ECONOMIC IMPACT ANALYSIS OF REMOVAL OF STATE OF FLORIDA AIRCRAFT SALES TAX

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Prepared for
Florida Aviation Business Association

Prepared by

Fishkind & Associates, Inc.
12051 Corporate Blvd.
Orlando, Florida 32817
407-382-3256

FISHKIND & ASSOCIATES
ECONOMIC CONSULTANTS

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Executive Summary

- The Florida Aviation Business Association ("FABA") retained Fishkind & Associates, Inc. ("FA") to provide a comprehensive analysis regarding the economic impact of the lessening and/or removal of the State of Florida's aircraft sales tax. FA has been asked to estimate the potential economic impacts associated with the proposal to alter this existing sales tax provision.

- Fishkind estimates removal of the Florida sales tax will result in an additional 354 aircraft sold annually. With average sales price of nearly $700,000, aircraft sales will grow by $246,700,000.

- The additional 354 sales were based on market capture of Florida's lost sales as well as lost sales of adjoining states, the 15-state subset and national level sales, assuming the aircraft sales tax rate becomes 0%. Additional sales are summarized in Table E1. These sales represent an increase of approximately 25% over current sales statewide.

Table E1. Estimated Capture of Additional Aircraft Sales

YEAR	FL	AL	GA	SC	SUBSET***	USA***
AVG Annual Registration Growth ('10-'14)	1,585	323	604	214	8,444	14,740
Average Annual Sales**	1,422	72	162	116	7,840	14,285
Annual Sales Lost	164	251	443	97	604	456
FL Market Capture of Lost Sales at 0% Tax Rate	85.0%	15.0%	20.0%	20.0%	10.0%	2.0%
Lost Sales Captured	139	38	89	19	60	9
Total Sales	354					

Source: Fishkind and Associates, Inc. **increased to account for sales not reported via the source website
***adjusted sales and registration data to avoid double counting among states

- The analysis indicates that the additional aircraft sales will directly generate 142 jobs. The multiplier effect adds an additional 152 jobs. The majority of the employment created is associated with the FBO and flight training industry due to the increased level of maintenance and tie down, hangar fees and fuel sales associated with the increased aircraft sales and accompanying maintenance.

- The total economic impact associated with the additional aircraft sales is 294 permanent jobs which represents an estimated $38.0 million in economic activity through the state. Table E2 summarizes the economic impacts.

Table E2. Summary of Additional Aircraft Sales Economic Impacts

Aircraft Sales Impact Summary					
Impact Type	Employment	Labor Income	Total Value Added	Output	Avg Wage
Direct Effect	142	$7,352,820	$9,673,066	$18,533,820	$51,683
Indirect Effect	74	$3,509,917	$5,143,670	$9,284,929	$47,549
Induced Effect	78	$3,346,537	$5,881,879	$10,219,752	$42,755
Total Effect	294	$14,209,274	$20,698,616	$38,038,501	$48,272

Source: IMPLAN and Fishkind and Associates, Inc.

1.0 Introduction and Background

1.1 Assignment and Methodology

The Florida Aviation Business Association ("FABA") retained Fishkind & Associates, Inc. ("FA") to provide a comprehensive analysis regarding the economic impact of the lessening and/or removal of the State of Florida's aircraft sales tax. FA has been asked to estimate the potential economic impacts associated with the proposal to alter this existing sales tax provision.

2.0 Methodology and Identification of Competition

FA gathered data on the most likely competition from other states with respect to aircraft sales. FA used data regarding migration to and from other states as well as visitor volume data at the state level. The following list of states represents the top states in the USA from which householders move to Florida from elsewhere and from Florida to these states, combined. Table 1 summarizes the annual average "to and from" household migration from 2005-2009.

Table 1. Migration Data (To and From States to Florida)

State	Household Population
NY	104,923
GA	97,634
TX	64,018
NC	59,105
CA	48,931
VA	44,218
OH	41,642
PA	41,000
NJ	39,245
MI	36,945
IL	35,732
MA	32,098
AL	30,952
TN	22,272
SC	16,190

Source: IRS Migration Data

The following list of states represents the top states in the USA from which householders visit Florida for tourism activity. This represents activity having taken place in 2014. These nine states account for the origins of almost 50% of all Florida visitor activity. Table 2 summarizes the findings.

Table 2. Source of Florida Visitors

State	Percentage of FL Visitors
NY	10.3%
GA	8.2%
TX	6.3%
NJ	5.3%
IL	4.9%
NC	4.7%
PA	4.3%
VA	3.9%
MA	2.2%

Source: Visit Florida

From these two lists and in consultation with FABA, FA established that the main competition for aircraft sales comes from 14 states and the State of Florida. The competitive states are in Table 3.

Table 3. Summary of Competitive Aircraft Sales States

ID	State
1	Alabama
2	California
3	Florida
4	Georgia
5	Illinois
6	Massachusetts
7	Michigan
8	North Carolina
9	New Jersey
10	New York
11	Ohio
12	Pennsylvania
13	South Carolina
14	Texas
15	Virginia

Source: Fishkind and Associates, Inc.

FA gathered data on the identified set of competitive states with respect to the following:

- Annual aircraft registration via the Federal Aviation Administration (FAA) from 1990-2015
- Aggregate aircraft registration by aircraft type
- Annual statewide population from 1990-2015
- Aircraft sales tax rates
- Aircraft "Fly-Away" exemptions
- Aircraft Sales Data (www.aircraftsalesdata.com)
- Employment data for the aircraft industry (ES-202) data (**Florida Only**)
- Survey data from FBOs and FABA members (**Florida Only**)

FA analyzed the data above for trends with respect to aircraft registrations, annual aircraft sales, population growth and tax rates. From this analysis, FA estimated growth in Florida market share of aircraft sales and/or registration based on adjustment to the State of Florida aircraft sales tax rate. Using this growth and/or decline in registration activity as a basis for a change in employment, FA then estimated the economic impacts via (IMpact Analysis for PLANning) IMPLAN modeling system to estimate the economic impacts of the proposed tax change for the State of Florida with respect to employment, earnings and overall economic output.

3.0 FAA Aircraft Registration Analysis

FA gathered aircraft registration data from the FAA for the 14 states and Florida from 1990 through 2015. Table 4 and Table 5 summarize the registration data. The 15-state subset represents nearly 50% of total USA aircraft registrations. Similarly, of the 15-state subset, three of the states: California, Florida and Texas represent 50% of the total subset aircraft registrations.

Florida aircraft registration data indicates that from 1990 through 2014, aircraft registration in that State of Florida has grown by 649 registrations annually. This represents a 14.9% annual growth over that period. Nationally, aircraft registration growth has grown by 9,941 over the same period of time which is growth of 12.6% annually. Table 6 summarizes aircraft registration percentage growth for the three main states: California, Florida and Texas as well as the 15-state subset and the USA. The 15-state subset average registration growth of 4,847 represents a 12.3% annual growth rate similar to that of the nation.

