pre-recession growth rates in the state, commercial service aviation forecasts project a modest to substantial increase in both annual air cargo tonnage and dedicated cargo aircraft operations. The development of such projections helps assess the need for and phasing of future air cargo-related improvements, evaluate the future capacity of the air cargo system, and plan for future airside and landside facilities.

Based on a review of available industry guidelines on forecast methodology, the *Florida Air Cargo Study* conducted four variations of a simple growth rate methodology to forecast Florida's air cargo industry over the five-, 10-, and 20-year planning horizons. Based on its reasonable and conservative compound annual growth rate (CAGR) and several other factors, the *Florida Air Cargo Study* selected the Historical Growth Rate Methodology to project air cargo tonnage and dedicated cargo operations for Florida's commercial service airports. **Table 6-27** presents the *Florida Air Cargo Study*'s preferred air cargo tonnage and dedicated cargo operations forecasts.

Table 6-27: Commercial Service Airports Air Cargo Tonnage and Cargo Operations Preferred Forecasts

	Year	Air cargo tonnage (short tons)	Dedicated cargo aircraft operations
Current	2014	2,710,891	56,230
Projected	2019	3,006,350	59,180
	2024	3,333,970	62,270
	2034	4,100,250	68,960
CAGR		2.1%	1.0%

Source: 2016 Florida Air Cargo Study

Indicative of this positive forecast, Boeing anticipates the worldwide freighter fleet to increase nearly 50 percent as the demand for air cargo services more than doubles in the next 20 years. North American carriers will receive the second-highest number of new freighters after Asian companies and the highest percentage of widebody aircraft. The Boeing 767 (B767) is the most common air cargo aircraft in Florida, comprising over 90 percent of all cargo operations at Miami International Airport and 29 percent of statewide operations. Other common aircraft include the Pilatus PC12, Boeing 757 and 747, and Airbus 300-6.

6.9.1.4 GA Air Cargo Forecasts

A full air cargo analysis of GA airports will be conducted as part of Phase B of the Florida Air Cargo Study. Preliminary investigations have already been conducted to set the stage for the second phase of this study. Initial analyses revealed that five of the GA airports with scheduled air cargo services in 2012 saw declines in total air cargo operations. Cecil Airport, The Florida Key Marathon Airport, and Tampa Executive Airport were the only GA airports to experience an increase in air cargo operations, at 19 percent, eight percent, and one percent, respectively.

6.9.2 Overview of the 2016 Air Service Study

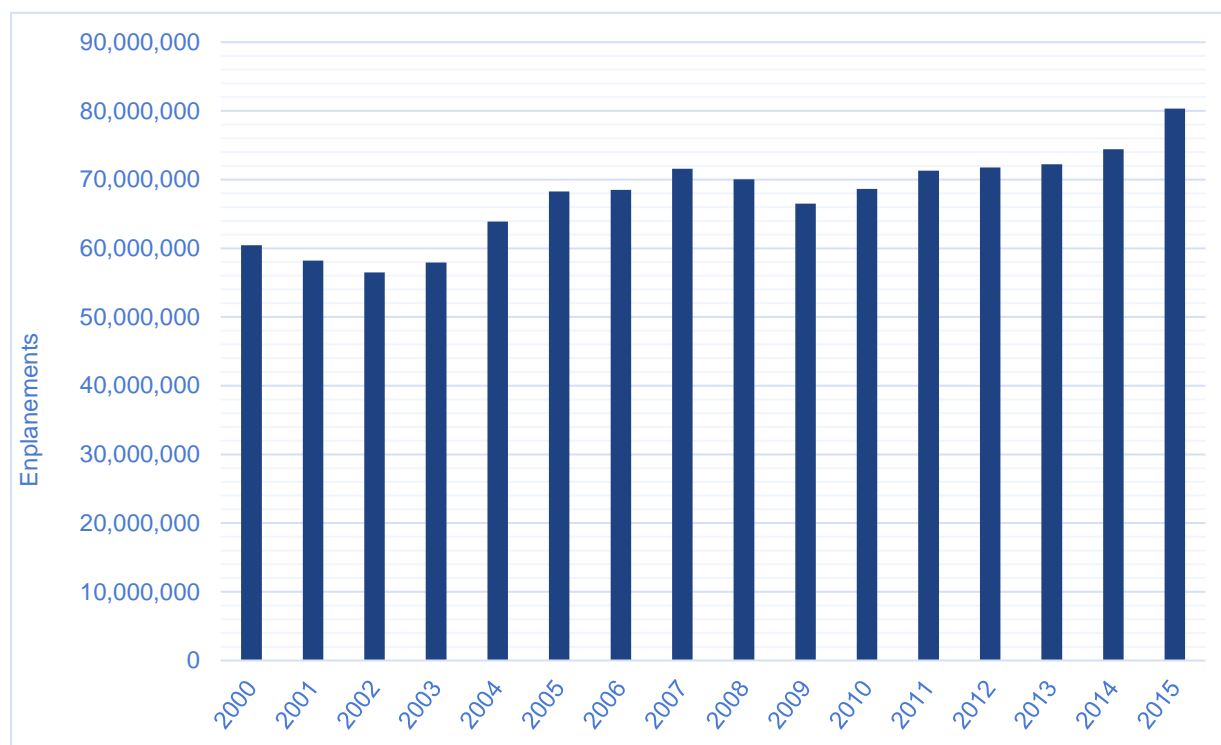
The *2016 Air Service Study* (*Air Service Study*) presents detailed information about Florida's 20 commercial service airports. The study is aimed at providing the FDOT ASO, FDOT District Offices, and Florida's commercial service airports with current data and statistics to assist in planning and development. The study updates previous analyses conducted in 2000, 2001, 2003, 2005, 2007, 2008, 2011, and 2014.

