

# CHAPTER 7: ACTIVITY FORECAST

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## Purpose and Scope of Activity Forecasts

In Phase II of the Long-Term Air Transportation Study (LATS), forecasts of future aviation activity at public use airports across Washington State were developed. Forecasts of aviation activity are divided into the following segments: commercial passenger traffic forecasts, general aviation activity forecasts, and air cargo activity forecasts. A base year of 2005 was used in the forecasts, representing the most current actual data, with the various activity measures forecast in five to ten year increments through the Year 2030.

A complete discussion of the forecast results and methodology used to derive the forecasts is presented in Chapters 5 through 8 in the LATS Phase II Report issued June 30, 2007.

Forecasting future aviation demand is critical to long range facility planning for the state. Expectations regarding future activity within regional planning districts and at individual airports will be weighed against current airport capacity to determine potential facility shortfalls and, where these shortfalls exist, to determine alternative strategies for meeting regional and statewide demand. By identifying potential capacity constraints well in advance, the State and FAA will be positioned to identify, fund and implement needed airport facility enhancements so that the air transportation needs of residents and visitors to Washington State can continue to be effectively met.

It is important to recognize that the forecasts prepared and utilized in connection with the Long-Term Air Transportation Study were developed with a statewide, macro-level focus in order to assist the state in assessing its long-term airport facility needs. The LATS planning forecasts will not eliminate or replace the need for individual airport planning and forecasting efforts, such as those typically presented in airport master plans, airport layout plans, and other planning documents. These planning efforts conducted on the part of individual airports will continue to have central importance in Washington State's funding decisions related to specific airport improvement projects.

### ***Ongoing Forecast Tracking***

There is always uncertainty surrounding long-term forecasts of aviation activity, and the current economic climate clearly introduces the

*Uncertainty surrounding long-term forecasts will be accounted for through ongoing forecast tracking*

possibility that various segments of the aviation market in Washington State, and across the country, may grow more slowly than forecast. To address this issue, the State is implementing a forecast tracking system to determine on an ongoing basis how actual levels of aviation activity compare with the LATS forecasts. Should it become apparent that the actual levels of commercial, general aviation, and air cargo traffic are substantially different from the forecasts, the State will adjust the timing of the projections to more accurately reflect the observed trends. In this way, the system planning process will be continuously informed by the most recent available information.

## **Washington Commercial Activity Forecast**

### **Passenger Enplanements**

Between 2005 and 2030, passenger enplanements at Washington State's airports are forecast to increase by 85 percent, from 17 million to 31 million -- or 2.5 percent per year on average. Forecast growth rates vary considerably among the airports, with enplanements at Bellingham, Wenatchee and Friday Harbor projected to grow by more than 140 percent (3.6 percent per year) during the forecast period, while Port Angeles, Grant County/Moses Lake, Oak Harbor, Rosario SPB, Lopez Island and Roche Harbor will see less than 50 percent growth in enplanements.

It is important to note that a number of smaller commercial service airports in Washington State rely on a single air carrier for scheduled service. As a result, these airports may be at some risk for service loss in the future.

Sea-Tac and Spokane enplanements are projected to increase by 82 percent (2.4 percent per year) and 119 percent (3.2 percent per year), respectively between 2005 and 2030 (Exhibit 7-1).

*Between 2005 and 2030, enplanements at Washington State commercial airports are forecast to increase from 17 million to 31 million (2.5% per year)*

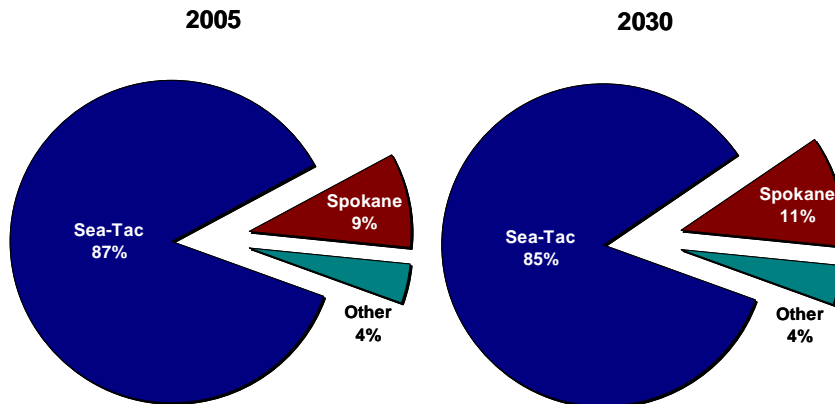
**Exhibit 7-1: Washington State Commercial Service Airports:  
Projected Growth in Passenger Enplanements *In Thousands*, 2005 – 2030<sup>22</sup>**

