

APPENDIX A

GLOSSARY OF TERMS

ACOUSTICS - (i) The science of sound, including the generation, transmission, and effects of audible and inaudible sound waves. (ii) The physical qualities (such as size and shape) of a room or other enclosure that determine the audibility and perception of speech and music.

ADVISORY CIRCULAR (AC) - An external Federal Aviation Administration (FAA) publication consisting of non-regulatory material of a policy, guidance, or informational nature.

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 types, 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 VFR aircraft. (See Enroute Air Traffic Control System)

AIR TAXI AIRCRAFT – A term no longer used by the *Federal Aviation Administration*, though still used by the US 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 precede 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" but 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.)

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 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 Trust Fund are derived from excise taxes on airline tickets, aviation fuel, etc.

AIRPORT LAND USE PLAN-A generalized plan depicting proposed land uses within the airport boundary. The land use plan is a required element of an Airport Layout Plan set.

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. An approved ALP is generally required by FAA for projects to be eligible for funding under the AIP program.

AIRPORT OPERATIONS - Takeoffs (departures) and landings (arrivals) from or to an airport.

AIRPORT REFERENCE CODE (ARC) - A coding system identified in the FAA Advisory Circular 150/5300-13 *Airport Design* 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. Can either be one aircraft or a group of aircraft). The first component of the ARC is a capital letter (A, B, C, or D with "A" being the lowest, and "D" 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, or IV, with "I" being the lowest and "IV" 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 NOISE AND CAPACITY ACT OF 1990 (ANCA) - Commonly referred to as the national noise policy; the Act was enacted on November 5, 1990 (Public Law 101-508). Two important provisions of the Act were the establishment of a national aviation noise policy (Sections 9308 and 9309) and the creation of a passenger facility charge (Sections 9110 and 9111), which enables airport sponsors to impose fees on the tickets issued to eligible enplaning passengers. An amendment to FAR Part 91, "Transition to an All Stage 3 Fleet Operating in the 48 Contiguous US and the District of Columbia," and new FAR Part 161, "Notice and Approval of Airport Noise and Access Restrictions", implement the national noise policy. New FAR Part 158, "Passenger Facility Charges," implements that portion of the Act authorizing the imposition of such a charge.

AIRPORT NOISE CONTROL AND LAND USE COMPATIBILITY (ANCLUC) STUDY - A study designed to minimize aircraft noise and maintain compatible land use around airports. Certain noise control and land use compatibility studies are eligible for federal funding participation. ANCLUC studies are a precursor to today's 14 CFR Part 150 Studies. (See 14 CFR PART 150.)

AIRPORT NOISE MONITORING SYSTEM (ANMS) - An Airport Noise Monitoring System is a comprehensive system to provide actual measurement of the aircraft noise levels in neighborhoods and suburban communities around an airport. This integrated system includes many components, often 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.

AIRPORT SPONSOR - A public agency or tax-supported organization, such as an airport authority, authorized to own and operate an airport, obtain property interests, obtain funds, and be legally, financially, and otherwise able to meet all applicable requirements of current laws and regulations.

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.

AIRPORT TRAFFIC CONTROL TOWER (ATCT) - A facility that uses air/ground communications, visual signaling, and other devices to provide ATC services to aircraft operating in the vicinity of an airport. Authorizes aircraft to land or take-off at the airport controlled by the tower regardless of flight plan or weather conditions.

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 MSL) are known as Jet airways and are identified by number with the letter J as a prefix.

ALLOWED USE – A permitted use or special use in the subject zoning district.

ALTITUDE MSL - Height above mean sea level. (See Mean Sea Level)

AMBIENT NOISE - Generally, the total sum of noise from all sources in a given place and time. For aviation studies, ambient noise is often considered to include all sources except for aircraft generated noise. This is also known as Existing Ambient Noise. See also Natural Ambient Noise.

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.

ARRIVAL – The act of landing at an airport.

ARRIVAL PROCEDURE – A series of directions from air traffic control or a predetermined action plan, using fixes and navigational aids, to guide an aircraft from the Enroute environment to an airport for landing.

ARRIVAL STREAM – A flow of aircraft following similar arrival procedures.

ARTERIAL STREET – Roadway designed for large traffic volumes and moderate – to high-speed travel, providing access through and around cities and regions and/or linking major activity centers within the city. Arterials are classified as primary or secondary according to the volume of traffic conveyed.

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).

AUXILIARY POWER UNIT (APU) - A self-contained generator in aircraft producing a power for ground operation and for starting the engines.

AVIATION SAFETY AND NOISE ABATEMENT ACT OF 1979 (ASNA) - Public Law 96-193 enacted February 18, 1980. The purpose of the Act is to assist airport sponsors in preparing and carrying out noise compatibility programs and in assuring continued safety for aviation. The Act also contains provisions extending to January 1, 1988, the requirement for certain types of aircraft to comply with Part 36 of the Federal Aviation Regulations. (See FEDERAL AVIATION REGULATIONS (FAR) PART 36).

AVIGATION EASEMENT - A type of land acquisition that involves less-than-fee purchase (see also LESS-THAN-FEE ACQUISITION). One form of avigation easement grants the right to perform aircraft operations over the designated property, including operations that might cause noise, vibration, and other effects. A stronger form of easement is a deed restriction that may include (i) the right to perform aircraft operations over the property, and (ii) public acquisition of a landowner's rights restricting future development of the property in any use more intensive than that existing at the time of the transaction. This easement may also include specific prohibitions as to the uses for which the property may be developed. Maximum heights of structures and other objects may also be specified.

AVIONICS – Airborne navigations, communications, and data display equipment required for operation under specific air traffic control procedures.

A-WEIGHTING - A frequency-weighting network applied to sound levels used to account for changes in human auditory sensitivity as a function of frequency.

ANNOYANCE - Any bothersome or irritating occurrence.

AUDITORY THRESHOLD - Minimum audible perceived sound.

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.

BACKBLAST - Noise generated by jet exhaust on takeoff characterized by high acoustic energy, low frequency, and high velocity air behind the aircraft engine.

