



## Aviation Related Glossary of Terms:

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**Above Ground Level (AGL)** - The height of an aircraft above the surface of the earth.

**Advanced Flight Track Procedures (AFTPro)** - AFTPro will utilize existing Area Navigation (RNAV) technology enabling aircraft to adhere to a track over the ground with greater precision. The procedures developed follow the preferential nighttime flight tracks that were designed to navigate aircraft towards areas of more compatible land use, such as forest preserves, highway corridors and industrial areas. The use of this technology will automatically compensate for wind drift and air speed while ensuring airspace safety, efficiency and, when possible, minimizing the noise impacts to surrounding residences.

**Aircraft Type** - Aircraft designator code describing the type of aircraft; i.e. B737 is for Boeing 737.

**Aircraft Tail Number** - Unique identification number given to an aircraft.

**Air Route Traffic Control Center (ARTCC)** - An FAA facility established to provide air traffic control service to aircraft operating on a Instrument Flight Rules (IFR) flight plan within controlled airspace during the enroute portion of a flight.

**Air Traffic Control (ATC)** - A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

**Air Traffic Control Tower (ATCT)** - The air traffic control facility located on an airport and responsible for traffic separation within the immediate vicinity of an airport as well as on the surface of the airport.

**Airport Improvement Plan (AIP)** - A Federal funding program for airport improvements. Funds are derived from sources such as airline tickets, aviation fuel, etc.

**Airport Noise Monitoring System (ANMS)** - The Chicago Airport System's Airport Noise Monitoring System is a comprehensive system to provide actual measurement of the aircraft noise levels in Chicago neighborhoods and suburban communities around O'Hare and Midway. This integrated system includes many components, including a network of permanent noise monitors that measure the noise environment and a system directly connected to the FAA's air traffic control radar that collects aircraft flight tracks.

**Ambient Noise** - The totality of noise in a given place and time; usually a composite of sounds from varying sources at varying distances.

**A-Weighted Sound (dBA)** – A-weighted decibels adjust sound pressure towards the frequency range of human hearing.

**Caller** - An individual who registers a complaint about aircraft noise levels. The Airport Noise Monitoring System (ANMS) stores information relating to the caller, such as address and previous complaints.

**Complaints** - Registered concerns, usually by telephone, from members of the surrounding community who have been disturbed by aircraft noise levels. Complaints are stored in the ANMS database.

**Day-Night Average Sound Level (DNL)** - A noise measure used to describe average aircraft noise levels over a 24-hour period, typically an average day over the course of a year. DNL penalizes aircraft operations that occur between the hours of 10 p.m. and 7 a.m. by 10 decibels 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. DNL is currently the accepted measure for aircraft noise analysis.

**Decibel (dB)** - A unit of relative loudness. The smallest amount of change that can be detected by the human ear is one decibel. Sound is measured by its pressure or energy in terms of decibels. The decibel scale is logarithmic; when the scale goes up by ten, the perceived sound is two times as loud.

**Delay** - The difference, in minutes, between the scheduled time and actual time of an aircraft arrival or departure. For airport planning purposes, it is often expressed as an annual average delay per aircraft operation (in minutes).

**Federal Aviation Administration (FAA)** - 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 navigational 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 relating to aviation. Published as Title 14 of the Code of Federal Regulations.

**Federal Aviation Regulation (FAR) Part 150** - Established by Congress under the Aviation Safety and Noise Abatement Act of 1979 for the purpose of developing a balanced and cost effective program to reduce the effects of aircraft noise on local communities.

**Flight Operation** - Arrival, departure or other activity of an aircraft.

**Flight Track** - Radar track data that includes the transponder number of the aircraft and the spatial 3-D (x, y, z) points that define the aircraft's flight path.

**Fixed Threshold** - Static baseline noise level above which microphones measure a noise event.

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

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

**Floating Threshold** – Baseline noise level determined by current ambient noise level, above which microphones measure a noise event.

**Fly Quiet Program** – The use of designated noise abatement flight procedures to further reduce the impact of aircraft noise. The Fly Quiet Program provides comprehensive guidance for pilots to use designated quiet flight and operating procedures developed by the Department of Aviation in cooperation with the O'Hare and Midway Noise Compatibility Commissions, the airlines, and Air Traffic Controllers. The Chicago Department of Aviation distributes Fly Quiet Aviator's Manuals to airline pilots and air traffic controllers that contain information on preferred runways and flight tracks which route aircraft over the least populated areas -- such as forest preserves, highways, as well as commercial and industrial areas.

**Foreign Object Debris (FOD)** – FOD is any object that does not belong in or near airplanes and as a result, can injure airport or airline personnel and damage airplanes. Airports, airlines and airport tenants can reduce this cost by taking steps to prevent airport FOD. FOD includes a wide range of material, including loose hardware, pavement fragments, catering supplies, building materials, rocks, sand pieces of luggage, and even wildlife.

