1. Air Travel Visitor Spending

Spending by business and recreational travelers using the State's general aviation and commercial service airports includes purchases on area lodging, restaurants, retail shops, entertainment and local transportation services. For this report, travel spending by air travelers was estimated based on travel and spending patterns obtained from the Pilot Survey, and specific operational characteristics of general aviation and commercial service airports. No additional visitor surveys were conducted for this analysis.

The number of visitors arriving at each airport was estimated based on the ratio of non-local enplanements to total annual enplanements. For general aviation airports, the percentage of enplanements assumed to be visitors was based on the following:

Number of Arrivals	Percent Visiting Aircraft
Less than 1,000	35%
1,000 or greater but less than 5,000	40%
5,000 or greater but less than 10,000	50%
Greater than 10,000	55%

For commercial service airports, 40% of all enplanements were assumed to be visitors.

Estimates of visitor spending per trip were derived from the Pilot Survey and include the following:

Average Spending per Trip from Pilot Survey	
Item	Average Spending per Trip
Lodging	$284
Food and Beverages	$109
Retail Goods	$95
Entertainment	$117
Transportation Rental	$131
Total Spending per Trip	$736

It was assumed that the number of occupants per general aviation trip consisted of an average of 1.8 persons. Average spending per visitor per trip was assumed to be $409 ($736/1.8 = $409). This figure was used to calculate visitor spending impacts for all general aviation airports. Spending estimates per trip for commercial service airports were based on prior studies and operations characteristics at each airport. For Sea-Tac International Airport visitors, spending per trip was assumed to be $880; spending per trip for all other commercial service airport visitors was $675.

Employee compensation, employment, and total output supported by visitor expenditures were estimated using Washington-specific ratios per $1 million of visitor expenditures. These ratios were developed using the IMPLAN model, and indicate that $1 million in visitor spending supports 20.7 total employees, provides $370,536 in total employee compensation, and generates total economic activity of $1.3 million. Estimated visitor spending impacts are shown in Table 11.

IMPLAN Multipliers per $1 Million of Visitor Spending		
Employee Compensation	**Employment**	**Total Output**
$370,536	20.7	$1,348,806

*Estimates of impacts per $1 million of visitor spending are derived from the Pilot Survey and IMPLAN Model for Washington State. Total visitor spending is comprised of spending on lodging (39%), local transportation excluding airfare (18%), entertainment (16%), eating & drinking places (15%), and retail purchases (13%).

Table 11.
Estimated Economic Benefits of Air Travel Visitor Spending (Millions $98)

State and Region	Visitors	Employee Compensation	Employment	Total Output
Washington State	1,730,629	$358.9	20,053	$1,306.6
Central Puget Sound Region*	397,621	$61.0	3,411	$222.3
Eastern Region	677,800	$178.2	9,956	$648.8
North Central Region	100,351	$17.7	990	$64.5
Northwest Region	172,276	$31.0	1,732	$112.9
Olympic Region	82,098	$13.4	751	$48.9
South Central Region	206,634	$43.2	2,419	$157.8
Southwest Region	93,848	$14.2	794	$51.8

* Excludes Sea-Tac International Airport, which had nearly 5.8 million visitors in 2000 and total direct spending of $2.9 billion.

It should be noted that pilot travel spending is included in the total for visitor spending while spending associated with air shows and other special aviation events is considered separately. Because a portion of air show attendees arrive by plane (pilots and their passengers), it is likely that some double counting has occurred. However, it is not expected to be significant.

2. Air Shows, Fly-Ins and Other Special Aviation Events

According to the International Council of Air Shows (ICAS), between 15 and 18 million people attend air shows in North America each year. In Washington State, an estimated 38,000 spectators attended air shows, fly-ins and other special aviation events in 2000. Direct spending by spectators on accommodations, food and beverages, transportation, recreation, and retail goods and services generates additional economic activity in communities that host such events.

Spending impacts associated with aviation events represent only "new money" impacts which represent the business or other activity that would not occur in the county if the airport were not there. New money impacts are based on the fact that substitutes exist for local spending (i.e. spending that would take place regardless of whether the airport was there). In this case, residents within a county have other options for spending their recreation dollars and would likely spend them on other activities if the airport did not exist and did not host special events. The purpose on looking at "new money" impacts is to capture only the portion of spending or other economic activity that is attributable to the airport. New money impacts are typically represented by demand (which translates into spending) that accrues from outside the region of study – the county level in this analysis. Thus, the estimated spending impacts are conservative.