BACKGROUND NOISE – See ambient noise

BASE LEG - A flight path at right angles to the landing runway. The base leg normally extends from the down-wind leg to the intersection of the extended runway centerline off of the approach end of the runway.

BASELINE CONDITION – the existing conditions or conditions prior to future development, which serve as a foundation for analysis.

BASE (ZONING) DISTRICT– Any zoning district that is not an overlay district. (Kansas City Planning & Development, Proposed Zoning)

BOULEVARD – As defined by Kansas City’s Plan for Major parks, Boulevards, parkways and Greenways, “A boulevard is conceived as a wide formally designed street of distinguished character with a broad right-of-way, often with a substantial median, and with formal landscape effects. It is normally bordered by residences and makes connections with most intersecting streets.”

BUFFER AREA - An area separating two incompatible types of development or a development and sensitive natural resources

BUILDING – Any structure that is permanently affixed to the land and built for the support, shelter, or enclosure of persons, animals, chattels, or moveable property of any kind.

BUILDING CODE - A legal document that sets forth requirements to protect the public health, safety, and general welfare as they relate to the construction and occupancy of buildings and structures. The code establishes the minimum acceptable conditions for matters found to be in need of regulation. Topics generally covered are exits, fire protection, structural design, sanitary facilities, lighting, and ventilation. Sound insulation may also be included.

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. The BRL is drawn to exclude the runway protection zones, which are the runway visibility zones required for clear line of sight from the airport traffic control tower, and all airport areas with a clearance of less than 35 feet (10.5 meters) beneath the Federal Aviation Regulations Part 77 surfaces.

CALIFORNIA AIRPORT NOISE STANDARDS – the rules and regulations codified in subchapter 6 of Title 21 of the California code of Regulations, adopted in accordance with the California Public Utilities Code by CALTRANS governing noise problem airports operating under a valid permit-to-operate.

CAPACITY - The number of aircraft that can land or depart from an airport under specific conditions during a particular time. Capacity is determined by a number of complex factors including the length of runways in use, air traffic rules, the mix of airplanes using the airport, the current weather and visibility, the number of available gates, and other limiting factors such as getting to and from the airport.

CAPITAL IMPROVEMENT PROGRAM (CIP) - A multiyear (sometimes a single year) schedule of capital expenditures for construction or equipment at an airport.

CHARACTER - As applied in urban planning, the image and perception of a community as defined by its built environment, landscaping, natural features and open space, types and style of housing, and number and size of roads and sidewalks.

CITY PLAN COMMISSION – A commission appointed or elected to oversee the planning and development of a planning area. The Commission’s role and function is to make recommendations to the jurisdiction’s governing body regarding

planning and zoning matters. On rezoning cases, subdivisions, area or neighborhood plans, and most planning activities, the Commission usually must hold public hearings and submit a recommendation to the governing body on development cases.

CLOSE-IN NOISE ABATEMENT DEPARTURE PROFILE – A unique departure profile (abbreviation NADP) designed to minimize noise impact for communities within the immediate vicinity of the runway end (within 3.5 miles from the start of takeoff roll). General guidelines for this type of procedure are published in FAA's Advisory Circular 91-53A *Noise Abatement Departure Profiles*.

COLLECTOR STREET – Roadway designed to carry moderate volumes of traffic and "collect" vehicles, funneling them to arterial streets. Collector streets provide connections between arterial streets.

COMMERCIAL DISTRICT - A zoning area designated for community services, general business, interchange of services, and commercial recreation.

COMMITTEE ON AVIATION ENVIRONMENTAL PROTECTION (CAEP) – a committee of ICAO comprised of 19 member states, and 11 observer organizations representing aircraft manufacturers, airlines, airports and environmental groups. This committee is comprised of Working Groups that recommends policies to the ICAO Council regarding noise and emissions standards for aircraft engines, and policies on how to manage aviation and the environment.

COMMUNITY NOISE EQUIVALENCY LEVEL (CNEL) – An energy-based cumulative noise metric required by the California airport Noise Standards for use by airport proprietors to measure aircraft noise levels. It provides for a ten (10) decibel weighting addition for all events that occur between 10 p.m. and 6:59 a.m. and a 4.77 decibel weighting addition for all events that occur between 7 p.m. and 9:59 p.m.

COMMUTER AIRCRAFT - Commuter aircraft range from small turboprop aircraft with 19 or fewer seats to Regional Jets with up to 70 seats. Although Regional Jets that seat up to 90 passengers are sometimes referred to as "commuter jets" because they tend to serve the same types of markets as smaller jets, they cannot be operated by Federal Aviation Regulations Part 135 commuter carriers. 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 119.3, Definitions.)

COMPREHENSIVE PLAN - A document, or series of documents, that serves as a guide for making land use changes, preparation of capital improvement programs, and the rate, timing, and location of future growth. It is based upon establishing long-term goals and objectives to guide the future growth of a city. It is also known as a *Master* or *General Plan*. Elements of a Comprehensive Plan include Economic Development, Environment, Housing, Land Use, Recreation and Open Space, and Transportation.

CONSTRUCTIVE USE - Refers to the possible indirect impacts to DOT Section 303(c) properties such as parks. Constructive use is considered to occur when a transportation project does not incorporate land from a Section 303(c) resource but the projects proximity impacts are so severe that the protected activities feature or attributes that qualify a resource for protection under section 303(c) are substantially impaired. Substantial impairment occurs only when the protected activities, features or attributes of the resource are substantially diminished. For example, a substantial increase in noise levels at a park due to transportation project may represent a constructive use, even though the park is not directly affected through acquisition or development.

CONTOUR – See Noise Contour

CONTROLLED AIRSPACE – A volume of space of defined dimensions around an airport 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 extended runway centerline off of its departure end.