Table 4. Summary of Aircraft Registration (1990-2015)
14 States and Florida

YEAR	AL	CA	FL	GA	IL	MA	MI	NC	NJ	NY	OH	PA	SC	TX	VA
1990	48	243	130	72	85	44	89	57	35	69	80	64	29	184	59
1991	35	319	138	55	94	32	78	51	39	63	74	91	22	305	41
1992	45	282	127	98	99	34	102	57	41	84	96	60	15	248	54
1993	48	299	160	57	84	27	106	50	42	78	71	90	24	232	45
1994	105	317	139	69	98	45	123	72	33	95	85	72	21	255	36
1995	97	355	182	63	97	28	124	82	31	79	103	92	21	261	60
1996	79	421	264	93	118	53	127	106	41	104	148	92	23	354	64
1997	53	332	259	102	138	38	136	95	37	104	138	94	39	307	119
1998	82	496	308	139	171	67	163	103	67	144	150	127	46	490	85
1999	100	471	316	156	200	72	151	143	67	133	169	143	44	491	99
2000	110	614	368	192	232	74	176	129	81	156	190	162	34	585	120
2001	96	644	360	195	198	65	181	138	85	170	158	143	71	550	108
2002	109	620	404	165	209	87	191	161	83	178	177	160	53	485	121
2003	131	730	447	212	224	83	196	153	99	182	188	170	59	580	121
2004	157	835	529	182	217	264	206	163	99	214	251	191	66	710	140
2005	165	961	653	250	255	138	280	217	116	195	268	196	83	781	164
2006	196	1,072	729	281	275	113	263	274	108	271	264	249	113	924	196
2007	229	1,393	1,186	405	493	238	439	354	145	365	418	382	153	1,301	282
2008	198	1,088	894	294	333	151	274	303	163	297	355	295	125	1,167	227
2009	178	1,065	716	571	243	119	250	257	109	253	287	235	110	1,046	204
2010	193	1,106	851	355	341	149	308	274	119	278	355	285	107	1,211	269
2011	264	1,602	1,302	505	428	194	442	375	183	385	460	377	146	2,487	372
2012	354	2,106	1,626	621	624	238	549	563	210	492	626	492	228	2,511	429
2013	336	2,122	1,734	671	810	219	566	559	245	505	615	472	261	2,619	450
2014	466	2,973	2,414	870	811	327	696	817	331	642	838	621	326	3,585	556
2015	391	2,419	2,071	644	597	291	557	671	233	483	711	453	270	2,843	476
TOTAL	4,812	28,994	20,529	8,201	8,685	3,579	7,989	6,872	3,393	7,206	8,407	6,775	2,745	29,105	5,440
AVG Annual Growth ('90-'14)	155	899	649	267	275	116	249	222	104	221	263	214	89	947	177

Source: Federal Aviation Administration

Table 5. Summary of Aircraft Registration (1990-2015)
CA-FL-TX, 15-State Subset and USA

YEAR	CA	FL	TX	VA	SUBSET	USA	Subset %
1990	243	130	184	59	1,288	2,467	52.2%
1991	319	138	305	41	1,437	2,706	53.1%
1992	282	127	248	54	1,442	2,823	51.1%
1993	299	160	232	45	1,413	2,769	51.0%
1994	317	139	255	36	1,565	3,048	51.3%
1995	355	182	261	60	1,675	3,357	49.9%
1996	421	264	354	64	2,087	4,090	51.0%
1997	332	259	307	119	1,991	4,079	48.8%
1998	496	308	490	85	2,638	5,305	49.7%
1999	471	316	491	99	2,755	5,639	48.9%
2000	614	368	585	120	3,223	6,419	50.2%
2001	644	360	550	108	3,162	6,402	49.4%
2002	620	404	485	121	3,203	6,594	48.6%
2003	730	447	580	121	3,575	7,463	47.9%
2004	835	529	710	140	4,224	8,744	48.3%
2005	961	653	781	164	4,722	9,940	47.5%
2006	1,072	729	924	196	5,328	10,667	49.9%
2007	1,393	1,186	1,301	282	7,783	15,665	49.7%
2008	1,088	894	1,167	227	6,164	12,808	48.1%
2009	1,065	716	1,046	204	5,643	11,616	48.6%
2010	1,106	851	1,211	269	6,201	12,695	48.8%
2011	1,602	1,302	2,487	372	9,522	19,211	49.6%
2012	2,106	1,626	2,511	429	11,669	24,648	47.3%
2013	2,122	1,734	2,619	450	12,184	25,537	47.7%
2014	2,973	2,414	3,585	556	16,273	33,830	48.1%
2015	2,419	2,071	2,843	476	13,110	26,990	48.6%
TOTAL	28,994	20,529	29,105	5,440	152,732	312,002	49.0%
AVG Annual Growth ('90-'14)	899	649	947	177	4,847	9,941	

Source: Federal Aviation Administration

Table 5. Summary of Change in Annual Aircraft Registration (1990-2015)
CA-FL-TX, 15-State Subset and USA

	Annual Change in Aircraft Registrations				
	CA	FL	TX	SUBSET	USA
1991	31.3%	6.2%	65.8%	11.6%	9.7%
1992	-11.6%	-8.0%	-18.7%	0.3%	4.3%
1993	6.0%	26.0%	-6.5%	-2.0%	-1.9%
1994	6.0%	-13.1%	9.9%	10.8%	10.1%
1995	12.0%	30.9%	2.4%	7.0%	10.1%
1996	18.6%	45.1%	35.6%	24.6%	21.8%
1997	-21.1%	-1.9%	-13.3%	-4.6%	-0.3%
1998	49.4%	18.9%	59.6%	32.5%	30.1%
1999	-5.0%	2.6%	0.2%	4.4%	6.3%
2000	30.4%	16.5%	19.1%	17.0%	13.8%
2001	4.9%	-2.2%	-6.0%	-1.9%	-0.3%
2002	-3.7%	12.2%	-11.8%	1.3%	3.0%
2003	17.7%	10.6%	19.6%	11.6%	13.2%
2004	14.4%	18.3%	22.4%	18.2%	17.2%
2005	15.1%	23.4%	10.0%	11.8%	13.7%
2006	11.6%	11.6%	18.3%	12.8%	7.3%
2007	29.9%	62.7%	40.8%	46.1%	46.9%
2008	-21.9%	-24.6%	-10.3%	-20.8%	-18.2%
2009	-2.1%	-19.9%	-10.4%	-8.5%	-9.3%
2010	3.8%	18.9%	15.8%	9.9%	9.3%
2011	44.8%	53.0%	105.4%	53.6%	51.3%
2012	31.5%	24.9%	1.0%	22.5%	28.3%
2013	0.8%	6.6%	4.3%	4.4%	3.6%
2014	40.1%	39.2%	36.9%	33.6%	32.5%
2015	-18.6%	-14.2%	-20.7%	-19.4%	-20.2%
AVG Annual % Growth ('90-'14)	12.6%	14.9%	16.3%	12.3%	12.6%

Source: Federal Aviation Administration

Registration analysis over different time periods indicates Florida is capturing an increasing amount of market share in recent history. Table 6 summarizes the findings.

