H

Hangar Demand Initiative

FDOT | 2043 FASP FLORIDA AVIATION SYSTEM PLAN

Appendix H

Hangar Demand Initiative

There is a significant demand at airports throughout the State of Florida for new hangars to be constructed to provide additional aircraft storage capabilities. The hangars at nearly every publicly owned (and public use) airport in the state are at full capacity and most airports maintain long waiting lists of aircraft owners seeking hangar storage. Most aircraft owners prefer to store their aircraft in a hangar to protect the plane from harsh weather conditions and to prevent vandalism, particularly as the cost for new General Aviation (GA) planes, parts, and maintenance has skyrocketed over the decades. According to a *Forbes* article dated April 28, 2021, titled "The High Cost of New General Aviation Aircraft May Be Pricing Pilots Out of the Market," the price of a new Cessna 172 was $12,500 in 1970 and was $432,000 in 2021. With such extreme price increases for new GA aircraft, which are significantly above the typical rate of inflation, most aircraft owners today have a greater desire to protect their aircraft/investment in an enclosed hangar as opposed to leaving it exposed on an apron tiedown. It may also mean that if most aircraft owners today can afford to fly, they likely have the disposable income available to afford hangar storage, which appears to be the trend at airports throughout Florida.

This Inventory of Hangar Demand for the Hangar Demand Initiative was conducted in conjunction with the Florida Aviation System Plan (FASP) 2043. The purpose of this effort is to provide the Florida Department of Transportation Aviation Office (FDOT AO) with an inventory of the number of T-hangars and box hangars currently present at the 106 publicly owned facilities in Florida included in the FASP 2043 including 103 airports, two seaplane bases, and one heliport. It also identifies how many T-hangars and box hangars are currently occupied at each facility, the number of existing based aircraft, and the number of aircraft owners seeking hangar storage at each facility. The intent is to present an understanding of the current hangar deficiencies in the state and to project a generalized 20-year outlook on the number of new T-hangars and box hangars that would need to be constructed to meet long-term demands.

This effort illustrates that most facilities throughout the Florida aviation system have fully occupied hangars and the number of existing based aircraft at most airports far exceeds the capacity of existing hangars. Therefore, without considering funding constraints, there is an immediate need to construct additional hangars at facilities throughout the Florida aviation system to support both existing based aircraft demands, known waiting list demands, and the expected growth in based aircraft throughout the state over the course of the 20-year planning period of the FASP 2043.

The following sections are included in this document:

- Data Collection Methodology.
- Existing Hangar Demand by FDOT District and Airport.
- Projected 20-Year Hangar Demand by FDOT District and Conclusions.

Data Collection Methodology

A detailed survey effort was conducted for the FASP 2043 and was distributed to the 106 publicly owned facilities in Florida that are included in the Florida aviation system. The survey included several questions about recent studies that airports have conducted, Federal Aviation Administration (FAA) airfield design standards, present number of T-hangar and box hangar units available and occupied, and various other airport features. The specific questions that pertain to the Inventory of Hangar Demand are shown below:

- What is the current number of T-hangar units at your airport (both number available and number occupied)?
- What is the current number of box hangar units at your airport (both number available and number occupied)?
- What is the current number of operators on the hangar waitlist?

It was the intent of the survey to document the number of T-hangar and box hangar units available and occupied at each facility and then to determine if they had a waiting list for hangar storage space. It is noted that only airports responded to this question because neither seaplane base nor the heliport currently provide aircraft hangar storage. While survey responses were received from all 106 facilities, some surveys were not completed in full, and for that reason, the information presented in this document only represents a portion of the overall hangar demand in the state. For example, some airports indicated that their fixed base operator (FBO) manages their hangars and then did not provide a response to this question, and other airports simply left it blank. While some attempts were made to reach out to individual airports for clarification to this question, it was not possible to obtain full participation to ensure that the data provided in this document accurately reflects the entirety of the hangar availability in Florida. However, the results speak for themselves across the board that there is a significant deficiency in hangar storage availability at airports throughout the state, and the hangar deficiency condition will continue well into the future unless hangar development is rapidly accelerated.