**Ground Run-up Enclosure (GRE)** - The GRE at O'Hare uses acoustical dampening principles to reduce the noise impacts of aircraft engine ground run-ups. Aircraft ground run-ups are routine aircraft engine maintenance tests that require the operation of an engine at high power for extended periods of time generating continuous elevated noise levels. The GRE at O'Hare is located adjacent to the airline maintenance area, and is oriented to direct aircraft noise toward the center of the Airport and terminal core.



**Ground Track** - The seeming path an aircraft would follow on the ground if its airborne flight path were plotted on the terrain.

**Instrument Approach** - A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions 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 Air Regulations (14 CFR 91) specifying the procedures to be used by aircraft during flight in Instrument Meteorological Conditions.

**Instrument Landing System (ILS)** - An electronic system installed at some airports that 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 FAA to predict the noise impacts generated by aircraft operations.

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

**Leq** - Equivalent Continuous A-weighted Sound Pressure Level, average sound energy in a one-second period, in decibels.

**Ldn** – (See DNL). Ldn is used in place for DNL in mathematical equations only.

**Linked Event** - Noise events, complaints, operations and flight tracks that have been matched together by time proximity. Complaints can only be linked to noise events that have been already linked to an operation.

**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.

**NAVID** - Any facility used for guiding or controlling flight in the air or during the landing and takeoff of aircraft.

**Noise** - Unwanted sound.

**Noise Abatement** - A measure or action that minimizes the amount or 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 Map** - A map representing average annual noise levels summarized by lines connecting points of equal noise exposure.

**Noise Event** - When noise at a microphone exceeds a threshold for a specific length of time.

**NOTAM** – Notice to Airmen. A notice containing information concerning the establishment, condition, or change in any component (facility, service, or procedure of, or hazard in the National Airspace System) and the timely knowledge of which is essential to personnel concerned with flight operations.

**Operation** - A take-off or a landing. Every flight requires two operations, a take-off and a landing.

**Outer Marker (OM)** - An ILS 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.

**Passenger Facility Charge (PFC)** – A charge covered by Federal Aviation Regulation Part 158, which is imposed by a public agency on passengers enplaned at a commercial service airport it controls.

**Remote Monitoring Terminal (RMT)** - A remote device with a microphone and data processing storage unit that is used to record noise events.

**RNAV** - RNAV stands for Area Navigation. RNAV is a method of navigation which permits aircraft operations on any desired flight path within the coverage of station referenced navigation aids or the limits of the capability of self-contained aids, or any combination thereof. Airborne RNAV equipment automatically determines aircraft position by processing data from one or more sensors and guides the aircraft in accordance with appropriate routing instructions. Additional navigation parameters such as distance and bearing to a pre-selected waypoint can also be computed from the aircraft position and the location of the waypoint, depending upon the capability of the RNAV equipment. Position can be displayed to the pilot in various ways, most practically in terms of the aircraft position relative to the pre-computed desired track. Most RNA equipment can employ any lateral displacement of the aircraft from the desired track to generate track guidance signals to the autopilot. With other less sophisticated RNAV equipment the pilot takes manual corrective action.

**Run-Up** - A routine procedure for testing an aircraft engine at a high power setting. Engine run-ups are normally conducted by airline maintenance personnel checking an aircraft engine, or other on board system following the conduct of maintenance. Run-Ups are conducted on the GRE or assigned hold pads.

**SEL** - Sound Exposure Level (dB) Total power in a noise event. Power sum of 1-second Leq in a noise event.

**Single Event** - An occurrence of audible noise, usually above a specified minimum noise level, caused by an intrusive source such as an aircraft overflight, passing train or ship's horn.

**Sound** - Sound is the result of a sound source 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 measure of the physical energy of the noise event that takes into account both intensity and duration. Expressed in decibels (db).

**Stage 2 Aircraft** - Aircraft that meet the noise levels prescribed by FAR Part 36 and 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.

**Stage 3 Aircraft** - Aircraft that meet the most stringent noise levels set in FAR Part 36.

**Standard Instrument Departure Procedure (SID)** - A planned IFR air traffic control departure procedure printed for pilot use in graphic and/or textual form. SID's provide transition from the terminal to the en route air control structure.

**Standard Terminal Arrival Routes (STARs)** - A planned IFR air traffic control arrival procedure printed for pilot use in graphic and/or textual form. STAR's provide transition from the en route air traffic structure to an outer fix or an instrument approach fix in the terminal area.

**TRACON (Terminal Radar Approach Control)** - An FAA air traffic control service to aircraft arriving and departing or transiting airspace controlled by the facility. The TRACON for the Chicago area is located in Elgin, Illinois.

**VOR (Very High Frequency Omni Directional Range)** – A ground based electronic navigation aid transmitting very high frequency navigation signals, 360 degrees in azimuth, oriented from magnetic north. Used as the bases for navigation in the National Airspace System.

**Visual Approach** - An approach conducted on an IFR flight plan that authorizes the pilot to proceed visually and clear of clouds to the airport.

**Visual Flight Rules (VFR)** - Rules and procedures specified in 14 CFR 91 for aircraft operations under visual conditions.

**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 14 CFR 91.155 for aircraft operations under Visual Flight Rules (VFR).