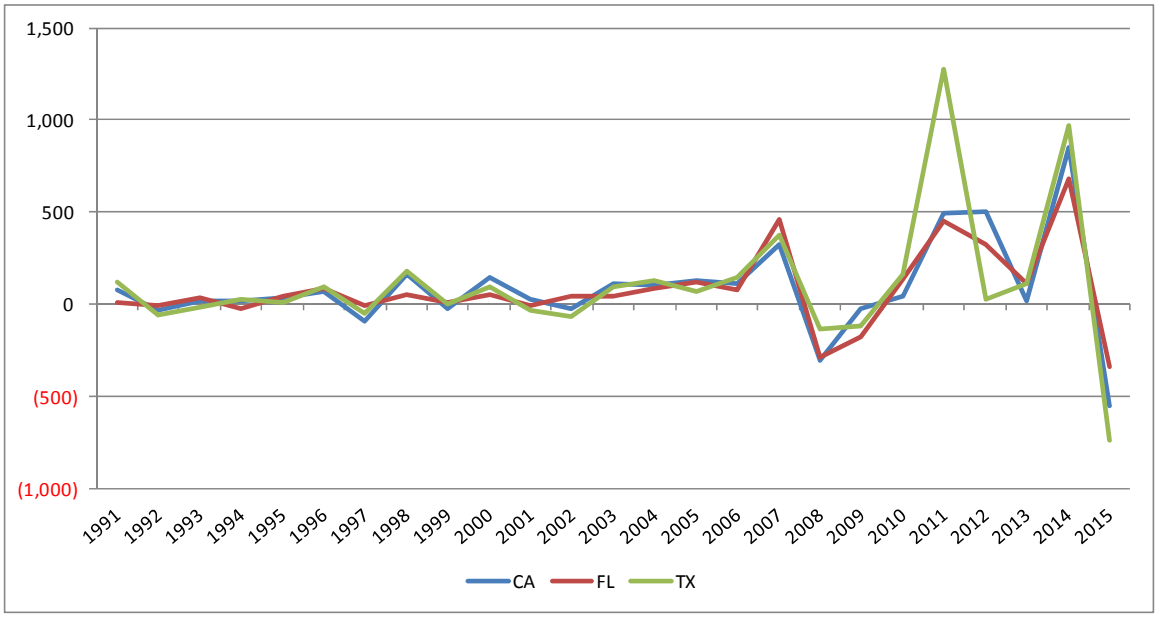
Table 5. Summary of Change in Annual Aircraft Registration (1990-2015)

YEAR	FL	SUBSET	USA	FL % of SUBSET	FL % of USA
2015-YTD	2,071	13,110	26,990	15.8%	7.7%
TOTAL	20,529	152,732	312,002	13.4%	6.6%
AVG Annual Growth ('90-'14)	649	4,847	9,941	12.3%	6.1%
AVG Annual Growth ('00-'14)	948	6,858	14,149	13.4%	6.5%
AVG Annual Growth ('10-'14)	1,585	11,170	23,184	14.1%	6.8%

Source: Federal Aviation Administration

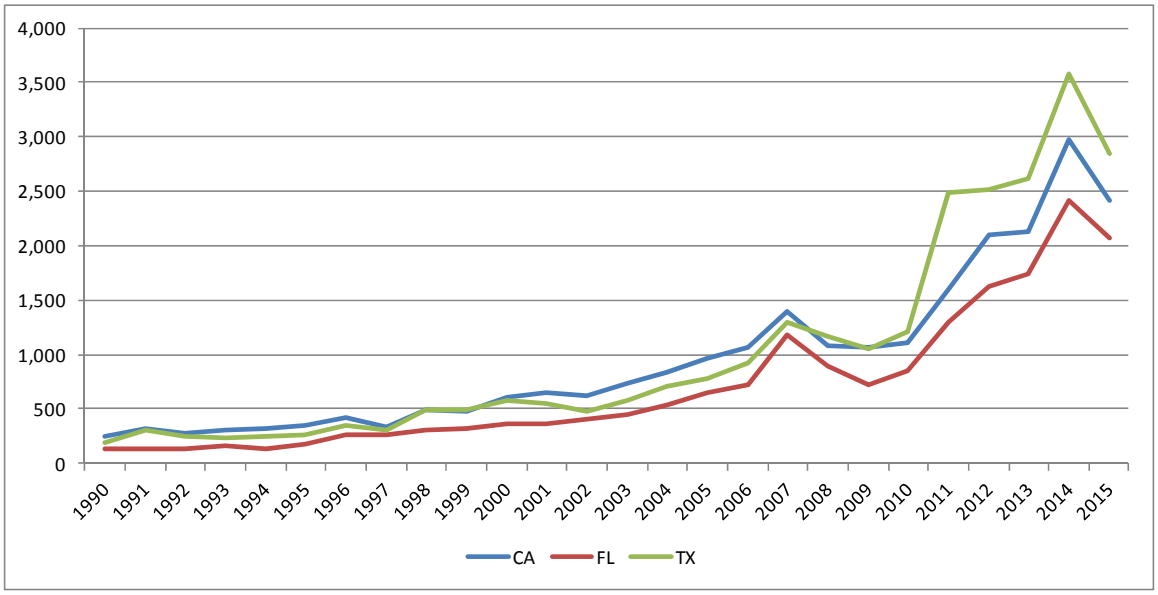
FA tracked the change in annual registrations for the three main competitive states in the subset of California, Florida and Texas. As the data shows, other than in the Great Recession, aircraft registrations have generally grown year over year within the State of Florida and major competitive states. Figure 1 tracks the annual change in aircraft registration growth since 1990. Figure 2 shows the annual aircraft registrations for the three major states of California, Florida and Texas. It is important to note that the 2015 data is year-to-date data and has not been annualized for analysis purposes.

Figure 1. Summary of Change in Annual Aircraft Registrations (1990-2015): CA-FL-TX



Source: Federal Aviation Administration

Figure 2. Summary Annual Aircraft Registrations (1990-2015): CA-FL-TX



Source: Federal Aviation Administration

As part of its research, FA also gathered aggregate registration by plane engine type for the 15-state subset and the nation. Table 6 summarizes the findings. The data shows the percentage share of the national aircraft registrations, with Florida having 6.6% of total aircraft registrations nationally, which is third nationally only behind Texas and California (Table 7).

