



APPENDICES



Appendix A

GLOSSARY OF TERMS

Airport Master Plan Update William R. Fairchild International Airport Port Angeles, Washington

September 2011

GLOSSARY OF TERMS

Abbreviations

AC	- Advisory Circular
ADF	- Automatic Direction Finder
ADPM	- Average Day of the Peak Month
AGL	- Above Ground Level
AIP	- Airport Improvement Program
ALP	- Airport Layout Plan
ALS	- Approach Lighting System
ALSF-1	- Approach Light System with Sequence Flasher Lights
ARC	- Airport Reference Code
ARFF	- Airport Rescue and Fire Fighting
ARP	- Airport Reference Point
ARTCC	- Air Route Traffic Control Center
ASDA	- Accelerate-Stop Distance Available
ASR	- Airport Surveillance Radar
ASV	- Annual Service Volume
ATC	- Air Traffic Control
ATCT	- Airport Traffic Control Tower
AVGAS	- Aviation Gasoline
CBP	- Customs and Border Patrol
CIP	- Capital Improvement Program
CL	- Centerline
CLM	- William R. Fairchild International Airport
dBA	- A-weighted Decibels
DH	- Decision Height
DME	- Distance Measuring Equipment
DNL	- Day-Night Sound Levels
EA	- Environmental Assessment
EIS	- Environmental Impact Statement
EPA	- The United States Environmental Protection Agency
FAA	- Federal Aviation Administration
FAR	- Federal Aviation Regulation

FBO	- Fixed Based Operator
FIS	- Federal Inspection Service
FSS	- Flight Service Station
GA	- General Aviation
GPS	- Global Positioning System
IFR	- Instrument Flight Rules
ILS	- Instrument Landing System
INM	- Integrated Noise Model
LATS	- Washington State Department of Transportation – Aviation Division’s Long-term Air Transportation Study.
LDA	- Landing Distance Available
LIRL	- Low-Intensity Runway Lights
MALS	- Medium-Intensity Approach Light System
MALSF	- Medium-Intensity Approach Light System with sequence flashing Lights
MALSR	- Medium-Intensity Approach Lighting System with Runway Alignment Indicators
MGW	- Maximum Gross Weight
MIRL	- Medium-Intensity Runway Lights
MLS	- Microwave Landing System
MSL	- Mean Sea Level
NAVAID	- Air Navigation Facility/Aid
NDB	- Non-Directional Beacon
NPIAS	- National Plan of Integrated Airport Systems
OFA	- Object-Free Area
OFZ	- Obstacle-Free Zone
PAPI	- Precision Approach Path Indicator
POPA	- Port of Port Angeles
RAIL	- Runway Alignment Indicator Lights
REIL	- Runway End Identifier Lights
RSA	- Runway Safety Area
RPZ	- Runway Protection Zone
TAF	- FAA Terminal Area Forecasts
TODA	- Take-Off Distance Available
TORA	- Take-Off Run Available
UHF	- Ultra High Frequency
VASI	- Visual Approach Slope Indicator

Appendix A: Glossary of Terms

- VFR** - Visual Flight Rules
VHF - Very High Frequency
WSDOT - Washington State Department of Transportation

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.

ADF - Automatic Direction Finder.

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.

AGL - Above Ground Level.

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, and 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.

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 Mix - The classification of aircraft into groups that 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 that:
 - (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:

Appendix A: Glossary of Terms

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.

Ambient Noise Level - Background noise level, exclusive of the contribution made by aircraft.

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.

ARFF - Aircraft Rescue and Fire Fighting.

ATC - Air Traffic Control.

ATCT - Airport Traffic Control Tower.

Appendix A: Glossary of Terms

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.

BRL - Building Restriction Line.

Capacity - (Throughput capacity). A measure of the maximum number of aircraft operations that 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 that 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 that 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 that 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 Airline- 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.

Clear Zone - See Runway Protection Zone

Clearway - A clearway is an area available for the continuation of the take-off operation that 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.

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.

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

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.

Appendix A: Glossary of Terms

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 that 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.

Crosswind - When used concerning wind conditions, the word means a wind not parallel to the runway or the path of an aircraft.

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

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 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.

DOT – U. S. Department of Transportation.

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

Eminent Domain - Right of the government to take property from the owner, upon compensation, for public facilities or other purposes in the public interest.

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 that establish standards for determining obstructions in navigable airspace.

Appendix A: Glossary of Terms

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 that 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 that 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.

HIRL – High-Intensity Runway Lights.

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.

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.

LIRL – Low-Intensity Runway Lights.

Mean Sea Level (MSL) - Elevation above Mean Sea Level.

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

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

MIRL - Medium-Intensity Runway Lights.

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.

Appendix A: Glossary of Terms

Navigational Aid (NAVAID) - Any visual or electronic device, airborne or on the surface that 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 that 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 that 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.

VASI - Visual Approach Slope Indicator. See definition of PAPI.

Appendix A: Glossary of Terms

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.