**PORT COLUMBUS INTERNATIONAL AIRPORT**

**FINAL**
**ENVIRONMENTAL IMPACT STATEMENT**
**SECTION 303(c) and**
**SECTION 106 of the**
**NATIONAL HISTORIC PRESERVATION ACT EVALUATION**

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

March 2009

Volume 1 of 4

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This Final EIS also assesses the connected actions to decommission existing Runway 10R/28L, which will be converted into a taxiway; assess the reconstruction of the Airport Golf Course; acquire 36 residential properties located on East 13th Avenue and to relocate the residents of those properties; and the demolition of various structures in the south airfield area.

The Federal Aviation Administration is the lead agency for the Federal government in the preparation of this statement. This document is used to provide the basis for findings for subsequent determinations on funding.

Federal Aviation Administration
U.S. Department of Transportation

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# GLOSSARY OF TERMS

Airport planning and the Environmental Impact Statement (EIS) process require the use of many technical terms. Some of the most important are defined in this section. Terms in ***bold italics*** are defined separately in this glossary.

**Air Carrier Aircraft** – Generally, U.S. registered large (12,500 pounds or more, by FAA definition) transport category civil aircraft (excluding single-engine) of designated class and type, that support scheduled passenger-carrying and cargo operations in air commerce, pursuant to a ***Federal Aviation Administration*** air carrier certificate issued under 14 CFR Parts 119 and 121 of the ***Federal Aviation Regulations***, (*see* 14 CFR § 119.3, for Domestic, Flag, and Supplemental definitions).

**Air Route Traffic Control Center (ARTCC or Center)** - A ***Federal Aviation Administration*** facility established to provide ***air traffic control*** service to aircraft operating on ***Instrument Flight Rules*** flight plans within ***controlled airspace***, principally during the en route phase of flight. When equipment capabilities and controller workload permit, certain advisory and assistance services may be provided to ***Visual Flight Rules*** aircraft.

**Air Taxi Aircraft** – A term no longer used by the ***Federal Aviation Administration***, though still used by the U.S. Department of Transportation (USDOT). The *Federal Aviation Administration* uses the term *"on demand*" to describe those operations formerly described as "air taxi."

**Air Traffic** - Aircraft operating in the air or on an airport surface, exclusive of loading ramps and parking areas.

**Air Traffic Control (ATC)** - An FAA service operated for the public, to ensure adequate separation of aircraft and to promote the safe, orderly, and expeditious flow of air traffic. The air traffic facility with jurisdiction over mapped and designated airspace may authorize aircraft to proceed under specified traffic conditions within ***controlled airspace***.

**Airport Traffic Control Tower (ATCT)** - An ***air traffic control*** facility established on an airport to provide for safe, orderly, and expeditious flow of air traffic arriving at and departing from an airport, including airport surface areas such as runways and taxiways.

**Air Traffic Service (ATS) Routes** - "ATS route," a generic term, includes "VOR Federal airways," "colored Federal airways," "alternate airways," "jet routes," "Military Training Routes," "named routes," and "RNAV routes." The term "ATS route" serves as an overall title for listing the types of routes that comprise the United States route structure.

**Aircraft Approach Category** - A grouping of aircraft based on a speed calculation that takes into account the stall speed in the landing configuration at maximum gross landing weight. An aircraft must fit only one category; its category determines speed minimums that must be observed for various maneuvers. For

example, an aircraft which falls in *Category A,* but is circling to land at a speed in excess of 91 knots, must use the approach *Category B* minimums when circling to land. The 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; *Category E*- Speed 166 knots or more. (*See* 14 CFR Part 97.)

**Aircraft Classes -** For the purposes of wake turbulence aircraft separation minimums, ATC classifies aircraft as (a) *Heavy* - Aircraft capable of takeoff weights of more than 255,000 pounds whether or not they are operating at this weight during a particular phase of flight, (b) *Large* - Aircraft of more than 41,000 pounds, maximum certificated takeoff weight, up to 255,000 pounds, or (c) *Small* - Aircraft of 41,000 pounds or less maximum certificated takeoff weight.

**Aircraft Rescue and Fire-Fighting (ARFF) -** The department at an airport dedicated to protecting life and property, controlling fire hazards, and performing general duties related to airport operations and aircraft safety.

**Airman's Information Manual (AIM)** - A publication containing basic flight information and ***air traffic control*** procedures, designed primarily as a pilot's information and instructional manual for use in the ***National Airspace System***.

**Airport Arrival Rate (AAR)** - A dynamic input parameter specifying the number of arriving aircraft which an airport or airspace can accept from the ***Air Route Traffic Control Center*** per hour. The AAR is used to calculate the desired interval between successive arrival aircraft.

**Airport Departure Rate** - A dynamic parameter specifying the number of aircraft per hour that can depart from an airport and be accepted into the airspace.

**Airport Elevation** - The highest point on an airport's usable runways, expressed in feet above ***mean sea level***.

**Airport Improvement Program (AIP)** - A Federal funding program for airport improvements. AIP is periodically reauthorized by Congress with funding appropriated from the Aviation Trust Fund. Proceeds to the Aviation Trust Fund are derived from excise taxes on airline tickets, aviation fuel, etc.

**Airport Layout Plan (ALP)** - A scaled drawing of existing and proposed land and facilities necessary for the operation and development of the airport. The ALP shows boundaries and proposed additions to all areas owned or controlled by the airport operator for airport purposes, the location and nature of existing and proposed action, and the location on the airport of existing and proposed non-aviation areas and improvements thereon.