Table 6. Aircraft Registration by Engine Type
15-State Subset and USA

Engine Types	Engine Types	AL	CA	FL	GA	IL	MA	MI	NC
0	None	152	1,055	430	199	307	142	422	214
1	Reciprocating	3,668	22,574	14,793	5,557	6,113	2,602	6,036	5,230
2	Turbo-prop	98	885	925	223	281	87	151	216
3	Turbo-shaft	272	777	838	124	155	38	81	127
4	Turbo-jet	15	262	361	295	159	78	111	30
5	Turbo-fan	152	967	1,036	1,115	760	292	323	296
6	Ramjet		1						
7	2 Cycle	121	441	462	173	351	58	323	163
8	4 Cycle	302	1,744	1,572	468	524	253	507	533
9	Unknown		1						
10	Electric	32	281	110	47	33	28	34	63
11	Rotary		6	2		2	1	1	
	Total	4,812	28,994	20,529	8,201	8,685	3,579	7,989	6,872
	% of National Total	1.5%	9.3%	6.6%	2.6%	2.8%	1.1%	2.6%	2.2%

Engine Types	Engine Types	NJ	NY	OH	PA	SC	TX	VA	Total
0	None	237	436	355	387	69	656	204	10,315
1	Reciprocating	2,516	5,199	6,386	5,139	2,140	21,265	4,055	229,284
2	Turbo-prop	64	121	205	130	94	1,261	321	12,280
3	Turbo-shaft	120	149	93	193	50	688	71	8,752
4	Turbo-jet	10	58	37	33	12	370	27	3,287
5	Turbo-fan	167	533	508	223	66	2,596	188	20,063
6	Ramjet	1							5
7	2 Cycle	46	161	213	201	97	527	154	7,200
8	4 Cycle	209	495	574	440	209	1,638	371	18,894
9	Unknown						1		5
10	Electric	23	54	36	29	7	102	49	1,885
11	Rotary					1	1		32
	Total	3,393	7,206	8,407	6,775	2,745	29,105	5,440	312,002
	% of National Total	1.1%	2.3%	2.7%	2.2%	0.9%	9.3%	1.7%	100.0%

Source: Federal Aviation Administration

Table 7. Aircraft Registration Market Share (Top 15 States)

Rank	State	Registrations	National Market Share
1	TX	29,105	9.33%
2	CA	28,994	9.29%
3	FL	20,529	6.58%
4	DE	11,953	3.83%
5	WA	10,379	3.33%
6	AK	9,319	2.99%
7	IL	8,685	2.78%
8	OH	8,407	2.69%
9	GA	8,201	2.63%
10	AZ	8,020	2.57%
11	MI	7,989	2.56%
12	OR	7,558	2.42%
13	NY	7,206	2.31%
14	CO	7,005	2.25%
15	MN	6,960	2.23%

Source: Federal Aviation Administration

4.0 Population and Aircraft Registration Analysis

FA analyzed the relationship between state population levels and aircraft registration data. The first step was to simply calculate aircraft registration per capita. Table 8 summarizes the findings with respect to the 15-state subset. Interestingly, the two states that rank the highest with respect to aircraft registration per capita are Texas and Florida. Of the 15 states in the subset, these two states have no state income tax.

Table 8. Persons Per Aircraft Registration (15-State Subset)

State	2014 Population	Total Aircraft Registered (2015)	Persons per Aircraft Registration	State Income Tax
Texas	26,956,958	29,105	926	N
Florida	19,893,297	20,529	969	N
Alabama	4,849,377	4,812	1,008	Y
Georgia	10,097,343	8,201	1,231	Y
Michigan	9,909,877	7,989	1,240	Y
California	38,802,500	28,994	1,338	Y
Ohio	11,594,163	8,407	1,379	Y
North Carolina	9,943,964	6,872	1,447	Y
Illinois	12,880,580	8,685	1,483	Y
Virginia	8,326,289	5,440	1,531	Y
South Carolina	4,832,482	2,745	1,760	Y
Massachusetts	6,745,408	3,579	1,885	Y
Pennsylvania	12,787,209	6,775	1,887	Y
New Jersey	8,938,175	3,393	2,634	Y
New York	19,746,227	7,206	2,740	Y

Source: Federal Aviation Administration and US Census

FA also evaluated the aircraft registration per capita in the nine states without state income tax. Table 9 summarizes the findings.

Table 9. Aircraft Registration Per Capita (States with No State Income Tax)

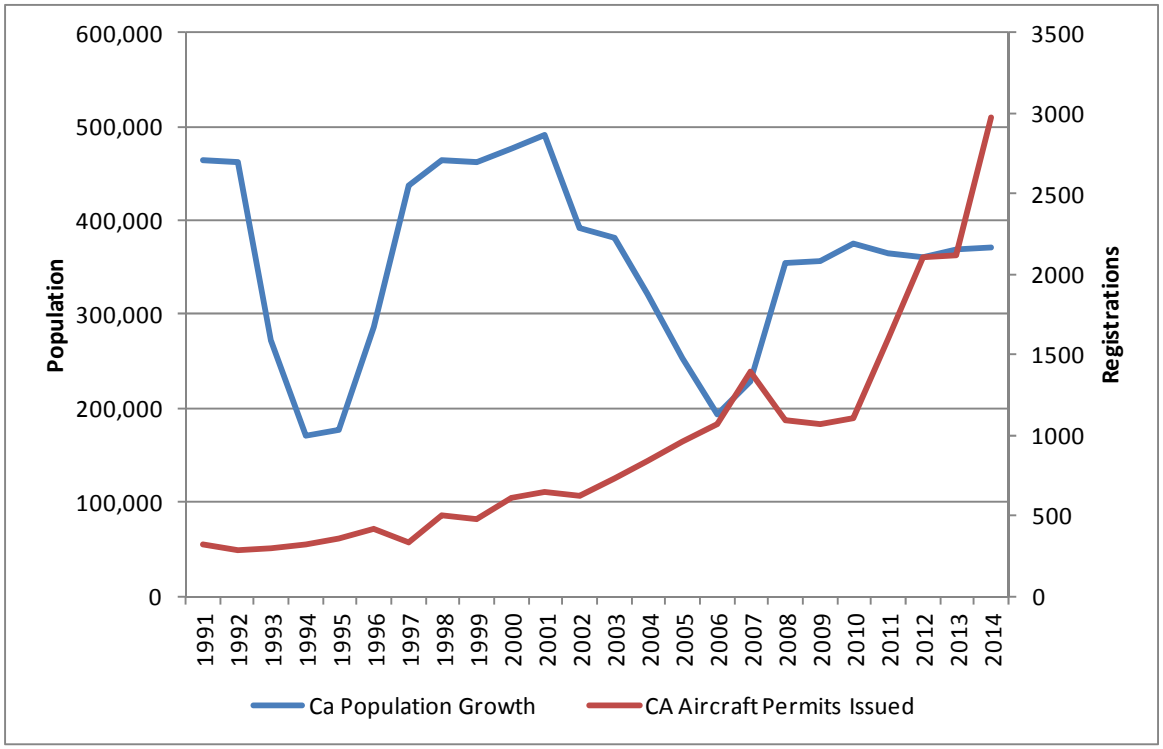
State	2014 Population	Total Aircraft Registered (2015)	Persons per Aircraft Registration
Texas	26,956,958	29,105	926
Florida	19,893,297	20,529	969
Washington	7,061,530	10,379	680
Tennessee	6,549,352	5,669	1,155
Alaska	736,732	4,812	153
Nevada	2,839,099	4,617	615
South Dakota	853,175	2,170	393
Wyoming	584,153	1,825	320
New Hampshire	1,326,813	1,656	801
USA	318,857,056	312,002	1,022
No State Income Tax	66,801,109	80,762	827

Source: Federal Aviation Administration and US Census

These nine states represent 25.9% of current aircraft registrations nationally. Compared to the national data, all of these states except Tennessee have aircraft registration per capita lower than the nation. This data indicates that owners of aircraft tend to live in or establish residency in states without state income tax.