Typically, new money impacts are determined through a separate series of interviews or surveys of recreation participants or businesses. Such surveys were beyond the scope of this analysis. There is no

"rule of thumb" for new money impacts because each region under study will have different spending opportunities (substitutes) available. In general, highly urban areas have many options for spending recreation dollars, while rural areas may have fewer options. In order to capture "new money" benefits for this analysis, average distance traveled to air shows was used to capture county residents and out-of-county visitors to special aviation events.

The International Council of Air Shows (ICAS) collects data on demographic and travel characteristics of spectators at air shows throughout North America. ICAS's most recent data indicate that 75% of all air show attendees travel 49 or fewer miles to these events; 53% travel less than 20 miles and 22% travel 21 to 49 miles (see Table 12). These travel characteristics were used to establish the extent of "new money" impacts associated with visitor spending at air shows and other special aviation events. For the purpose of this analysis, 25% of air show attendees were assumed to come from outside the county where the air show was held.

Table 12.
Average Distance Traveled to Air Shows

Distance Traveled	Percent of Total
Less than 20 miles	52.7%
21 to 49 miles	22.4%
50 to 74 miles	10.3%
75 to 100 miles	4.5%
More than 100 miles	10.1%

Source: ICAS, Open for Business, 2000.

The Washington State Office of Trade & Economic Development compiles data on visitor spending characteristics based on visitor profile data collected for Washington State Tourism (Washington State Office of Trade & Economic Development, 2000). In 2000, average daily spending per visitor was $57 (excluding air transportation), and average stay was 2.2 days for all types of accommodations (see Table 13). For single-day travelers, average spending per visitor was $44.7 and for overnight travelers average spending was $57.1 per day. These travel and spending characteristics were used to estimate direct spending impacts associated with spectators at air shows, fly-ins and other special aviation events.

Table 13.
Washington State Visitor Characteristics

Visitor Characteristics	Day Travel	Overnight Travel
Average Party Size	3.2	2.8
Average Daily Spending	$143	$160
Average Spending per Person	$44.7	$57.1
Spending per Person by Type:		
Accommodations		$10.7
Eating & Drinking	$14.8	$15.4
Food Stores	$3.3	$3.5
Ground Transportation	$8.0	$8.4
Recreation	$8.1	$8.4
Retail Sales	$10.4	$10.9

Source: Washington State Office of Trade & Economic Development, 2000.

The various spending categories documented in the State's visitor surveys were translated to IMPLAN sectors for the purpose of modeling spending impacts. These sectors are shown in Table 14.

Table 14.
IMPLAN Sectors used to Model Visitor Spending

Spending by Type	IMPLAN Model Sector	Standard Industrial Classification
Accommodations	463 Hotels and Lodging Places	7000
Eating & Drinking	454 Eating & Drinking	5800
Food Stores	450 Food Stores	5400
Ground Transportation	434 Local Interurban Passenger Transit 477 Automobile Rental and Leasing	4100 7510
Recreation	488 Amusement and Recreation Services	7910, 7991, 7992, 7993, 7996, 7999
Retail Sales	449 General Merchandise Stores 455 Miscellaneous Retail	5300 5900

Source: MIG, IMPLAN Professional Version 2.0 Social Accounting & Impact Analysis Software, 2nd Edition, June 2000.

The economic impacts associated with spending at air shows, fly-ins and other special aviation events are summarized in Table 15. Estimated job, income and spending impacts are presented for each county and region, and for the state as a whole.

Table 15.
Estimated Economic Benefits of Air Shows, Fly-Ins and Special Aviation Events (Millions $98)

Washington State			
	Employee Compensation	Employment	Total Output
Washington State	**$1.2**	**69**	**$3.6**

Source: MIG, IMLAN Professional Version 2.0 Social Accounting & Impact Analysis Software, 2nd Edition, June 2000.

The Central Puget Sound Region accounted for a significant share (66%) of total output generated by special aviation event spending within the state. Many airports within this region host single- and multiple-day events, with the largest occurring at the Arlington Airport in Snohomish County. The Southwest Region accounted for 10% of total output associated with spending at special aviation events. The single largest event within this region occurs at Evergreen Field in Clark County.

Table 15.
Estimated Economic Benefits of Air Shows, Fly-Ins and Special Aviation Events (Millions $98)

Central Puget Sound Region			
County	Employee Compensation	Employment	Total Output
King	$0.09	5	$0.3
Kitsap	$0.005	0.4	$0.02
Pierce	$0.02	1	$0.05
Snohomish	$0.5	29	$1.7
County Total	**$0.6**	**36**	**$2.1**
Region Total	**$0.8**	**43**	**$2.3**

Source: MIG, IMPLAN Professional Version 2.0 Social Accounting & Impact Analysis Software, 2nd Edition, June 2000.

