

## **APPENDIX A: DETAILED TABLE OF WASHINGTON STATE AIRPORTS**

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The detailed table of the Washington State Airports is shown on the following pages.

Site	Airport Name	City	NPIAS Service Level	State Service Level
26433.C	American Lake SPB	Tacoma	None	Seaplane Base
26098.1A	Anacortes	Anacortes	Commercial Service - NonPrimary	Commercial Service
26123.1A	Anderson Field	Brewster	General Aviation	Community Local >10
26099.A	Arlington Municipal	Arlington	General Aviation	Regional Service
26103.11A	Auburn Municipal	Auburn	Reliever	Regional Service
26267.4A	Avey Field State	Laurier	None	Recreation or Remote
26104.A	Bandera State	Bandera	None	Recreation or Remote
26109.A	Bellingham International	Bellingham	Commercial Service - Primary	Commercial Service
26116.A	Blaine Municipal	Blaine	General Aviation	Community Local >10
26396.A	Boeing Field/King County International	Seattle	Commercial Service - Primary	Commercial Service
26236.A	Bowerman Field	Hoquiam	General Aviation	Regional Service
26195.A	Bowers Field	Ellensburg	General Aviation	Regional Service
26120.*A	Bremerton National	Bremerton	General Aviation	Regional Service
26424.3*A	Camano Island Airfield	Stanwood	None	Recreation or Remote
26135.A	Cashmere Dryden	Cashmere	General Aviation	Community Local >10
26104.11*A	Cedars North Airpark	Battle Ground	None	Recreation or Remote
26144.A	Chehalis Centralia	Chehalis	General Aviation	Community Local >10
26147.A	Chelan Municipal	Chelan	General Aviation	Community Local >10
26159.A	Cle Elum Municipal	Cle Elum	General Aviation	Community Local <10
19614.*A	Columbia Gorge Regional/The Dalles	The Dalles	General Aviation	Regional Service
26165.A	Colville Municipal	Colville	General Aviation	Community Local >10
26167.A	Concrete Municipal	Concrete	None	Community Local >10
26170.A	Copalis State	Copalis	None	Recreation or Remote
26252.1A	Crest Airpark	Kent	None	Recreation or Remote
26157.*A	Cross Winds	Clayton	None	Recreation or Remote
26180.A	Darrington Municipal	Darrington	None	Community Local <10
26181.A	Davenport Municipal	Davenport	General Aviation	Community Local >10
26184.A	Deer Park Municipal	Deer Park	General Aviation	Regional Service
26290.9A	Desert Aire	Mattawa	None	Recreation or Remote
26159.1A	DeVere Field	Cle Elum	None	Recreation or Remote
26333.A	Dorothy Scott Municipal	Oroville	General Aviation	Community Local >10
26189.A	Easton State	Easton	None	Recreation or Remote
26437.A	Ed Carlson Memorial	Toledo	General Aviation	Community Local >10

Site	Airport Name	City	NPIAS Service Level	State Service Level
26196.A	Elma Municipal	Elma	None	Recreation or Remote
26204.A	Ephrata Municipal	Ephrata	General Aviation	Community Local >10
26441.1A	Evergreen Field	Vancouver	None	Recreation or Remote
26417.A	Felts Field	Spokane	Reliever	Regional Service
26384.12A	Ferry County	Republic	None	Community Local <10
26304.21A	Firstair Field	Monroe	None	Recreation or Remote
26110.11C	Floathaven SPB	Bellingham	None	Seaplane Base
26444.4A	Fly For Fun	Vancouver	None	Recreation or Remote
26213.A	Forks Municipal	Forks	None	Community Local <10
26219.4A	Friday Harbor	Friday Harbor	Commercial Service - Primary	Commercial Service
26219.1C	Friday Harbor SPB	Friday Harbor	General Aviation	Seaplane Base
26104.1A	Goheen Field	Battle Ground	None	Recreation or Remote
26222.1A	Goldendale Municipal	Goldendale	None	Community Local >10
26193.1A	Grand Coulee Dam	Electric City	General Aviation	Community Local <10
26307.A	Grant County International	Moses Lake	Commercial Service - NonPrimary	Commercial Service
26130.A	Grove Field	Camas	General Aviation	Community Local >10
26411.A	Harvey Field	Snohomish	Reliever	Regional Service
26222.*A	Hillcrest	Goldendale	None	Recreation or Remote
26328.1*A	Hoskins Field	Olympia	None	Recreation or Remote
26240.5A	Ione Municipal	Ione	General Aviation	Recreation or Remote
26363.A	Jefferson County International	Port Townsend	General Aviation	Community Local >10
26096.*A	J-Z	Almira	None	Recreation or Remote
26246.A	Kelso-Longview	Kelso	General Aviation	Regional Service
26395.5*C	Kenmore Air Harbor SPB	Seattle	None	Seaplane Base
26248.C	Kenmore Air Harbor, Inc.	Kenmore	General Aviation	Commercial Service
26269.1A	Lake Wenatchee State	Leavenworth	None	Recreation or Remote
26271.*U	Lester State	Lester	None	Recreation or Remote
26273.A	Lind Municipal	Lind	None	Community Local <10
26424.5A	Little Goose Lock & Dam State	Starbuck	None	Recreation or Remote
26274.7A	Lopez Island	Lopez	General Aviation	Community Local >10
26291.6*A	Lost River Airport	Mazama	None	Recreation or Remote
26162.1A	Lower Granite State	Colfax	None	Recreation or Remote
26243.5A	Lower Monumental State	Kahlotus	None	Recreation or Remote
26275.A	Lynden Municipal	Lynden	None	Recreation or Remote

Site	Airport Name	City	NPIAS Service Level	State Service Level
26282.A	Mansfield	Mansfield	None	Community Local <10
26163.A	Martin Field	College Place	None	Recreation or Remote
26293.A	Mead Airport	Mead	None	Recreation or Remote
26477.A	Methow Valley	Winthrop	General Aviation	Recreation or Remote
26305.A	Moses Lake Municipal	Moses Lake	None	Community Local >10
26454.A	New Warden	Warden	None	Community Local <10
26323.21A	Ocean Shores Municipal	Ocean Shores	General Aviation	Community Local <10
26323.4A	Odessa Municipal	Odessa	General Aviation	Community Local >10
26324.A	Okanogan Legion	Okanogan	None	Community Local >10
26327.A	Olympia	Olympia	General Aviation	Regional Service
26330.A	Omak	Omak	General Aviation	Regional Service
26190.*A	Orcas Island	Eastsound	Commercial Service - NonPrimary	Commercial Service
26336.2A	Othello Municipal	Othello	General Aviation	Community Local >10
26341.A	Packwood	Packwood	General Aviation	Community Local <10
26461.A	Pangborn Memorial	Wenatchee	Commercial Service - Primary	Commercial Service
26444.A	Pearson Field	Vancouver	General Aviation	Community Local >10
26374.1A	Pierce County/Thun Field	Puyallup	General Aviation	Community Local >10
26354.*A	Point Roberts Airpark	Point Roberts	None	Recreation or Remote
26240.A	Port of Ilwaco	Ilwaco	None	Community Local <10
26162.A	Port of Whitman Business Air Center	Colfax	General Aviation	Community Local >10
26365.C	Poulsbo SPB	Poulsbo	None	Seaplane Base
26369.A	Prosser	Prosser	General Aviation	Community Local >10
26388.A	Pru Field	Ritzville	General Aviation	Community Local <10
26372.A	Pullman/Moscow Regional	Pullman / Moscow, I	Commercial Service - Primary	Commercial Service
26376.5A	Quillayute	Quillayute	General Aviation	Recreation or Remote
26376.83A	Quincy Municipal	Quincy	None	Community Local <10
26388.8*A	R & K Sky ranch	Rochester	None	Recreation or Remote
26230.A	Ranger Creek State	Greenwater	None	Recreation or Remote
26381.A	Renton Municipal	Renton	Reliever	Regional Service
26386.1A	Richland	Richland	General Aviation	Regional Service
26388.63C	Roche Harbor SPB	Roche Harbor	None	Seaplane Base
26098.6*A	Rogersburg State	Anatone	None	Recreation or Remote
26389.1A	Rosalia Municipal	Rosalia	General Aviation	Community Local >10
26389.4C	Rosario SPB	Rosario	None	Seaplane Base

Site	Airport Name	City	NPIAS Service Level	State Service Level
26150.A	Sand Canyon	Chewelah	None	Community Local >10
26405.A	Sanderson Field	Shelton	General Aviation	Regional Service
26395.A	Sea-Tac International	Seattle	Commercial Service - Primary	Commercial Service
26393.*C	Seattle Seaplanes SPB	Seattle	None	Seaplane Base
26401.*A	Sekiu	Sekiu	None	Community Local <10
26402.1A	Sequim Valley	Sequim	None	Recreation or Remote
26414.1*A	Shady Acres	Spanaway	None	Recreation or Remote
26125.1A	Skagit Regional	Burlington/Mount Ve	General Aviation	Regional Service
26425.8*A	Sky Harbor	Sultan	None	Recreation or Remote
26409.A	Skykomish State	Skykomish	None	Recreation or Remote
26098.23C	Skyline SPB	Anacortes	None	Seaplane Base
26210.A	Snohomish County/Paine Field	Everett	Reliever	Regional Service
26415.A	Spanaway	Spanaway	None	Recreation or Remote
26416.A	Spokane International	Spokane	Commercial Service - Primary	Commercial Service
26425.A	Stehekin State	Stehekin	None	Recreation or Remote
26304.8A	Strom Field	Morton	None	Community Local <10
26300.A	Sullivan Lake State	Metaline Falls	None	Recreation or Remote
26428.A	Sunnyside Municipal	Sunnyside	General Aviation	Community Local >10
26191.1A	Swanson Field	Eatonville	None	Recreation or Remote
26434.4A	Tacoma Narrows	Tacoma	General Aviation	Regional Service
26386.6A	Tieton State	Rimrock	None	Recreation or Remote
26438.A	Tonasket Municipal	Tonasket	None	Community Local >10
26345.A	Tri-Cities	Pasco	Commercial Service - Primary	Commercial Service
26440.A	Twisp Municipal	Twisp	None	Community Local <10
26448.A	Vashon Municipal	Vashon	General Aviation	Recreation or Remote
26249.A	Vista Field	Kennewick	None	Community Local <10
26450.A	Walla Walla Regional	Walla Walla	Commercial Service - Primary	Commercial Service
26457.A	Waterville	Waterville	None	Community Local >10
26322.11A	Wes Lupien	Oak Harbor	None	Community Local <10
26485.01A	Western Airpark	Yelm	None	Recreation or Remote
26463.A	Westport	Westport	None	Community Local <10
26266.2A	Whidbey Airpark	Langley	General Aviation	Recreation or Remote
26471.A	Wilbur Municipal	Wilbur	General Aviation	Community Local >10
26381.01C	Will Rogers Wiley Post SPB	Renton	None	Seaplane Base

Site	Airport Name	City	NPIAS Service Level	State Service Level
26412.A	Willapa Harbor	South Bend (Raymo	None	Community Local <10
26436.A	Willard Field	Tekoa	None	Community Local >10
26471.5*A	Wilson Creek	Wilson Creek	None	Community Local <10
26357.A	Wm. R. Fairchild International	Port Angeles	Commercial Service - Primary	Commercial Service
26478.1A	Woodland State	Woodland	None	Recreation or Remote
26480.A	Yakima Air Terminal	Yakima	Commercial Service - Primary	Commercial Service

## **APPENDIX B: TECHNICAL MEMOS**

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### **Technical Memo 1: Data Collection**

WSDOT Aviation maintains a database of information on the 140 public use airports. This information for the database was first collected in 1997 and then updated in 2003. To adequately locate and document all the data currently included in Washington State's database, an exhaustive effort was made to collect this information. This included an airport data search, airport site visits, airport management interviews, physical facility inventories, evaluation of existing operational activity, WSDOT/FAA design standard compliance, runway safety area inspections, estimates of future operational activities, multi-modal connection information, identification of approach surface obstructions, preparation of development needs lists, pavement condition surveys and preparation of an airport data condition assessment compendium.

As part of the long range system plan (LATS) efforts, updated information was required for the public use airports. In addition, there was new material previously uncollected required to complete the analysis efforts for the system capacities and future growth potential. In an effort to obtain the new and updated material several data collection methods were considered, including desktop airport reviews, physical site visits, and online surveys.