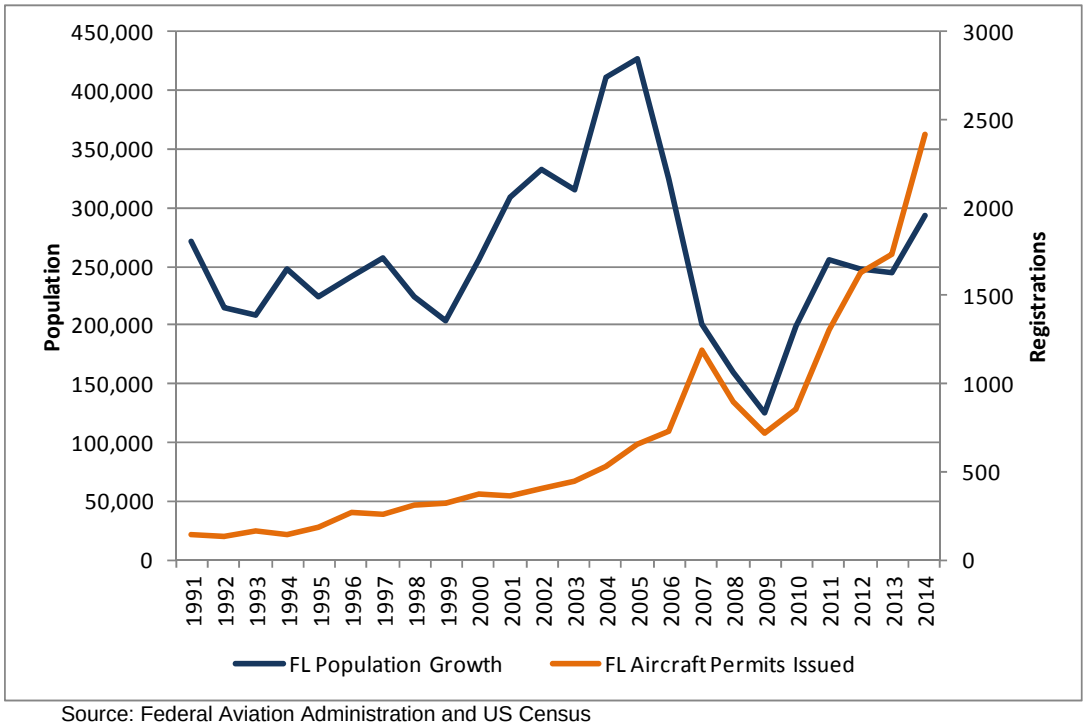
FA also compared annual population growth with annual growth in aircraft registrations for the following five states: California, Florida, Texas, Illinois and New York. These five states are the five most populous of the 15-state subset. Figure 3 through Figure 7 chart population change versus the annual growth in aircraft registrations.

Figure 3. California Population Growth v. Aircraft Registration Growth



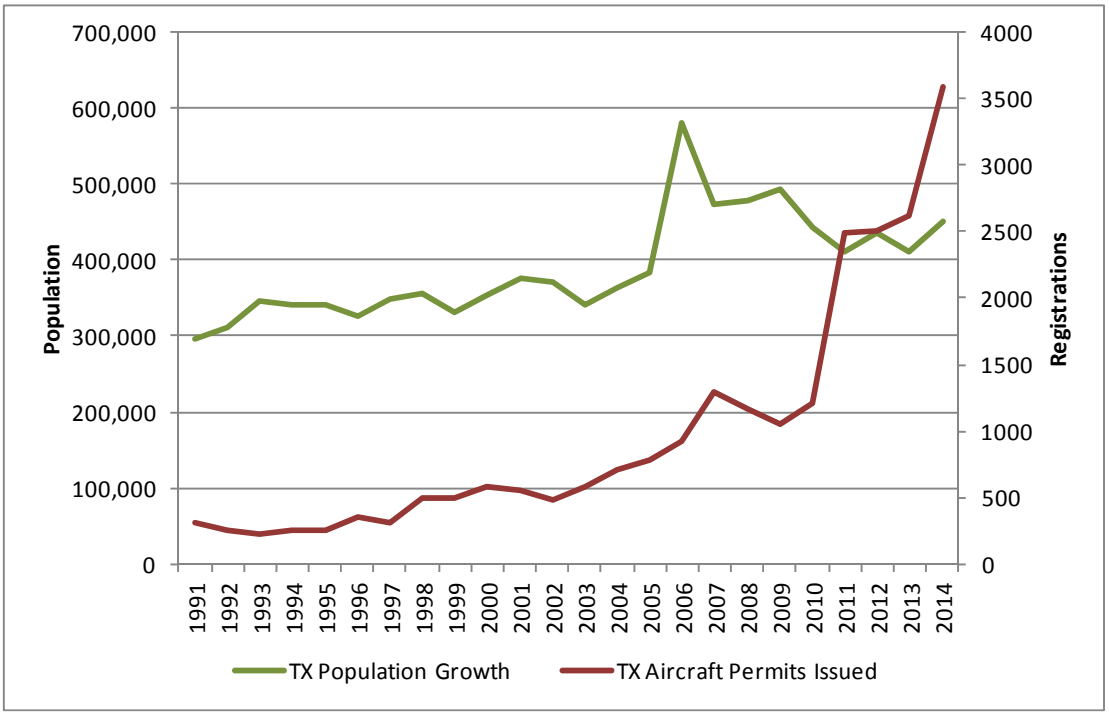
Source: Federal Aviation Administration and US Census