Existing Hangar Demand by FDOT District and Airport

Table 1 presents the number of available and occupied T-hangar units by FDOT district. Again, this only represents data from those airports that responded to this question and does not represent every facility in the FASP 2043. As shown, the T-hangars in nearly every district are at full capacity, and 5,951 of the sampled 5,992 T-hangar units are occupied statewide. It is interesting to note that some airports that indicated that they have available T-hangar units also have very substantial waiting lists for based aircraft hangar storage.

Table 1. Available and Occupied T-Hangar Units by FDOT District

FDOT District	District Name	Number of Airports	2023 Based Aircraft	T-Hangars Available	T-Hangars Occupied	% Occupied
1	Southwest	21	2,537	1,657	1,637	98.79%
2	Northeast	16	1,121	581	578	99.48%
3	Northwest	15	969	557	557	100.00%
4	Southeast	15	2,841	979	979	100.00%
5	Central	21	2,676	1,231	1,221	99.19%
6	South	7	783	170	170	100.00%
7	West Central	11	1,404	817	809	99.02%
Total		**106**	**12,332**	**5,992**	**5,951**	**99.32%**

Notes: FDOT-Florida Department of Transportation.
Source: AVCON, INC.

Table 2 presents the number of available and occupied box hangar units by FDOT district. Again, this only represents data from those airports that responded to this question and does not represent every facility in the FASP 2043. As shown, the box hangars in nearly every district are at full capacity, and 1,102 of the sampled 1,106 box hangar units are occupied statewide.

Table 2. Available and Occupied Box Hangar Units by FDOT District

FDOT District	District Name	Number of Airports	2023 Based Aircraft	Box Hangars Available	Box Hangars Occupied	% Occupied
1	Southwest	21	2,537	252	252	100.00%
2	Northeast	16	1,121	80	80	100.00%
3	Northwest	15	969	164	162	98.78%
4	Southeast	15	2,841	169	169	100.00%
5	Central	21	2,676	328	327	99.70%
6	South	7	783	34	34	100.00%
7	West Central	11	1,404	79	78	98.73%
Total		**106**	**12,332**	**1,106**	**1,102**	**99.64%**

Notes: FDOT-Florida Department of Transportation.
Source: AVCON, INC.

Table 3 presents a summary of the number of available and occupied T-hangar units and box hangar units for all 106 airports in the FASP. It also shows whether each facility has a waiting list for based aircraft hangar storage. Where information in the table is left blank, it indicates that the airport did not provide a response as part of the survey effort. The based aircraft hangar waiting list information is provided to show the demand for each airport and should not be construed as that many aircraft owners who collectively want hangar storage at each airport. Although the waiting list information was not viewed for each airport to conduct the Inventory of Hangar Demand, it is assumed that multiple aircraft owners have their names on waiting lists at multiple different airports.