An online, web-based survey was developed to effectively collect the new and updated airport inventory information state-wide. Prior to developing a web-based survey, the existing data needed to be reviewed to determine both the level of detail of the existing information and the information that was available. The LATS team developed a significant number of new items that were not in the existing database that would provide beneficial information for LATS and WSDOT Aviation uses. The information was then grouped into similar categories and definitions were created to develop a database dictionary that would be used as help functions for the survey.

A Web site was constructed that would allow individual airport sponsors access to their own secure Web site to review questions regarding their airport. The Web site was constructed as a series of 16 individual update pages that allowed the airport managers to access the Web site and either complete the survey at one

time, or over a series of several days. Once the information was updated to the satisfaction of the airport sponsor, they could save the information “as complete”.

Upon completion of the surveys by each airport sponsor, the consultant team reviewed the surveys and provided follow-up phone calls to individual sponsors to resolve any items of concern. There were several airport sponsors that did not have the capability to access the web-based survey, and for these airports, a paper copy of the survey was distributed to each of those sponsors. Upon receipt of the completed paper copy of the survey, the consultant team entered the information into the database.

The initial electronic surveys were emailed out on June 12th, with the request to have the survey’s completed by June 30th. Follow-up emails and phone calls were made beginning the week of June 19th and continued through July. The goal of WSDOT Aviation was to receive 100 percent survey participation and completion of this update. By mid July, over 60 percent of the surveys had been completed by the various airport sponsors. The consultant team provided updated information to the database for the airports who had not responded to the survey based on master plans, airport layout plans, other planning documentation, aviation Web sites, and FAA sources to provide the most updated information possible to complete the analysis.

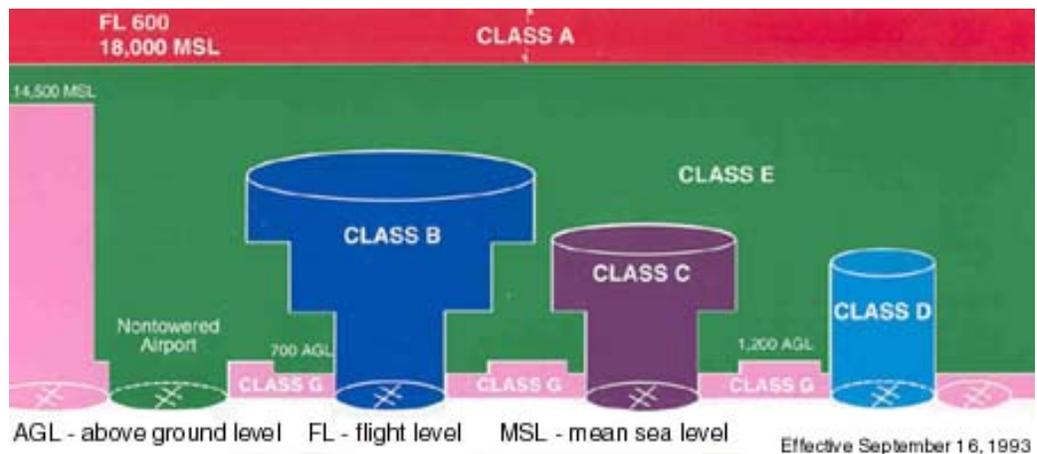
## **Technical Memo 2: Airspace System Analysis**

Unlike the other criteria being assessed, measuring airspace capacity cannot be done using mathematical calculations or FAA manuals. Also, no in-depth studies of the airspace have been conducted in recent years. Therefore, this report will examine the airspace structure of the state overall and examine the interaction of the airport’s within that space for the Engrossed Substitute Senate Bill (ESSB) 5121, Special Emphasis Regions, where the number of airports sharing airspace makes for complicated interactions.

The Federal Aviation Administration (FAA) has developed a system for defining the airspace of the United States that accounts for both the space that individual airports require for safe operations as well as accounting for requirement to separate aircraft in transit between airports. The following summary explains this structure in general and how it relates to Washington State airspace in particular.

There are two basic categories of airspace, Regulatory and Non-regulatory. Regulatory Airspace is defined as the "Class A, B, C, D, and E Airspace Areas," Restricted Areas and Prohibited Areas. There is also a "Class G" airspace that the FAA defines as not being A, B, C, D, or E. Each of these are depicted on the attached graphic and described in the following.

### FAA Airspace Classes – Industry Categories by Altitude



Source: *Safety Advisor: Regulations No. 1, Aircraft Owner and Pilots Association, 2006.*

## Regulatory Airspace

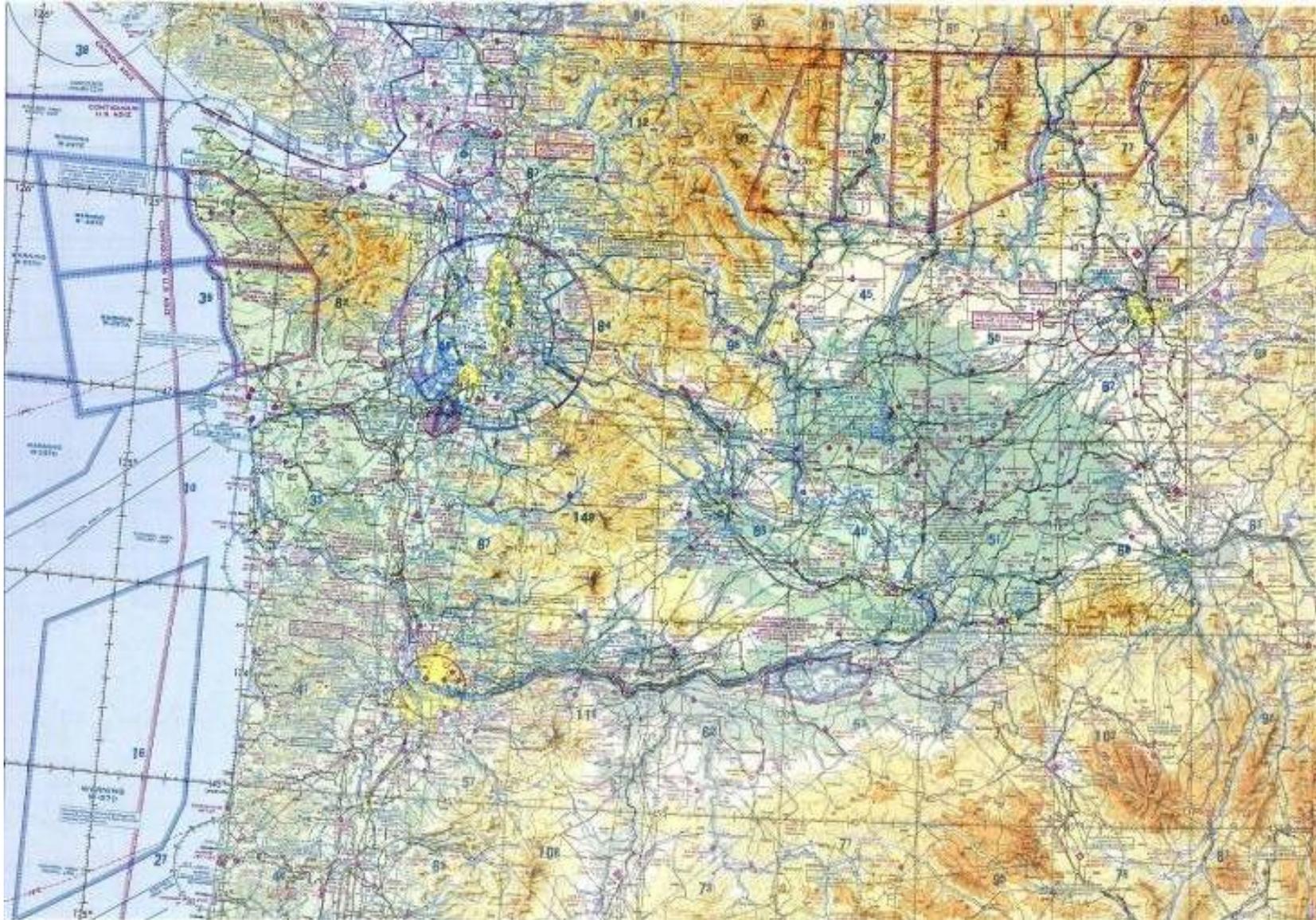
### Class "A" Airspace

Class "A" airspace is all of the airspace from 18,000 feet Mean Sea Level (MSL) up to Flight Level (FL) 600 (60,000 feet MSL). Class A airspace covers all of Washington State and is the airspace where commercial flight operations occur.

### Class "B" Airspace

Class B airspace extends from the surface of the ground to 10,000 feet MSL. Class B surrounds the country's busiest airports. The configuration is often referred to as resembling an "upside down wedding cake." Within Class B airspace all pilots must operate in compliance with the following rules;

## Statewide Airspace

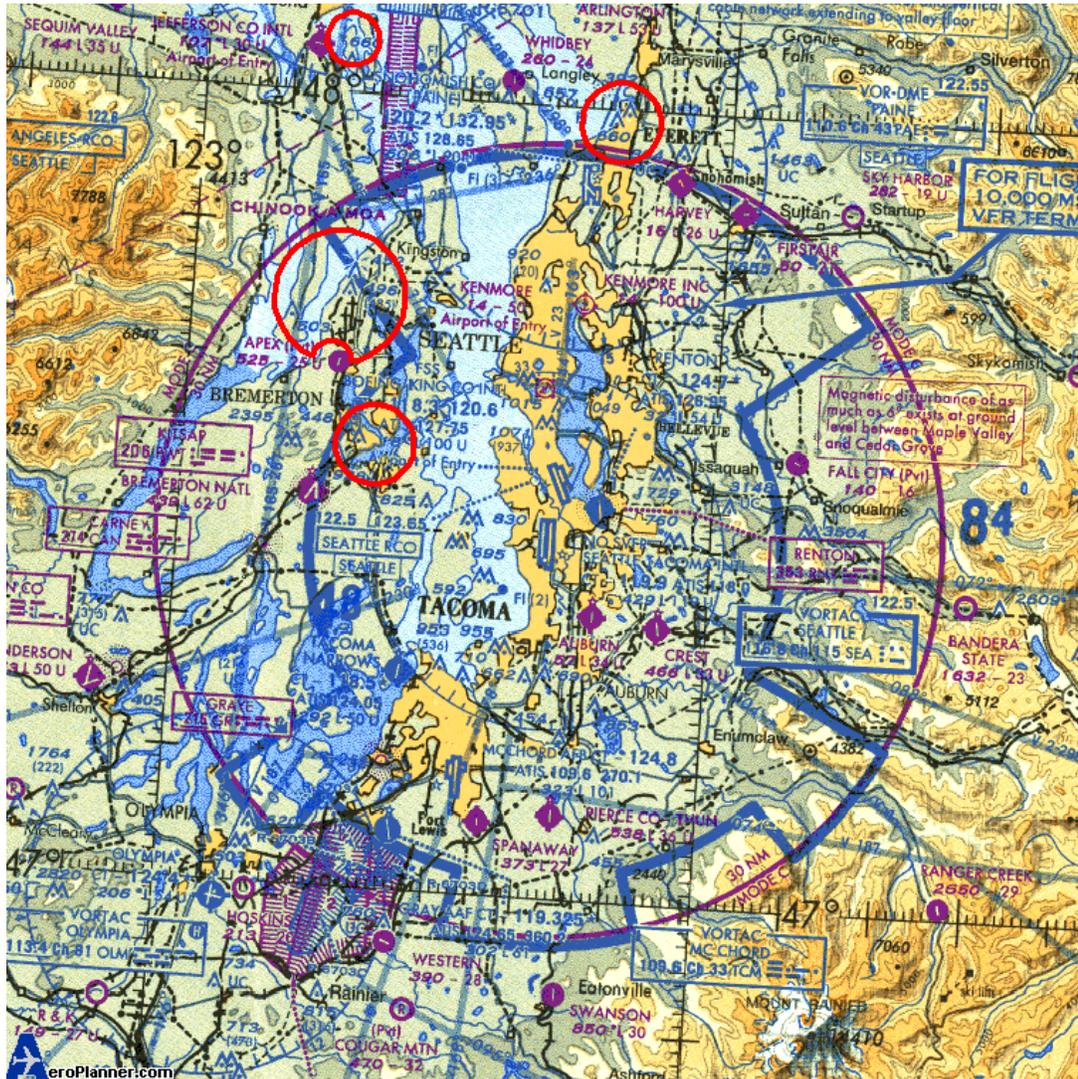


1. The pilot must receive an Air Traffic Control (ATC) clearance from the ATC facility having jurisdiction for the area before operating an aircraft within that area.
2. Unless otherwise authorized by ATC, each person operating a large turbine engine-powered airplane to or from a primary airport for which a Class B airspace area is designated must operate at or above the designated floors of the Class B airspace area while within the lateral limits of that area.
3. Any person conducting pilot training operations at an airport within a Class B airspace area must comply with any procedures established by ATC for such operations in that area.