Table 15.
Estimated Economic Benefits of Air Shows, Fly-Ins and Special Aviation Events (Millions $98)

Eastern Region			
County	**Employee Compensation**	**Employment**	**Total Output**
Adams+	--	--	--
Lincoln	--	--	--
Pend Oreille+	--	--	--
Spokane	$0.002	0	$0.006
Stevens	--	--	--
Whitman	--	--	--
County Total	**$0.002**	**0**	**$0.006**
Region Total	**$0.002**	**0**	**$0.006**

Source: MIG, IMPLAN Professional Version 2.0 Social Accounting & Impact Analysis Software, 2nd Edition, June 2000.

Table 15.
Estimated Economic Benefits of Air Shows, Fly-Ins and Special Aviation Events (Millions $98)

North Central Region			
County	**Employee Compensation**	**Employment**	**Total Output**
Chelan	$0.004	0.3	$0.01
Douglas	$0.003	0.2	$0.01
Ferry+	$0.0002	0	$0.0009
Grant	$0.004	0.2	$0.01
Okanogan	$0.005	0.3	$0.02
County Total	**$0.02**	**1**	**$0.05**
Region Total	**$0.02**	**1**	**$0.06**

Source: MIG, IMPLAN Professional Version 2.0 Social Accounting & Impact Analysis Software, 2nd Edition, June 2000.

Table 15.
Estimated Economic Benefits of Air Shows, Fly-Ins and Special Aviation Events (Millions $98)

Northwest Region			
County	**Employee Compensation**	**Employment**	**Total Output**
Island	--	--	--
San Juan	$0.01	1	$0.05
Skagit	$0.02	2	$0.08
Whatcom	$0.04	3	$0.1
County Total	**$0.07**	**5**	**$0.3**
Region Total	**$0.07**	**6**	**$0.3**

Source: MIG, IMPLAN Professional Version 2.0 Social Accounting & Impact Analysis Software, 2nd Edition, June 2000.

Table 15.
Estimated Economic Benefits of Air Shows, Fly-Ins and Special Aviation Events (Millions $98)

Olympic Region			
County	**Employee Compensation**	**Employment**	**Total Output**
Clallam	$0.007	0.5	$0.02
Grays Harbor	$0.003	0.2	$0.01
Jefferson	$0.003	0.3	$0.01
Mason	--	--	--
Thurston	$0.03	2	$0.1
County Total	**$0.04**	**3**	**$0.2**
Region Total	**$0.05**	**3**	**$0.2**

Source: MIG, IMPLAN Professional Version 2.0 Social Accounting & Impact Analysis Software, 2nd Edition, June 2000.

Table 15.
Estimated Economic Benefits of Air Shows, Fly-Ins and Special Aviation Events (Millions $98)

South Central Region			
County	**Employee Compensation**	**Employment**	**Total Output**
Benton	$0.01	1	$0.05
Franklin	--	--	--
Kittitas	--	--	--
Walla Walla	$0.03	3	$0.1
Yakima	$0.006	0.5	$0.02
County Total	**$0.05**	**4**	**$0.2**
Region Total	**$0.06**	**5**	**$0.2**

Source: MIG, IMPLAN Professional Version 2.0 Social Accounting & Impact Analysis Software, 2nd Edition, June 2000.

Table 15.
Estimated Economic Benefits of Air Shows, Fly-Ins and Special Aviation Events (Millions $98)

Southwest Region			
County	**Employee Compensation**	**Employment**	**Total Output**
Clark	$0.08	5	$0.3
Cowlitz	$0.009	1	$0.03
Klickitat	$0.0003	0	$0.002
Lewis	--	--	--
Pacific+	--	--	--
County Total	**$0.09**	**6**	**$0.3**
Region Total	**$0.09**	**7**	**$0.3**

So0urce: MIG, IMPLAN Professional Version 2.0 Social Accounting & Impact Analysis Software, 2nd Edition, June 2000.

3. Pilot Destination Spending

A total of 1,600 Transient Pilot Surveys were sent to Washington pilots. Of the total, 188 surveys or 12% were returned, and 129 or 8% contained sufficient data for the IMPLAN model. Of the total responses, 8% were from pilots no longer actively flying. It should be noted that pilot destination spending is included in the total for air travel visitor spending.