**Airport Operations** – The total takeoffs (departures) and landings (arrivals) from an airport.

**Airport Reference Code (ARC)** - A coding system used to relate airport design criteria to the operational and physical characteristics of the ***design aircraft*** intended to operate at the airport (i.e. the most critical aircraft type currently

using, or projected to use, an airport, with a minimum of 500 operations per year). ARC can either be one aircraft or a group of aircraft. The first component of the ARC is a capital letter (A, B, C, D, or E with "A" being the lowest, and "E" being the highest), which refers to the aircraft approach speed in its landing configuration. The second component, which is depicted by a Roman numeral (I, II, III, IV, V, VI, with "I" being the lowest and "VI" being the highest), refers to aircraft wingspan. Together, the two components relate aircraft operational and physical characteristics to the required design criteria of various airport components, such as runway/taxiway widths, runway to taxiway separation standards, and obstacle clearance items. Under this methodology, safety margins are provided in the physical design of airport facilities.

**Airport Surveillance Radar (ASR)** - Approach control radar used by air traffic controllers to detect and display an aircraft's position in the airport terminal area. ASR provides range (distance) and ***azimuth*** (direction) information with regard to arriving or departing aircraft.

**Air Traffic Service (ATS) Routes** - "ATS route," a generic term, includes "VOR Federal airways," "colored Federal airways," "alternate airways," "jet routes," "Military Training Routes," "named routes," and "RNAV routes." The term "ATS route" serves as an overall title for listing the types of routes that comprise the United States route structure.

**Airway** - A corridor of ***controlled airspace*** whose centerline is established by radio ***navigational aids***. Low altitude airways (between 3,000 and 18,000 feet **Mean Sea Level**) are identified by number with the letter V as a prefix. High altitude airways (above 18,000 feet *Mean Sea Level*) are known as Jet airways and are identified by number with the letter J as a prefix.

**Ambient Noise** - The total sum of noise from all sources in a given place and time. This is also known as ***Existing Ambient Noise.*** *See* also ***Natural Ambient Noise***.

**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 Light Systems (ALS)** - One of various lighting aids that may be installed on an airport. The ALS is a series of lights that provide visual guidance to landing aircraft by radiating light beams in a directional pattern, to assist the pilot when aligning aircraft with the extended runway centerline on ***final approach***.

**Area Navigation (RNAV) -** A method of navigational procedures designed to transition aircraft between an airport environment and the ***en route system*** of airspace. RNAV procedures offer the advantages of routings that save time and fuel, reduce dependence on radar vectoring, altitude, and speed assignments, which allows for reduction in required radio transmissions with ***Air Traffic Control***, and more efficient use of airspace.

**Attenuation** - Acoustical phenomenon whereby ***sound*** energy is reduced between the noise source and the receiver. This energy loss can be attributed to atmospheric conditions, terrain, vegetation, other natural features, and man-made features (e.g., sound insulation).

**A-Weighted Sound (dBA)** - A system for measuring ***sound*** energy that is designed to represent the response of the human ear to sound. Energy at frequencies more readily detected by the human ear is more heavily weighted in the measurement, while frequencies less well detected are assigned lower weights. A-weighted *sound* measurements are commonly used in studies where the human response to *sound* is the object of the analysis.

**Azimuth** - An arc of the horizon measured between a fixed point (such as true north) and the vertical circle passing through the center of an object.

**Base Flight Segment** – A flight path at right angles to the landing runway off its approach end. The base segment normally extends from the downwind segment to the intersection of the extended runway centerline.

**Base Leg** - A flight path at right angles to the approach of a runway end. It usually extends from the downwind leg to the intersection of the extended runway centerline.

**Baseline Condition** - The existing condition or conditions prior to future development, which serve as a foundation for analysis.

**Building Restriction Line (BRL)** - A line drawn on an ***airport layout plan*** that distinguishes between areas that are suitable for buildings and areas that are unsuitable. Typically, a 35-foot building height is used to ensure that all the surfaces in 14 CFR Part 77 are clear.

**Commuter Aircraft** - Generally, aircraft of designated size or seating capacity (usually nine or fewer seats) that support scheduled air transportation services for compensation or hire in air commerce, with a frequency of at least five round trip operations per week on at least one route according to a published flight schedule. Commuter aircraft operate pursuant to a ***Federal Aviation Administration*** air carrier certificate issued under 14 CFR Parts 119 and 135 of the ***Federal Aviation Regulations***. (*See* 14 CFR § 119.3, *Definitions*.) ***Regional Jets*** (RJs) are not "commuters," because they are large transport category aircraft and fall within the *Federal Aviation Administration's* ***air carrier aircraf***t category.

**Contour** - *See* ***Noise Contour***.

**Controlled Airspace** - An airspace of defined dimensions within which ***air traffic control*** service is provided to flights operating under both ***Instrument Flight Rules*** and ***Visual Flight Rules*** in accordance with the airspace classification. Controlled airspace designated as Class *A*, Class *B,* Class *C*, Class *D*, and Class *E*, generally according to altitude above the surface, distance from a primary airport,

and volume of aircraft operations. Controlled airspace is also that airspace within which all aircraft operators are subject to certain pilot qualifications, operating rules, and equipment requirements (for specific operating requirements, *see* 14 CFR Part 91).

**Crosswind Leg** - A flight path at right angles to the approach runway end off of the upwind end.

**Day-Night Average Sound Level (DNL)** - A noise measure used to describe the average ***sound*** level over a 24-hour period, typically an average day over the course of a year. In computing DNL, an extra weight of ten ***decibels*** is assigned to noise occurring between the hours of 10:00 p.m. and 7:00 a.m. to account for increased annoyance when ambient noise levels are lower and people are trying to sleep. DNL may be determined for individual locations or expressed in noise contours.