DAY-NIGHT AVERAGE SOUND LEVEL (DNL, denoted by the symbol L_{dn}) - Twenty-four hour average sound level for a given day, after addition of 10 decibels to levels from 2200 hours to 0700 hours local time. L_{dn} is computed as follows:

$$L_{dn} = LAE + 10 \cdot \log_{10}(N_{day} + 10 \cdot N_{night}) - 49.4 \text{ (dB)}$$

where:

LAE = Sound exposure level in dB;

N_{day} = Number of vehicle pass-bys between 0700 and 2200 hours, local time;

N_{night} = Number of vehicle pass-bys between 2200 and 0700 hours, local time;

and

49.4 = A normalization constant which spreads the acoustic energy over a 24-hour period, i.e., $10 \cdot \log_{10}(86,400 \text{ seconds per day}) = 49.4 \text{ dB}$.

DBA – See A-weight Sound Level

DBC – The C-weighted decibel scale of measuring sound that adjusts sound pressure towards the low frequency end of the spectrum. Although less consistent with human hearing than the A-weighted scale. The dBC scale can be used to consider the impacts of certain low frequency sources.

DECIBEL (unit dB) - Unit of level when the base of the logarithm is the tenth root of ten, and the quantities are proportional to power.

DECISION HEIGHT - The height at which a decision must be made during an instrument approach either to continue the approach or to execute a missed approach.

DECLARED DISTANCES – The distance the airport owner declares available for the airplane’s takeoff run, takeoff distance, accelerate-stop distance, and landing distance requirements.

DENSITY – The general term used to refer to the number of dwelling units allowed per unit of land area. It is expressed in terms of minimum amount of lot area required per dwelling unit.

DEPARTURE – The act of an aircraft taking off from an airport.

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 GUIDELINES - A set of policy statements used to direct or guide the external features of a development, as well as the relationships within the development site and between the development and adjacent uses, in order to promote quality places.

DEVELOPABLE LAND - Land that is suitable as a location for structures and that can be developed free of hazards to, and without disruption of, or significant impact on, natural resource areas.

DEVELOPMENT– Any tract of land made suitable for or containing institutional, residential, commercial, or industrial buildings, parking, and/or infrastructure.

DEVELOPMENT PATTERN - Configuration or organization of the built environment.

DEVELOPMENT PLAN - A detailed land use plan for all/or specific areas of an airport. The plan usually includes a plot map depicting parcel size and configuration, access, land use categories, utilities, improvements, and performance standards for each parcel and use category.

DEVELOPMENT RIGHTS - Rights of landowners to develop a parcel of land according to the zoning of that parcel. Land is often assessed on a combination of its “resource” value and its “commodity” value. The resource value is the value of the property in its natural state; while the commodity value is an artificial value placed on it by the marketplace (that is, its value for development purposes). In less-than-fee acquisition (see also), the airport sponsor may purchase only the development rights; the ownership of the land remains unchanged.

DISCLOSURE STATEMENT – A statement, attached to a deed of property or subdivision plat, stating that the property is in the vicinity of an airport facility and is subject to elevated levels of aircraft noise.

DISPLACED THRESHOLD - A runway threshold that is located at a point other than the designated beginning of the runway.

DISTANCE MEASURING EQUIPMENT (DME) - Equipment (ground and airborne) used to measure and report to the pilot the slant range distance, in nautical miles, of an aircraft from the DME navigational aid.

DISTANT NOISE ABATEMENT DEPARTURE PROFILE - unique departure profile designed to minimize noise impact for communities that are not within the immediate vicinity of the runway end (beyond 3.5 miles from the start of takeoff roll). General guidelines for this type of procedure are published in FAA's Advisory Circular 91-53A *Noise Abatement Departure Profiles*.

DNL – See day-night average sound level

DOWNWIND APPROACH/ARRIVAL – A flight path parallel to the landing runway in the direction opposite to landing.

DURATION - The length of time that a noise event, such as an aircraft flyover, is experienced (typically reported in seconds). "Duration" may also refer to the length of time that the noise event exceeds a specified threshold noise level.

DWELLING UNIT – One or more rooms arranged, designed or used as independent living quarters for a single household. Buildings with more than one kitchen or more than one set of cooking facilities are deemed to contain multiple dwelling units unless the additional cooking facilities are clearly accessory and not intended to serve additional households.

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.

EMINENT DOMAIN (POWER OF) - In common law, power of a governmental unit (federal, state, or local) to condemn land for public purposes after having paid the owner of the land just compensation.

ENGINE RUNUP AREA - An area on an airport where aircraft engines are serviced or tested. The noise from such servicing or testing can affect neighborhoods adjacent to the airport.

ENGINE RUN-UPS – A routine procedure for testing aircraft systems by running one or more engines at a variety of power settings. Engine run-ups are normally conducted by airline maintenance personnel checking an engine or other on board systems following maintenance.

ENPLANEMENTS - The number of passengers boarding an aircraft at an airport.

ENROUTE - The portion of a flight between departure and arrival terminal areas.

ENROUTE AIR TRAFFIC CONTROL SYSTEM - Unlike air 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 VFR aircraft. Enroute airspace is that airspace not delegated to approach control.

ENVIRONMENTAL ASSESSMENT (EA) - A concise document that assesses the environmental impacts of a proposed Federal action pursuant to NEPA requirements. It discusses the need for, and environmental impacts of, the proposed Federal actions and alternatives. An environmental assessment should provide sufficient evidence and analysis for a Federal determination whether to prepare an Environmental Impact Statement or issue a Finding of No Significant Impact as specified in FAA Order 5050.4A.

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 section 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.

EFFECTIVE PERCEIVED NOISE LEVEL (EPNDB) – A unit of measure for aircraft noise. It is based on how people judge the annoyance of sounds they hear with corrections for the duration of the event and for pure tones. The Federal Aviation Administration (FAA) uses EPNdB in the certification of large transport planes for Federal Noise Regulations (FAR Part 36).

EQUIVALENT SOUND LEVEL (LEQ, denoted by the symbol LAeqT) – Ten times the logarithm to the base ten of the ratio of time-mean-squared instantaneous A-weighted sound pressure, during a stated time interval T, to the square of the standard reference sound pressure. LAeqT is related to LAE by the following equation:

$$LA_{eqT} = LAE - 10 \cdot \log_{10}(t_2 - t_1) \text{ (dB)}$$

where,

LAE = Sound exposure level in dB (see previous definition).