The only Class B airspace in Washington State is that associated with the Sea-Tac Airport (SEA) and depicted in the attached exhibit (Exhibit 20). All aircraft operating within this airspace, whether VFR or IFR, must obtain clearance from Seattle ATC. Additionally, all aircraft operating within Class B airspace must maintain radio contact with the ATC and be equipped with transponders. Of airports in this study, the following is a list of those within or beneath SEA's Class B Airspace include;

1. Snohomish County International Airport (Paine Field)
2. King County International Airport/Boeing Field
3. Harvey Field
4. Firstair
5. Kenmore SPB
6. Renton Municipal/Clayton Scott Field
7. Wiley Post SPB
8. Crest Airpark
9. Auburn Municipal Airport
10. Pierce County/Thun Field
11. Spanaway
12. Tacoma Narrows Airport

## Seattle-Tacoma International Airport Class B airspace.



### Class "C" Airspace

This is the airspace reserved for most commercial airports. It can be altered for regional conditions, but is generally a circle around the airport that is five miles in diameter from the surface to 1,200 feet AGL (Above Ground Level), and then expands to a 10 mile diameter from that point to 4,000 feet AGL.

Aircraft can operate VFR in this airspace but must first establish two-way radio communications before entry. They must have three miles of visibility, and remain 500 feet below, 1,000 feet above, and 2,000 feet horizontal distances away from clouds.

Class C airspace in Washington includes Spokane International Airport, two military facilities, Fairchild Air Force Base and Naval Air Station (NAS) Whidbey Island, and the area in southwest Washington where airspace associated with the Portland International Airport impacts operations at airports within Clark County.

### **Class "D" Airspace**

For all intents and purposes, Class D airspace is associated with any other airport that has a control tower. Class D airspace extends from the surface up to 2,500 feet, with a radius of five miles. There may be "keys" that extend out from the circle to protect instrument approaches.

Aircraft may operate VFR in Class D airspace if they establish two-way radio communications before entry. Pilots must have three miles of visibility, and remain 500 feet below, 1,000 feet above, and 2,000 feet horizontal distances away from clouds.

Class D airspace in Washington exists at the following towered airports;

1. Walla Walla City-County
2. King County International/Boeing Field
3. Bellingham International
4. Grant County International
5. Olympia Regional
6. Snohomish County/Paine Field
7. Tri-Cities
8. Renton Municipal
9. Felts Field
10. Tacoma Narrows
11. Yakima Air Terminal

### **Class "E" Airspace**

The definition for Class E Airspace is complicated because it covers the all airspace not designated in above classes. If it is Controlled Airspace, and it is not A, B, C, or D, then it is Class "E". All of the airways (the "V Routes") are in this airspace. It commences at 14,500 feet and extends up to 18,000 feet.

Aircraft can operate VFR in this airspace, however they must have three miles of visibility, and remain 500 feet below, 1,000 feet above, and 2,000 feet horizontal distances away from clouds.

### **Non Regulatory Airspaces**

Included under this category are Prohibited areas, MOA's (Military Operating Areas), Warning Areas, Alert Areas, Controlled Firing areas and other specialty use airspace.

#### **Prohibited Areas**

These are designated for national security, or national welfare. For example, the White House has prohibited airspace above it. There are no prohibited areas in Washington State.

#### **Restricted Areas**

This is a category that covers everything from test flight areas to missile tests and artillery or aerial gunnery ranges. The restricted area may or may not be "hot", or active. Before operating in these areas, the pilot needs to check with the nearest ATC facility to find out the current status. If the area is not active, operations in VFR are permitted. ATC will not allow aircraft in if the area is "hot." Three such restricted areas exist in the state. These are

1. Whidbey Island Naval Air Station (NAS Whidbey) – R6701
2. Yakima Firing Range – R-6714A and B
3. Umatilla (located in Oregon but parts extend into Washington) – R-5701 and R- 5706

### **Warning Areas**

Warning areas extend from three miles off the U.S. coastlines and continue outward. They contain "...activity that may be hazardous to nonparticipating aircraft." There are warning areas off the entire coast of Washington State. These are designated as W- 237, A, B, C, D, & E.

### **MOAs, Military Operating Areas**

MOAs are established as areas where military pilots can practice. The areas can be of any size or shape. If non-military aircraft are operating under IFR within these areas, ATC will provide the proper separation while within a MOA but VFR flights are permitted on a see-and-be-seen basis. It is strongly suggested that VFR operations contact the controlling facility to check on the MOA's status. ATC will provide separation for all VFR flights that contact them.

Several MOAs exist over Washington State in support of the numerous military facilities including;

1. Olympic A MOA
2. Olympic B MOA
3. Chinook A
4. Chinook B
5. Rainier 1, 2 & 3
6. Okanogan A, B & C
7. Roosevelt A & B
8. Boardman

### **ADIZ, Air Defense Identification Zones**

These zones are located over the water, along the East Coast and West Coast, around Hawaii and Guam. They are there to protect the country from potentially hostile aircraft. If an aircraft is operating under IFR, ATC will handle the coordination with the military. If they are VFR, they must file a DVFR flight plan.

ADIZs exist all along the coast of Washington State.

### **Victor Airway**

The Victor Airway routes connect radio navigation beacons called "very high frequency omnidirectional range" or VOR stations that radiate a signal in all directions. These stations are usually located at or near airports. North-south Victor Airways have odd numbers while east-west airways have even numbers. These Federal or Victor Airways are used by both IFR and VFR aircraft. The airspace set aside for a Victor Airway is eight miles wide with a floor at 1,200 AGL; they extend up to FL 180 (18,000' msl).

### **Military Training Routes**

Each Military Training Route has its own identification, and the identifier has two parts. "VR" means that pilots flying the training routes will be flying under visual flight rules. "IR" means the pilots will be flying under instrument flight rules. The second part of the identifier is either a three or a four-digit number. Four digits means the route will be flown at or below 1,500 feet AGL, a three-digit number means the route will be flown both below and above 1,500 feet. Thus, VR-1260 means a training route flown under VFR at a relatively low level. IR-141 would be a route flown under IFR conditions at any level.

## Aircraft Operations Capacity - NPIAS Airports

Site ID	Airport Name	NPIAS Role	WSDOT Role	2005 Operations	Annual Service Volume	2005 Operations as % of ASV	Reserve Capacity
<b>Primary Airports (11)</b>							
26109.A	Bellingham International	Primary	Commercial Service	85,410	230,000	37.1%	62.9%
26396.A	Boeing Field/King County Int'l	Primary	Commercial Service	251,856	380,000	79.1%	20.9%
26219.4A	Friday Harbor	Primary	Commercial Service	8,734	230,000	3.8%	96.2%
26461.A	Pangborn Memorial	Primary	Commercial Service	79,751	230,000	34.7%	65.3%
26372.A	Pullman/Moscow Regional	Primary	Commercial Service	34,682	195,000	17.8%	82.2%
26395.A	Sea-Tac International	Primary	Commercial Service	346,744	533,041	64.1%	35.9%
26416.A	Spokane International	Primary	Commercial Service	91,354	215,000	42.5%	57.5%
26345.A	Tri-Cities	Primary	Commercial Service	90,260	260,000	34.7%	65.3%
26450.A	Walla Walla Regional	Primary	Commercial Service	35,168	310,000	11.3%	88.7%
26357.A	Wm. R. Fairchild International	Primary	Commercial Service	51,418	230,000	22.4%	77.6%
26480.A	Yakima Air Terminal	Primary	Commercial Service	44,682	230,000	19.4%	80.6%
<b>Commercial Service (3)</b>							
26098.1A	Anacortes	Commercial	Commercial Service	27,386	230,000	11.9%	88.1%
26307.A	Grant County International	Commercial	Commercial Service	144,756	470,000	30.8%	69.2%
26190.*A	Orcas Island	Commercial	Commercial Service	36,616	230,000	15.9%	84.1%
<b>Reliever (5)</b>							
26103.11A	Auburn Municipal	Reliever	Regional Service	143,450	231,000	66.5%	33.5%
26417.A	Felts Field	Reliever	Regional Service	68,649	230,000	29.8%	70.2%
26411.A	Harvey Field	Reliever	Regional Service	139,160	230,000	60.8%	39.2%
26381.A	Renton Municipal	Reliever	Regional Service	87,571	230,000	37.9%	62.1%
26210.A	Snohomish County/Paine Field	Reliever	Regional Service	150,368	316,218	47.5%	52.5%
<b>General Aviation (47)</b>							
26248.C	Kenmore Air Harbor, Inc.	GA	Commercial Service	57,000	56,250	71.1%	28.9%
26099.A	Arlington Municipal	GA	Regional Service	148,540	270,000	55.0%	45.0%
26236.A	Bowerman Field	GA	Regional Service	7,250	97,500	7.4%	92.6%
26195.A	Bowers Field	GA	Regional Service	21,545	198,700	10.8%	89.2%
26120.*A	Bremerton National	GA	Regional Service	54,645	240,000	22.8%	77.2%
19614.*A	Columbia Gorge Reg/The Dalles	GA	Regional Service	31,850	230,000	13.8%	86.2%
26184.A	Deer Park Municipal	GA	Regional Service	34,650	230,000	15.1%	84.9%
26246.A	Kelso-Longview	GA	Regional Service	32,110	230,000	14.0%	86.0%
26327.A	Olympia	GA	Regional Service	89,527	230,000	38.9%	61.1%
26330.A	Omak	GA	Regional Service	8,000	230,000	3.5%	96.5%
26386.1A	Richland	GA	Regional Service	28,700	115,000	25.0%	75.0%
26405.A	Sanderson Field	GA	Regional Service	57,714	230,000	25.1%	74.9%
26125.1A	Skagit Regional	GA	Regional Service	61,480	270,000	22.8%	77.2%
26434.4A	Tacoma Narrows	GA	Regional Service	93,159	240,000	38.8%	61.2%
26123.1A	Anderson Field	GA	Local Community >10	14,700	120,750	12.2%	87.8%
26116.A	Blaine Municipal	GA	Local Community >10	5,400	230,000	2.3%	97.7%
26135.A	Cashmere Dryden	GA	Local Community >10	5,588	230,000	2.4%	97.6%
26144.A	Chehalis Centralia	GA	Local Community >10	32,010	210,000	15.2%	84.8%
26147.A	Chelan Municipal	GA	Local Community >10	15,600	120,750	12.9%	87.1%
26165.A	Colville Municipal	GA	Local Community >10	18,375	230,000	8.0%	92.0%
26181.A	Davenport Municipal	GA	Local Community >10	4,750	120,750	3.9%	96.1%
26333.A	Dorothy Scott Municipal	GA	Local Community >10	12,903	230,000	5.6%	94.4%

Site ID	Airport Name	NPIAS Role	WSDOT Role	2005 Operations	Annual Service Volume	2005 Operations as % of ASV	Reserve Capacity
26437.A	Ed Carlson Memorial Airport	GA	Local Community >10	30,450	230,000	13.2%	86.8%
26204.A	Ephrata Municipal	GA	Local Community >10	15,600	120,750	12.9%	87.1%
26130.A	Grove Field	GA	Local Community >10	7,775	230,000	3.4%	96.6%
26363.A	Jefferson County International	GA	Local Community >10	47,400	230,000	20.6%	79.4%
26274.7A	Lopez Island	GA	Local Community >10	13,500	230,000	5.9%	94.1%
26323.4A	Odessa Municipal	GA	Local Community >10	8,225	230,000	3.6%	96.4%
26336.2A	Othello Municipal	GA	Local Community >10	32,760	120,750	27.1%	72.9%
26444.A	Pearson Field	GA	Local Community >10	63,050	180,000	35.0%	65.0%
26374.1A	Pierce County/Thun Field	GA	Local Community >10	61,638	213,200	28.9%	71.1%
26162.A	Port of Whitman Business Air Center	GA	Local Community >10	8,000	230,000	3.5%	96.5%
26369.A	Prosser	GA	Local Community >10	12,240	230,000	5.3%	94.7%
26389.1A	Rosalia Municipal	GA	Local Community >10	7,222	230,000	3.1%	96.9%
26428.A	Sunnyside Municipal	GA	Local Community >10	3,000	230,000	10.4%	89.6%
26471.A	Wilbur Municipal	GA	Local Community >10	3,000	230,000	1.3%	98.7%
26159.A	Cle Elum Municipal	GA	Local Community <10	5,115	120,750	4.2%	95.8%
26193.1A	Grand Coulee Dam	GA	Local Community <10	11,785	120,750	9.8%	90.2%
26323.21A	Ocean Shores Municipal	GA	Local Community <10	6,189	120,750	5.1%	94.9%
26341.A	Packwood	GA	Local Community <10	1,050	172,500	0.6%	99.4%
26388.A	Pru Field	GA	Local Community <10	750	230,000	0.3%	99.7%
26240.5A	Ione Municipal	GA	Recreation/Remote	1,770	120,750	1.5%	98.5%
26477.A	Methow Valley	GA	Recreation/Remote	2,600	120,750	6.3%	93.7%
26376.5A	Quillayute	GA	Recreation/Remote	1,700	230,000	0.2%	99.8%
26448.A	Vashon Municipal	GA	Recreation/Remote	8,740	120,000	7.3%	92.7%
26266.2A	Whidbey Airpark	GA	Recreation/Remote	5,950	172,500	8.3%	91.7%
26219.1C	Friday Harbor SPB	GA	Seaplane Base	8,734	230,000	0.0%	100.0%