Since the study was last completed in 2014, a number of emerging trends have arisen in the aviation industry. These trends can be divided in regulatory, demographic and social, economic, technological, and airline impacts. Some of these trends impact global and national markets, while others primarily affect aviation in the state. **Chapter 2 – Florida's Aviation History and Identification of Current Issues** of this 2035 FASP Update summarizes some of these trends.

Most notably, emerging trends in security and immigration policy are generally tightening restrictions. These trends have widespread implications for airport capacity, efficiency, and revenue; passenger wait times, throughput, ticket costs, and satisfaction; pilot wages; and safety and security in the terminal and in-flight. Furthermore, air carrier consolidations are occurring and new types of carriers are entering the market. These shifts are changing passengers' options and expectations while placing new demands on airport capacity.

With 20 airports offering regularly scheduled commercial service, Florida continues to have one of the most comprehensive interstate aviation systems in the U.S., and statistics generally indicate that the system has expanded since 2013. Notably, the Northeast Florida Regional Airport added commercial service and annual statewide enplanements have continued to trend upward, growing approximately 2.6 percent between 2013 and 2015. **Figure 6-3** depicts statewide annual enplanements from 2000 to 2015.

Figure 6-3: Statewide Annual Enplanements



Source: Summarized from U.S. Department of Transportation DB1B Market Fare Data and O&D Survey, reconciled from Schedules T-100

The number of nonstop domestic destinations served by Florida's airports has increased from 127 in 2013 to 132 in 2015. 2015 also saw the highest number of international flight departures of any year of the report, with 2,414 weekly departures, representing an overall increase of approximately 10 percent since the previous report.

While service levels have trended upward, the types of services offered at each specific airport have remained fairly consistent. In all study years, Orlando International Airport has had the highest number of domestic destinations served and departing domestic seats. Miami International Airport offers the highest number of intrastate flights. Miami International Airport also offers the highest number of international departures with 1,516 weekly departures, representing 71 percent of statewide totals. Fort Lauderdale-Hollywood International Airport offers 476 weekly departures (20 percent), followed by Orlando International Airport with 335 weekly flights (14 percent) to international destinations.