Airport	2005	2010	2015	2020	2025	2030	Total % Change 2005- 2030	Avg. Annual % Change 2005-2030
Seattle-Tacoma	14,632.1	16,526.1	18,700.9	21,095.5	23,727.2	26,611.2	81.9%	2.4%
Spokane	1,567.5	1,922.8	2,301.4	2,680.0	3,058.7	3,437.3	119.3%	3.2%
Tri-Cities/ Pasco	239.3	255.6	292.9	330.1	367.3	404.5	69.0%	2.1%
Bellingham	103.2	155.8	180.0	204.2	228.4	252.6	144.8%	3.6%
Yakima	57.5	85.1	90.1	95.3	100.9	106.8	85.8%	2.5%
Boeing Field	45.1	53.6	58.8	65.0	70.9	76.3	69.2%	2.1%
Wenatchee	38.4	48.6	59.6	70.5	81.5	92.5	140.6%	3.6%
Walla Walla	24.7	31.8	36.0	40.2	44.4	48.6	96.9%	2.7%
Pullman/ Moscow	23.1	26.2	29.1	32.0	34.9	37.8	63.8%	2.0%
Port Angeles	18.9	17.8	20.0	22.3	24.5	26.7	41.1%	1.4%
Grant County/Moses Lake	12.4	13.6	14.8	16.0	17.2	18.2	46.5%	1.5%
<b>Seaplane Bases &amp; Small Airports in Puget Sound Region &amp; San Juan Islands:</b>								
Seattle Lake Union SPB	34.0	44.9	49.1	51.0	52.9	54.7	60.9%	1.9%
Oak Harbor	13.5	14.1	14.9	15.7	16.6	17.6	30.0%	1.1%
Friday Harbor	12.5	14.9	17.7	21.1	25.0	30.8	146.1%	3.7%
Rosario SPB	11.0	11.3	11.8	12.2	12.7	13.2	20.0%	0.7%
Kenmore Air Harbor SPB	10.0	13.2	14.4	15.0	15.5	16.1	61.0%	1.9%
Lopez Island	7.5	7.7	8.0	8.3	8.7	9.0	20.0%	0.7%
Eastsound/ Orcas Island	4.5	5.2	5.6	6.0	6.4	6.9	52.9%	1.7%
Roche Harbor SPB	4.0	4.1	4.3	4.5	4.7	4.8	20.0%	0.7%
Anacortes	1.6	2.4	3.2	4.0	4.9	5.7	250.4%	5.1%
<b>Total Washington:</b>	<b>16,861</b>	<b>19,255</b>	<b>21,913</b>	<b>24,789</b>	<b>27,903</b>	<b>31,271</b>	<b>85.5%</b>	<b>2.5%</b>

*For the foreseeable future, passenger traffic in Washington State will remain highly concentrated at Sea-Tac and Spokane*

Passenger traffic in Washington State is projected to remain highly concentrated at Sea-Tac and Spokane airports for the foreseeable future. Our forecast projects that in 2030, Sea-Tac will still account for 85 percent of the state’s total enplanements, and Spokane will account for an additional 11 percent.

**Exhibit 7-2: Washington State Commercial Service Airports:  
Share of Total State Passenger Enplanements, 2005 Actual vs. 2030 Projected**



<sup>22</sup> Source: SH&E analysis, except for Sea-Tac, Grant County/Moses Lake and Friday Harbor (forecasts produced and accepted, independent of this effort).

Sea-Tac and Spokane are both expected to continue to attract passenger “leakage” traffic from smaller airports, although Tri-Cities/Pasco may well attract passengers from the nearby Walla Walla and Wenatchee regions as well.

## Commercial Operations

*Commercial passenger aircraft operations are projected to increase by 69% (2.1% per year)*

The state’s commercial passenger aircraft operations are projected to increase at a healthy 2.1 percent per year, from 570,000 in 2005 to 960,000 by 2030. This represents a 69% increase in commercial operations between 2005 and 2030. Commercial operations are expected to grow more slowly than enplanements, as aircraft size and load factors increase in the future in line with national trends.

Boeing Field will see the most rapid growth in operations, at 141 percent overall (3.6 percent per year), as services by small commuter aircraft with fewer than 10 seats rapidly increase. Sea-Tac and Spokane are also expected to have relatively high increases in operations, at 85 percent (2.5 percent per year) and 97 percent (2.7 percent per year), respectively. Operations at most other commercial service airports in the state are projected to grow at less than 2 percent per year.

*Despite the forecast adopted for Sea-Tac passenger traffic and aircraft activity, airport management expects that the airport will not reach capacity before 2030.*

The forecast growth in passenger traffic and commercial aircraft activity at Sea-Tac indicate that the airport may reach its capacity limits by approximately 2024. However, current economic conditions and recent trends at Sea-Tac including increasing aircraft size and increasing load factors have led airport management to believe that the airport will not reach its capacity constraints until some time after 2030. There is always uncertainty surrounding long-term forecasts of aviation activity. To address this issue, the State is implementing a forecast tracking system and will monitor on an ongoing basis how actual levels of aviation activity at Sea-Tac and other Washington airports compare with the LATS forecasts.