Table 3. Available and Occupied T-Hangar and Box Hangar Units by Airport

Airport ID	Airport Name	Based Aircraft[1]	T-Hangar Units			Box Hangar Units			Wait List
			Available	Occupied	% Occupied	Available	Occupied	% Occupied	
	FDOT District 1 - Southwest								
2IS	AIRGLADES	35	30	30	100.00%	3	3	100.00%	30
APF	NAPLES MUNICIPAL	348	212	212	100.00%	100	100	100.00%	172
AVO	AVON PARK EXECUTIVE	36	58	51	87.93%	0	0	N/A	51
BOW	BARTOW EXECUTIVE	170	120	120	100.00%	10	10	100.00%	
CHN	WAUCHULA MUNICIPAL	24	36	23	63.89%	1	1	100.00%	70
FMY	PAGE FIELD	252	132	132	100.00%	4	4	100.00%	191
GIF	WINTER HAVEN REGIONAL	145	135	135	100.00%	29	29	100.00%	72
IMM	IMMOKALEE REGIONAL	43	30	30	100.00%	3	3	100.00%	34
LAL	LAKELAND LINDER INTERNATIONAL	298	75	75	100.00%	35	35	100.00%	26
MKY	MARCO ISLAND EXECUTIVE	24	12	12	100.00%	11	11	100.00%	54
OBE	OKEECHOBEE COUNTY	22	10	10	100.00%	6	6	100.00%	12
PGD	PUNTA GORDA	396	288	288	100.00%	19	19	100.00%	320
RSW	SOUTHWEST FLORIDA INTERNATIONAL	5							
SEF	SEBRING REGIONAL	97	80	80	100.00%	8	8	100.00%	15
SRQ	SARASOTA BRADENTON INTERNATIONAL	333	158	158	100.00%	0	0	0.00%	50
VNC	VENICE MUNICIPAL	187	192	192	100.00%	9	9	100.00%	374
X01	EVERGLADES AIRPARK	3	8	8	100.00%	0	0	N/A	6
X06	ARCADIA MUNICIPAL	26	23	23	100.00%	0	0	N/A	33
X07	LAKE WALES MUNICIPAL	28	16	16	100.00%	8	8	100.00%	39
X14	LA BELLE MUNICIPAL	57	42	42	100.00%	6	6	100.00%	82
X36	BUCHAN	8							
FDOT District 1 Totals		**2,537**	**1,657**	**1,637**	**98.79%**	**252**	**252**	**100.00%**	
	FDOT District 2 – Northeast								
01J	HILLIARD AIRPARK	23	0	0	N/A	23	23	100.00%	15
24J	SUWANNEE COUNTY	41	32	32	100.00%	0	0	N/A	41
28J	PALATKA MUNICIPAL - LT KAY LARKIN	72	73	73	100.00%	5	5	100.00%	90
42J	KEYSTONE HEIGHTS	50	44	44	100.00%	6	6	100.00%	28
CDK	GEORGE T. LEWIS	1							
CRG	JACKSONVILLE EXECUTIVE AT CRAIG	185							
CTY	CROSS CITY	13	8	8	100.00%	3	3	100.00%	
FHB	FERNANDINA BEACH MUNICIPAL	69	51	51	100.00%	7	7	100.00%	82
FPY	PERRY-FOLEY	12	8	8	100.00%	1	1	100.00%	10
GNV	GAINESVILLE REGIONAL	173	98	95	96.94%	11	11	100.00%	0
HEG	HERLONG RECREATIONAL	90	114	114	100.00%	0	0	N/A	50
JAX	JACKSONVILLE INTERNATIONAL	58							
LCQ	LAKE CITY GATEWAY	28	21	21	100.00%	4	4	100.00%	22
SGJ	NORTHEAST FLORIDA REGIONAL	205	132	132	100.00%	20	20	100.00%	314
VQQ	CECIL	15							
X60	WILLISTON MUNICIPAL	86							
FDOT District 2 Totals		**1,121**	**581**	**578**	**99.48%**	**80**	**80**	**100.00%**	
	FDOT District 3 – Northwest								
2J0	WAKULLA COUNTY	3	10	10	100.00%	0	0	N/A	12