**dBA -** ***See A-weighted Sound Level***

**Decibel (dB)** - ***Sound*** is energy and is measured by its pressure. Because of the enormous range of *sound* pressures to which the human ear is sensitive, the raw sound pressure measurement is converted to the ***decibel*** scale for purposes of description and analysis. The *decibel* scale is logarithmic. A ten-*decibel* increase in *sound* is perceived as a doubling of sound (or twice as loud) by the human ear.

**Declared Distances** – The distance the airport owner declares available for the airplane's takeoff run, takeoff distance, accelerate-stop distance, and landing distance requirements.

**Departure Fix** – A departure fix, or so-called departure gate, is a section of airspace used to separate departing from arriving aircraft. This fix determines the initial flight path and direction of the aircraft.

**Design Aircraft** - The most critical aircraft type currently using, or projected to use, an airport, with a minimum of 500 operations per year. It can either be one aircraft or a group of aircraft. *See* also ***Airport Reference Code***.

**Detailed Study Area -** One of the areas identified for detailed environmental investigation as part of this ***Environmental Impact Statement***. This *study area* is smaller in scale than the ***General Study Area*** to accommodate the more detailed analyses. (*See* ***General Study Area.*****)**

**Displaced Threshold** - A threshold that is located at a point on the runway other than the designated beginning of the runway. The portion of pavement behind a displaced threshold may be available for takeoffs in both directions and landings from the opposite direction.

**Distance Measuring Equipment (DME)** - A flight instrument that measures the line-of-sight distance of an aircraft from a navigational radio station in ***nautical miles.***

**Double-Clear Zone** - An area on the ground, up to 1,250 feet from each side of the runway centerline and extending 5,000 feet beyond each end of the primary runway surface. It is also known as the Approach Transitional Area for runways serving or anticipated to serve ***turbojet*** aircraft or having an existing or planned runway with an ***instrument approach***.

**Downwind Approach/Arrival** – A flight path parallel to the landing runway in the direction opposite to landing.

**Easement** - The legal right of one party to use part of the rights of a piece of real estate belonging to another party. This may include, but is not limited to, the right of passage over, on or below the property; certain air rights above the property, including view rights; and the rights to any specified form of development or activity.

**Engine Run-ups** – A routine procedure for testing aircraft systems by running one or more engines at a high power setting. Engine run-ups are normally conducted by airline maintenance personnel checking an engine or other on board systems following maintenance.

**Enplanements** - The number of revenue passengers boarding an aircraft at an airport.

**EnRoute Air Traffic Control System** - Unlike ***airport traffic control tower*** or terminal radar approach control service, *Air Route Traffic Control Centers* provide enroute service, generally for aircraft on ***Instrument Flight Rules*** flight plans, when these aircraft are operating between departure and destination airports at designated higher altitudes. When equipment, capabilities, and controller workload permit, certain advisory/assistance services may be provided to ***Visual Flight Rules*** aircraft. Enroute airspace is that airspace not delegated to approach control.

**Environmental Impact Statement (EIS)** - As stated in CEQ regulation 40 CFR § 1508.11, a detailed written statement that complies with NEPA section 102 (42 USC § 4332) by including in every report on proposals for major Federal actions significantly affecting the quality of the human environment, a detailed statement on (i) environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, (iii) alternatives to the proposal, (iv) relationship between local short-term uses of the environment and maintenance and enhancement of long-term productivity, and (v) any irreversible and irretrievable commitment of resources involved in the proposed action, should it be implemented.

**Equivalent Sound Level (Leq)** - The ***A-weighted*** energy average ***sound*** level experienced over a given period of time. The metric is expressed as ten times the log of the total noise energy divided by the number of seconds during the period under consideration.

**Federal Aviation Administration (FAA)** - The FAA is the Federal agency responsible for insuring the safe and efficient use of the nation's airspace, for fostering civil aeronautics and air commerce, and for supporting the requirements

of national defense. The activities required to carry out these responsibilities include: safety regulations, airspace management and the establishment, operation and maintenance of a system of ***air traffic control*** and navigation facilities; research and development in support of the fostering of a national system of airports, promulgation of standards and specifications for civil airports, and administration of Federal grants-in-aid for developing public airports; various joint and cooperative activities with the Department of Defense, and technical assistance (under State Department auspices) to other countries.

**Federal Aviation Regulations (FAR)** - The body of Federal regulations enacted by the U.S. Secretary of Transportation, under the statutory authority of the Federal Aviation Act and published in Title 14 of the Code of Federal Regulations (CFR).

**Final Approach** - A flight path in the direction of landing that follows the extended runway centerline. It usually extends from the ***base leg*** to the runway.

**Finding of No Significant Impact (FONSI)** - As stated in CEQ regulation 40 CFR § 1508.13, a statement by a Federal agency briefly describing why an action will not have a significant effect on the human environment, supported by an environmental assessment or other appropriate document.

**Fix** – An imaginary point in the airspace, which describes a geographical position determined through (i) visual reference to the surface, (ii) reference to one or more radio ***navigational aids***, (iii) celestial plotting, or (iv) another navigational device.

**Fixed-Base Operator (FBO)** - A business located on the airport that provides services such as hangar space, fuel, flight training, repair, and maintenance to airport users.

**Fleet Mix** - The mix or differing types of aircraft operating in a particular airport environment.

**Flight Track Utilization** - The use of established routes for arrival and departure by aircraft to and from the runways at the airport.