Figure 4. Florida Population Growth v. Aircraft Registration Growth



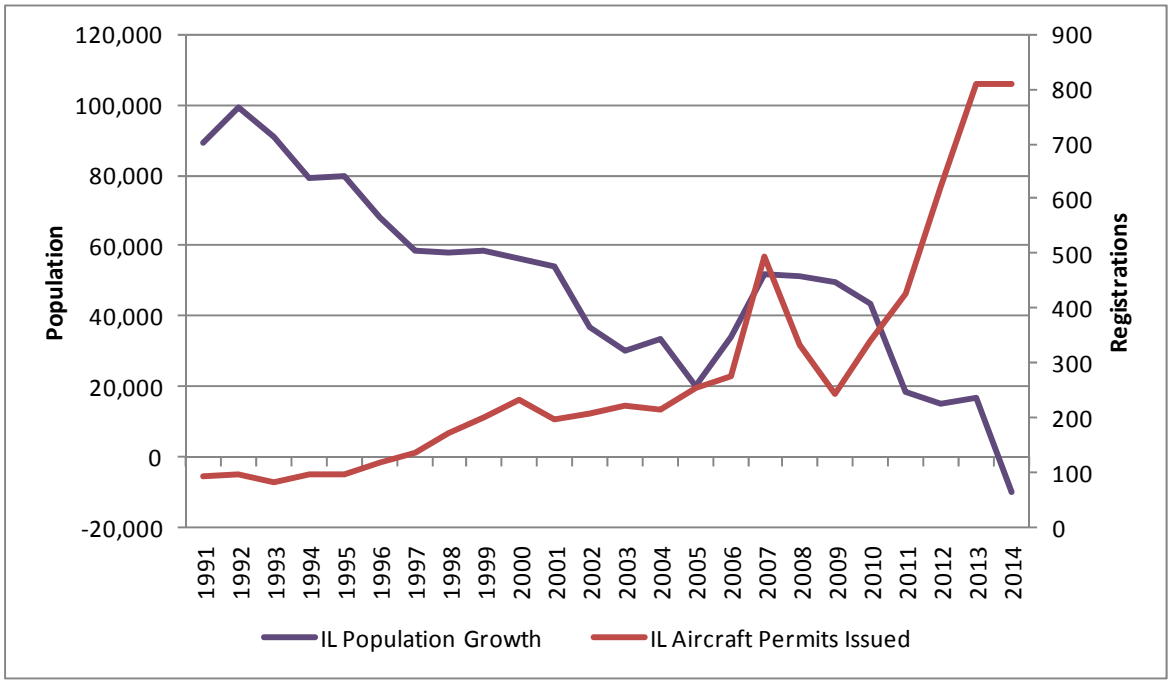
Source: Federal Aviation Administration and US Census

Figure 4. Texas Population Growth v. Aircraft Registration Growth



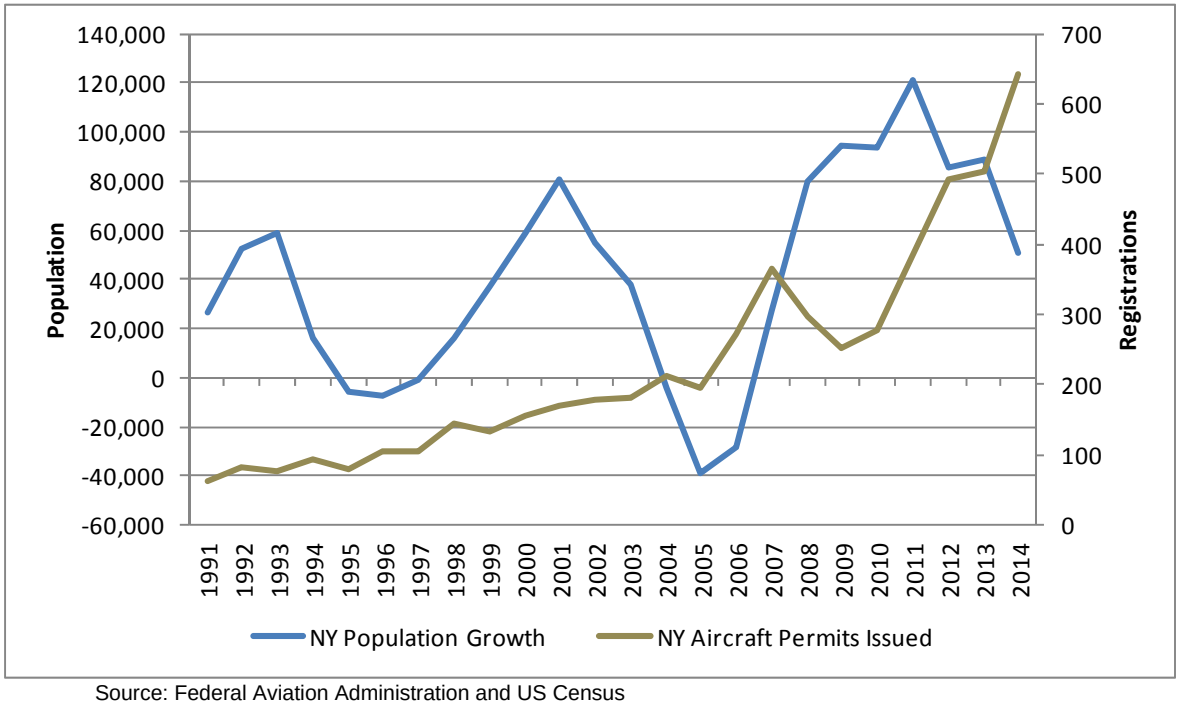
Source: Federal Aviation Administration and US Census

Figure 4. Illinois Population Growth v. Aircraft Registration Growth



Source: Federal Aviation Administration and US Census

Figure 4. New York Population Growth v. Aircraft Registration Growth



Source: Federal Aviation Administration and US Census

FA analyzed the population growth data and there is no correlation between annual increases in aircraft registrations. Texas is the only state to show a correlation greater than 0.50 at a rate of 0.52. Correlation rates that approach 1 are indicative of relationships between variables. The correlation rate for Florida is 0.00 which means there is no statistical relationship between population growth and the increase in aircraft registrations over the past 15 years. Table 10 summarizes the findings.

Table 10. Correlation Between Population Growth and Annual Growth in Aircraft Registrations

State	Correlation
Alabama	-0.35
California	-0.06
Florida	0.00
Georgia	-0.44
Illinois	-0.79
Massachusetts	0.25
Michigan	-0.55
North Carolina	0.01
New Jersey	-0.38
New York	0.43
Ohio	-0.55
Pennsylvania	0.15
South Carolina	0.36
Texas	0.52
Virginia	-0.07

Source: Fishkind and Associates, Inc.

5.0 Aircraft Sales Tax Analysis and Summary

FA gathered aircraft sales tax data from the National Business Aviation Association (NBAA) as well as "fly-away" exemptions information for the 15-state subset. This data was then compared to the aircraft registration data, aircraft registration per capita rates as well as the average annual registration growth data.

The data indicates that of the 15-state competitive subset, Florida's current tax rate is consistent with the median 6% sales tax offered. The average is 5.2% with California representing the highest tax rate at 7.5% and Virginia and Alabama tied for the lowest at 2%.