Completed surveys provide information on the pilot's based aircraft location, most frequent Washington airport destination, and per trip expenditures for traveling to the pilot's most frequent destination airport. Trip expenditures are expressed by category of spending, including lodging/accommodations, food and beverages, retail goods, entertainment, car rental and aviation fuel. Spending on aviation fuel was excluded from the analysis to avoid double counting impacts reflected in fuel sales at airports which are counted in the airport operations impacts. The Pilot Survey did not request the number of trips per year to the pilot's most frequent destination airport. Therefore, direct spending impacts reported by pilots were assumed to reflect a single trip. Thus, the total pilot spending impacts are likely conservative.

Based on the survey results, the most frequent destination by pilots and their passengers was the Central Puget Sound Region which accounted for 40% of all destination trips. Half of the total trips to the region were to King County. The Northwest Region received 19% of total trips, followed by the Olympic Region (15%), Eastern Region (10%), Southwest Region (6%), and the North and South Central Regions (5% each). Total spending impacts followed a similar, but slightly different pattern. The greatest total destination spending occurred in the Central Puget Sound Region (44%), followed by the Northwest Region (23%), Olympic Region (14%), Eastern Region (8%), South Central Region (5%), Southwest Region (3%), and North Central Region (1%).

In 2000, direct spending by pilots and their passengers at their primary destination airport in Washington totaled about $73,000 (see Table 15). The largest single expenditure, 31% of the total, was for aviation fuel. The remaining 69% was spent on lodging, food and beverages, car rental, retail goods and entertainment. Average spending per trip was $947. Spending varied widely among the survey respondents. For example, 65 of the 129 respondents (50%) indicated they spent money on lodging, while 118 of the 129 respondents (91%) indicated they spent money on food and beverages. For the other spending categories, 47% of respondents purchased retail goods, 33% spent money on entertainment, 50% spent money on car rentals, and 82% purchased aviation fuel.

Assuming that the average spending patterns of survey respondents is reflective of the remainder of the State's registered pilots, and that the ratio of non-active to active pilots applies, the total potential spending on destination trips by pilots and their passengers would be just over $804,000 or $558,000 excluding aviation fuel purchases. To the extent that pilots travel to their primary destination airport each year, total potential spending impacts would be ongoing.

Table 16.
Direct Pilot Destination Spending ($98)

Spending Category	Total Spending*	% of Total	Average Spending	Total Potential Spending**
Lodging	$18,490	25.4%	$284	$203,390
Food and Beverages	$12,845	17.7%	$109	$141,622
Retail Goods	$5,700	7.8%	$95	$63,745
Entertainment	$5,040	6.9%	$117	$55,323
Transportation Rental	$8,410	11.6%	$131	$93,824
Aviation Fuel	$22,259	30.6%	$210	$246,109
Total Pilot Destination Spending	$72,744	100.0%	$947	$804,012
Total Spending Less Fuel	$50,485	69.4%	$737	$557,903

*Based on 129 completed Pilot Surveys.
**Total potential spending based on an estimated additional 1,300 active pilots.

Direct destination spending of $50,485 based on completed survey data by pilots and their passengers resulted in a total spending impact of $60,766 in 1998 dollars (see Table 17). Spending by pilots had a small impact on employment, supporting only 0.2 jobs and total employee compensation of $15,830 statewide.

Based on the assumptions outlined above, total potential pilot spending of $557,903 would generate a total spending impact of $766,525 in 1998 dollars. Total spending would support 12.6 employees and total labor income of $255,667 statewide. Pilot spending impacts by region have not been estimated due to the uncertainty of airport destination by county and region.

Table 17.
Estimated Economic Benefits of Pilot Destination Spending

State and Region	Employee Compensation	Employment	Total Output
Washington State – Actual Pilot Survey Data	$15,830	0.2	$60,766
Washington State – Estimated Total Pilot Spending	$225,667	12.6	$766,525

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APPENDIX L
GLOSSARY OF TERMS AND ACRONYMS

TERMS:

Air Cargo: All commercial air express and air freight with the exception of air-mail and air parcel post.

Air Carrier: A commercial operator providing for the transport of passengers or property by aircraft for compensation or hire utilizing aircraft with greater than 30 seats and certificated in accordance with Federal Aviation Regulations (FAR) Parts 121 or 127.

Aircraft Mix: The numerical or percentage breakdown of aircraft into categories based on aircraft engine and weight.

Aircraft Operation: Any aircraft arrival or departure including touch-and-go operations.