EXISTING AMBIENT NOISE - See Ambient Noise and Natural Ambient Noise.

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.

FAA ADVISORY CIRCULAR (AC) 150/5300-13 - This document, titled *Airport Design*, contains airport design standards, including descriptions of various subdivisions of FAR Part 77 (see also) such as obstacle free zones (OFZs), object free areas (OFAs), and runway protection zones (RPZs)--formerly referred to as "clear zones" - on airports. According to Paragraph 211, "Safe and efficient operations at an airport require that certain areas on and near the airport be clear of objects or restricted to objects with a certain function, composition, and/or height." To achieve this requirement, object clearing criteria contained in the AC describe the types of objects tolerated within various subdivisions of FAR Part 77. Aircraft are controlled by aircraft operating rules and not by these criteria. However, objects not in conformance with these criteria may result in aircraft operating restrictions.

FAA ORDER 1050.1E - This document, entitled "Environmental Impacts: Policies and Procedures," was prepared in response to CEQ 1500 Regulations and provides guidance for preparing EAs and EISs for FAA actions.

FAA ORDER 5050.4A - This document, entitled "Airport Environmental Handbook," was published by the FAA on October 8, 1985. It contains all of the essential information an airport sponsor needs to meet both procedural and specific environmental requirements. The FAA issued a draft version of FAA Order 5050.4B for public review on December 16, 2004. The comment period ended on February 16, 2005. As of April 2005, the FAA has not issued the final document.

14 CFR PART 150 - This regulation, titled "Airport Noise Compatibility Planning," sets forth criteria for developing an 14 CFR Part 150 Noise Compatibility Program, an FAA-assisted program designed to increase the compatibility of land and land uses in the areas surrounding an airport that are most directly affected by operation of the airport. The specific purpose is to reduce the adverse effects of noise as much as possible by implementing both on-airport noise abatement measures and off-airport noise mitigation measures. The basic products of an 14 CFR Part 150 program typically include (i) noise exposure maps for the existing condition and for five years in the future; (ii) workable on-airport noise abatement measures (preferential runway use programs, new or preferential flight tracks), (iii) off-airport noise mitigation measures (land acquisition, soundproofing, or special zoning); (iv) an analysis of the costs and the financial feasibility of the recommended measures; and (v) policies and procedures related to the implementation of on- and off-airport programs. Community involvement opportunities are provided throughout all phases of noise compatibility program development.

FAR PART 161 - This regulation, titled "Notice and Approval of Airport Noise and Access Restrictions," establishes a program for reviewing airport noise and access restrictions on the operations of Stage 2 and Stage 3 aircraft. This regulation is in response to specific provisions in the Airport Noise and Capacity Act of 1990 (see also) and is a major element of the national aviation noise policy required by that Act. Even if such an airport noise and access restriction is proposed as an element of an 14 CFR Part 150 Noise Compatibility Program, it is still subject to the guidelines of FAR Part 161 prior to approval. Some of the public notice requirements, however, may be met during development of the 14 CFR Part 150 program.

FAR PART 36 - This regulation, titled "Noise Standards: Aircraft Type and Airworthiness Certification," establishes noise standards for the civil aviation fleet. Certain extensions for compliance are included in the Aviation Safety and Noise Abatement Act of 1979 (see also).

FAR PART 91 - This regulation, titled "General Operating and Flight Rules," includes an amendment issued by the FAA on September 25, 1991 (to 14 CFR 91) in conformance with requirements of the Airport Noise and Capacity Act of 1990 (see also). The amendment to the aircraft operating rules requires a phased transition to an all Stage 3 aircraft fleet operating in the 48 contiguous US and the District of Columbia by December 31, 1999. The amendment places a cap on the number of Stage 2 aircraft allowed to operate in the US and provides for a continuing reduction in the population exposed to noise from Stage 2 aircraft.

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).

FEDERAL INTERAGENCY COMMITTEE ON AVIATION NOISE (FICAN) - Federal Interagency Committee on Aviation Noise, provides a forum for debate over future research needs to better understand and control aviation noise.

FEDERAL INTERAGENCY COMMITTEE ON NOISE (FICON) – A Federal interagency committee formed in 1990 to review Federal policies that govern the assessment of airport noise impacts. The committee consisted of representatives from the Departments of Transportation (Office of the Secretary and the Federal Aviation Administration), Defense, Justice, Veterans Affairs, Housing and Urban Development; the Environmental Protection Agency; and the Council on Environmental Quality. The committee published its findings in the 1992 FICON Report.

FEE SIMPLE LAND ACQUISITION – In reference to airports, the full purchase of land and improvements by an airport sponsor. The land is usually maintained or leased for uses that are compatible with airport operations. Alternatively, the airport sponsor can resell the land with an aviation easement (see also) and deed restrictions that specify the compatible land uses that are permitted. One benefit of the resale option is that the land is returned to the local tax rolls.

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 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 environment.

FLIGHT MANAGEMENT SYSTEM/ GLOBAL POSITIONING SYSTEM (FMS/GPS) - Equipment onboard an aircraft takes advantage of various radio navigation and/or Global Positioning System routes to guide the aircraft.

FLIGHT PLAN - Specific information related to the intended flight of an aircraft. A flight plan is filed with a Flight Service Station or Air Traffic Control facility.

FLIGHT TRACK UTILIZATION - The use of established routes for arrival and departure by aircraft to and from the runways at the airport.

FLOOR AREA RATIO (FAR) - The ratio of the floor area of all principal buildings to the total area of the lot upon which such buildings are located.

FLOOD ZONE-100 YEAR - The land along a creek, dry wash, river, lake, seaside, swamp, bay, estuary, or in a low lying area or depression that has a one in one hundred chance of flooding every year.