### Washington Public Use Airports

Airport	City	County	Sponsor (Owner)	FAA Service Level
American Lake SPB	Tacoma	Pierce	City of Lakewood	None
Anacortes	Anacortes	Skagit	Port of Anacortes	CM
Anderson Field	Brewster	Okanogan	City of Brewster	GA
Arlington Municipal	Arlington	Snohomish	City of Arlington	GA
Auburn Municipal	Auburn	King	City of Auburn	RL
Avey Field State	Laurier	Ferry	WSDOT Aviation	None
Bandera State	Bandera	King	WSDOT Aviation	None
Bellingham International	Bellingham	Whatcom	Port of Bellingham	PR
Blaine Municipal	Blaine	Whatcom	City of Blaine	GA
Boeing Field/King County International	Seattle	King	King County	PR
Bowerman Field	Hoquiam	Grays Harbor	Port of Grays Harbor	GA
Bowers Field	Ellensburg	Kittitas	Kittitas County	GA
Bremerton National	Bremerton	Kitsap	Port of Bremerton	GA
Camano Island Airfield	Stanwood	Island	Steven & Norma Knopp	None
Cashmere Dryden	Cashmere	Chelan	Chelan County	GA
Cedars North Airpark	Battle Ground	Clark	Cedars Homeowners Association	None
Chehalis Centralia	Chehalis	Lewis	City of Chehalis-Centralia	GA
Chelan Municipal	Chelan	Chelan	City of Chelan/Port of Chelan	GA
Cle Elum Municipal	Cle Elum	Kittitas	City of Cle Elum	GA
Columbia Gorge Regional/The Dalles	The Dalles	Klickitat	City of the Dalles/Klickitat County	GA
Colville Municipal	Colville	Stevens	City of Colville	GA
Concrete Municipal	Concrete	Skagit	City of Concrete	None
Copalis State	Copalis	Grays Harbor	WSDOT Aviation	None
Crest Airpark	Kent	King	Norm Grier/Rikki Birge	None
Cross Winds	Clayton	Spokane	Lynden P Brown	None
Darrington Municipal	Darrington	Snohomish	Town of Darrington	None

Airport	City	County	Sponsor (Owner)	FAA Service Level
Davenport Municipal	Davenport	Lincoln	City of Davenport	GA
Deer Park Municipal	Deer Park	Spokane	City of Deer Park	GA
Desert Aire	Mattawa	Grant	Desert Aire Owner's Association	None
DeVere Field	Cle Elum	Kittitas	James De Vere	None
Dorothy Scott Municipal	Oroville	Okanogan	City of Oroville	GA
Easton State	Easton	Kittitas	WSDOT Aviation	None
Ed Carlson Memorial	Toledo	Lewis	Lewis County	GA
Elma Municipal	Elma	Grays Harbor	Jack Duffy	None
Ephrata Municipal	Ephrata	Grant	Grant County Port No 9	GA
Evergreen Field	Vancouver	Clark	Helanor Olson	None
Felts Field	Spokane	Spokane	City of Spokane/Spokane County	RL
Ferry County	Republic	Ferry	Ferry County	None
Firstair Field	Monroe	Snohomish	Daryl Habich	None
Floathaven SPB	Bellingham	Whatcom	Mellenmark, Inc.	None
Fly For Fun	Vancouver	Clark	George Manley	None
Forks Municipal	Forks	Clallam	City of Forks	None
Friday Harbor	Friday Harbor	San Juan	Port of Friday Harbor	PR
Friday Harbor SPB	Friday Harbor	San Juan	Port of Friday Harbor	GA
Goheen Field	Battle Ground	Clark	Gordon Goheen	None
Goldendale Municipal	Goldendale	Klickitat	City of Goldendale	None
Grand Coulee Dam	Electric City	Grant	Grant County Port No 7	GA
Grant County International	Moses Lake	Grant	Port of Moses Lake	CM
Grove Field	Camas	Clark	Port Camas Washougal	GA
Harvey Field	Snohomish	Snohomish	K. Harvey	RL
Hillcrest**	Goldendale	Klickitat	William Nelson	None
Hoskins Field	Olympia	Thurston	Chambers Estate Ass	None
Ione Municipal	Ione	Pend Oreille	City of Ione	GA
Jefferson County International	Port Townsend	Jefferson	Port of Port Townsend	GA
J-Z	Almira	Lincoln	City of Almira	None

<b>Airport</b>	<b>City</b>	<b>County</b>	<b>Sponsor (Owner)</b>	<b>FAA Service Level</b>
Kelso-Longview	Kelso	Cowlitz	City of Kelso	GA
Kenmore Air Harbor SPB	Seattle	King	Gregg Munro	None
Kenmore Air Harbor, Inc.	Kenmore	King	Gregg Munro	GA
Lake Wenatchee State	Leavenworth	Chelan	WSDOT Aviation	None
Lester State	Lester	King	WSDOT Aviation	None
Lind Municipal	Lind	Adams	City of Lind	None
Little Goose Lock & Dam State	Starbuck	Columbia	WSDOT Aviation	None
Lopez Island	Lopez	San Juan	Port of Lopez	GA
Lost River Airport	Mazama	Okanogan	Lost River ART Association	None
Lower Granite State	Colfax	Whitman	WSDOT Aviation	None
Lower Monumental State	Kahlotus	Walla Walla	WSDOT Aviation	None
Lynden Municipal	Lynden	Whatcom	City of Lynden	None
Mansfield	Mansfield	Douglas	Port of Douglas	None
Martin Field	College Place	Walla Walla	David Cheney	None
Mead Airport	Mead	Spokane	Patricia Erickson	None
Methow Valley	Winthrop	Okanogan	WSDOT Aviation	GA
Moses Lake Municipal	Moses Lake	Grant	City of Moses Lake	None
New Warden	Warden	Grant	City of Warden	None
Ocean Shores Municipal	Ocean Shores	Grays Harbor	City of Ocean Shores	GA
Odessa Municipal	Odessa	Lincoln	City of Odessa	GA
Okanogan Legion	Okanogan	Okanogan	City of Okanogan	None
Olympia	Olympia	Thurston	Port of Olympia	GA
Omak	Omak	Okanogan	City of Omak	GA
Orcas Island	Eastsound	San Juan	Port of Orcas	CM
Othello Municipal	Othello	Adams	Port of Othello	GA
Packwood	Packwood	Lewis	Lewis County	GA
Pangborn Memorial	Wenatchee	Douglas	Port of Chelan & Douglas	PR
Pearson Field	Vancouver	Clark	City of Vancouver	GA
Pierce County/Thun Field	Puyallup	Pierce	Pierce County	GA
Point Roberts Airpark	Point Roberts	Whatcom	Robin Lamb	None
Port of Ilwaco	Ilwaco	Pacific	Port of Ilwaco	None

Airport	City	County	Sponsor (Owner)	FAA Service Level
Port of Whitman Business Air Center	Colfax	Whitman	Whitman County	GA
Poulsbo SPB	Poulsbo	Kitsap	Port of Poulsbo	None
Prosser	Prosser	Benton	Port of Benton	GA
Pru Field	Ritzville	Adams	City of Ritzville	GA
Pullman/Moscow Regional	Pullman / Moscow, ID	Whitman	City of Pullman/City of Moscow	PR
Quillayute	Quillayute	Clallam	City of Forks	GA
Quincy Municipal	Quincy	Grant	City of Quincy	None
R & K Skyranch	Rochester	Thurston	Skyranch Group	None
Ranger Creek State	Greenwater	Pierce	WSDOT Aviation	None
Renton Municipal	Renton	King	City of Renton	RL
Richland	Richland	Benton	Port of Benton	GA
Roche Harbor SPB	Roche Harbor	San Juan	Roche Harbor Resort	None
Rogersburg State	Anatone	Asotin	WSDOT Aviation	None
Rosalia Municipal	Rosalia	Whitman	Town of Rosalia	GA
Rosario SPB	Rosario	San Juan	Rosario Resort	None
Sand Canyon	Chewelah	Stevens	City of Chewelah	None
Sanderson Field	Shelton	Mason	Port of Shelton	GA
Sea-Tac International	Seattle	King	Port of Seattle	PR
Seattle Seaplanes SPB	Seattle	King	Seattle Seaplanes.	None
Sekiu	Sekiu	Clallam	Port of Port Angeles	None
Sequim Valley	Sequim	Clallam	Winifred Sallee	None
Shady Acres	Spanaway	Pierce	Shady Acres Airport, Inc	None
Skagit Regional	Burlington/Mount Vernon	Skagit	Port of Skagit County	GA
Sky Harbor	Sultan	Snohomish	Barry A Hammer	None
Skykomish State	Skykomish	King	WSDOT Aviation	None
Skyline SPB	Anacortes	Skagit	Skyline Marine Center	None
Snohomish County/Paine Field	Everett	Snohomish	Snohomish County	RL
Spanaway	Spanaway	Pierce	Spanaway Airpark	None
Spokane International	Spokane	Spokane	City of Spokane/Spokane County	PR

Airport	City	County	Sponsor (Owner)	FAA Service Level
Stehekin State	Stehekin	Chelan	WSDOT Aviation	None
Strom Field	Morton	Lewis	City of Morton	None
Sullivan Lake State	Metaline Falls	Pend Oreille	WSDOT Aviation	None
Sunnyside Municipal	Sunnyside	Yakima	City of Sunnyside	GA
Swanson Field	Eatonville	Pierce	Town of Eatonville	None
Tacoma Narrows	Tacoma	Pierce	City of Tacoma	GA
Tieton State	Rimrock	Yakima	WSDOT Aviation	None
Tonasket Municipal	Tonasket	Okanogan	Town of Tonasket	None
Tri-Cities	Pasco	Franklin	Port of Pasco	PR
Twisp Municipal	Twisp	Okanogan	City of Twisp	None
Vashon Municipal	Vashon	King	King County Apt Dist No 1	GA
Vista Field	Kennewick	Benton	Port of Kennewick	None
Walla Walla Regional	Walla Walla	Walla Walla	Port of Walla Walla	PR
Waterville	Waterville	Douglas	Port of Douglas	None
Wes Lupien	Oak Harbor	Island	Air International LLC	None
Western Airpark	Yelm	Thurston	Western Airpark HOA	None
Westport	Westport	Grays Harbor	City of Westport	None
Whidbey Airpark	Langley	Island	Whidbey Air Park LLC	GA
Wilbur Municipal	Wilbur	Lincoln	City of Wilbur	GA
Will Rogers Wiley Post SPB	Renton	King	City of Renton	None
Willapa Harbor	South Bend (Raymond)	Pacific	Port of Willapa Harbor	None
Willard Field	Tekoa	Whitman	City of Tekoa	None
Wilson Creek	Wilson Creek	Grant	Town of Wilson Creek	None
Wm. R. Fairchild International	Port Angeles	Clallam	Port of Port Angeles	PR
Woodland State	Woodland	Cowlitz	WSDOT Aviation	None
Yakima Air Terminal	Yakima	Yakima	City of Yakima/Yakima County	PR

\*Airport recently closed.

\*\*Airport recently privatized.

PR = Commercial Service-Primary Airport  
 CM = Commercial Service-Nonprimary Airport  
 RL = Reliever Airport  
 GA = General Aviation Airport

Source: National Plan of Integrated Airport Systems (2005-2009), published in 2004.