**Exhibit 7-3: Washington State Commercial Service Airports:  
Projected Growth in Commercial Aircraft Operations, 2005 – 2030<sup>23</sup>**

Airport	2005	2010	2015	2020	2025	2030	Total % Change 2005- 2030	Avg. Annual % Change 2005-2030
Seattle-Tacoma	338,757	388,303	438,581	494,639	557,911	627,252	85.2%	2.5%
Spokane	43,978	50,500	60,100	69,300	78,200	86,500	96.7%	2.7%
Grant County/Moses Lake	24,914	25,146	25,380	25,607	25,815	25,971	4.2%	0.2%
Tri-Cities/ Pasco	24,812	22,000	23,400	24,700	25,900	27,000	8.8%	0.3%
Bellingham	16,369	19,300	20,400	21,600	22,700	23,700	44.8%	1.5%
Wenatchee	15,018	15,503	16,100	16,700	17,300	17,900	19.2%	0.7%
Port Angeles	6,408	5,100	5,400	5,700	5,900	6,200	-3.2%	-0.1%
Boeing Field	5,766	10,300	11,100	12,200	13,200	13,900	141.1%	3.6%
Yakima	4,305	5,800	5,700	5,800	5,800	5,800	34.7%	1.2%
Pullman/ Moscow	3,552	3,300	3,500	3,600	3,700	3,900	9.8%	0.4%
Walla Walla	2,981	3,300	3,500	3,600	3,800	4,000	34.2%	1.2%
<b>Seaplane Bases &amp; Small Airports in Puget Sound Region &amp; San Juan Islands:</b>								
Seattle Lake Union SPB	25,400	33,500	36,700	38,100	39,500	40,900	61.0%	1.9%
Kenmore Air Harbor SPB	21,000	27,700	30,300	31,500	32,600	33,800	61.0%	1.9%
Friday Harbor	10,600	10,900	11,300	11,700	12,200	12,800	20.8%	0.8%
Eastsound/ Orcas Island	5,466	5,300	5,300	5,400	5,500	5,600	2.5%	0.1%
Oak Harbor	5,000	5,200	5,500	5,800	6,200	6,500	30.0%	1.1%
Rosario SPB	5,000	5,200	5,400	5,600	5,800	6,000	20.0%	0.7%
Lopez Island	5,000	5,200	5,400	5,600	5,800	6,000	20.0%	0.7%
Roche Harbor SPB	2,300	2,400	2,500	2,600	2,700	2,800	21.7%	0.8%
Anacortes	1,136	1,600	2,100	2,500	2,900	3,200	181.7%	4.2%
<b>Total Washington:</b>	<b>567,762</b>	<b>645,552</b>	<b>717,661</b>	<b>792,246</b>	<b>873,426</b>	<b>959,723</b>	<b>69.0%</b>	<b>2.1%</b>

## Washington General Aviation Activity Forecast

### Based Aircraft

*Washington based aircraft  
to grow 1.49 percent  
annually, from 8,100 in  
2005 to 11,800 in 2030*

In 2005, approximately 8,100 general aviation aircraft were based at public use airports in Washington State. The number of statewide based aircraft is forecast to increase to approximately 9,700 aircraft in 2015, and 11,800 aircraft in 2030. Over the full forecast period from 2005 to 2030, the State's based aircraft will increase at an average annual rate of 1.49 percent.

Exhibit 7-4 presents the distribution of Washington's based aircraft in each forecast year by RTPO.

<sup>23</sup> Source: SH&E analysis, except for Sea-Tac, Grant County/Moses Lake and Friday Harbor (forecasts produced and accepted, independent of this effort). Note: Historic and forecast operations at Grant County/Moses Lake include air carrier testing/training and freighter operations.

### Exhibit 7-4: Washington State RTPO Based Aircraft Growth, 2005–2030

Growth Rank	RTPO	2005	Forecast Based Aircraft					Average Annual Growth		
			2010	2015	2020	2025	2030	2005-2015	2015-2030	2005-2030
1	Thurston Regional Planning Council	254	294	338	366	396	427	2.90%	1.57%	2.10%
2	Southwest Washington RTC	378	416	466	512	562	613	2.11%	1.84%	1.95%
3	Quad-County RTPO	413	469	535	571	614	658	2.62%	1.39%	1.88%
4	Peninsula RTPO	345	398	446	482	510	545	2.60%	1.35%	1.85%
5	Northeast Washington RTPO	60	69	80	83	89	94	2.92%	1.08%	1.81%
6	Whatcom Council of Governments	248	276	308	330	354	378	2.19%	1.37%	1.70%
7	Puget Sound Regional Council	3,798	4,097	4,457	4,759	5,083	5,434	1.61%	1.33%	1.44%
8	Benton-Franklin-Walla Walla RTPO	471	511	556	594	633	673	1.67%	1.28%	1.44%
9	North Central RTPO	410	435	486	520	548	579	1.72%	1.17%	1.39%
10	Skagit/Island RTPO	328	364	398	416	430	448	1.95%	0.79%	1.25%
11	Spokane Regional Transportation Council	579	626	675	705	735	768	1.55%	0.86%	1.14%
12	Southwest Washington RTPO	327	354	378	393	409	429	1.46%	0.85%	1.09%
13	Yakima Valley Council of Governments	146	149	154	161	168	174	0.53%	0.82%	0.70%
14	Palouse RTPO	112	114	118	123	128	133	0.52%	0.80%	0.69%
	<i>No RTPO – San Juan Islands</i>	246	283	317	343	373	402	2.57%	1.60%	1.98%
	<b>Total Washington State</b>	<b>8,115</b>	<b>8,855</b>	<b>9,712</b>	<b>10,358</b>	<b>11,032</b>	<b>11,755</b>	<b>1.81%</b>	<b>1.28%</b>	<b>1.49%</b>