Aircraft Type: A distinctive model of aircraft, as designated by the manufacturer.

Airline: A scheduled air carrier certificated by the Federal Aviation Administration under Part 121 of the Federal Aviation Regulations.

Airline Operations: Takeoffs and landings performed by aircraft operated by Part 121 or 127 airlines on scheduled and non-scheduled flights.

Airport: A landing area regularly used by aircraft for receiving or discharging passengers or cargo.

Air Taxi: The transport of people or property for compensation or hire by a commercial operator (not an air carrier) in an aircraft having a maximum seating capacity of 30 or less and certified under Federal Aviation Regulations Part 135.

Based Aircraft: Aircraft stationed at the airport on a permanent basis.

Circling Approach: A descent used in an approved procedure to an airport for a circle to land maneuver.

Commercial Aviation: Aircraft activity licensed by state or federal authority to transport passengers and/or cargo on a scheduled or non-scheduled basis.

Commuter: Commercial operators that operate aircraft with a maximum of 60 seats, and that provides scheduled service, or that carriers mail; commuters may be either air taxis or certified air carriers.

Condemnation: Proceedings under which a property interest may be forcibly acquired; government may condemn land through the power of eminent domain; an individual may apply inverse condemnation to obtain just compensation for a property interest taken by government without prior agreement.

Critical Aircraft: The most demanding category or family of aircraft that performs 500 annual itinerant operations at an airport (Also referred to as the design aircraft).

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

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

Enplanement: A term applying to passengers and cargo which board a departing aircraft.

Fixed Base Operator (FBO): A private enterprise engaged in services related to general aviation, such as fuel sales, aircraft maintenance, aircraft storage, aircraft rental and sales, flight instruction, and crop dusting.

General Aviation (GA): All aviation activities except those performed by commercial air carrier or military.

General Aviation Aircraft: All civil aircraft except those owned by and classified as air carriers.

Glide Slope (GS): Electronic vertical guidance provided the pilot while on the final approach to landing; usually an angle between two degrees and three degrees and intersecting the runway at the touch down area.

Global Positioning System (GPS): Satellite-based navigation capabilities utilizing a minimum of four (4) of 26 satellites orbiting the earth.

IFR Conditions: Weather conditions below the minimum prescribed for flight under VFR.

Instrument Landing System (ILS): A landing approach system that establishes a course and a descent path to align an aircraft with a runway for final approach.

Instrument Flight Rules (IFR): Rules that govern flight procedures when ceiling and visibility are below 1,000 feet and three miles respectively.

Instrument Approach: A landing approach using electronic aids and made without visual reference to the ground.

Itinerant Operations: Arrivals and departures of aircraft to or from an area greater than 20 miles from the airport. Itinerant operations may involve an aircraft based at the airport or an aircraft from another airport.

Local Area Augmentation System (LAAS): Intended to compliment Wide Area Augmentation System (WAAS) by meeting Category II/ III instrument approach requirements, as well as provide users with all weather surface navigation, surface navigation, and surface surveillance/ traffic management system capabilities.

Localizer (LOC): An electronic instrument that is part of an ILS and emits radio signals which provide the pilot with course guidance to the runway centerline.

Localizer Directional Aid: A non-precision instrument approach using a localizer that is not aligned with, the runway in question.

A localizer that not aligned that not associated with an instrument landing system that is used exclusively for non-precision approaches

Local Operations: Operations performed by aircraft that (1) operate in the local traffic pattern or within sight of the tower; (2) are known to be departing for or arriving from +/- light in local practice areas located within a 20 mile radius of the control tower; and (3) execute simulated instrument approaches or low passes at the airport.

Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR): A facility by which the pilot is provided visual reference t the instrument runway during transition from instrument to visual flight.

Microwave Landing System: An instrument landing system using VHF radio signals to guide the aircraft's approach instead of the VHF system still widely used. The microwave system provides for fewer ground reflections, takes up less space, and uses small aerials.

Minimum Descent Altitude (MDA): The lowest altitude, expressed in feet above MSL, to which descent is authorized on final approach or during circling-to-land maneuvering in execution of a standard instrument approach procedure where no electronic glide slope is provided.

Middle Marker (MM): An electronic beacon that indicates a position approximately 3,500 feet from the landing threshold.

Nautical Mile: A measure of lineal distance equal to one minute of a great circle at the equator and is the length of one minute of latitude (6,076.1155 feet). To convert to statute miles, multiply by 1.150779.