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## **APPENDIX C: COMMUNICATION PLAN**

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### **Public Outreach and Involvement**

WSDOT is committed to proving and implementing an intensive outreach effort throughout the Washington State Long-term Air Transportation Study (LATS.)

The communications plan has been drafted in accordance with FAA Advisory Circular (AC) No. 150/5070-7 Airport System Planning and FAA's Community Involvement Manual, FAA-EE-90-03, which provides guidance on system planning public involvement and stakeholder consultation. The FAA Advisory Circular states specifically that:

Appropriate coordination of study drafts with the aviation public, community organizations, airport sponsors and users, and other interested parties is critical to the successful adoption and implementation of the final planning report. It is important that all affected or potentially affected parties perceive that the process is open, that the opportunity for participation exists, and that the study is designed to consider input from all of them.

The following plan embraces that philosophy to assure that the resultant system plan supports the public's best interest.

### **Background**

In 2005, the Washington State Legislature adopted Engrossed Substitute Senate Bill (ESSB) 5121, which requires the Washington State Department of Transportation (WSDOT) to assess Washington State's aviation facilities. The information will then be used by a Governor-appointed planning council to make recommendations on what is needed to meet future air transportation demand.

WSDOT will embark upon this comprehensive airport system study – also known as the Washington State Long-term Air Transportation Study (LATS) - in conjunction with the Federal Aviation Administration (FAA). The FAA will provide a majority of the funding for LATS, with supporting grants from WSDOT and the Washington State Legislature.

Also as part of LATS, a \$50,000 state-funded and appropriated grant will be used to evaluate high-speed passenger rail. This evaluation will broadly study existing materials on how rail may be used to more efficiently

utilize airport capacity by connecting airports. This effort will be coordinated as part of Phase II of LATS.

The product of LATS will be a cost-effective action plan to develop Washington State airports consistent with established goals and objectives. The process will also result in establishing perspectives on aviation priorities, such as airport roles, funding, policy strategies, and system trends. It will also identify the roles and characteristics of existing and recommended new airports, describe the overall development required at each, and include timeframes and estimated project costs. This will ensure that aviation plans remain responsive to the overall statewide air transportation needs.

## **Approach**

LATS will encompass three phases:

- Phase I includes a review of airport inventory and capacity.
- Phase II includes detailed activity forecasts for each airport, market analysis of the commercial airports, a high-speed rail review, air cargo study and future capacity assessment.
- Phase III will involve the formation of a Governor's council to review the fact finding in Phases I and II and determine long-term airport development priorities to guide investment decisions.

## **System Plan Components**

The overall goal of any state airport system planning process is to ensure the statewide system of airports are safely, efficiently, and adequately serving immediate and long-term air transportation needs. The system plan for Washington will include 139 public-use airports. Its main components will include:

- 1) Inventory of the current airport system
- 2) Identification of air transportation needs
- 3) Forecast of system demand
- 4) Consideration of alternative airport systems
- 5) Definition of airport roles and policy strategies
- 6) Recommendation of system changes, funding strategies, airport development
- 7) Preparation of an implementation plan

- 8) Exploration of issues that impact aviation in the study area
- 9) Special studies that may include high-speed rail, air cargo and commercial airport analysis
- 10) Performed in the context of a highly visible platform that includes strong public outreach efforts

WSDOT's system planning efforts do not include:

- Master planning
- Environmental planning
- Site selection studies for new airport facilities

A system plan serves as an important contribution to the FAA's National Plan of Integrated Airport Systems (NPIAS). The FAA's NPIAS is a national plan, updated every two years, that identifies for each state specific airport improvements that will contribute to achieving FAA goals. The NPIAS supports the FAA's strategic goals for safety, system efficiency, and environmental compatibility. Aviation system planning fits between the FAA's national planning effort, as documented in the NPIAS, and contributes to more detailed master and capital improvement plans for each individual airport.

## Situation Analysis

Washington's aviation system is a public-private partnership comprised of 139 public-use airports. Airports are an essential component of Washington State's overall transportation system, providing critical links to people, goods, and services. They are a lifeline to and from isolated rural communities, especially for medical and emergency services, and enhance the quality of life for residents in their work and leisure. Additionally, airports allow for easy access by out-of-state visitors, supporting Washington's tourism business. Airports play a vital role in the state's economy by facilitating jobs and commerce. According to an economic impact report from 2001, Washington's airport system annually generates

### WSDOT's Aviation Policy Framework

***It is in the State's interest that:***

- Aviation facilities and services be preserved that provide access for all regions of the state to the nation's air transportation system, provide for emergency management, and support local economies.
- Transportation by air be safe.
- There be sufficient airport capacity to respond to growth in demand to ensure access across the state, the nation and the world.
- Negative environmental impacts of airports on people and the natural environment be mitigated.

171,311, \$4 billion in wages, and \$18.5 billion in annual sales output. In spite of its importance to the state economy, inadequate planning, an antiquated funding base, a fluctuating economy and local land use conflict threaten the long-term health of Washington's aviation system.

In its 2004 policy development process, WSDOT Aviation was requested by its Aviation Advisory Committee to address three questions:

- Is Washington positioned to respond to a rapidly changing aviation environment?
- Is Washington using its limited resources effectively and efficiently to meet the state's long-term interests in Aviation? What should the key priorities be?
- What strategic changes need to be made to satisfy the state's aviation policy, i.e., preservation, safety, capacity and environmental protection?

With input of key stakeholders, including intensive work by study groups on system planning, education and outreach, and safety, WSDOT Aviation identified key issues and goals needed to satisfy Washington State's interest in a healthy aviation system. The study groups were comprised of local elected and planning officials, airport representatives, pilot organizations, universities and members of the State Legislature. The System Planning Study Group identified policy issues and system plan goals that included:

- Maximize value of public investment in the aviation system statewide.
- Increase consistency and collaboration between FAA, State of Washington, and local aviation policies, rules, and regulations by class of airport recognizing that different types of airports have different regulatory and policy needs.
- Assure adequate capacity to accommodate future aviation system needs, especially through airport preservation and enhancement.
- Anticipate and strategically respond to emerging aviation system trends and issues.
- • Strive to maintain serviceability and fairness in current public investments in the aviation system, taking into account different classes of airports.

The System Plan Study Group also identified the need for additional data, necessary to better define the system and its strategic priorities, including:

- Gaps in availability of aviation facilities for emergency medical, fire fighting, disaster relief, national defense and air taxi needs
- System wide performance, role and interrelationship of airports
- Future capacity needs
- Projected cargo needs
- Gaps in airport capacity that may inhibit economic development of rural areas, or that prevent full participation of rural communities in political processes at the state level
- Reliever airports that are necessary to meet general aviation needs near large commercial airports, which if unmet would increase congestion at the commercial airports
- Capacity of reliever airports to continue to meet the demands of GA aircraft

It is in response to these recommendations and the subsequent legislative direction set forth in ESSB 5121 that the Washington State LATS is being conducted.

## Public Outreach / Public Involvement Objectives

### ***Increase public awareness about the study***

This project is a three-phase approach to determine “what we have, what we need, and how we get there” in terms of air transportation capacity in Washington State. It is important to be proactive about communicating this message. Outreach objectives are to:

- Increase public awareness about the project
- Prevent surprises: actively engage the public
- Minimize misperceptions about what the study is and what it is not
- Promote use of the Web as primary source of information



- Document stakeholder/public involvement
- Minimize negative media coverage
- Engage public in decision making and gather concerns, questions and ideas

## Key Audiences

Audience	Priority Concerns	Outreach Recommendations
Legislature	<ul style="list-style-type: none"> <li>• Delivery of technically sound system plan to be used for the basis of making long-term airport investment decisions</li> <li>• Local constituent concerns</li> <li>• Intermodal integration and efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Initial interviews to gain perspective of expectations</li> <li>• Ongoing coordination with legislative staff</li> <li>• Regular briefings</li> <li>• Clear messaging about study purpose and outcomes</li> </ul>
Airports	<ul style="list-style-type: none"> <li>• Data collection /airport inventory and overall fact finding data reported accurately</li> <li>• Opportunity to contribute to a comprehensive plan for future airport development</li> <li>• Determining each airport's existing and future role within the state airport system</li> </ul>	<ul style="list-style-type: none"> <li>• Start early and disseminate study goals, objectives and tasks early</li> </ul>
Urban Communities	<ul style="list-style-type: none"> <li>• Impacts of capacity recommendations</li> <li>• Impacts on airport planning and investment</li> <li>• Land use conflicts</li> <li>• Noise</li> <li>• Traffic</li> <li>• Environmental impacts</li> <li>• GMA and other planning implications</li> </ul>	<ul style="list-style-type: none"> <li>• Clear messaging about study purpose and outcomes as well as what the study does not include</li> <li>• Multiple opportunities for involvement</li> <li>• Easily accessible information, presented in simple formats – leverage website and existing aviation forums / associations / meetings</li> </ul>
Rural Communities	<ul style="list-style-type: none"> <li>• Relationship to local land uses</li> <li>• Economic development o Funding</li> <li>• Emergency access</li> <li>• Community impacts</li> </ul>	

Audience	Priority Concerns	Outreach Recommendations
General aviation pilots	<ul style="list-style-type: none"> <li>• Airport maintenance</li> <li>• Funding of airport maintenance</li> <li>• Funding equity</li> <li>• Availability of airports</li> <li>• Stability of Search and Rescue functions</li> </ul>	<ul style="list-style-type: none"> <li>• Outreach to identify deficiencies in general aviation airports</li> <li>• Clarity about how designation hierarchy works</li> <li>• Easily accessible information, presented in simple formats</li> </ul>
Airlines	<ul style="list-style-type: none"> <li>• Impact on long term facility and services planning</li> <li>• Taxes</li> <li>• Costs</li> </ul>	<ul style="list-style-type: none"> <li>• Involvement in any recommendations about aviation funding</li> <li>• Clear information about decision process</li> </ul>
RTPO's/MPO's	<ul style="list-style-type: none"> <li>• Consistency with regional/metropolitan transportation plans</li> <li>• Economic development</li> <li>• Access to emergency services</li> <li>• Impact on transportation facilities</li> <li>• Intermodal connections to airports</li> <li>• Regional airport capacity</li> <li>• Compatible land use</li> <li>• GMA implications</li> </ul>	<ul style="list-style-type: none"> <li>• Clear messaging about study purpose and outcomes, including presenting information relevant to rural areas</li> <li>• Multiple opportunities for involvement</li> <li>• Easily accessible information, presented in simple formats</li> <li>• Clear information about decision process</li> </ul>
Business communities	<ul style="list-style-type: none"> <li>• Economic development</li> <li>• Impacts on costs of doing business</li> <li>• Impacts on distribution systems</li> </ul>	<ul style="list-style-type: none"> <li>• Clear messaging about study purpose and outcomes</li> <li>• Multiple opportunities for involvement</li> <li>• Easily accessible information, presented in simple formats</li> </ul>
Association of Washington Cities/Counties	<ul style="list-style-type: none"> <li>• Economic development</li> <li>• Similar to other concerns listed above</li> <li>• Impact on land use</li> </ul>	<ul style="list-style-type: none"> <li>• Clear messaging about study purpose and outcomes, including presenting information relevant to rural areas</li> <li>• Multiple opportunities for involvement</li> <li>• Easily accessible information, presented in simple formats</li> <li>• Clear information about decision process</li> </ul>

Audience	Priority Concerns	Outreach Recommendations
Washington Chapter of the American Planning Association (WA-APA)	<ul style="list-style-type: none"> <li>• Land use planning</li> <li>• Economic and social issues</li> <li>• Transportation system integration</li> <li>• Land use</li> <li>• Capital facility</li> </ul>	<ul style="list-style-type: none"> <li>• Clear messaging about study purpose and outcomes, including presenting information relevant to rural areas</li> <li>• Multiple opportunities for involvement</li> <li>• Easily accessible information, presented in simple formats</li> <li>• Clear information about decision process</li> </ul>
Rail / Freight	<ul style="list-style-type: none"> <li>• High-speed passenger rail connectivity with major urban areas</li> <li>• Alternate modes of transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple opportunities for involvement</li> </ul>

## Strategies

- Keep local media and key audiences informed.
- Lead with the Web: Create a useful, interactive Web page and update news and milestones regularly.
- Promote project benefits using listserv, press releases, Web, ads, etc.
- Implement targeted communication efforts through regional public meetings.