**FMS/GPS** - Flight Management System/***Global Positioning System*** equipment onboard an aircraft takes advantage of various radio navigation and/or *Global Positioning System* routes to guide the aircraft.

**General Aviation Aircraft** – Generally, those U.S. registered civil aircraft which operate for private and noncommercial purposes and whose operations are not governed by 14 CFR Parts 119, 121, 125, or 135 of the ***Federal Aviation Regulations***. General aviation aircraft range from small single-engine propeller aircraft to large ***turbojet*** private aircraft.

**Glide Slope (GS)** - Provides vertical guidance for aircraft during approach and landing. The glide slope consists of the following:

Electronic components emitting signals which provide vertical guidance by reference to airborne instruments during instrument approaches such as ***Instrument Landing System***, or visual ground aids, such as ***Visual Approach Slope Indicator***, which provide vertical guidance for ***visual flight rules*** approach or for the visual portion of an ***instrument approach*** and landing.

**Geographic Information Systems (GIS)** - An information system that is designed for storing, integrating, manipulating, analyzing, and displaying data referenced by spatial or geographic coordinates.

**General Study Area -** One of the areas identified for environmental investigation as part of this ***EIS***. This study area is larger in scale than the ***Detailed Study Area.*** (*See* ***Detailed Study Area.***)

**Global Positioning System (GPS)** - A system of 24 satellites used as reference points to enable navigators equipped with GPS receivers to determine their latitude, longitude, and altitude.

**Grid Analysis** - A type of aircraft noise analysis that evaluates the noise levels at individual points rather than through generation of ***noise contours***.

**Ground Effect** - Noise ***attenuation*** attributed to absorption or reflection of noise by man-made or natural features on the ground surface.

**Hub** - An airport that services airlines that have ***hubbing*** operations.

**Hubbing** - A method of airline scheduling that times the arrival and departure of several aircraft in a close period of time in order to allow the transfer of passengers between different flights of the same airline in order to reach their ultimate destination. Several airlines may conduct hubbing operations at an airport.

**Infill -** Urban development occurring on vacant lots in substantially developed areas; may also include the redevelopment of areas to a greater density.

**Instrument Approach** - A series of predetermined maneuvers for the orderly transfer of an aircraft under ***instrument flight rules*** from the beginning of the initial approach to a landing, or to a point from which a landing may be made visually.

**Instrument Flight Rules (IFR)** - That portion of the ***Federal Aviation Regulations*** (14 CFR Part 91) specifying the procedures to be used by aircraft during flight in ***Instrument Meteorological Conditions.*** These procedures may also be used under visual conditions and provide for ***positive control*** by ***Air Traffic Control***. (*See* also ***Visual Flight Rules)***.

**Instrument Landing System (ILS)** - An electronic system installed at some airports which helps to guide pilots to runways for landing during periods of limited visibility or adverse weather.

**Instrument Meteorological Conditions (IMC)** - Weather conditions expressed in terms of visibility, distance from clouds, and cloud ceilings during which all aircraft are required to operate using ***Instrument Flight Rules (IFR)***.

**Integrated Noise Model (INM)** - A computer model developed, updated and maintained by the ***Federal Aviation Administration*** to predict the noise exposure generated by aircraft ***operations***.

**Itinerant Operation -** An aircraft flight that ends at an airport different from where the flight began.

**Knots** - Airspeed measured as the distance in ***nautical miles*** (6,076.1 feet) covered in one hour. (Approximately equal to 1.15 miles per hour.)

**Land Use Compatibility** - The ability of land uses surrounding the airport to coexist with airport-related activities with minimum conflict.

**Landing and Takeoff (LTO) Cycle** - The time that an aircraft is in operation at or near an airport. An LTO cycle begins when an aircraft starts its ***final approach*** (arrival) and ends after the aircraft has made its climb-out (departure).

**Ldn** - *See* ***DNL***. Ldn is used in place of *DNL* in mathematical equations only.

**Leq** - *See* ***Equivalent Sound Level***.

**Local Operation -** An aircraft flight that begins and ends at the same airport.

**Localizer** - The component of an ***Instrument Landing System*** that provides lateral course guidance to the runway.

**Loudness** - The subjective assessment of the intensity of ***sound***.

**Maximum Noise Level (Lmax) -** The maximum ***sound*** pressure for a given event adjusted toward the frequency range of human hearing.

**Mean Sea Level (MSL)** - The average height of the surface of the sea for all stages of the tide; used as a reference for elevations; also called sea level datum.

**Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR) -** A lighting system installed at some airports that pilots use during ***instrument approaches*** to align the aircraft with the centerline of the runway. Steady-burning white lights are used to create a reference plane and white strobe lights create a sequential flash pattern that rolls toward the ***runway threshold,*** which is marked by steady-burning green lights. Varying intensity settings allow the approach to be used under changing weather conditions.

**Military Operations Area** - Airspace established to separate or segregate certain non-hazardous military activities from ***Instrument Flight Rules*** traffic and to identify for ***Visual Flight Rules*** traffic where these activities are conducted.

**Missed Approach** - A maneuver conducted by a pilot when an ***instrument approach*** cannot be completed for landing at an airport. *Instrument approach* procedure charts show the route of flight and altitude that the pilot must follow in this circumstance.

**National Airspace System (NAS)** - The common network of U.S. airspace, air navigation facilities, equipment, services, airports, or landing areas; aeronautical charts, information, and services; rules, regulations, and procedures; technical information, manpower, and materials, all of which are used in aerial navigation to provide a safe and efficient flying environment.

**National Environmental Policy Act of 1969 (NEPA)** - The original legislation establishing the environmental review process for proposed Federal actions.