*Fastest based aircraft growth projected in Thurston and Southwest Washington RTC*

The regions projected to exhibit the fastest based aircraft growth in Washington State are Thurston and Southwest Washington RTC. Based aircraft in Thurston are forecast to grow from approximately 250 in 2005 to over 400 in 2030, representing a 2.10 percent average annual growth. Based aircraft in Southwest Washington RTC are forecast to grow from approximately 380 in 2005 to over 600 in 2030, representing a 1.95 percent average annual growth. Other regions with fast growing based aircraft include Quad County (with a 1.88 percent average annual growth), Peninsula (1.85 percent annual growth), and Northeast Washington (1.81% annual growth).

*Slowest based aircraft growth projected in Palouse and Yakima RTPOs*

The planning regions exhibiting the slowest rates of growth in GA based aircraft are Palouse and Yakima. Between 2005 and 2030, based aircraft in Palouse are projected to grow from 110 to a mere 130, representing an average annual growth of 0.69 percent. In Yakima, based aircraft are projected to grow from 150 to 170 between 2005 and 2030, representing an average annual growth of 0.70 percent. Other regions with slow rates of growth include Southwest Washington RTPO (1.09% annual growth) and Spokane (1.14% annual growth).

Exhibit 7-5 presents each RTPO’s share of total Washington State based aircraft through each of the forecast years.

**Exhibit 7-5: RTPO Share of Washington State Based Aircraft, 2005–2030**

2005 Rank	RTPO	2005	Forecast Share of State Based Aircraft				
			2010	2015	2020	2025	2030
1	Puget Sound Regional Council	46.8%	46.3%	45.9%	45.9%	46.1%	46.2%
2	Spokane Regional Transportation Council	7.1%	7.1%	7.0%	6.8%	6.7%	6.5%
3	Benton-Franklin-Walla Walla RTPO	5.8%	5.8%	5.7%	5.7%	5.7%	5.7%
4	Quad-County RTPO	5.1%	5.3%	5.5%	5.5%	5.6%	5.6%
5	North Central RTPO	5.1%	4.9%	5.0%	5.0%	5.0%	4.9%
6	Southwest Washington RTC	4.7%	4.7%	4.8%	4.9%	5.1%	5.2%
7	Peninsula RTPO	4.3%	4.5%	4.6%	4.7%	4.6%	4.6%
8	Skagit/Island RTPO	4.0%	4.1%	4.1%	4.0%	3.9%	3.8%
9	Southwest Washington RTPO	4.0%	4.0%	3.9%	3.8%	3.7%	3.6%
10	Thurston Regional Planning Council	3.1%	3.3%	3.5%	3.5%	3.6%	3.6%
11	Whatcom Council of Governments	3.1%	3.1%	3.2%	3.2%	3.2%	3.2%
12	Yakima Valley Council of Governments	1.8%	1.7%	1.6%	1.6%	1.5%	1.5%
13	Palouse RTPO	1.4%	1.3%	1.2%	1.2%	1.2%	1.1%
14	Northeast Washington RTPO	0.7%	0.8%	0.8%	0.8%	0.8%	0.8%
	<i>No RTPO – San Juan Islands</i>	3.0%	3.2%	3.3%	3.3%	3.4%	3.4%
	<i>Total Washington State</i>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*Based aircraft continue to be highly concentrated in Puget*

General aviation activity will continue to be highly concentrated within the Puget Sound region. In 2005, Puget Sound accounted for 46.8 percent of Washington’s total GA based aircraft. This share will decline only slightly over the 25-year forecast period, to 46.2 percent in 2030. The Spokane region represents the second largest concentration of based GA aircraft within Washington, accounting for 7.1 percent of 2005 statewide based aircraft, and dropping to a 6.5 percent share in 2030.

Benton-Franklin-Walla Walla, Quad-County, and Southwest Washington RTC are the next largest regions in terms of based aircraft. Each of these regions is forecast to account for between 5 and 6 percent of total Washington based aircraft in 2030.