FA analyzed the data and there is no correlation between state aircraft registrations or annual increases in aircraft registrations. Correlation rates are less than 0.45 for the three aircraft registration categories analyzed. Correlation rates that approach 1 are indicative of relationships between variables. Table 11 summarizes the findings.

Table 11. State Aircraft Sales Tax Rates and Aircraft Registration Data

State	Aircraft State Sales Tax Rate	Fly-Away Exemption	State Income Tax	Total Aircraft Registered (2015)	Aircraft Registration Per Capita	Avg Annual Registrations (1990-2015)
California	7.50%	Y	Y	28,994	1,338	899
New Jersey	7.00%	Y	Y	3,393	2,634	222
Illinois	6.25%	Y	Y	8,685	1,483	275
Massachusetts	6.25%	Y	Y	3,579	1,885	116
Texas	6.25%	Y	N	29,105	926	947
Florida	6.00%	Y	N	20,529	969	649
Michigan	6.00%	Limited	Y	7,989	1,240	249
Pennsylvania	6.00%	Y	Y	6,775	1,887	214
South Carolina	6.00%	N	Y	2,745	1,760	89
Ohio	5.75%	N	Y	8,407	1,379	263
Georgia	4.00%	Limited	Y	8,201	1,231	267
New York	4.00%*	N	Y	7,206	2,740	104
North Carolina	3.00%	N	Y	6,872	1,447	221
Alabama	2.00%	Limited	Y	4,812	1,008	155
Virginia	2.00%	Y	Y	5,440	1,531	177
Median	6.00%			7,206	1,447	222
			Correlation	0.40	0.13	0.44

Source: National Business Aviation Association and Federal Aviation Administration

* Note: *New York State voted to remove General Aviation sales tax in April 2015, effective September 1, 2015*

6.0 Aircraft Registrations and Aircraft Sales

FA analyzed aircraft sales data via the www.aircraftsalesdata.com website for sales between 2010 and 2014. FA then compared the annual sales data to the most recent set of aircraft registration data for Florida over the same period of time. The data indicates more registrations than sales which is not unexpected as not all of the FAA registration data is associated with an aircraft sale.

Based on discussions with representatives with aircraft sales websites, dealer, brokers and representatives with the FAA, FA adjusted the registration and sales data to best approximate annual sales activity within a specific subset of select states impacted by the proposed reduction in sales tax rate as well as in the 15-state subset and national data. Table 12 summarizes the estimated lost sales annually.

Table 12. Aircraft Registrations, Estimated Aircraft Sales and Estimated Annual Lost Sales at the State and National Level

YEAR	FL	AL	GA	SC	SUBSET***	USA***
AVG Annual Registration Growth ('10-'14)	1,585	323	604	214	8,444	14,740
Average Annual Sales**	1,422	72	162	116	7,840	14,285
Annual Sales Lost	164	251	443	97	604	456

Source: FAA, aircraft sales websites and Fishkind and Associates, Inc.

6.1 Additional Sales Estimated from Reducing the Sales Tax to 0%

FA interviewed brokers and dealers regarding their experiences regarding aircraft sales in the state. Anecdotally, it was repeated that Florida loses sales to other states due to Florida's current sales tax rate. The average aircraft sale price in Florida was $696,431 in 2014. In a competitive market, for buyers with options, sales tax matters and influences the sales location; the higher the transaction price, the greater the influence and effect of the sales tax rate. Should the Florida sales tax be reduced to zero, it is rational to expect that Florida would capture additional sales within the region from nearby competitive states and from the nation given the state's current transaction volumes and ability to service aircraft.

Based on FA's best estimates with respect to sales and sales lost annually, FA estimated market capture of Florida's lost sales, as well as lost sales of adjoining states, the 15-state subset and national level sales. Table 13 summarizes the potential capture of lost sales for Florida assuming a reduction of the current aircraft sales rate of 6% to 0%. FA estimates that Florida would see an additional 354 aircraft sold annually.

Table 13. Estimated Capture of Additional Aircraft Sales

YEAR	FL	AL	GA	SC	SUBSET***	USA***
AVG Annual Registration Growth ('10-'14)	1,585	323	604	214	8,444	14,740
Average Annual Sales**	1,422	72	162	116	7,840	14,285
Annual Sales Lost	164	251	443	97	604	456
FL Market Capture of Lost Sales at 0% Tax Rate	85.0%	15.0%	20.0%	20.0%	10.0%	2.0%
Lost Sales Captured	139	38	89	19	60	9
Total Sales	354					

Source: Fishkind and Associates, Inc.
**increased to account for sales not reported via the source website
***adjusted sales and registration data to avoid double counting among states

7.0 Economic Impact Analysis of Aircraft Sales Tax Removal

7.1 Economic Impact Analysis Overview

FA estimated the economic impacts associated with changes to the existing aircraft sales tax rate. This study includes the economic impacts associated with increased aircraft activity throughout the State of Florida. FA used the IMPLAN modeling system to estimate the economic impacts to the State of Florida. This study relies on data gathered from the following sources:

- FAA
- US Census
- Survey of Florida FBOs
- IMPLAN

A summary of IMPLAN is provided herein:

> *IMPLAN's Social Accounting Matrices (SAMs) capture the actual dollar amounts of all business transactions taking place in a regional economy as reported each year by businesses and governmental agencies. SAM accounts are a better measure of economic flow than traditional input-output accounts because they include "non-market" transactions. Examples of these transactions would be taxes and unemployment benefits.*
>
> *<u>Multipliers</u>*
> *Social Accounting Matrices can be constructed to show the effects of a given change on the economy of interest. These are called Multiplier Models. Multiplier Models study the impacts of a user-specified change in the chosen economy for 440 different industries. Because the Multiplier Models are built directly from the region specific Social Accounting Matrices, they will reflect the region's unique structure and trade situation.*

Multiplier Models are the framework for building impact analysis questions. Derived mathematically, these models estimate the magnitude and distribution of economic impacts, and measure three types of effects which are displayed in the final report. These are the direct, indirect, and induced changes within the economy. Direct effects are determined by the Event as defined by the user (i.e. a $10 million dollar order is a $10 million dollar direct effect). The indirect effects are determined by the amount of the direct effect spent within the study region on supplies, services, labor and taxes. Finally the induced effect measures the money that is re-spent in the study area as a result of spending from the indirect effect. Each of these steps recognizes an important leakage from the economic study region spent on purchases outside of the defined area. Eventually these leakages will stop the cycle.

7.2 Profile of Aircraft Sales Economic Impacts

The main assumption in deriving economic impacts associated with a decrease in the aircraft sales tax rate is that additional aircraft sales will be conducted in Florida and this will result in increased visitor spending combined with additional fees and services collected/performed at Florida FBOs. The spending profile associated with each aircraft sale is provided in Table 14.