**Nautical Mile** - A measure of distance equal to one minute of arc on the earth's surface (6,076.1 feet or 1,852 meters).

**Natural Ambient Noise - *Existing Ambient Noise***, minus manmade sounds. *See* ***Ambient Noise*** and ***Existing Ambient Noise***.

**NAVAIDs (Navigational Aids)** - Any facility used by an aircraft for navigation.

**Navigational Fix** - A geographical position determined by reference to one or more radio navigational aids.

**Noise Abatement** - A measure or action that minimizes the amount of impact of noise on the environs of an airport. Noise abatement measures include aircraft operating procedures and use or disuse of certain runways or ***flight tracks***.

**Noise Contour** - A map representing average annual noise levels summarized by lines connecting points of equal noise exposure.

**Nondirectional Beacon (NDB)** - A beacon transmitting non-directional signals whereby the pilot of an aircraft equipped with direction finding equipment can determine the bearing to and from the station. When the radio beacon is installed in conjunction with the ***Instrument Landing System*** marker, it is normally called a compass locator.

**Nonprecision Approach** - A standard ***instrument approach*** procedure providing runway alignment but no ***glide slope*** or descent information.

**On-Demand -** Generally, U.S. registered civil aircraft of designated size (usually 30 or fewer passenger seats with payload capacity of 7,500 pounds or less) that support on-demand, unscheduled, or infrequently scheduled passenger-carrying or cargo service (including public charters) for compensation or hire, pursuant to a air carrier certificate issued under 14 CFR Parts 119 and 135 of the Federal Aviation Regulations. (*See* 14 CFR § 119.3, Definitions.) This term includes operations formerly classified as air taxi, a term no longer used by the ***Federal Aviation Administration*** but still used by the U.S. Department of Transportation (USDOT).

**Outer Fix** - An ***air traffic control*** term for a point in the airspace from which aircraft are normally cleared to the approach fix or ***final approach*** course.

**Outer Marker (OM)** - An ***Instrument Landing System*** navigation facility in the terminal area navigation system located four to seven miles from the runway edge on the extended centerline indicating to the pilot that he/she is passing over the facility and can begin final approach.

**Positive Control** - The separation of all air traffic within designated airspace as directed by ***air traffic controllers***.

**Precision Approach Path Indicator (PAPI)** - Provides visual approach slope guidance to aircraft during an approach. It is similar to a ***Visual Approach Slope Indicator*** but provides a sharper transition between the colored indicator lights.

**Precision Approach Procedure** - A standard ***instrument approach*** procedure in which an electronic ***glide slope***/glide path is provided (e.g., ***Instrument Landing System*** and ***Precision Approach Radar***).

**Precision Approach Radar (PAR)** - Navigational equipment located on the ground adjacent to the runway, consisting of one antenna, which scans the vertical plane, and a second antenna, which scans the horizontal plane. The PAR provides the controller with a picture of the descending aircraft in ***azimuth***, distance, and elevation, permitting an accurate determination of the aircraft's alignment relative to the runway centerline and the ***glide slope***.

**Profile** - The position of the aircraft during an approach or departure in terms of altitude above the runway and distance from the runway end.

**Propagation** - ***Sound*** propagation is the spreading or radiating of sound energy from the noise source. It usually involves a reduction in sound energy with increased distance from the source. Atmospheric conditions, terrain, natural objects, and manmade objects affect sound propagation.

**Public Use Airport** - An airport open to public use without prior permission, and without restrictions within the physical capabilities of the facility. It may or may not be publicly-owned.

**Record of Decision (ROD)** - As stated in CEQ regulation 40 CFR § 1505.2, the ***Federal Aviation Administration's*** findings, explanations, and related justifications after review of a Draft Environmental Assessment or ***Environmental Impact Statement***. The ROD specifies the environmentally preferred alternative.

**Regional Jet** - A jet aircraft that falls within the air carrier aircraft category because of size and payload. For use in air commerce, the ***regional jet*** must be operated pursuant to an air carrier certificate pursuant to an air carrier certificate issued under 14 CFR Parts 119 and 121 of the ***Federal Aviation Regulations***. (*See* 14 CFR § 119.3, for Domestic, Flag, and Supplemental operations). *Regional jets* are not operated as commuter aircraft pursuant to 14 CFR Part 135. *Regional jets* are typically jet aircraft, with approximately 35 to 90 seats. The next-generation *regional jets* are expected to seat 100 passengers.

**Reliever Airport** - An airport which, when certain criteria are met, relieves the aeronautical demand on a busier air carrier airport.

**Retrofitted Aircraft** - An aircraft originally certified as ***Stage 2*** that has been modified to meet ***Stage 3*** requirements. This includes both modification of engines or the replacement of engines to meet the ***Stage 3*** standard.

**RNAV -** *See* ***Area Navigation.***

**Run-up** - A routine procedure for testing aircraft systems by running one or more engines at a high power setting. ***Engine run-ups*** are normally conducted by airline maintenance personnel checking an engine or other on board systems following maintenance.

**Runway End Identifier Lights (REIL)** - Two synchronized flashing lights, one on each side of the ***runway threshold***, which identify the approach end of the runway.

**Runway Protection Zone (RPZ)** - An area, trapezoidal in shape and centered about the extended runway centerline, designated to enhance the protection of people and property on the ground. It begins 200 feet (60 M) beyond the end of the area usable for takeoff or landing. The RPZ dimensions are functions of the aircraft, type of operation, and visibility minimums. (Formerly known as the clear zone.)