Yakima Valley, Palouse, and Northeast Washington are the smallest regions in terms of based aircraft. These regions represent between 0.8 percent (Northeast Washington) and 1.5 percent (Yakima) of forecast statewide GA based aircraft in 2030.

## General Aviation Operations

*Washington GA operations to grow 1.6 percent annually, from 3.0 million in 2005 to 4.4 million in 2030*

Washington State's general aviation aircraft operations are forecast to increase from 3.0 million in 2005 up to 4.4 million in 2030, representing average annual growth of approximately 1.60 percent. The growth in GA operations is slightly higher than the growth in based GA aircraft, reflecting a small increase in the average number of operations per based aircraft.

Exhibit 7-6 presents the distribution of Washington's GA operations through the forecast period by RTPO.

**Exhibit 7-6: Washington State RTPO GA Operations Forecast, 2005–2030**

Growth Rank	RTPO	2005	Fcst GA Operations		Average Annual Growth		
			2015	2030	2005-2015	2015-2030	2005-2030
1	Thurston Regional Planning Council	121,866	163,896	208,587	3.01%	1.62%	2.17%
2	Whatcom Council of Governments	80,026	101,107	127,529	2.37%	1.56%	1.88%
3	Southwest Washington RTC	128,825	155,845	201,954	1.92%	1.74%	1.81%
4	Northeast Washington RTPO	21,650	28,340	33,171	2.73%	1.05%	1.72%
5	Puget Sound Regional Council	1,358,117	1,640,534	2,068,251	1.91%	1.56%	1.70%
6	Peninsula RTPO	141,850	177,400	209,150	2.26%	1.10%	1.57%
7	North Central RTPO	141,594	177,047	209,502	2.26%	1.13%	1.58%
8	Quad-County RTPO	252,655	311,481	361,473	2.12%	1.00%	1.44%
9	Benton-Franklin-Walla Walla RTPO	163,159	190,923	228,179	1.58%	1.20%	1.35%
10	Skagit/Island RTPO	109,750	133,575	150,235	1.98%	0.79%	1.26%
11	Southwest Washington RTPO	116,589	135,344	157,388	1.50%	1.01%	1.21%
12	Spokane Regional Transportation Council	137,533	160,784	183,157	1.57%	0.87%	1.15%
13	Yakima Valley Council of Governments	40,336	42,547	48,048	0.54%	0.81%	0.70%
14	Palouse RTPO	55,472	59,522	64,864	0.71%	0.57%	0.63%
	<i>No RTPO – San Juan Islands</i>	99,362	124,807	163,005	2.31%	1.80%	2.00%
	<b>Total Washington State</b>	<b>2,968,784</b>	<b>3,603,154</b>	<b>4,414,494</b>	<b>1.96%</b>	<b>1.36%</b>	<b>1.60%</b>

*Fastest GA operations growth projected in Thurston, Whatcom, and Southwest Washington RTC*

The regions projected to exhibit the fastest growth in GA operations in Washington State include Thurston, Whatcom, and Southwest Washington RTC. GA operations in Thurston are forecast to grow at an average annual rate of 2.17 percent, growing from approximately 120,000 operations in 2005 to 209,000 operations in 2030. GA operations in Whatcom are forecast to grow at an average annual rate of 1.88 percent, growing from 80,000 in 2005 to 128,000 in 2030. For Southwest Washington RTC, a 1.75% average annual growth is projected, with GA operations growing from 129,000 in 2005 to 202,000 in 2030.



Regions with below average growth in forecast GA operations include Palouse (with a 0.63% annual growth between 2005 and 2030), Yakima Valley (0.70% annual growth), and Spokane (1.15% annual growth).

Exhibit 7-7 presents each RTPO's share of total Washington State GA operations through the forecast period.

**Exhibit 7-7: RTPO Shares of Washington State GA Operations, 2005-2030**

2005 Rank	RTPO	2005	2015	2030
1	Puget Sound Regional Council	45.7%	45.5%	48.7%
2	Quad-County RTPO	8.5%	8.6%	7.8%
3	Benton-Franklin-Walla Walla RTPO	5.5%	5.3%	5.2%
4	Peninsula RTPO	4.8%	4.9%	4.3%
5	North Central RTPO	4.8%	4.9%	4.4%
6	Spokane Regional Transportation Council	4.6%	4.5%	4.0%
7	Southwest Washington RTC	4.3%	4.3%	5.0%
8	Thurston Regional Planning Council	4.1%	4.5%	4.5%
9	Southwest Washington RTPO	3.9%	3.8%	3.4%
10	Skagit/Island RTPO	3.7%	3.7%	3.2%
11	Whatcom Council of Governments	2.7%	2.8%	2.8%
12	Palouse RTPO	1.9%	1.7%	1.4%
13	Yakima Valley Council of Governments	1.4%	1.2%	1.0%
14	Northeast Washington RTPO	0.7%	0.8%	0.7%
	<i>No RTPO – San Juan Islands</i>	3.3%	3.5%	3.5%
	<i>Total Washington State</i>	100.0%	100.0%	100.0%