NAVAID: Any navigational aids, such as PAPI, MALS, REIL, etc.

Non-precision Approach Procedure: A standard instrument approach procedure in which no electronic glide slope is provided.

Non-scheduled Service: Revenue flights that are not operated in regular scheduled service such as charter flights and all non-revenue flights incident to such flights.

Operation: Any airborne arrival or departure of an aircraft at or from an airport. “Touch-and-go” practice landings are considered as two operations.

Precision Approach Path Indicator (PAPI): A lighting system providing for visual flight path, within the airport approach zone, so that an approaching pilot can establish a positive controlled descent (also VASI).

Precision Instrument: The term used to describe an approach using both horizontal and vertical guidance. This term also describes the runway with this type of approach and the markings on the runway.

Primary Runway: That runway which provides the best wind coverage, etc.; this runway receives the most usage at an airport.

Regional Carrier: A certificated commuter air carrier that operates in concert with an air carrier operating aircraft with 60 or more passenger seats. The regional carrier may be separately owned, partially owned, or wholly owned by the larger air carrier.

Rotating Beacon: A visual NAVAID displaying flashes of white and/or colored light used to indicate the location of an airport.

Runway (RW): A defined area on an airport prepared for landing and takeoff of aircraft.

Scheduled Service: Transport service performed by a commercial operator on a regular basis.

Straight-In Approach: A descent in an approach procedure in which the final approach course alignment and descent gradient permits authorization of straight-in landing minimums.

Taxiway (TWY): A defined area on an airport prepared for the surface movement of aircraft to and from the runway.

Threshold: The beginning of that portion of the runway available for landing. In some instances the landing threshold may be displaced.

Total Operations: The total of all operations (domestic and international) performed at an airport.

Touch-and-Go Operations: An aircraft operation for practice or testing purposes characterized by a landing touch down and then continuing takeoff without stopping.

Visual Approach Slope Indicator (VASI): A lighting system providing a visual flight path, within the airport approach zone, so that an approaching pilot can establish a more positive controlled descent (also PAPI).

Visual Flight Rules (VFR): Rules under which aircraft are operated by visual reference to the ground, and fly on a “see and be seen” principle.

Very High Frequency Omni-Directional Range (VOR): Air navigation aid that provides bearing information to aircraft.

Wide Area Augmentation System (WAAS): Planned as a GPS augmentation by providing users with the use of GPS for all phases of flight from the en route environment to Category 1 precision instrument approaches. Thereby, providing more direct routing of aircraft, saving time, fuel, and money.

Wind Cone (Sock): Conical wind direction indicator.

ACRONYMS:

AIP:	Airport Improvement Program
ALS:	Approach Lighting System
ATCT:	Air Traffic Control Tower
CAT:	Category
DME:	Distance Measuring Equipment
DOT:	Department of Transportation
FAA:	Federal Aviation Administration
FBO:	Fixed Base Operator
GA:	General Aviation
GPS:	Global Positioning System
GVGI:	Generic Visual Slope Indicator
GS:	Glide Slope
HIRL:	High Intensity Runway Lights
IFR:	Instrument Flight Rules
ILS:	Instrument Landing System
IMC:	Instrument Meteorological Conditions
LAAS:	Local Area Augmentation System
LDA:	Localizer Directional Aid
LIRL:	Low Intensity Runway Lights
LOC:	Localizer
MALSF:	Medium Intensity Approach Lighting System
MALSR:	Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
MDA:	Minimum Descent Altitude
MIRL:	Medium Intensity Runway Lights
MITL:	Medium Intensity Taxiway Lights
NAVAID:	Navigational Aid
NDB:	Non-directional Beacon
NPI:	Non-precision Instrument
OAG:	Official Airline Guide
OPBA:	Operations Per Based Aircraft
PAPI:	Precision Approach Path Indicators
PLASI:	Pulsating Light Approach Slope Indicator
RAIL:	Runway Alignment Indicator Lights
REIL:	Runway End Identifier Lights
RNAV:	Area Navigation
RW:	Runway
SSALF:	Simplified Short Approach Light System with sequenced Flasher Lights
SSALR:	Simplified Short Approach Light System with RAIL

TACAN:	Tactical Air Navigation
TVOR:	Terminal Very High Frequency Omni Range
TW:	Taxiway
UHF:	Ultra-High Frequency
VASI:	Visual Approach Slope Indicator
VFR:	Very High Frequency
VMC:	Visual Meteorological Conditions
VOR:	VHF Omni-Directional Range
WAAS:	Wide Area Augmentation System