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

**Runway Threshold** - The beginning of that portion of the runway usable for landing.

**Scoping -** Scoping is an early and open process for determining the scope or range of issues to be addressed in the ***Environmental Impact Statement*** and identifying the significant issues related to a proposed action. Issues important to the public and local, state, and Federal agencies are solicited through direct mailing, public notices, or meetings. Scoping is generally conducted before development of the ***Environmental Impact Statement*** scope of work.

**Single event** - One noise event. For many kinds of analysis, the ***sound*** from single events is expressed using the ***Sound Exposure Level*** metric.

**Slant-range distance** - The distance along a straight line between an aircraft and a point on the ground.

**Sound** - Sound is the result of vibration in the air. The vibration produces alternating bands of relatively dense and sparse particles of air, spreading outward from the source in the same way as ripples do on water after a stone is thrown into it. The result of the movement is fluctuation in the normal atmospheric pressure or sound waves.

**Sound Exposure Level (SEL)** - A standardized measure of a ***single (sound) event***, expressed in ***A-weighted decibels***, that takes into account all sound above a specified threshold set at least ten ***decibels*** below the maximum level. All sound energy in the event is integrated over one second.

**Special Use Airspace** - Airspace of defined dimensions identified by an area on the earth's surface wherein activities must be confined because of their nature and/or wherein limitations may be imposed upon aircraft ***operations***, which are not part of those activities.

**Stage 2 Aircraft** - Aircraft that meet the noise levels prescribed by ***Federal Aviation Regulations*** 14 CFR Part 36, which are less stringent than those established for the quieter ***Stage 3*** designation. The Airport Noise and Capacity Act required the phase-out of all Stage 2 aircraft over 75,000 pounds by December 31, 1999, with the potential for case-by-case exceptions through the year 2003.

**Stage 3 Aircraft** - Aircraft that meet the most stringent noise levels set in ***Federal Aviation Regulations*** 14 CFR Part 36.

**Standard Instrument Departure Procedure (SID)** - A planned ***Instrument Flight Rules air traffic control*** departure procedure published for pilot use in graphic and textual form. SIDs provide transition from the terminal to the en route ***air traffic control*** structure.

**Standard Terminal Arrival Route (STAR)** - A planned ***Instrument Flight Rules air traffic control*** arrival procedure published for pilot use in graphic and textual form. STARs provide transition from the en route ***air traffic control*** structure to an ***outer fix*** or an ***instrument approach*** fix in the terminal area.

**Statute Mile** - A measure of distance equal to 5,280 feet.

**TACAN** - Tactical Air Navigation. A navigational system used by the military. TACAN provides both ***azimuth*** and distance information to a receiver on board an aircraft.

**Terminal Radar Approach Control (TRACON)** - A ***Federal Aviation Administration Air Traffic Control*** Facility which uses radar and two-way communication to provide separation of air traffic within a specified geographic area in the vicinity of one or more airports.

**Terminal Radar Service Area (TRSA)** - Airspace surrounding certain airports where ***Air Traffic Control*** provides radar ***vectoring,*** sequencing, and separation on a full-time basis for all ***Instrument Flight Rules*** and participating ***Visual Flight Rules*** aircraft.

**Time Above (TA)** - The amount of time that ***sound*** exceeds a given ***decibel*** level during a 24-hour period (e.g., time in minutes that the sound level is above 75 **decibels**).

**Thrust Settings** – Settings on an aircraft that control the power applied to the engines.

**Traffic Pattern** – The traffic flow prescribed for aircraft landing at, taxiing on, or taking off from an airport. The components of a typical traffic pattern are ***upwind leg***, ***crosswind leg***, ***downwind leg***, ***base leg***, and ***final approach***.

**Turbojet** - An aircraft powered by a jet turbine engine. The term is customarily used in ***air traffic control*** for all aircraft, without propellers, that are powered by variants of jet engines, including turbofans.

**Turboprop** - Aircraft of this type are typically used by airlines on short routes between two relatively close locations.

**UNICOM** - A nongovernment communication facility that may provide information to pilots on UNICOM frequencies at certain towers, generally, those without operating ***airport traffic control tower***s, or those closed at certain periods of day or night. Aeronautical charts and publications show UNICOM frequencies and locations.

**Upwind Leg** - A flight path parallel to the approach runway in the direction of approach.

**Vector** - Compass heading instructions issued by ***Air Traffic Control*** in providing navigational guidance by radar.

**Very High Frequency Omnidirectional Range (VOR) Station** - A ground-based radio navigation aid transmitting signals in all directions. A VOR provides ***azimuth*** guidance to pilots by reception of electronic signals.

**Very High Frequency Omnidirectional Range Station with Tactical Air Navigation (VORTAC)** - A navigational aid providing ***VOR azimuth*** and ***Tactical Air Navigation distance measuring equipment*** at one site.

**Visual Approach** - An approach conducted on an ***Instrument Flight Rules*** flight plan, which authorizes the pilot to proceed visually and clear of clouds to the airport.

**Visual Approach Slope Indicator (VASI)** - A visual aid for final approach to the ***runway threshold***, consisting of two wing bars of lights on either side of the runway. Each bar produces a split beam of light - the upper segment is white, the lower is red.

**Visual Flight Rules (VFR)** - Rules and procedures specified in ***Federal Aviation Regulations*** 14 CFR Part 91 for aircraft operations under visual conditions. Aircraft operations under VFR are not generally under ***positive control*** by ***Air Traffic Control***. The term VFR is also used in the U.S. to indicate weather conditions that are equal to or greater than minimum VFR requirements. In addition, it is used by pilots and controllers to indicate a type of flight plan.