*GA operations continue to be highly concentrated in Puget*

The single largest concentration of GA operations within Washington is again projected in the Puget Sound Region. GA operations in Puget Sound totaled 1.4 million in 2005, accounting for 47.7 percent of statewide GA operations. The projected annual growth rate in Puget Sound is 1.70 percent between 2005 and 2030, slightly higher than the average statewide growth of 1.60 percent. By 2030, GA operations in Puget Sound are forecast to increase to 2.1 million, accounting for 48.7 percent of statewide GA operations. After Puget Sound, the next largest concentration of GA operations in Washington State is projected in Quad-County. An average annual growth of 1.44 percent is projected in Quad-County, with GA operations growing from 250,000 in 2005 to 360,000 in 2030. Quad-County's share of statewide GA operations is forecast to decrease from 8.5 percent in 2005 to a still significant 7.8 percent share in 2030.

## GA in Special Emphasis Regions

The distribution of forecast GA based aircraft by Special Emphasis Region is presented in Exhibit 7-8 below:

**Exhibit 7-8: Based Aircraft By Special Emphasis Region, 2005–2030**

2005 Rank	Special Emphasis Region	Current 2005	Forecast Based Aircraft				
			2010	2015	2020	2025	2030
1	Puget Sound	3,798	4,097	4,457	4,759	5,083	5,434
2	Spokane	579	626	675	705	735	768
3	Southwest Washington	400	447	490	529	571	616
4	Tri-Cities	284	307	331	352	375	397
	<i>Other Washington</i>	3,054	3,378	3,759	4,013	4,268	4,540
	<b>Total Washington State</b>	<b>8,115</b>	<b>8,855</b>	<b>9,712</b>	<b>10,358</b>	<b>11,032</b>	<b>11,755</b>

The distribution of forecast GA operations by Special Emphasis Region is presented in Exhibit 7-9.

**Exhibit 7-9: GA Operations By Special Emphasis Region, 2005–2030**

2005 Rank	Special Emphasis Region	Current 2005	Forecast GA Operations				
			2010	2015	2020	2025	2030
1	Puget Sound	1,358,117	1,491,159	1,640,534	1,770,994	1,912,874	2,068,251
2	Spokane	137,533	148,981	160,784	168,147	175,260	183,157
3	Southwest Washington	127,025	135,617	149,191	160,993	174,146	188,744
4	Tri-Cities	117,540	126,658	136,061	144,010	152,541	160,876
	<i>Other Washington</i>	1,228,569	1,376,971	1,516,584	1,613,970	1,710,631	1,813,466
	<b>Total Washington</b>	<b>2,968,784</b>	<b>3,279,386</b>	<b>3,603,154</b>	<b>3,858,114</b>	<b>4,125,453</b>	<b>4,414,494</b>

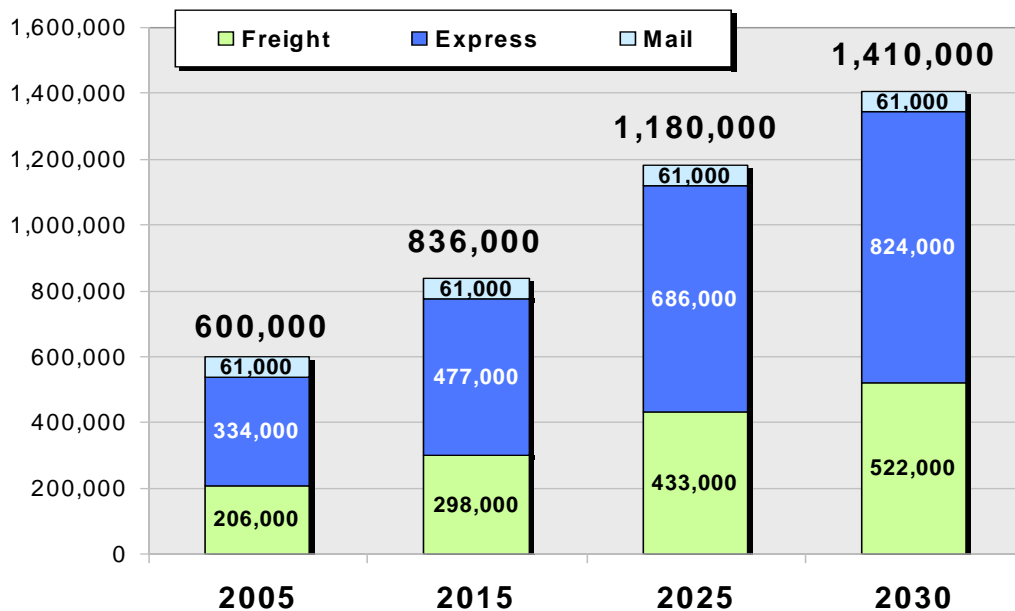
# Washington Air Cargo Activity Forecast

## Air Cargo Volume

*Total air cargo volume in Washington State to grow from 600,000 tons in 2005 to 1,407,000 tons in 2030.*

Washington’s total air cargo volume is expected to grow from approximately 600,000 tons in 2005 to 1,407,000 tons in 2030. This represents a significant 3.5 percent annual growth over the forecast period. As shown in Exhibit 7-10, growth will occur across the freight and express categories with mail remaining constant at approximately 61,000 tons.