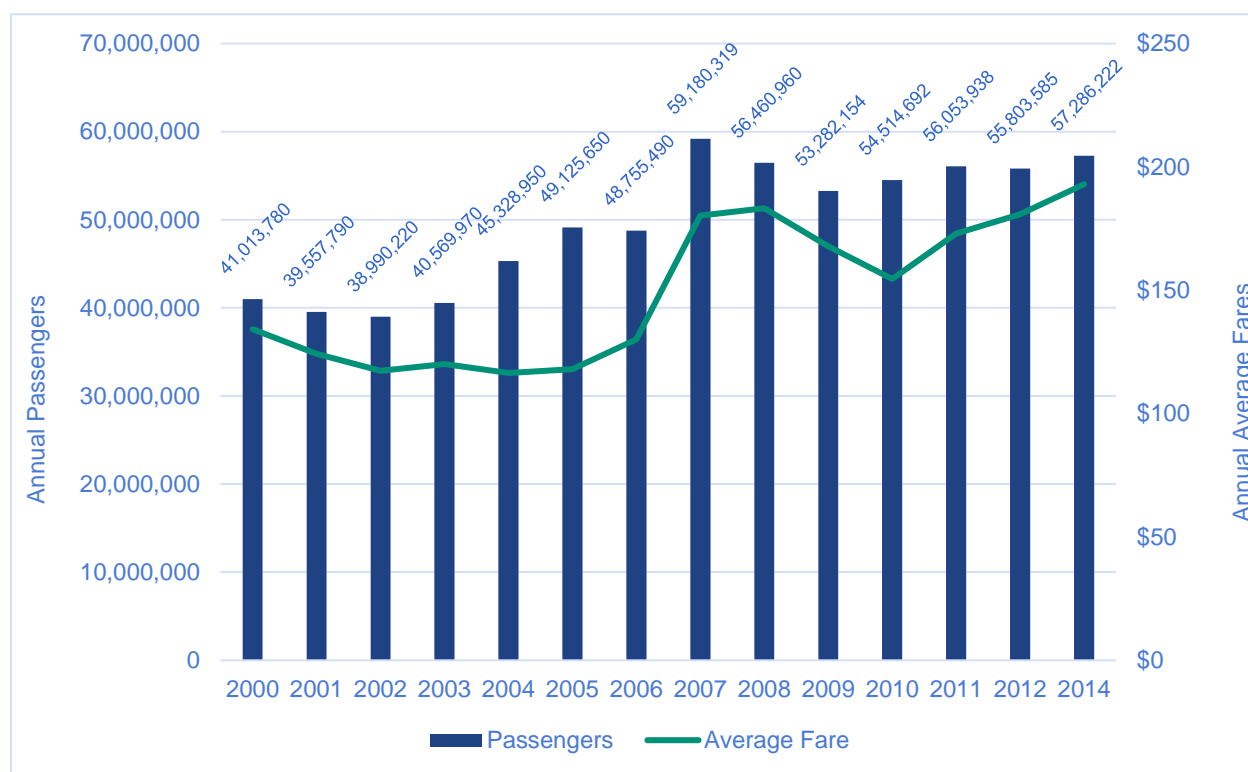
Top international destinations include Central and South America (43 percent of departures), the Caribbean and Atlantic (38 percent), Europe (10 percent), and Canada (eight percent). Top domestic destinations include cities in the southeastern part of the U.S., followed by locations in the Northeast, Midwest, and Northwest, listed in order of popularity.

While weekly flights, enplanements, and destinations served are trending upwards in Florida, factors indicate that the Florida system may not offer the same level of service as peer markets.

Large hub and non-hub airports are generally comparable; however, both small and medium hub airports offer a below-average level of service with few exceptions. Southwest Florida International Airport (medium hub) is above-average in the number of non-stop destinations served, and Pensacola International Airport (small hub) offers about 30 flights per week more than comparable airports. Destin-Fort Walton Beach Airport had the highest level of annual enplanements in the non-hub category and exceeded the annual enplanements of comparable markets. The study notes that Florida's excellent interstate and highway system, geographic location, and the intense competition faced by small and non-hub airports by medium and large hub airports likely contribute to the service levels provided by the statewide system.

In 2014, the average one-way fare for all of Florida was \$192.96, up significantly from the statewide average fare in 2000 of \$157.93. However, Florida domestic fares remain below the 2014 national average of \$217.43. Every airport in the system except Orlando-Sanford International Airport and St. Pete-Clearwater International Airport has seen an increase in average fare since 2012. Higher fares are likely due to the continuing economic recovery and the ability and willingness of consumers to purchase tickets. **Figure 6-4** depicts statewide average fares and passengers between 2000 and 2014.

Figure 6-4: Statewide Average Fares and Passengers



Source: Summarized from U.S. Department of Transportation DB1B Market Fare Data and O&D Survey and Official Airline Guide, Schedules Analyzer

6.10 Summary

Knowledge of projected operational activity assists FDOT Districts and Central Office in understanding trends in local growth, airport system capacity, and facility planning needs. Based aircraft and GA operation forecasts show steady growth over the forecast period. Based aircraft growth rates range from 0.57 percent (District 6) to 1.77 percent (District 2) AAGR. GA operation forecasts show anticipated AAGR ranging from 0.77 percent (District 5) to 1.76 percent (District 4). While growth is occurring across the state, some airports are especially impacted by the increased activity and are quickly reaching or exceeding the recommended D/C ratios for planning and/or implementing capacity enhancements. In base year 2014, there were five airports that exceeded the FAA's recommended 60 percent D/C ratio threshold to plan for capacity enhancements, and three airports that exceeded the 80 percent threshold to start implementation for capacity enhancements. By 2035, it is projected that 11 airports will exceed the 60 percent threshold, six will exceed the 80 percent threshold, and three will exceed their ASV altogether.

To further understand the aviation activity demand in the state, the *2016 Florida Air Cargo Study* and *2016 Florida Air Service Study* reveal that Florida's aviation system continues to expand and evolve in the midst of economic, technological, regulatory, and social changes that have challenged industries across the globe. Since the economic downturn of 2008, Florida's aviation industry has continued to rebound after facing a nearly unprecedented economic contraction, with levels of service increasing in nearly all categories evaluated by these studies.