**Visual Meteorological Conditions (VMC)** - Weather conditions expressed in terms of visibility, distance from cloud, and cloud ceiling equal to or greater than those specified in ***Federal Aviation Regulations*** 14 CFR Part 91.155 for aircraft operations under ***Visual Flight Rules***.

**Yearly Day-Night Average Sound Level** - *see* ***DNL***.

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# ACRONYMS

| | |
|---|---|
| AAF | Aircraft Anti-Icing Fluid |
| AC | Advisory Circular |
| ACHP | Advisory Council on Historic Preservation |
| ACM | Asbestos Containing Materials |
| ADF | Aircraft De-Icing Fluid |
| AEO | Airport Environs Overlay |
| AEP Ohio | American Electric Power Ohio |
| AGL | Above Ground Level |
| AIP | Airport Improvement Program |
| ALP | Airport Layout Plan |
| ALS | Approach Lighting System |
| ALUMD | Airport Land Use Management District |
| ANCA | Airport Noise and Capacity Act of 1990 |
| ANOMS | Aircraft Noise and Operations Monitoring System |
| AOA | Airport Operations Area |
| APE | Area of Potential Effect |
| APM | Automated People Mover |
| APU | Auxiliary Power Unit |
| AQCR | Air Quality Control Region |
| ARFF | Aircraft Rescue and Fire Fighting |
| ASA | Airport Service Area |
| ASNA | Aviation Safety and Noise Abatement Act |
| AST | Aboveground Storage Tank |
| ASV | Annual Service Volume |
| ATC | Air Traffic Control |

# ACRONYMS, *Continued*

| | |
|---|---|
| ATCT | Air Traffic Control Tower (or Airport Traffic Control Tower) |
| AvGas | Low-lead aviation gasoline |
| BMPs | Best Management Practices |
| BOD | Biochemical Oxygen Demand |
| BOD5 | 5-Day Biochemical Oxygen Demand |
| BTEX | Benzene, Tolunene, Ethylbenzene, and Xylene |
| BTU | British Thermal Units |
| BUSTR | The Bureau of Underground Storage Tanks Regulations |
| CAA | Clean Air Act |
| CAK | Akron-Canton Airport |
| CBOD5 | Five-Day Carbonaceous Biochemical Oxygen Demand |
| CDA | Continuous Descent Approach |
| CDM | Camp Dresser & McKee |
| CDRPGD | City of Columbus Recreation and Parks Department Golf Division |
| CEQ | Council on Environmental Quality |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CERFA | Community Environmental Response Facilitation Act |
| CFR | Code of Federal Regulations |
| CFS | Cubic Feet per Second |
| CIAC | Columbus International Aircenter |
| CLE | Cleveland Hopkins International Airport |
| CMH | Port Columbus International Airport |
| CO | Carbon Monoxide |
| CRAA | Columbus Regional Airport Authority |
| CSP | Columbus Southern Power |

# ACRONYMS, *Continued*

| | |
|---|---|
| CVG | Cincinnati/Northern Kentucky International Airport |
| CWA | Clean Water Act (Federal Water Pollution Control Act, as amended) |
| CZMA | Coastal Zone Management Act |
| CY | Calendar Year |
| CY | Cubic Yards |
| DAPC | Division of Air Pollution Control |
| DAY | Dayton International Airport |
| Day | 7:00 a.m. to 9:59 p.m. |
| Db | Decibel |
| dBA | A-weighted decibel |
| DCA | Dichloroethane |
| DME | Distance Measuring Equipment |
| DNL | Day-Night Average Sound Level |
| DOSD | Division of Sewage and Drainage |
| DOT | Department of Transportation |
| DPSHOP | Detail Print Shop |
| DRO | Diesel Range Organics |
| DSA | Detailed Study Area |
| EA | Environmental Assessment |
| EDDA | Environmental Due Diligence Audits |
| EDMS | Emission & Dispersion Modeling System |
| EDR | Environmental Data Resources |
| EIS | Environmental Impact Statement |
| EMT | Emergency Medical Technicians |
| EPA | Environmental Protection Agency |

# ACRONYMS, *Continued*

| | |
|---|---|
| EO | Executive Order |
| ESA | Endangered Species Act |
| FAA | Federal Aviation Administration |
| FAR | Federal Aviation Regulations |
| FBO | Fixed-Base Operator |
| FEMA | Federal Emergency Management Agency |
| FICON | Federal Interagency Committee on Noise |
| FICUN | Federal Interagency Committee on Urban Noise |
| FIRM | Flood Insurance Rate Maps |
| FIS | Federal Inspection Services |
| FPPA | Farmland Protection Policy Act |
| FY | Fiscal Year |
| GA | General Aviation |
| GB | Gigabyte |
| GIS | Geographic Information System |
| GMP | Gross Metropolitan Product |
| GPS | Global Positioning System |
| GSA | General Study Area |
| GSE | Ground Support Equipment |
| HIRL | High Intensity Runway Lights |
| HSWA | Hazardous and Solid Waste Amendments of 1984 |
| HUD | U.S. Department of Housing and Urban Development |
| HVAC | Heating, Ventilating, and Air Conditioning |
| IFR | Instrument Flight Rules |
| ILS | Instrument Landing System |