FLY QUIET PROGRAM - The use of designated noise abatement flight procedures to further reduce the impact of aircraft noise. A Fly Quiet Program provides comprehensive guidance for pilots to use designated quiet flight and operating procedures.

GENERAL AVIATION AIRCRAFT – Generally, those US registered civil aircraft which operate for private and noncommercial purposes and whose operations are not governed by 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.

GEOGRAPHIC INFORMATION SYSTEMS (GIS) - An information system that is designed for storing, integrating, manipulating, analyzing, and displaying data referenced by spatial or geographic coordinates.

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.

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.

GREENWAY – A continuous corridor of open (green) space that is preserved and not developed. Greenways offer a variety of benefits, such as recreation, bicycle/pedestrian movement, and preservation of wildlife habitat along with other natural resources.

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

GROUND ABSORPTION – As sound propagates near the ground the interaction of the sound wave with the ground results in attenuation of the sound. Hard ground, like water, has less attenuation than soft ground (most other surfaces). Also known as Lateral Attenuation.

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

GROUND POWER UNIT (GPU) - A source of power, generally from the terminals, for aircraft to use while their engines are off.

GROUND RUN-UP ENCLOSURE (GRE) – Generally a three or four-sided structure that 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.

GROUND TRACK-The trajectory of an aircraft flight path projected onto the ground surface.

GROWTH MANAGEMENT - Land use planning and land use regulations designed to limit urban sprawl and promote smart growth.

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.

HUSHKIT - An aircraft-engine quieting device added to aircraft engines originally certified as Stage 2 in order to meet more stringent Stage 3 standards

HEARING THRESHOLD - For a given listener and specified signal, the minimum: (i) sound pressure level; or (ii) force level that is capable of evoking an auditory sensation in a specified function of trials.

HERTZ (Hz) - Unit of frequency representing the number of times a phenomenon repeats itself in a one second unit of time.

INCOMPATIBLE LAND USE - Residential, public, recreational, and certain other noise sensitive land uses that are designated as unacceptable within specific ranges of cumulative (DNL) noise exposure as set forth in 14 CFR Part 150, Appendix A, Table 2.

INDUSTRIAL DISTRICT - A district designated as manufacturing, research and development, or industrial park.

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

INFRASTRUCTURE – The basic facilities and equipment necessary for the effective functioning of a city, such as the means of providing water service, sewage disposal, telephone service, electric and gas connections, and the street network.

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 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 (abbreviation 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.

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) - An agency of the United Nations, charged with the development of standards for international air navigation and air transport to assure safety, it adopts and recommends standards to UN member states regarding environmental issues.

ITINERANT OPERATION - An aircraft flight that ends at a different airport than where it 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.)

LAE (see Sound Exposure Level)

LAND DEVELOPMENT CODE (LDC) - Rules, regulations, and ordinances that govern how and where certain types of development may occur.

Land Use – A description and classification of how land is occupied or utilized, e.g., residential, office, parks, industrial, commercial, etc.

LAND USE CLASSIFICATION - A system for classifying and designating the appropriate use of properties.

LAND USE COMPATIBILITY - The ability of land uses surrounding the airport to coexist with airport-related activities with minimum conflict.

LAND USE PLAN - The element of a comprehensive plan that designates and justifies the future use or reuse of land.

LAND USE REGULATIONS - Ordinances and laws which govern and direct development of land in a city. Examples include Zoning and Subdivision Regulations.

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).

LATERAL ATTENUATION – As sound propagates near the ground the interaction of the sound wave with the ground results in attenuation of the sound. Hard ground, like water, has less attenuation than soft ground (most other surfaces). Also known as Ground Absorption.

LDN (See DNL) - Ldn is used in place of DNL in mathematical equations only.

LEQ/ LAEQ - (See Equivalent Sound Level)

LOAD FACTOR – The percentage of seats occupied in an aircraft.

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.

LOCALIZER-TYPE DIRECTIONAL AID (LDA) - A navigational aid used for Nonprecision instrument approaches with utility and accuracy comparable to a localizer; however, it is not part of a complete ILS and its signal is not typically aligned with the runway.

LOUDNESS - The subjective assessment of the intensity of sound.

LOW DENSITY HOUSING – In the City of Kansas City, Missouri, generally one to three story single family and duplex housing, with no more than 14 dwelling units allowed on one acre of land.

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 DENSITY HOUSING – In the City of Kansas City, Missouri, generally includes apartment buildings up to six stories in height, with generally no more than 75 dwelling units on an acre of land.

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.

METROPOLITAN (METRO) AREA– In Kansas City, the five-county metropolitan area used by the City Planning and Development Department to define and describe greater Kansas City in FOCUS background reports. The counties included are: Jackson, Clay and Platte in Missouri and Johnson and Wyandotte in Kansas.

MIDDLE MARKER - A radio-beacon that defines a point along the glide slope of an ILS, normally located at or near the point of decision height.

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.

MITIGATION - The avoidance or minimization of an adverse impact.

MITIGATION MEASURE - An action that can be planned or taken to alleviate (mitigate) an adverse environmental impact. Mitigation includes:

1. Avoiding the impact altogether by not taking a certain action or parts of an action.
2. Minimizing the impact by limiting the degree or magnitude of the action and its implementation.
3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
5. Compensating for the impact by replacing or providing substitute resources or environments.

A proposed airport development project or alternatives to that project may constitute a mitigation measure.

MITIGATION PLAN - Imposed development conditions intended to compensate for the adverse impacts of the development.

MIXED USE – A land use type which recognizes that many land uses and activities are compatible and can be co-mingled to promote physical development at a human scale. Mixed use allows the integration of commercial, retail, office, medium to high density housing, and some light industrial land uses. These various land uses can be integrated either horizontally or vertically in a single building or structure, or on a parcel or parcels of land.

MIXED USE CENTER – A node of development and activity that provides a focal point for the surrounding area. This node incorporates mixed uses such as commercial, office, residential, and community serving facilities. The transportation/circulation system in a mixed use center is designed to accommodate a variety of modes, including pedestrian, transit, bicycle and the automobile. Mixed use centers are divided according to function and scale into regional community and neighborhood centers.