**Exhibit 7-10: Washington State Air Cargo Volume (Tons) Forecast by Cargo Type**



*Asian freight fastest growing at 4.5 percent per year, while domestic freight grows at 3.8 percent.*

Washington State freight tonnage is anticipated to grow at 3.8 percent per year through the 25-year forecast period. Domestic freight, which represents 80 percent of statewide freight tonnage, is also projected to grow 3.8 percent per year. In terms of international freight, Asian freight is expected to be the fastest growing at 4.5 percent per year. Air freight between Washington and Europe is projected to grow 2.1 percent per year, while other air freight, mostly to Canada, is projected to grow at the same rate as domestic freight.

Air mail at Washington airports has declined due to regulations on mail carried on passenger aircraft that were enacted after September 11<sup>th</sup>, the greater use of trucking, and the re-classification of some mail to freight

following the US Postal Service decision to use Federal Express for some mail traffic. The study did not identify additional factors likely to restrict air mail traffic further, and the forecast projects mail traffic to remain constant through the forecast period.

*Concentration of air cargo activity in Seattle and Spokane areas expected to continue to drive infrastructure requirements*

Air cargo activity is principally concentrated in the major population and economic activity centers of the state. In 2005, the bulk of Washington’s air cargo activity took place in the Seattle area (83 percent of state’s air cargo tonnage) and Spokane (16 percent of state’s air cargo tonnage). Based upon the forecast cargo volume, the concentration of air cargo activity is expected to remain relatively consistent, with a slight increase in terms of concentration in Seattle and a slight decrease in Spokane.

**Exhibit 7-11: Air Cargo Forecast Concentration**

Airport	Tons				Share			
	2005	2015	2025	2030	2005	2015	2025	2030
SEA Seattle/Tacoma	373,233	513,021	717,651	853,405	62.2%	61.4%	60.8%	60.6%
BFI Seattle Boeing Field	124,620	184,487	273,659	333,574	20.8%	22.1%	23.2%	23.7%
GEG Spokane Intl Apt	93,423	125,878	170,757	199,473	15.6%	15.1%	14.5%	14.2%
PSC Pasco	3,377	4,858	6,989	8,384	0.6%	0.6%	0.6%	0.6%
YKM Yakima Municipal Apt	2,268	2,992	3,948	4,535	0.4%	0.4%	0.3%	0.3%
BLI Bellingham	1,215	1,763	2,561	3,088	0.2%	0.2%	0.2%	0.2%
EAT Wenatchee	654	874	1,167	1,349	0.1%	0.1%	0.1%	0.1%
MWH Moses Lake Grant County	530	715	963	1,118	0.1%	0.1%	0.1%	0.1%
CLM Port Angeles	519	743	1,063	1,272	0.1%	0.1%	0.1%	0.1%
BVS Mount Vernon	384	560	815	984	0.1%	0.1%	0.1%	0.1%
<b>Total</b>	<b>600,224</b>	<b>835,891</b>	<b>1,179,574</b>	<b>1,407,181</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: SH&E Analysis

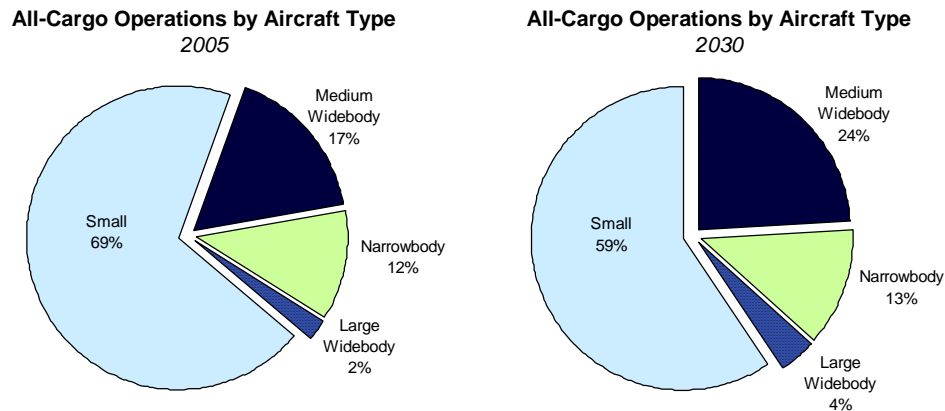
It is expected that this concentration of activity will continue to drive infrastructure requirements for the Seattle and Spokane areas.