## Key Messages

- This study is a three-phase approach to determine “what we have,” “what we need,” and “what we need to do to get there.”
- LATS will provide information and analysis through an open public process that will enable Washington leaders to make informed investment decisions about the aviation system and long-term airport development to meet future needs.
- Washington’s aviation system generates hundreds of thousands of jobs and supports local economies throughout Washington State.

## Team Members and Affiliations

### WSDOT AVIATION TEAM

John Sibold, Director  
John Shambaugh, Project Manager  
Nisha Marvel, Communications

### CONSULTANT TEAM

Rita Brogan, CEO, PRR  
Sonjia Murray, Project Manager, SH&E  
Deborah Meehan, President, SH&E

## **Public Communications Tools and Tasks**

### ***Media Releases***

WSDOT will issue media releases at key milestones in the progress of the LATS to announce dates of public outreach meetings and key study findings. All news releases will reinforce the key messages outlined in this communications plan.

### ***Public Information Materials***

Print materials will be made available to support public outreach that describes the purposes of LATS as well as information about the study findings as it progresses.

### ***Website***

WSDOT Aviation's website will feature a special section dedicated to the airport system plan that will include media releases, links to relevant publications, links to summaries of the Technical Advisory Committee meetings, links to relevant Web pages, information on LATS' progress, and opportunities for public involvement. Throughout the study process WSDOT Aviation will post finalized working paper, presentation materials, and other related reports. There will also be an interactive area for periodic public comment and to sign up for notification of meetings, reports, presentations, etc.

### ***E-Newsletter***

E-Newsletters will be issued to WSDOT Aviation's extensive database of aviation stakeholders to announce opportunities for public input, and to inform the public about study findings at periodic points in LATS. It is anticipated that, at a minimum, newsletters will be issued:

- To announce the study, introduce the Technical Advisory Committee and announce the upcoming Round #1 outreach meetings.
- To inform the community about the findings of the system inventory and to introduce the methodologies that will be employed during Phase II of LATS and announce the upcoming Round #2 outreach meetings.
- To discuss findings and next steps and to offer to brief stakeholder groups on LATS.

### ***Aviation Technical Advisory Committee (ATAC)***

A technical advisory committee has been assembled to assist WSDOT Aviation in the technical review of LATS. The purpose of the committee will be to work together towards a common set of objectives to ensure a consistent and comprehensive approach to the development of the air transportation study in accordance with state law.

The technical committee is made up of a diverse group of aviation and transportation-related professionals from varying geographical areas and backgrounds. ATAC is staffed with professionals possessing technical knowledge and expertise on multi-modal transportation issues, aviation system planning, airport operations, current and future industry trends, and market and capacity needs. They will provide important guidance to the study process.

It is anticipated the ATAC will hold four meetings during 2006:

- In Month One, review the study scope and work program
- In Month Five, review inventory findings and proposed methodologies for the commercial airport market analysis.
- In Month 12, review and comment on the commercial airport market analysis and airport activity forecasts.
- In Month 16 review and comment on the Phase II study findings.

## **Aviation Stakeholder Outreach**

### ***Outreach Meetings***

During Phase I WSDOT Aviation will sponsor two rounds of four meetings to inform members of the aviation community, and interested members of the public about LATS. **Round One** meetings will set the stage by defining the scope and objectives for LATS.

**Round Two** meetings will present information about the airport inventory and capacity analysis conducted during Phase I and educate the public about the issues related to Phase II, which will focus on airport activity



forecasts, commercial airport market analysis, high-speed rail, air cargo, and future capacity analysis

### ***Coordination with Regional Transportation/Metropolitan Planning Organizations (RTPO/MPOs)***

The participation of RTPO's and MPO's will be actively sought during the study process. In addition to including these organizations in the on-going program outreach, the project team will seek to brief RTPO's at their quarterly coordination meetings in February, May, August, and November. As part of the special rail study the consultant team will be coordinating with the RTPO/MPO planning groups to review past high-speed rail and aviation-related efforts. These planning groups will contribute information throughout the high-speed rail effort and the outcome will provide guidance to how high-speed rail can potentially support Washington State's long-term transportation infrastructure needs.

### ***On-line Surveys***

WSDOT Aviation will conduct two separate electronic survey efforts eliciting feedback from those listed on its stakeholder database. The first online survey, to be issued shortly after the project starts, will identify information needs and elicit stakeholder feedback on aviation issues (such as aviation safety, capacity, system maintenance or land use compatibility). The second online survey will elicit feedback on issues related to airport inventory and capacity.

### ***Aviation Advisory Committee***

WSDOT Aviation's standing Aviation Advisory Committee will provide valuable insight in the progress and development of LATS. Presentations on LATS will be provided to this group at its quarterly meetings.

### ***Organizational Briefings***

WSDOT Aviation will be available to present information on study issues or findings when requested by local or regional government or aviation stakeholder groups.

## APPENDIX D: GLOSSARY

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<b>AC</b>	- Advisory Circular
<b>ADF</b>	- Automatic Direction Finder
<b>ADIZ</b>	- Air Defense Identification Zones
<b>ADPM</b>	- Average Day of the Peak Month
<b>AFB</b>	- Air Force Base
<b>AGL</b>	- Above Ground Level
<b>AIP</b>	- Airport Improvement Program
<b>ALP</b>	- Airport Layout Plan
<b>ALS</b>	- Approach Lighting System
<b>ALSF-1</b>	- Approach Light System with Sequence Flasher Lights
<b>ARC</b>	- Airport Reference Code
<b>ARFF</b>	- Airport Rescue and Fire Fighting
<b>ARP</b>	- Airport Reference Point
<b>ARTCC</b>	- Air Route Traffic Control Center
<b>ASDA</b>	- Accelerate-Stop Distance Available
<b>ASOS</b>	- Automated Surface Observation System
<b>ASR</b>	- Airport Surveillance Radar
<b>ASV</b>	- Annual Service Volume
<b>ATC</b>	- Air Traffic Control
<b>ATCT</b>	- Air Traffic Control Tower
<b>AVGAS</b>	- Aviation Gasoline
<b>AWOS</b>	- Automated Weather Observation System
<b>BRL</b>	- Building Restriction Line
<b>CIP</b>	- Capital Improvement Program
<b>dBA</b>	- A-weighted Decibels
<b>DH</b>	- Decision Height
<b>DME</b>	- Distance Measuring Equipment
<b>DNL</b>	- Day-Night Sound Levels
<b>DOT</b>	- Department of Transportation
<b>EA</b>	- Environmental Assessment
<b>EIS</b>	- Environmental Impact Statement
<b>EP</b>	- Enplaned Passenger
<b>EPA</b>	- The United States Environmental Protection Agency
<b>EPF</b>	- Essential Public Facility
<b>ESSB</b>	- Engrossed Senate Substitute Bill
<b>FAA</b>	- Federal Aviation Administration
<b>FAR</b>	- Federal Aviation Regulation
<b>FBO</b>	- Fixed Based Operator

<b>FIS</b>	- Federal Inspection Service
<b>FSS</b>	- Flight Service Station
<b>GA</b>	- General Aviation
<b>GMA</b>	- Growth Management Act
<b>GPS</b>	- Global Positioning System
<b>HAT</b>	- Height Above Threshold
<b>HIRL</b>	- High Intensity Runway Lights
<b>ICAO</b>	- International Civil Aviation Organization
<b>IFR</b>	- Instrument Flight Rules
<b>ILS</b>	- Instrument Landing System
<b>INM</b>	- Integrated Noise Model
<b>LATS</b>	- Long Term Air Transportation Study
<b>LDA</b>	- Landing Distance Available
<b>LIRL</b>	- Low Intensity Runway Lights
<b>MALS</b>	- Medium Intensity Approach Light System
<b>MALSF</b>	- Medium Intensity Approach Light System with sequence flashing Lights
<b>MALSR</b>	- Medium-Intensity Approach Lighting System with Runway Alignment Indicators
<b>MGW</b>	- Maximum Gross Weight
<b>MIRL</b>	- Medium Intensity Runway Lights
<b>MLS</b>	- Microwave Landing System
<b>MOA</b>	- Military Operations Area
<b>MPO</b>	- Metropolitan Planning Organization
<b>MSL</b>	- Mean Sea Level
<b>NAS</b>	- Naval Air Station
<b>NAVAID</b>	- Air Navigation Facility/Aid
<b>NBAA</b>	- National Business Aircraft Association
<b>NDB</b>	- Non-Directional Beacon
<b>NPIAS</b>	- National Plan of Integrated Airport Systems
<b>OAG</b>	- Official Airline Guide
<b>OFA</b>	- Object Free Area
<b>OFZ</b>	- Obstacle Free Zone
<b>PAPI</b>	- Precision Approach Path Indicator
<b>PCI</b>	- Pavement Condition Index
<b>PFC</b>	- Passenger Facility Charge
<b>PIR</b>	- Precision Instrument Runway
<b>RAIL</b>	- Runway Alignment Indicator Lights
<b>RCW</b>	- Revised Code of Washington
<b>REIL</b>	- Runway End Identifier Lights
<b>RTPO</b>	- Regional Transportation Planning Organizations
<b>RSA</b>	- Runway Safety Area

<b>RPZ</b>	- Runway Protection Zone
<b>RVR</b>	- Runway Visual Range
<b>SPB</b>	- Sea Plane Base
<b>TAF</b>	- FAA Terminal Area Forecasts
<b>TODA</b>	- Take-Off Distance Available
<b>TORA</b>	- Take-Off Run Available
<b>VASI</b>	- Visual Approach Slope Indicator
<b>VFR</b>	- Visual Flight Rules
<b>VHF</b>	- Very High Frequency
<b>WAAS</b>	- Wide Area Augmentation System
<b>WTP</b>	- Washington Transportation Plan
<b>WSCASP</b>	- Washington State Continuous Airport System Plan
<b>WSDOT</b>	- Washington State Department of Transportation

## Airport Abbreviations

Airport Name	Airport Id	Airport Name	Airport Id
<b>NPIAS – Primary Airports</b>			
Bellingham International	BLI	Spokane International	GEG
Boeing Field/King County International	BFI	Tri-Cities	PSC
Friday Harbor	FHR	Walla Walla Regional	ALW
Pangborn Memorial	EAT	Wm. R. Fairchild International	CLM
Pullman/Moscow Regional	PUW	Yakima Air Terminal	YKM
Sea-Tac International	SEA		
<b>NPIAS – Commercial Airports</b>			
Anacortes	74S	Orcas Island	ORS
Grant County International	MWH		
<b>NPIAS - Reliever Airports</b>			
Auburn Municipal	S50	Renton Municipal	RNT
Felts Field	SSF	Snohomish County/Paine Field	PAE
Harvey Field	S43		
<b>NPIAS – General Aviation Airports</b>			
Anderson Field	S97	Ed Carlson Memorial	TDO
Arlington Municipal	AWO	Ephrata Municipal	EPH
Blaine Municipal	4W6	Friday Harbor SPB	W33
Bowerman Field	HQM	Grand Coulee Dam	3W7
Bowers Field	ELN	Grove Field	1W1
Bremerton National	PWT	Ione Municipal	S23
Cashmere Dryden	8S2	Jefferson County International	0S9
Chehalis Centralia	CLS	Kelso-Longview	KLS
Chelan Municipal	S10	Kenmore Air Harbor, Inc.	S60
Cle Elum Municipal	S93	Lopez Island	S31
Columbia Gorge Regional/The Dalles	DLS	Methow Valley	S52
Colville Municipal	63S	Ocean Shores Municipal	W04
Davenport Municipal	68S	Odessa Municipal	43D
Deer Park Municipal	DEW	Olympia	OLM