2J9	QUINCY MUNICIPAL	95	76	76	100.00%	14	14	100.00%	41
2R4	PETER PRINCE FIELD	134	135	135	100.00%	3	3	100.00%	169
54J	DEFUNIAK SPRINGS	35	36	36	100.00%	7	7	100.00%	40
AAF	APALACHICOLA REGIONAL	44	33	33	100.00%	6	6	100.00%	10
BCR	TRI-COUNTY	41	0	0	N/A	43	43	100.00%	10
CEW	BOB SIKES	23	0	0	N/A	5	3	60.00%	0
DTS	DESTIN EXECUTIVE	74	17	17	100.00%	33	33	100.00%	
ECP	NORTHWEST FLORIDA BEACHES INTL	111	60	60	100.00%	15	15	100.00%	210
F95	CALHOUN COUNTY	26	36	36	100.00%	5	5	100.00%	25
MAI	MARIANNA MUNICIPAL	37	43	43	100.00%	2	2	100.00%	8
PNS	PENSACOLA INTERNATIONAL	152	43	43	100.00%	5	5	100.00%	158
TLH	TALLAHASSEE INTERNATIONAL	178	68	68	100.00%	15	15	100.00%	4
VPS	DESTIN-FORT WALTON BEACH	2							
X13	CARRABELLE-THOMPSON	14	0	0	N/A	11	11	100.00%	
FDOT District 3 Totals		**969**	**557**	**557**	**100.00%**	**164**	**162**	**98.78%**	
	FDOT District 4 – Southeast								
BCT	BOCA RATON	183	117	117	100.00%	14	14	100.00%	
DT1	DOWNTOWN FORT LAUDERDALE HELIPORT	0	0	0	N/A	0	0	N/A	0
F45	NORTH PALM BEACH COUNTY GA	192	190	190	100.00%	11	11	100.00%	150
FLL	FORT LAUDERDALE - HOLLYWOOD INTL	91	0	0	N/A	29	29	100.00%	
FPR	TREASURE COAST INTERNATIONAL	150							
FXE	FORT LAUDERDALE EXECUTIVE	571	291	291	100.00%	0	0	N/A	
HWO	NORTH PERRY	430	154	154	100.00%	5	5	100.00%	
LNA	PALM BEACH COUNTY PARK	245	0	0	N/A	53	53	100.00%	31
PBI	PALM BEACH INTERNATIONAL	196	0	0	N/A	29	29	100.00%	20
PHK	PALM BEACH COUNTY GLADES	10	10	10	100.00%	0	0	N/A	10
PMP	POMPANO BEACH AIRPARK	138	141	141	100.00%	15	15	100.00%	
SUA	WITHAM FIELD	351							
VRB	VERO BEACH REGIONAL	202	36	36	100.00%	13	13	100.00%	137
X10	BELLE GLADE	5							
X26	SEBASTIAN MUNICIPAL	77	40	40	100.00%				30
FDOT District 4 Totals		**2,841**	**979**	**979**	**100.00%**	**169**	**169**	**100.00%**	
	FDOT District 5 – Central								
2J8	PIERSON MUNICIPAL	21	1	1	100.00%	3	3	100.00%	
3FL	ST CLOUD SEAPLANE BASE	0	0	0	N/A	0	0	N/A	0
COI	MERRITT ISLAND	153	151	151	100.00%	14	14	100.00%	79
DAB	DAYTONA BEACH INTERNATIONAL	249	24	24	100.00%	8	8	100.00%	
DED	DELAND MUNICIPAL - SIDNEY H. TAYLOR	137	101	101	100.00%	45	45	100.00%	77
EVB	NEW SMYRNA BEACH MUNICIPAL	104	72	72	100.00%	2	2	100.00%	120
FA1	TAVARES SEAPLANE BASE	5	0	0	N/A	0	0	N/A	0
FIN	FLAGLER EXECUTIVE	89	56	56	100.00%	13	13	100.00%	135
ISM	KISSIMMEE GATEWAY	269	76	76	100.00%	10	10	100.00%	56
LEE	LEESBURG INTERNATIONAL	127	33	33	100.00%	10	10	100.00%	65
MCO	ORLANDO INTERNATIONAL	37	0	0	N/A	13	13	100.00%	0
MLB	MELBOURNE ORLANDO INTERNATIONAL	264	40	30	75.00%	2	2	100.00%	