# ACRONYMS, *Continued*

| | |
|---|---|
| INM | Integrated Noise Model |
| ISR | Indirect Source Review |
| Jet A | Jet fuel |
| LCK | Rickenbacker International Airport |
| Leq | Equivalent Sound Level |
| Lmax | Maximum Noise Level |
| LOC | Localizer |
| LOS | Level of Service |
| LTO | Landing and Takeoff Cycle |
| LWCA | Land and Water Conservation Act |
| MAEP | Million Annual Enplaned Passengers |
| MALSR | Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights |
| MBTU | Million British thermal units |
| MGD | Million Gallons per Day |
| mg/L | Milligrams per liter |
| MOA | Memorandum of Agreement |
| MORPC | Mid-Ohio Regional Planning Commission |
| MSA | Metropolitan Statistical Area |
| MSL | Mean Sea Level |
| MW | Megawatts |
| NAAQS | National Ambient Air Quality Standards |
| NAS-A | Noise Abatement Procedure Scenario |
| NAVAIDs | Navigational Aids |
| NCDC | National Climatic Data Center |
| NCP | Noise Compatibility Program |

# ACRONYMS, *Continued*

| | |
|---|---|
| NEM | Noise Exposure Map |
| NEPA | National Environmental Policy Act of 1969 |
| NFA | No Further Action |
| NHPA | National Historic Preservation Act |
| Night | 10:00 p.m. to 6:59 a.m. |
| NLR | Noise Level Reduction |
| NMFS | National Marine Fisheries Service |
| NOAA | National Oceanic and Atmospheric Administration |
| NOI | Notice of Intent |
| $NO_2$ | Nitrogen Dioxide |
| $NO_x$ | Nitrogen Oxides |
| NOP | No Precipitation |
| NPDES | National Pollution Discharge Elimination System |
| NPIAS | National Plan of Integrated Airport Systems |
| NRC | National Response Center |
| NRCS | Natural Resources Conservation Service |
| NRHP | National Registry of Historic Places |
| NRI | Nationwide Rivers Inventory |
| NWSFO | National Weather Service Forecast Office |
| $O_3$ | Ozone |
| O&D | Origin & Destination (passengers) |
| OAC | Ohio Administrative Code |
| OAG | Official Airline Guide |
| ODNR | Ohio Department of Natural Resources |
| OEPA | Ohio Environmental Protection Agency |

# ACRONYMS, *Continued*

| | |
|---|---|
| OHPO | Ohio Historic Preservation Office |
| ORDC | Ohio Rail Development Commission |
| OSU | Ohio State University Airport |
| OTR | Ozone Transport Region |
| OVAP | Ohio Voluntary Action Program |
| PAH | Polycyclic Aromatic Hyrdrocarbons |
| PAPI | Precision Approach Path Indicator |
| Pb | Lead |
| PCB | Polychlorinated Biphenyls |
| PFC | Passenger Facility Charges |
| PM | Particulate Matter ($PM_{10}$ & $PM_{2.5}$) |
| PMADP | Program Management Airport Development Plan |
| PPA | Pollution Prevention Act |
| PRM | Precision Runway Monitor |
| PUBGx | Palustrine, Excavated, Unconsolidated Bottom Systems with an Intermittently Exposed Hydrologic Regime |
| RAC | Rental Car Facility |
| RAM | Random Access Memory |
| RCRA | Resource Conservation and Recovery Act |
| RNAV | Area Navigational System |
| RNP | Required Navigation Performance |
| ROA | Record of Approval (issued by FAA on a Part 150 Noise Compatibility Program) |
| ROD | Record of Decision (issued by FAA on an EIS) |
| ROFA | Runway Object Free Areas |
| RON | Remain Overnight |
| RPZ | Runway Protection Zone |

# ACRONYMS, *Continued*

| | |
|---|---|
| RQ | Reportable Quantity |
| RSA | Runway Safety Areas |
| RVR | Runway Visual Range |
| SARA | Superfund Amendments and Reauthorization Act |
| SEL | Sound Exposure Level |
| SHPO | State Historic Preservation Office |
| SIP | State Implementation Plan |
| $SO_2$ | Sulfur Dioxide |
| $SO_x$ | Sulfur Oxide |
| SPCC | Oil Spill Prevention Control and Countermeasure Program |
| STAR | Standard Terminal Arrival Route |
| SWMAC | Solid Waste Management Advisory Council |
| SWACO | Solid Waste Authority of Central Ohio |
| SWMM | Stormwater Management Model |
| SWMMD | Solid Waste Management Districts |
| SWMMP | Stormwater Management Master Plan |
| SWPPP | Stormwater Management Prevention Plan |
| SWWTP | Southerly Wastewater Treatment Plan |
| SVOC | Semi-Volatile Organic Compounds |
| TA | Time Above |
| TA-65 | Time Above 65 dB |
| TAF | Terminal Area Forecast (prepared by the FAA) |
| TBD | To Be Determined |
| TCE | Trichloroethylene |
| THPO | Tribal Historic Preservation Office |

# ACRONYMS, *Continued*

| | |
|---|---|
| TIP | Transportation Improvement Program |
| TKN | Total Kjeldahl Nitrogen |
| TOFA | Taxiway Object Free Areas |
| TPH | Total Petroleum Hydrocarbon |
| TOL | Toledo Express Airport |
| TSCA | Toxic Substances Control Act of 1976 |
| TSS | Total Suspended Solids |
| TZR | Bolton Field Airport |
| USACOE | U.S. Army Corps of Engineers |
| USC | U.S. Code |
| USCG | U.S. Coast Guard |
| USEPA | U.S. Environmental Protection Agency |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Service |
| UST | Underground Storage Tank |
| VA | Department of Veterans Affairs |
| VFR | Visual Flight Rules |
| VOC | Volatile Organic Compounds |
| WCA | Water Conservation Areas |
| WSO | Weather Service Office |
| WWTP | Wastewater Treatment Plan |
| YNG | Youngstown-Warren Regional Airport |

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