Table 14. Aircraft Sale Expenditure Profile and Impact of Additional Sales

Category	Unit/Per Unit $		Estimated $
Aircraft Sales Amount	$696,431		$246,722,800
Party Size	1.2		
Length of Stay (days)	4		
Hotel Expense/Night	$125		$212,560
Rental Car/Day	$45		$63,768
Meals/Day	$59		$100,329
Fuel (per sale)	$400		$141,707
FBO Fees/Day	$250		$354,267
Flight Training/Day	$1,000		$1,417,070
Sales Commissions	@65% of 2.25% to 5%		$4,897,974
Plane Maintenance	95% @ 6.5% of Cost		$15,235,136
	TOTAL		$22,422,810

Source: Fishkind and Associates, Inc.

Based on the analysis to date, there essentially is no correlation between sales tax rate and the "home porting" of planes within a specific state. For purposes of this analysis, it is assumed that additional home porting does not result from a reduction in the sales tax. FA estimated additional aircraft sales likely to result from the reduction of the existing Florida aircraft sales tax from 6% to zero in Section 6.0. Combining this estimate with the profile in Table 13, FA estimates that Florida would see an estimated $246 million in additional aircraft sales. These sales would generate $22.4 million in direct economic activity statewide.

7.3 Economic Impacts of Additional Aircraft Sales

FA has estimated that the State of Florida would see a net increase of 354 aircraft sales represents an estimated economic impact of $22.4 million annually. Per the modeling, an estimated $3.9 million (17%) leaks out of the State economy resulting in $18.5 million net direct effect. Table 15 summarizes the total economic impacts and Table 16 summarizes the economic impacts of the Top Ten employment categories associated with the additional aircraft sales.

Table 15. Summary of Additional Aircraft Sales Economic Impacts

Aircraft Sales Impact Summary					
Impact Type	Employment	Labor Income	Total Value Added	Output	Avg Wage
Direct Effect	142	$7,352,820	$9,673,066	$18,533,820	$51,683
Indirect Effect	74	$3,509,917	$5,143,670	$9,284,929	$47,549
Induced Effect	78	$3,346,537	$5,881,879	$10,219,752	$42,755
Total Effect	294	$14,209,274	$20,698,616	$38,038,501	$48,272

Source: IMPLAN and Fishkind and Associates, Inc.

Table 16. Top Ten Industries Impacted by Additional Aircraft Sales

Top Ten for Employment						
Sector	Description	Employment	Labor Income	Total Value Added	Output	Avg Wage
414	Transportation support and fixed base operators	116	$6,444,640	$8,537,520	$17,323,183	$55,557
474	Other educational services and flight training	27	$954,935	$939,537	$1,473,393	$35,368
415	Couriers and messengers	14	$416,590	$735,867	$1,325,283	$29,756
440	Real estate	9	$115,587	$961,664	$1,315,702	$12,843
396	Retail - Motor vehicle and parts dealers	9	$510,583	$873,322	$1,142,456	$56,731
518	Postal service	6	$571,072	$581,309	$734,081	$95,179
464	Employment services	6	$175,650	$207,338	$257,693	$29,275
502	Limited-service restaurants	5	$131,454	$210,081	$326,813	$26,291
501	Full-service restaurants	4	$105,859	$123,827	$225,020	$26,465
468	Services to buildings	4	$92,510	$129,443	$202,232	$23,128

Source: IMPLAN and Fishkind and Associates, Inc.

The analysis indicates that the additional aircraft sales will directly generate 142 jobs. In addition, the additional aircraft sales will generate 152 jobs indirectly. The vast majority of the additional employment is associated with fixed base operators, aircraft maintenance and fuel sales associated with the aircraft sales. The total economic impact of sales tax reduction includes permanent employment gains of 294 jobs which represent an estimated $38.0 million in annual economic activity through the state.

8.0 Conclusions

- FA gathered aircraft sales tax data from the National Business Aviation Association (NBAA) as well as "fly-away" exemptions information for the 15-state subset. The data indicates that of the 15-state competitive subset, Florida's current tax rate is consistent with the median 6% sales tax offered. The average is 5.2% with California representing the highest tax rate at 7.5% and Virginia and Alabama tied for the lowest at 2%.

- FA analyzed the data and there is no correlation between state aircraft registrations or annual increases in aircraft registrations. Correlation rates are less than 0.45 for the three aircraft registration categories analyzed. Correlation rates that approach 1 are indicative of relationships between variables. Table 17 summarizes the findings.

Table 17. State Aircraft Sales Tax Rates and Aircraft Registration Data

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South Carolina	6.00%	N	Y	2,745	1,760	89
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Median	6.00%			7,206	1,447	222
			Correlation	0.40	0.13	0.44

Source: National Business Aviation Association and Federal Aviation Administration

- Based on FA's best estimates with respect to sales and sales lost annually, FA then forecasted market capture of Florida's lost sales as well as lost sales of adjoining states, the 15-state subset and national level sales. Table 18 summarizes the forecasted capture of lost sales for Florida assuming a reduction of the current aircraft sales rate of 6% to 0%. FA estimates that Florida would see an additional 354 aircraft sales annually. This increase in sales represents an estimated 25% increase from existing sales volumes.

Table 18. Estimated Capture of Additional Aircraft Sales

YEAR	FL	AL	GA	SC	SUBSET***	USA***
AVG Annual Registration Growth ('10-'14)	1,585	323	604	214	8,444	14,740
Average Annual Sales**	1,422	72	162	116	7,840	14,285
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Lost Sales Captured	139	38	89	19	60	9
Total Sales	354					

Source: Fishkind and Associates, Inc.
**increased to account for sales not reported via the source website
***adjusted sales and registration data to avoid double counting among states

- FA has estimated that the State of Florida would see a net increase of 354 aircraft sales represents an estimated economic impact of $22.4 million annually. Per the modeling, an estimated $3.9 million (17%) leaks out of the State economy. Table 19 summarizes the total economic impacts.

Table 19. Summary of Additional Aircraft Sales Economic Impacts

Aircraft Sales Impact Summary					
Impact Type	Employment	Labor Income	Total Value Added	Output	Avg Wage
Direct Effect	142	$7,352,820	$9,673,066	$18,533,820	$51,683
Indirect Effect	74	$3,509,917	$5,143,670	$9,284,929	$47,549
Induced Effect	78	$3,346,537	$5,881,879	$10,219,752	$42,755
Total Effect	294	$14,209,274	$20,698,616	$38,038,501	$48,272

Source: IMPLAN and Fishkind and Associates, Inc.

- The analysis indicates that the additional aircraft sales will directly generate 142 jobs. The multiplier effect of additional aircraft sales will generate an additional 152 jobs. The majority of the additional employment is associated with fixed based operators and maintenance associated with the aircraft sales. The total economic impact of reduced sales tax includes employment gains associated with the additional aircraft sales of 294 permanent jobs and $38.0 million in annual ongoing economic activity through the state.