Table 3. Available and Occupied T-Hangar and Box Hangar Units by Airport

Airport ID	Airport Name	Based Aircraft[1]	T-Hangar Units			Box Hangar Units			Wait List
			Available	Occupied	% Occupied	Available	Occupied	% Occupied	
OCF	OCALA INTERNATIONAL - JIM TAYLOR	168	101	101	100.00%	39	39	100.00%	39
OMN	ORMOND BEACH MUNICIPAL	109	61	61	100.00%	36	35	97.22%	49
ORL	ORLANDO EXECUTIVE	292	72	72	100.00%	5	5	100.00%	60
SFB	ORLANDO SANFORD INTERNATIONAL	293	148	148	100.00%	87	87	100.00%	103
TIX	SPACE COAST REGIONAL	92	80	80	100.00%	12	12	100.00%	61
X21	ARTHUR DUNN AIRPARK	54	51	51	100.00%	5	5	100.00%	45
X23	UMATILLA MUNICIPAL	38	7	7	100.00%	9	9	100.00%	40
X35	MARION COUNTY	73	68	68	100.00%	9	9	100.00%	62
X59	VALKARIA	102	89	89	100.00%	6	6	100.00%	300
FDOT District 5 Totals		**2,676**	**1,231**	**1,221**	**99.19%**	**328**	**327**	**99.70%**	
	FDOT District 6 – South								
EYW	KEY WEST INTERNATIONAL	59	8	8	100.00%	10	10	100.00%	3
MIA	MIAMI INTERNATIONAL	28							0
MTH	FLORIDA KEYS/MARATHON INTERNATIONAL	59	32	32	100.00%	11	11	100.00%	8
OPF	MIAMI-OPA LOCKA EXECUTIVE	232							0
TMB	MIAMI EXECUTIVE	320	130	130	100.00%	11	11	100.00%	180
TNT	DADE-COLLIER TRAINING AND TRANSITION	0							0
X51	MIAMI HOMESTEAD GENERAL AVIATION	85	0	0	0.00%	2	2	100.00%	0
FDOT District 6 Totals		**783**	**170**	**170**	**100.00%**	**34**	**34**	**100.00%**	
	FDOT District 7 - West Central								
BKV	BROOKSVILLE-TAMPA BAY REGIONAL	177	76	76	100.00%	9	9	100.00%	
CGC	CRYSTAL RIVER-CAPTAIN TOM DAVIS FIELD	48	32	32	100.00%	5	5	100.00%	22
CLW	CLEARWATER AIRPARK	140	57	57	100.00%	3	3	100.00%	50
INF	INVERNESS	36							
PCM	PLANT CITY	69	50	49	98.00%	3	3	100.00%	78
PIE	ST. PETE CLEARWATER INTERNATIONAL	279	200	200	100.00%	25	25	100.00%	150
SPG	ALBERT WHITTED	182	96	96	100.00%	10	10	100.00%	200
TPA	TAMPA INTERNATIONAL	79	0	0	N/A	18	18	100.00%	6
TPF	PETER O. KNIGHT	102	69	66	95.65%	2	2	100.00%	85
VDF	TAMPA EXECUTIVE	181	100	96	96.00%	4	3	75.00%	114
ZPH	ZEPHYRHILLS MUNICIPAL	111	137	137	100.00%	0	0	N/A	80
FDOT District 7 Totals		**1,404**	**817**	**809**	**99.02%**	**79**	**78**	**98.73%**	
Grand Totals		**12,332**	**5,992**	**5,951**	**99.32%**	**1,106**	**1,102**	**99.64%**	

Notes: FDOT-Florida Department of Transportation.

[1]Based aircraft counts in the table represent the airport provided counts from the FASP 2043 Update survey effort.

Source: AVCON, INC.

Projected 20-Year Hangar Demand by FDOT District and Conclusions

Forecasts of based aircraft were produced for the FASP 2043 for each FDOT district as shown in **Table 4**. To analyze the potential 20-year hangar demand for the sample of airports that provided responses to the survey effort for the FASP 2043, the existing number of T-hangar and box hangar units and each FDOT district were increased by the respective forecast Average Annual Growth Rate (AAGR) through 2043. The respective and anticipated 20-year hangar demand forecast is presented in **Table 5** for informational purposes only by applying the AAGRs for each FDOT district shown in Table 4. The information in Table 5 only represents a cross section of Florida airports and therefore does not represent the potential hangar demand for all 106 facilities included in the FASP. It also does not consider the immediate needs for airports to construct hangars to satisfy their based aircraft waiting lists nor does it consider changing trends in based aircraft storage practices (i.e., the current T-hangar, box hangar, and apron tiedown storage preferences were held constant through 2023).

Table 4. FASP 2043 Update Forecast of Based Aircraft (2023-2043)

FDOT District	District Name	2023 Based Aircraft	2043 Based Aircraft	AAGR 2023-2043
1	Southwest	2,537	3,204	1.17%
2	Northeast	1,121	1,339	0.89%
3	Northwest	969	1107	0.67%
4	Southeast	2,841	3,962	1.68%
5	Central	2,676	3,367	1.15%
6	South	783	913	0.77%
7	West Central	1,404	1,664	0.85%
Total		**12,332**	**15,557**	**1.17%**

Notes: FDOT-Florida Department of Transportation, Average Annual Growth Rate-AAGR.
Source: AVCON, INC. and FASP 2043 Update.

Table 5. Forecast of Additional T-Hangar and Box Hangar Needs by 2043

FDOT District	District Name	2043 New T-Hangar Units	2043 New Box Hangar Units
1	Southwest	435	66
2	Northeast	113	16
3	Northwest	80	23
4	Southeast	386	67
5	Central	315	84
6	South	28	6
7	West Central	151	15
Total		**1,509**	**276**

Notes: FDOT-Florida Department of Transportation.
Source: AVCON, INC.

Based on this analysis, it is anticipated that at least 1,509 T-hangar units and 276 box hangar units will be needed to accommodate based aircraft hangar demands in the state by 2043, but the actual requirement is likely higher and more immediate considering the sample size of airports that were analyzed.