Airport Name	Airport Id	Airport Name	Airport Id
Dorothy Scott Municipal	0S7	Omak	OMK
Othello Municipal	S70	Rosalia Municipal	72S
Packwood	55S	Sanderson Field	SHN
Pearson Field	VUO	Skagit Regional	BVS
Pierce County/Thun Field	1S0	Sunnyside Municipal	1S5
Port of Whitman Business Air Center	S94	Tacoma Narrows	TIW
Prosser	S40	Vashon Municipal	2S1
Pru Field	33S	Whidbey Airpark	W10
Quillayute	UIL	Wilbur Municipal	2S8
Richland	RLD		
Non-NPIAS Airports			
American Lake SPB	W37	New Warden	2S4
Avey Field State	69S	Okanogan Legion	S35
Bandera State	4W0	Point Roberts Airpark	1RL
Camano Island Airfield	13W	Port of Ilwaco	7W1
Cedars North Airpark	W58	Poulsbo SPB	83Q
Concrete Municipal	3W5	Quincy Municipal	80T
Copalis State	S16	R & K Skyranch	8W9
Crest Airpark	S36	Ranger Creek State	21W
Cross Winds	C72	Roche Harbor SPB	W39
Darrington Municipal	1S2	Rogersburg State	D69
Desert Aire	M94	Rosario SPB	W49
DeVere Field	2W1	Sand Canyon	1S9
Easton State	ESW	Seattle Seaplanes SPB	OW0
Elma Municipal	4W8	Sekiu	11S
Evergreen Field	59S	Sequim Valley	W28
Ferry County	R49	Shady Acres	3B8
Firstair Field	W16	Sky Harbor	S86
Floathaven SPB	0W7	Skykomish State	S88
Fly For Fun	W56	Skyline SPB	21H
Forks Municipal	S18	Spanaway	S44
Goheen Field	W52	Stehekin State	6S9
Goldendale Municipal	S20	Strom Field	39P
Hillcrest	9P7	Sullivan Lake State	09S
Hoskins Field	44T	Swanson Field	2W3
J-Z	1W0	Tieton State	4S6
Kenmore Air Harbor SPB	W55	Tonasket Municipal	W01
Lake Wenatchee State	27W	Twisp Municipal	2S0
Lester State	15S	Vista Field	S98
Lind Municipal	0S0	Waterville	2S5
Little Goose Lock & Dam State	16W	Wes Lupien	76S
Lost River Airport	W12	Western Airpark	92W
Lower Granite State	00W	Westport	14S
Lower Monumental State	W09	Will Rogers Wiley Post SPB	W36
Lynden Municipal	38W	Willapa Harbor	2S9
Mansfield	8W3	Willard Field	73S
Martin Field	S95	Wilson Creek	5W1
Mead Airport	70S	Woodland State	W27
Moses Lake Municipal	W20		

## Definitions

**Active Aircraft** - Aircraft registered with the FAA and reported to have flown during the preceding calendar year.

**Activity** - Used in aviation to refer to any kind of movement, e.g., cargo flights, passenger flights, or passenger enplanements. Without clarification it has no particular meaning.

**Advisory Circular (AC)** - A series of Federal Aviation Administration (FAA) publications providing guidance and standards for the design, operation and performance of aircraft and airport facilities.

**Airport Improvement Program (AIP)** - A congressionally mandated program through which the FAA provides funding assistance for the development and enhancement of airport facilities.

**Air Cargo** - Commercial freight, including express packages and mail, transported by passenger or all-cargo airlines.

**Air Carrier** - An airline providing scheduled air service for the commercial transport of passengers or cargo.

**Air Navigation Facility (NAVAID)** - Although generally referring to electronic radio wave transmitters (VOR, NDB, ILS), it also includes any structure or mechanism designed to guide or control aircraft involved in flight operations.

**Air Route Traffic Control Center (ARTCC)** - FAA-manned facility established to provide air traffic control services to aircraft operating in controlled airspace, en route between terminal areas. Although designed to handle aircraft operating under IFR conditions, some advisory services are provided to participating VFR aircraft when controller work loads permit.

**Air Taxi** - An air carrier certificated in accordance with FAR Part 135 and authorized to provide, on demand, public transportation of persons and property by aircraft. Air taxi operators generally operate small aircraft "for hire" for specific trips.

**Air Traffic Hub** - Air traffic hubs are not airports; they are cities and Metropolitan Statistical Areas requiring aviation services and may include more than one airport. Communities fall into four classes as determined by each

community's percentage of the total enplaned passengers by scheduled air carriers in the 50 United States, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration. Hub designations are determined by the following criteria:

1. Large Hub: 1.00 percent
2. Medium Hub: 0.25 percent to 0.99 percent (cont.)
3. Small Hub: 0.05 percent to 0.249 percent
4. Nonhub: Less than 0.05 percent.

**Aircraft Approach Category** - A grouping of aircraft based on a speed of 1.3 times the stall speed in the landing configuration at maximum gross landing weight. The aircraft approach categories are:

- Category A - Speed less than 91 knots;
- Category B - Speed 91 knots or more but less than 121 knots;
- Category C - Speed 121 knots or more but less than 141 knots;
- Category D - Speed 141 knots or more but less than 166 knots; and,
- Category E - Speed 166 knots or more.

**Aircraft Gate Position** - An aircraft operational stand close to the terminal building and related to a specific passenger loading gate.

**Aircraft Mix** - The classification of aircraft into groups which are similar in size, noise, and operational characteristics.

**Aircraft Operations** - The airborne movement of aircraft. There are two types of operations: local and itinerant defined as follows:

1. Local Operations are performed by aircraft which:
  - (a) operate in the local traffic pattern or within sight of the airport;
  - (b) are known to be departing for or arriving from a local practice area.
2. Itinerant operations are all others.

**Airfield** - A defined area on land or water including any buildings, installations, and equipment intended to be used either wholly or in part for the arrival, departure or movement of aircraft.

**Airplane Design Group** - A grouping of airplanes based on wingspan.  
The groups are:

- Group I: Up to, but not including 49 feet
- Group II: 49 feet up to, but not including 79 feet
- Group III: 79 feet up to, but not including 118 feet
- Group IV: 118 feet up to, but not including 171 feet
- Group V: 171 feet up to, but not including 214 feet
- Group VI: 214 feet up to, but not including 262 feet.

**Airport Layout Plan (ALP)** - An FAA required map of an airport depicting existing and proposed facilities and uses, with clearance and dimensional information showing compliance with applicable standards.

**Airport Reference Code (ARC)** - A coding system used to relate airport design criteria to the operational and physical characteristics of the airplanes intended to operate at the airport. It is a combination of the aircraft approach category and the airplane design group.

**Airport Reference Point (ARP)** - The location at which the designated latitude and longitude for an airport are measured.

**Airport Service Area** - The geographic area that generates demand for aviation services at an airport.

**Airport Surveillance Radar (ASR)** - Radar providing position of aircraft by azimuth and range data without elevation data. It is designed for a range of approximately 50 miles.

**Airport Traffic Area** - Unless otherwise specifically designated that airspace with a horizontal radius of five statute miles from the geographic center of any airport at which a control tower is operating, extending from the surface up to but not including 3,000 feet above the surface.

**Airside** - That portion of the airport facility where aircraft movements take place, airline operations areas, and areas that directly serve the

aircraft (taxiway, runway, maintenance, and fueling areas). Also called the airport operations area.

**Airspace** - The area above the ground in which aircraft travel. It is divided into corridors, routes, and restricted zones for the control and safety of aircraft.

**All-Cargo Carrier** - An air carrier certificated in accordance with FAR Part 121 to provide scheduled air freight, express, and mail transportation over specific routes, as well as the conduct of nonscheduled operations that may include passengers.

**Alternate Airport** - An alternate destination airport if flight to the original destination cannot be completed.

**Annual Service Volume (ASV)** - A reasonable estimate of an airport's annual capacity. It accounts for differences in runway use, aircraft mix, weather conditions, etc., that would be encountered over a year's time.

**Approach End of Runway** - The near end of the runway as viewed from the cockpit of a landing aircraft.

**Approach Surface** - An imaginary surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of the runway based upon the planned approach. The inner edge of the approach surface is the same width as the primary surface and expands uniformly depending upon the planned approach.

**Approved Instrument Approach** - Instrument approach meeting the design requirements, equipment specifications, and accuracies, as determined by periodic FAA flight checks, and which are approved for general use and publication by the FAA.

**Apron** - A defined area where aircraft are maneuvered and parked and where activities associated with the handling of flights can be carried out.

**AVGAS** - Aviation gasoline. Fuel used in reciprocating (piston) aircraft engines. Avgas is manufactured in the following grades; 80/87, 100LL, 100/130, and 115/145.

**Avigation Easement** - A form of limited property right purchase that establishes legal land-use control prohibiting incompatible development of areas required for airports or aviation related purposes.

**Based Aircraft** - Aircraft stationed at an airport on an annual basis.

**Capacity** - (Throughput capacity). A measure of the maximum number of aircraft operations which can be accommodated on the airport component in an hour.

**Capital Improvement Program (CIP)** - A scheduled of planned projects and costs, often prepared and adopted by public agencies.

**CAT I (one)** - Category I Instrument Landing System which provides for approach to a height above touchdown of not less than 200 feet and with Runway Visual Range of not less than 1,800 feet.

**CAT II (two)** - Category II ILS approach procedure which provides for approach to a height above touchdown of not less than 100 feet and a RVR of not less than 1,200 feet.

**CAT III (three)** - Category III ILS approach which provides for an approach with no decision height and a RVR of not less than 700 feet.

**Ceiling** - The height above the ground of the base of the lowest layer of clouds or obscuring phenomena aloft that is reported as broken or overcast and not classified as scattered, thin, or partial. Ceiling figures in aviation weather reports may be determined as measured, estimated, or indefinite.

**Charter** - A nonscheduled flight offered by either a supplemental or certificated air carrier.

**Circling Approach** - An instrument approach procedure in which an aircraft executes the published instrument approach to one runway, the

maneuvers visually to land on a different runway. Circling approaches are also used at airports that have published instrument approaches with a final approach course that is not aligned within 30 degrees of any runway.

**Clearway** - A clearway is an area available for the continuation of the take-off operation which is above a clearly defined area connected to and extending beyond the end of the runway. The area over which the clearway lies need not be suitable for stopping aircraft in the event of an aborted take-off. Clearways are applicable only in the take-off operations of turbine-engined aircraft.

**Commercial Air Carriers** - An air carrier certificated in accordance with FAR Parts 121 or 127 to conduct scheduled services on specified routes. These air carriers may also provide nonscheduled or charter services as a secondary operation. Four carrier groupings have been designated for statistical and financial data aggregation and analysis:

1. Majors: Air carriers with annual operating revenues greater than \$1 billion.
2. Nationals: Air carriers with annual operating revenues of between \$100 million and \$1 billion.
3. Large Regionals: Those carriers whose revenues are between \$10 million and \$99,999,999.
4. Medium Regionals: Air carriers with annual revenues less than \$10 million.

**Commuter Air Carrier** - An air carrier certificated in accordance with FAR Part 135 which operates aircraft with a maximum of 60 seats, and provides at least five scheduled round trips per week between two or more points, or carries mail.

**Commuter/Air Taxi Operations** - Those arrivals and departures performed by air carriers certificated in accordance with FAR Part 135.

**Conical Surface** - An imaginary surface extending outward and upward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet.

**Control Areas** - These consist of the airspace designated as Federal Airways, additional Control Areas, and Control Area Extensions, but do not include the Continental Control Areas.

**Control Tower** - A central operations facility in the terminal air traffic control system consisting of a tower cab structure using air/ground communications and/or radar, visual signaling, and other devices to provide safe and expeditious movement of air traffic.

**Control Zones** - Areas of controlled airspace which extend upward from the surface and terminate at the base of the continental control area. Control zones that do not underlie the continental control area have no upper limit. A control zone may include one or more airports and is normally a circular area with a radius of five statute miles and any extensions necessary to include instrument departure and arrival paths.

**Controlled Airspace** - Airspace designated as continental control area, control area, control zone, or transition area within which some or all aircraft may be subject to air traffic control.

**Critical Aircraft** - The aircraft which controls one or more design items based on wingspan, approach speed and/or maximum certificated take off weight. The same aircraft may not be critical to all design items.

**dBA** - Decibels measured on the A-weighted scale to factor out anomalies.

**Decibel (dB)** - The standard unit of noise measurement relating to a logarithm scale in which 10 units represents a doubling of acoustic energy.

**Decision Height (DH)** - During a precision approach, the height (or altitude) at which a decision must be made to either continue the approach or execute a missed approach.

**Declared Distances** - The distances the airport owner declares available and suitable for satisfying an airplane's take-off distance, accelerated-stop distance, and landing distance requirements. The distances are:

Take-off run available (TORA) - The runway length declared available and suitable for the ground run of an airplane taking off.

Take-off distance available (TODA) - The TORA plus the length of any remaining runway and/or clearway (CWY) beyond the far end of the TORA.

Accelerate-stop distance available (ASDA) - The runway plus stopway (SWY) length declared available and suitable for the acceleration and deceleration of an airplane aborting take-off.

Landing distance available (LDA) - The runway length declared available and suitable for a landing airplane.

**Design Hour** - The design hour is an hour close to the peak but not the absolute peak, which is used for airport planning and design purposes. It is usually the peak hour of the average day of the peak month.

**Displaced Threshold** - Actual touchdown point on specific runways designated due to obstructions which make it impossible to use the actual physical runway end.