MULTI-UNIT RESIDENTIAL – A residential building that contains 3 or more dwelling units that share common walls or common floors/ceilings with one or more dwelling units. The land upon which the building sits is not divided into separate lots.

NATIONAL AIRSPACE SYSTEM (NAS) - The common network of US 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.

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (NEPA) - The original legislation establishing the environmental review process for proposed Federal actions.

NATURAL AMBIENT NOISE - Existing Ambient Noise, minus manmade sounds. In the case of a National Park, the natural ambient noise also includes noise associated with roadways through the Park. See Ambient Noise and Existing Ambient Noise.

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).

NAVIGATIONAL AIDS (NAVAIDS) - Any facility used by an aircraft for navigation.

NAVIGATIONAL FIX - A geographical position determined by reference to one or more radio navigational aids.

NOISE - Noise is any sound that is considered to be undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying.

NOISE ABATEMENT - A measure or action that minimizes the amount of exposure 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 ABATEMENT DEPARTURE PROFILES (NADP) - Unique aircraft departure profiles designed to minimize noise impacts on communities.

NOISE ATTENUATION OF BUILDINGS - The use of building materials to reduce noise through absorption, transmission loss, and reflection of sound energy.

NOISE COMPATIBILITY PROGRAM (NCP) – Operations and Land Use measures designed to reduce or mitigation noise levels near an airport. These measures are developed as part of the Part 150 Process and submitted to FAA for approval. All approved measures are eligible for FAA funding.

NOISE CONTOUR - A diagram representing specific noise levels of a given metric indicated by a line connecting points of equal noise exposure.

NOISE EXPOSURE MAP (NEM) - A map prepared in accordance with 14 CFR Part 150 that depicts actual (existing or historical conditions) or anticipated (future conditions) aircraft noise exposure and the affected land uses. NEMs for future conditions may take into account anticipated land use changes around the airport.

NOISE LEVEL REDUCTION (NLR) - The noise reduction between two areas or rooms is the numerical difference, in decibels, of the average sound pressure levels in those areas or rooms. Noise reduction is measured by combining the effect of the transmission loss performance of structures separating the two areas or rooms and the effect of acoustic absorption in the receiving room.

NOISE MONITORING SYSTEM (NMS) – see airport noise monitoring system

NOISE-SENSITIVE LAND USE - A land use that can be adversely affected by high levels of aircraft noise. Residences, schools, hospitals, religious facilities, libraries, and other similar uses are typically considered to be noise-sensitive.

NONCONFORMING USE – A land use that was lawfully established in accordance with all zoning regulations in effect at the time of its establishment but that is no longer allowed by the use regulations of the zoning district in which the use is now located. Lawfully established uses that do not comply with separation distance requirements are also deemed nonconforming uses.

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.

NOTICE TO AIRMEN (NOTAM) - 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.

OFFSET SEGMENT/SIDE STEP MANEUVER – Visual maneuver at the completion of an instrument approach which allows straight-in landing minimums on a parallel approach not more than 1200 feet to either side of the approach runway.

ON-DEMAND - Generally, US-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).

OPEN SPACE - An area set aside or reserved for public or private use with very few improvements. Types of open space include: golf courses, agricultural land, parks, greenbelts, nature preserves, etc. In many cases, land designated as open space lies within the 100-year flood zone, has sensitive environmental features such as wetlands or aquifer recharge features such as caves and fault lines, or has unstable slopes.

OPERATION - A takeoff or landing by an aircraft.

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.

OVERFLIGHT – Aircraft originating or terminating outside the metropolitan areas that transit the airspace without landing.

OVERLAY DISTRICT – A zoning district that over-lays one or more base zoning districts and imposes requirements in addition to those of the base district or modifies the standards otherwise applicable in the base district.

OVERLAY ZONES - A set of zoning requirements that is described in the ordinance text, is mapped, and is imposed in addition to those of the underlying district. Developments within the overlay zone must conform to the requirements of both zones or the more restrictive of the two. It usually is employed to deal with special physical characteristics such as flood plains or steeply sloping areas, but it has other applications as well.

PASSENGER FACILITY CHARGE (PFC) - Authority for a commercial service airport to charge each enplaning passenger a facility charge that can be used to preserve or enhance safety, security, capacity, and to reduce noise or to enhance competition among carriers.

PEAK SOUND PRESSURE LEVEL - Level of the maximum, or highest, sound pressure with stated frequency weighting, within a stated time interval.

PERMITTED USE - A use permitted as-of-right in the subject zoning district in accordance with the applicable use regulations of this development ordinance.

PLANNING - The process of setting development goals and policy, gathering and evaluating information, and developing alternatives for future actions based on the evaluation of the information.

PLAT – A scale drawing showing the location and boundaries of individual parcels of land subdivided into lots, with streets, alleys, easements, street grades, etc. The drawing represents the lines surveyed, established, retraced or resurveyed; the direction and length of each such line, and the relationship to adjoining official surveys; and the boundaries and area of the land subdivided.

POINT OF CLOSEST APPROACH (PCA) – The closest recorded radar target point between an aircraft and a given Remote Monitoring Tower.

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.

PREFERENTIAL RUNWAYS - The most desirable runways from a noise abatement perspective to be assigned whenever possible.

PRIMARY ARTERIAL – Street designed to move through traffic. These streets can also accommodate major access points from abutting properties. Where traffic is heavy or movements may become congested, access to abutting land is often restricted to traffic moving in one direction.

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.

PROPRIETARY USE RESTRICTIONS - Restrictions by an airport sponsor on the number, type, class, manner, or time of aircraft operations at the airport. The ability of an airport sponsor to impose proprietary use restrictions was significantly affected by passage of the Airport Noise and Capacity Act of 1990 (see also).

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.

RADAR VECTORING - Navigational guidance where air traffic controllers issue an instruction to follow a compass heading to a pilot.

RECORD OF DECISION (ROD) - As stated in CEQ regulation 40 CFR 1505.2, the Federal Aviation Administration 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.