## All-Cargo Operations

In terms of operations, all-cargo aircraft operations are projected to grow from approximately 51,000 to 75,000 annual operations over the forecast period. All-cargo operations refer to aircraft operations conducted by carriers dedicated to carrying air freight alone. Growth will occur across the various aircraft types, with small aircraft operations continuing to make up the bulk of operations, growing from 36,000 operations in 2005 (70 percent of total all-cargo operations) to 44,000 operations in 2030 (60 percent of total all-cargo operations).

See Exhibit 7-12 below for the distribution of all-cargo operations by aircraft type over the forecast period.

**Exhibit 7-12: Washington State Current and Forecast All-Cargo Operations by Aircraft Type**



Source: SH&E forecast

See Exhibit 7-13 on the following page for the combined air cargo volume and air cargo operations forecast for Washington State.

### Exhibit 7-13: Washington Air Cargo Volume / Operations Forecast

	2005	2015	2025	2030	CAGR			
					05-15	15-25	25-30	05-30
<b>Air Cargo Volume (Tons)</b>								
Enplaned	278,374	386,242	543,388	647,377	3.3%	3.5%	3.6%	3.4%
Deplaned	321,850	449,648	636,186	759,804	3.4%	3.5%	3.6%	3.5%
<b>Total</b>	<b>600,224</b>	<b>835,891</b>	<b>1,179,574</b>	<b>1,407,181</b>	<b>3.4%</b>	<b>3.5%</b>	<b>3.6%</b>	<b>3.5%</b>
Domestic	510,500	708,760	995,804	1,184,568	3.3%	3.5%	3.5%	3.4%
International	89,724	127,131	183,770	222,613	3.5%	3.8%	3.9%	3.7%
<b>Total</b>	<b>600,224</b>	<b>835,891</b>	<b>1,179,574</b>	<b>1,407,181</b>	<b>3.4%</b>	<b>3.5%</b>	<b>3.6%</b>	<b>3.5%</b>
Freight	205,720	297,736	432,575	522,102	3.8%	3.8%	3.8%	3.8%
Express	333,623	477,273	686,118	824,198	3.6%	3.7%	3.7%	3.7%
Mail	60,881	60,881	60,881	60,881	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>600,224</b>	<b>835,891</b>	<b>1,179,574</b>	<b>1,407,181</b>	<b>3.4%</b>	<b>3.5%</b>	<b>3.6%</b>	<b>3.5%</b>
<b>Freight Volume (Tons)</b>								
Domestic	450,110	648,369	935,414	1,124,177	3.7%	3.7%	3.7%	3.7%
International	89,233	126,640	183,280	222,123	3.6%	3.8%	3.9%	3.7%
<b>Total</b>	<b>539,343</b>	<b>775,010</b>	<b>1,118,693</b>	<b>1,346,300</b>	<b>3.7%</b>	<b>3.7%</b>	<b>3.8%</b>	<b>3.7%</b>
All Cargo	413,570	592,517	853,412	1,024,237	3.7%	3.7%	3.7%	3.7%
Belly Cargo	125,773	182,492	265,281	322,063	3.8%	3.8%	4.0%	3.8%
<b>Total</b>	<b>539,343</b>	<b>775,010</b>	<b>1,118,693</b>	<b>1,346,300</b>	<b>3.7%</b>	<b>3.7%</b>	<b>3.8%</b>	<b>3.7%</b>
<b>All Cargo Volume (Tons)</b>								
Large Widebody	59,987	85,130	133,326	170,766	3.6%	4.6%	5.1%	4.3%
Medium Widebody	269,990	395,712	569,996	680,386	3.9%	3.7%	3.6%	3.8%
Narrowbody	58,038	76,847	101,523	116,106	2.8%	2.8%	2.7%	2.8%
Small	25,555	34,828	48,567	56,979	3.1%	3.4%	3.2%	3.3%
<b>Total</b>	<b>413,570</b>	<b>592,517</b>	<b>853,412</b>	<b>1,024,237</b>	<b>3.7%</b>	<b>3.7%</b>	<b>3.7%</b>	<b>3.7%</b>
<b>All Cargo Operations</b>								
Large Widebody	1,056	1,417	2,219	2,872	3.0%	4.6%	5.3%	4.1%
Medium Widebody	8,590	11,642	15,660	18,099	3.1%	3.0%	2.9%	3.0%
Narrowbody	5,967	7,085	8,551	9,388	1.7%	1.9%	1.9%	1.8%
Small	35,701	38,737	42,583	44,380	0.8%	1.0%	0.8%	0.9%
<b>Total</b>	<b>51,314</b>	<b>58,881</b>	<b>69,013</b>	<b>74,739</b>	<b>1.4%</b>	<b>1.6%</b>	<b>1.6%</b>	<b>1.5%</b>