**Distance Measuring Equipment (DME)** - An airborne instrument which indicates the distance the aircraft is from a fixed point, usually a VOR station.

**Effective Runway Gradient** - The maximum difference between runway centerline elevations divided by the runway length, expressed as a percentage.

**Environmental Assessment (EA)** - A report prepared under the National Environmental Policy Act (NEPA) analyzing the potential environmental impacts of a federally funded project.

**Environmental Impact Statement (EIS)** - A report prepared under NEPA fully analyzing the potential significant environmental impacts of a federally funded project.

**EPA** - The United States Environmental Protection Agency.

**FAR Part 77** - Federal Aviation Regulations which establish standards for determining obstructions in navigable airspace.

**Federal Aviation Administration (FAA)** - A branch of the U.S. Department of Transportation responsible for the regulation of all civil aviation activities.

**Fixed Base Operator (FBO)** - An individual or company located at an airport providing commercial general aviation services.

**Final Approach** - The flight path of an aircraft which is inbound to the airport on an approved final instrument approach course, beginning at the point of interception of that course and extending to the airport or the point where circling for landing or missed approach is executed.

**Fixed Wing** - For the purposes of this report, any aircraft not considered rotorcraft.

**Flight Plan** - A description or outline of a planned flight which a pilot submits to the FAA, usually through a Flight Service Station.

**Flight Service Station (FSS)** - Air traffic facility operated by the FAA to provide flight service assistance such as pilot briefing, en route communications, search and rescue assistance and weather information.

**General Aviation** - All civil aviation operations other than scheduled air services and non-scheduled air transport operations for remuneration or hire.

**Global Positioning System (GPS)** - GPS uses a group of many satellites orbiting the earth to determine the position of users on or above the earth's surface. This system will provide at least non precision approach

capability to any airport having published instrument approach procedures.

**Horizontal Surface** - A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs with a radius of 5,000 feet for all runways designated as utility or general; and 10,000 feet for all other runways from the center of each end of the primary surface and connecting the adjacent arc by tangent lines.

**Instrument Flight Rules (IFR)** - These rules govern the procedures for conducting instrument flight. Pilots are required to follow these rules when operating in controlled airspace with visibility of less than three miles and/or ceiling lower than 1,000 feet.

**Instrument Landing System (ILS)** - ILS is designed to provide an exact approach path for alignment and descent of aircraft. Generally consists of a localizer, glide slope, outer marker, middle marker, and approach lights. This type of precision instrument system is being replaced by Microwave Landing Systems (MLS).

**Instrument Runway** - A runway equipped with electronic and visual navigation aids for which a precision or non precision approach procedure having straight-in landing minimums has been approved.

**Itinerant Operation** - All aircraft operations at an airport other than local.

**Landing Area** - That part of the movement area intended for the landing and takeoff of aircraft.

**Local Operation** - Aircraft operation in the traffic pattern or within sight of the tower, or aircraft known to be departing or arriving from flight in local practice areas, or aircraft executing practice instrument approaches at the airport.

**Medium-Intensity Approach Lighting (MALSR)** - This system includes runway alignment indicator lights. An airport lighting facility which provides visual guidance to landing aircraft.

**Microwave Landing System (MLS)** - An instrument landing system operating in the microwave spectrum which provides lateral and vertical guidance to aircraft with compatible equipment.

**Minimums** - Weather condition requirements established for a particular operation or type of operation.

**Movement Area** - The runways, taxiways and other areas of the airport used for taxiing, takeoff and landing of aircraft, exclusive of loading ramps and parking areas.

**Navigational Aid (NAVAID)** - Any visual or electronic device airborne or on the surface which provides point to point guidance information or position data to aircraft in flight.

**Non-Directional Beacon (NDB)** - Transmits a signal on which a pilot may "home" using equipment installed in the aircraft.

**Non precision Instrument Approach** - An instrument approach procedure with only horizontal guidance or area-type navigational guidance for straight-in approaches.

**Object Free Area (OFA)** - A two dimensional ground area surrounding runways, taxiways, and taxilanes which is clear of objects except those whose location is fixed by function.

**Object Free Zone (OFZ)** - The airspace defined by the runway OFZ and, as appropriate, the inner- approach OFZ and the inner-transitional OFZ, which is clear of object penetrations other than frangible NAVAIDS.

Runway OFZ - The airspace above a surface centered runway centerline.

Inner-approach OFZ - The airspace above a surface centered on the extended runway centerline. It applies to runways with an approach lighting system.

Inner-transitional OFZ - The airspace above the surfaces located on the outer edges of the runway OFZ and the inner-approach OFZ. It applies to precision instrument runways.

**Obstruction** - An object which penetrates an imaginary surface described in FAR Part 77.

**Peaking Factor** - The factor applied to the annual operations to determine the peak hour activity.

**Precision Approach Path Indicator (PAPI)** - Provides visual approach slope guidance to aircraft during approach to landing by radiating a directional pattern of high intensity focused light beams.

**Precision Instrument Approach** - An instrument approach procedure in which electronic vertical and horizontal guidance is provided, e.g. ILS and MLS.

**Primary Surface** - A surface longitudinally centered on the runway, extending 200 feet beyond each end of the runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.

**Rotorcraft (e.g. Helicopter)** - A heavier-than-air aircraft supported in flight by the reactions of the air on one or more power-driven rotors on substantially vertical axis.

**Runway End Identifier Lights (REIL)** - These lights aid in early identification of the approach end of the runway.

**Runway Protection Zone (RPZ)** - The ground area under the approach surface which extends from the primary surface to a point where the approach surface is fifty feet above the ground. This was formerly known as the clear zone.

**Runway Safety Area (RSA)** - A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway.

**Segmented Circle** - A system of visual indicators designed to provide traffic pattern information at airports without operating control towers.

**Touch and Go Operation** - Practice flight performed by a landing touch down and continuous take off without stopping or exiting the runway.

**Transitional Surfaces** - These surfaces extend outward and upward at right angles to the runway centerline and the extended runway centerline at a slope of 7:1 from the sides of the primary surface and from the sides of the approach surfaces. Transitional surfaces for those portions of a precision approach surface which project through and beyond the limits of the conical surface extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline.

**Transport Airport** - An airport designed, constructed and maintained to serve airplanes in aircraft approach category C and D.

**Utility Airport** - An airport designed, constructed and maintained to serve airplanes in aircraft approach category A and B.

**Visual Flight Rules (VFR)** - Flight rules by which aircraft are operated by visual reference to the ground. Weather conditions for flying under these rules must include a ceiling greater than 1,000 feet, three-miles visibility and standard cloud clearance.

**Wind Coverage** - Wind coverage is the percent of time for which aeronautical operations are considered safe due to acceptable crosswind components.

**Wind Rose** - A scaled graphical presentation of wind information.

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## APPENDIX E: BIBLIOGRAPHY

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- AC 150/5060-5, Airport Capacity and Delay, Change 2, 1995.
- AC 150/5070-7, The Airport System Planning Process, 2004.
- AC 150/5190-5, Exclusive Rights and Minimum Standards for Commercial Aeronautical Activities.
- AC 150/5325-4A, Runway Length Requirements for Airport Design.
- AC 150/5300-13, Airport Design, Change 9.
- Airport Facility Directory. FAA, 2006.
- Airport Master Records and Reports (5010).
- FAA Order 5090.3C, Field Formation of the National Plan of Integrated Airport Systems.
- FAA Order 5100.38C, Airport Improvement Program Handbook.
- National Plan of Integrated Airport Systems (2005-2009), 2004.
- NBAA Airports Handbook, 2002.
- PSRC Regional Airport System Plan. 2001.
- Anderson Field Airport Layout Plan. Bothell, WA: W&H Pacific, 2006.
- Arlington Municipal Airport Master Plan. Everett, WA: Reid Middleton, 2002.
- Auburn Municipal Airport Master Plan. Bothell, WA: W&H Pacific, 2001.
- Bellingham International Airport Master Plan. Seattle, WA: URS Corporation, 2004.
- King County International/Boeing Field Airport Master Plan. 2000.
- Bowers Field Airport Master Plan. Seattle, WA: Bucher, Willis and Ratliff Corporation, 2004.
- Bowerman Field Airport Master Plan. Everett, WA: Reid Middleton, Inc, 1997.
- Bremerton National Airport Master Plan. Scottsdale, AZ: Coffman Associates, 2002.
- Cashmere-Dryden Airport Layout Plan. Bothell, WA: W&H Pacific, 2005.
- Chelan Municipal Airport Master Plan. East Wenatchee, WA: Forsgren Associates, P.A., 1992.
- Chehalis-Centralia Airport Master Plan. Scottsdale, AZ: Coffman Associates, 2001.
- Cle Elum Municipal Airport Layout Plan. Bothell, WA: W&H Pacific, 2004.
- Columbia Gorge Regional Airport Layout Plan. Portland, OR: Century West Engineering Corporation, 2004.
- Davenport Municipal Airport Master Plan. Bellevue, WA: W&H Pacific, 1993.

- Deer Park Municipal Airport Master Plan. Tulsa, OK: Barnard Dunkelberg & Company, 2001.
- Desert Aire Airport Master Plan. Greenbank, WA: Airside, 2006
- Dorothy Scott Municipal Airport Master Plan. Bothell, WA: W&H Pacific, 2006.
- Ephrata Municipal Airport Master Plan. Tulsa, OK: Barnard Dunkelberg & Company, 2004.
- Felts Field Airport Master Plan. Seattle, WA: URS Corporation, 2005.
- Friday Harbor Airport Master Plan. Tulsa, OK: Barnard Dunkelberg & Company, 2004.
- Grand Coulee Dam Airport Master Plan. Bothell, WA: W&H Pacific, 2006.
- Grant County International Airport. Seattle, WA: URS Corporation, 2005.
- Grove Field Airport Master Plan. Bothell, WA: W&H Pacific, 2006.
- Ione Municipal Airport Layout Plan. Portland, OR: Century West Engineering Corporation, 2006.
- Jefferson County International Airport Master Plan. Seattle, WA: Bucher, Willis and Ratliff Corporation, 2001.
- Methow Valley State Airport Master Plan. Bellevue, WA: W&H Pacific, 1995.
- Ocean Shores Municipal Airport Master Plan. Bothell, WA: W&H Pacific, 2006.
- Odessa Municipal Airport. Bothell, WA: W&H Pacific, 2006.
- Okanogan Legion Airport Master Plan. Greenbank, WA: Airside, 2001.
- Omak Municipal Airport Master Plan. Bothell, WA: W&H Pacific, 2006.
- Pangborn International Airport Master Plan. Scottsdale, AZ: Coffman Associates, 2004.
- Pearson Field Airport Master Plan. Seattle, WA: URS Greiner, 2001.
- Pierce County – Thun Field Airport Master Plan. Seattle, WA: Bucher, Willis and Ratliff Corporation, 2000.
- Port of Benton (Prosser) Master Plan. Bothell, WA: W&H Pacific, 2006.
- Prosser Airport Master Plan. Seattle, WA: TRA Airport Consulting, 1990.
- Pullman Moscow Regional Airport Master Plan. Coeur d’Alene, ID: J-U-B Engineers, Inc., 1999.
- Renton Municipal Airport/Clayton Scott Field Airport Layout Plan Update, 2004.
- Richland Airport Master Plan. Everett, WA: Reid Middleton, 1995.
- Ritzville Municipal Airport – Pru Field Layout Plan. Portland, OR: Century West Engineering Corporation, 2003.
- Rosalia Municipal Airport. Bothell, WA: W&H Pacific, 2006.
- Snohomish County Airport/ Paine Field Master Plan. Tulsa, OK: Barnard Dunkelberg & Company, 1995.
- Spokane International Airport Master Plan. Seattle, WA: URS Corporation, 2003.
- Sunnyside Municipal Airport Master Plan. Seattle, WA: TRA Airport Consulting, 1992.

- Tri-Cities Airport Master Plan. Seattle, WA: URS Greiner, 2000.
- Vista Field Airport Master Plan. Kennewick, WA: J-U-B Engineers, Inc., 2006.
- Walla Walla Regional Airport Master Plan. Tulsa, OK: Barnard Dunkelberg & Company, 2002.
- Warden Municipal Airport Master Plan. Bellevue, WA: Airside, 1995.
- Westport Municipal Airport Master Plan. Bothell, WA: W&H Pacific, 2006.
- Wilbur Municipal Airport Layout Plan. Spokane, WA: J-U-B Engineers, Inc., 2006.
- Yakima Air Terminal Master Plan. Bothell, WA: W&H Pacific, 2003.