RELOCATED THRESHOLD – Generally is a temporary shifting of a runway threshold to allow for construction, maintenance, or other activities. The portion of pavement behind a relocated threshold is not available for takeoff or landing in either direction. It may be available for taxiing of aircraft.

RESIDENTIAL BUILDING – A building that is arranged, designed, used or intended to be used:

- Exclusively for residential occupancy by one or more families; or
- For a mixture of nonresidential and residential occupancy and in which the floor area devoted to residential dwelling units makes up 50% or more of the building's total gross floor area.

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.

REMOTE MONITORING SITE (RMS) - A microphone placed in a community and recorded at an airports noise monitoring office.

RETROFIT - The retroactive modification of existing jet aircraft engines for noise reduction purposes.

REVERSE THRUST – the application of power on landing, reversing the engine direction to assist the stopping of the aircraft on the runway.

REZONING – Process by which the authorized uses of property are changed or modified. The governing body, typically upon recommendation from a planning commission, is authorized to change the zoning of any property within the city as long as the action is justified by public necessity, convenience or general welfare.

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.

RUN-UP LOCATION - A designated location on an airfield where engine maintenance run-ups are to be conducted.

RUNWAY – A defined rectangular area on an airport for the purpose of landing and taking off of aircraft. Runways are numbered in relation to their magnetic direction, rounded to the nearest 10 degrees (i.e., Runway 14, Runway 32).

RUNWAY END IDENTIFIER LIGHTS (abbreviation 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 safety of aircraft operations. 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 THRESHOLD - The beginning of that portion of the runway usable for landing.

RUNWAY USE PROGRAM See PREFERENTIAL RUNWAY USE PROGRAM

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.

SECONDARY ARTERIAL – Street designed to provide access for one or more neighborhoods to various activity centers, community shopping centers, strip commercial areas, employment centers and community and regional recreation areas. Secondary arterials pick up traffic from collector streets and preserve the integrity of residential neighborhoods by keeping traffic out of them.

SEQUENCING PROCESS - Procedure in which air traffic is merged into a single flow, and/or in which adequate separation is maintained between aircraft.

SIMULTANEOUS OFFSET INSTRUMENT APPROACH (SOIA) - An approach system permitting simultaneous Instrument Landing System approaches to airports having staggered but parallel runways. SOIA combines Offset ILS and regular ILS definitions.

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

SINGLE EVENT NOISE EXPOSURE LEVEL (SENEL) - The sound exposure level of a single noise event (such as an aircraft overflight) measured over the time

interval between the initial and final times for which the sound level of the single event exceeds the background noise level.

SINGLE-FAMILY ATTACHED DWELLING - One of two or more residential buildings having a common wall separating dwelling units.

SINGLE-FAMILY DETACHED DWELLING - A residential building containing not more than one dwelling unit surrounded by open space.

SINGLE-PURPOSE RESIDENTIAL BUILDING – A building in which the majority of floor area on all floors of the building are occupied by residential dwelling units or accessory uses to the principal (residential) use of the building. Commentary: A building in which the ground floor contains parking and the upper floors contain residential dwellings is a single-purpose residential building. If more than 50% of the floor space on the ground floor is occupied by commercial use, the building is not a single-purpose residential building, but is rather a mixed-use building.

SLANT-RANGE DISTANCE - The distance along a straight line between an aircraft and a point on the ground.

SMART GROWTH - Metropolitan area development characterized by compact, mixed-used districts, efficient use of land and infrastructure, choices in travel mode, and protection of environmental resources and open space.

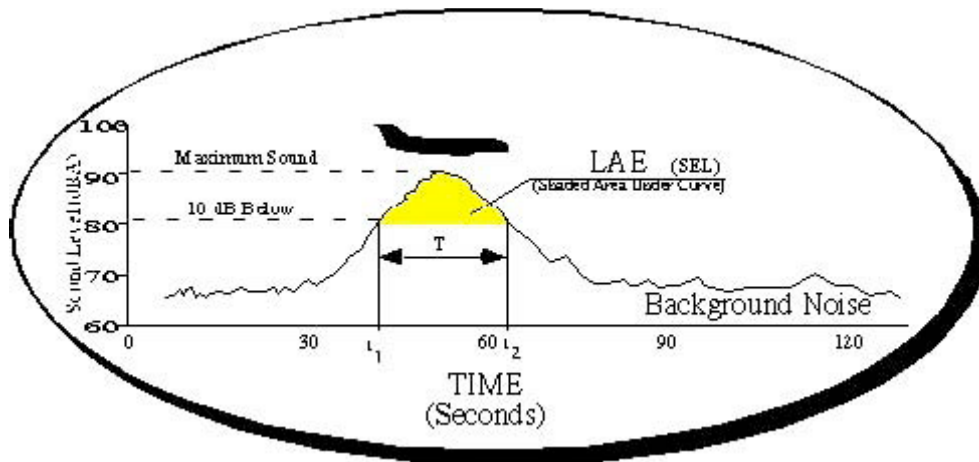
SOUND - Sound is the result of vibration in the air. The vibration produces alternating bands of relatively dense and sparse particles of air, spreading outward from the source in the same way as ripples do on water after a stone is thrown into it. The result of the movement is fluctuation in the normal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

SOUND EXPOSURE LEVEL (SEL, DENOTED BY THE SYMBOL LAE) - Over a stated time interval, T (where $T=t_2-t_1$), ten times the base-10 logarithm of the ratio of a given time integral of squared instantaneous A-weighted sound pressure, and the product of the reference sound pressure of 20 micropascals, the threshold of human hearing, and the reference duration of one sec. The time interval, T, must be long enough to include a majority of the sound source's acoustic energy. As a minimum, this interval should encompass the ten dB down points (see Figure). In addition, LAE is related to LAeqT by the following equation:

$$\text{LAE} = \text{LAeqT} + 10 \cdot \log_{10}(t_2 - t_1) \text{ (dB)}$$

where,

LAeqT = Equivalent sound level in dB (see definition above).



SOUND INSULATION - (i) The use of structures and materials designed to reduce the transmission of sound from one room or area to another, or from the exterior to the interior of a building. (ii) The degree of reduction in sound transmission, or noise level reduction (see also), by means of sound-insulating structures and materials.

SOUND LEVEL METER - An instrument consisting of a microphone, an amplifier, an output meter, and frequency-weighting networks used to measure noise and sound levels in a specified manner.

SOUND PRESSURE LEVEL (SPL) - Ten times the base-10 logarithm of the ratio of the time-mean-square pressure of a sound, in a stated frequency band, to the square of the reference sound pressure in gases of 20 micropascals.

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 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 second most stringent noise levels set in Federal Aviation Regulations Part 36. The recent adoption of Stage 4 standards by FAA for noise certification purposes represents the most stringent noise standards to date.

STANDARD INSTRUMENT DEPARTURE PROCEDURE (SID) - A planned Instrument Flight Rules air traffic control departure procedure published for pilot use in graphic and textual form. SID's provide transition from the terminal to the en route air traffic control structure.

STANDARD TERMINAL ARRIVAL ROUTE (STAR) - A preplanned and published instrumental arrival route.

STATUTE MILE - A measure of distance equal to 5,280 feet.

SUBDIVISION – Any land, vacant or improved, that is divided or proposed to be divided into two or more lots, parcels, sites, units plots or interests of less than 20 acres, for the purpose of offer, sale, lease or development, either on the installment plan or upon any and all other plans, terms and conditions, including resubdivision. Subdivision includes the division or development of residential and nonresidential zoned land, whether by deed, metes and bounds description, map, plat or other recorded instrument, and further includes the creation of a condominium, townhome or any other division or property into units and common elements.

SUSTAINABLE DEVELOPMENT - Development that maintains or enhances economic opportunity and community well-being while protecting and restoring the natural environment upon which people and economies depend. Characteristics of sustainable communities include compact mixed-use development, green building, transit-oriented development, pedestrian-friendly and bicycle-friendly neighborhoods, common open space, and diversity in housing opportunities.

SUSTAINABILITY - An approach to design, development and management of community, which does not compromise the environment or the ability of future generations.

TACTICAL AIR NAVIGATION (TACAN) - 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.

THRESHOLD - Two Meanings: (i) Specified boundary of a runway and (ii) baseline noise level above which microphones record a noise event.

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).

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.

- a. Upwind Leg - A flight path parallel to the landing runway in the direction of landing.
- b. Crosswind Leg - A flight path at right angles to the landing runway off its upwind end.
- c. Downwind Leg - A flight path parallel to the landing runway in the direction opposite to landing. The downwind leg normally extends between the crosswind leg and the base leg.
- d. Base Leg - A flight path at right angles to the landing runway off its approach end. The base leg normally extends from the downwind leg to the intersection of the extended runway centerline.
- e. Final Approach - A flight path in the direction of landing along the extended runway centerline. The final approach normally extends from the base leg to the runway. An aircraft making a straight-in approach VFR is also considered to be on final approach.

TRANSFER OF DEVELOPMENT (TDR) - A program that allows landowners to transfer the right to develop one parcel of land to a more suitable parcel of land. TDR programs establish "sending area" and "receiving areas" for development rights.

TRANSIT NODES - Stops along a public transportation route where people board and disembark often where one or more routes intersect with each other. These sites can provide ideal locations for mixed use development as well as transit-oriented development.

TRANSIT-ORIENTED DEVELOPMENT – Development and land uses which support and encourage public transportation. Buildings may provide minimum areas for parking; ancillary support uses for transit, such as a waiting area or ticket purchase station; pedestrian friendly streetscape and street furniture; and multiple uses within a building.

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 - An aircraft powered by one or more jet turbine engines that drive a propeller. Aircraft of this type are typically used by airlines on short routes between two relatively close locations.

UNDERLYING ZONING DISTRICT - An underlying district is the term referring to a zoning district when it is affected by an overlay district.

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

UNIFORM RELOCATION ACT - The Uniform Relocation Act, passed by Congress in 1970, is a federal law that establishes minimum standards for federally funded programs and projects that require the acquisition of real property (real estate) or displace persons from their homes, businesses, or farms. The Uniform Act's protections and assistance apply to the acquisition, rehabilitation, or demolition of real property for federal or federally funded projects.

UPWIND LEG - A flight path parallel to the approach runway in the direction of approach.

URBAN AREAS - "Title 23 of the United States Code, Section 101 (a), provides the following definitions for urban area, at a minimum: a. An urban cluster, as designated by the Bureau of the Census and having a population of 5,000 to 49,999, and not within any urbanized area, or b. An urbanized area, as designated by the Bureau of the Census, being an area comprising a place and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 people.

URBAN CORE - The center of a metropolitan area, typically including the region's downtown and high-density neighborhoods located near the downtown.

URBAN SPRAWL - Low-density, single-use development spreading out from an urban core in a haphazard manner, which results in increased dependency on the automobile and inefficient use of infrastructure.

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.

VERTICAL NAVIGATION (VNAV) – A form of precise vertical (altitude) navigation using an aircrafts' Flight Management System (FMS). VNAV is the vertical navigation flight profile which is the predicted flight trajectory of the airplane in the vertical plane as a function of distance along the horizontal flight path defined by the LNAV flight plan. VNAV computes guidance commands for the Autopilot or Flight Director and Autothrottle to follow the vertical profile.

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 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 Part 91.155 for aircraft operations under Visual Flight Rules.

ZONING – Mechanism through which cities regulate the location, size and use of properties and buildings. These regulations are designed to promote the health, safety, morals or general welfare of the community; to lessen congestion in streets; to prevent the overcrowding of land; to avoid undue concentration of population; and to facilitate the adequate provisions of transportation, water, sewage, schools, parks and other public requirements.

ZONING DISTRICT - A section of a city designated in the zoning ordinance text and delineated on the zoning map, in which requirements for the use of land and building and development standards are prescribed.

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