

## **D List of Acronyms and Glossary**



## D.1 List of Acronyms and Glossary

**Table D-1** provides a list of acronyms used throughout the EA. **Table D-2** identifies and defines technical terms used in the EA.

**Table D-1 List of Acronyms (1 of 4)**

Acronym	Definition
AAD	Average Annual Day
AEE	FAA's Office of Environment and Energy
AGL	Above Ground Level
ARTCC	Air Route Traffic Control Center
ATC	Air Traffic Control
ATCT	Airport Traffic Control Tower
ATO	Air Traffic Organization
BA	Biological Assessment
CAAA	Clean Air Act Amendments
CEQ	Council on Environment Quality
CFA	Controlled Firing Area
CH <sub>4</sub>	Methane
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2</sub> e	Carbon Dioxide Equivalent
D&I	Design and Implementation Team
dB	Decibel
DNL	Day-Night Average Sound Level
DOT	Department of Transportation
EA	Environmental Assessment
EDO	Established-on-Departure Operation
ELSO	Equivalent Lateral Spacing Operation
ESA	Endangered Species Act of 1973
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FL	Flight Level
FMS	Flight Management System

**Table D-1 List of Acronyms (2 of 4)**

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<b>Acronym</b>	<b>Definition</b>
FRZ	Flight Restricted Zone
GA	General Aviation
GHG	Greenhouse Gas
GPS	Global Positioning System
HFC	Hydrofluorocarbon
HHS	Department of Health and Human Services
HITL	Human-in-the-Loop
HNM	Heliport Noise Model
IFP	Instrument Flight Procedures
IFR	Instrument Flight Rules
IMC	Instrument Meteorological Conditions
INM	Integrated Noise Model
LWCA	Land and Water Conservation Act
MBTA	Migratory Bird Treaty Act of 1918
MOA	Military Operating Area
MSL	Mean Sea Level
MT	Metric Tons
MTCO <sub>2</sub> e	Metric Tons of Carbon Dioxide Equivalent
NAAQS	National Ambient Air Quality Standards
NAS	National Airspace System
NAVAID	Navigational Aid
NCT	Northern California TRACON
NEPA	National Environmental Policy Act of 1969
NextGen	Next Generation Air Transportation System
NIRS	Noise Integrated Routing System
NLCD	National Land Cover Database
NO <sub>2</sub>	Nitrous Oxide
NOAA	National Oceanic and Atmospheric Administration
NO <sub>x</sub>	Oxides of Nitrogen
NPIAS	National Plan of Integrated Airport Systems
NRHP	National Register of Historic Places

**Table D-1 List of Acronyms (3 of 4)**

<b>Acronym</b>	<b>Definition</b>
O <sub>3</sub>	Ozone
OAK	Metropolitan Oakland International Airport
OPD	Optimum Profile Descent
Pb	Lead
PBN	Performance-Based Navigation
PDARS	Performance Data Analysis and Reporting System
PFC	Perfluorochemical
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter of 10 micrometers or less
PM <sub>2.5</sub>	Particulate Matter of 2.5 micrometers or less
RNAV	Area Navigation
RNP	Required Navigation Performance
RSA	Runway Safety Area
RTCA	Radio Technical Commission for Aeronautics
SF <sub>6</sub>	Sulfur Hexafluoride
SFO	San Francisco International Airport
SFRA	Special Flight Rule Area
SHPO	State Historic Preservation Officer
SJC	Norman Y. Mineta San José International Airport
SMF	Sacramento International Airport
SO <sub>2</sub>	Sulfur Dioxide
STAR	Standard Terminal Arrival Route
SUA	Special Use Airspace
TAF	Terminal Area Forecast
THPO	Tribal Historic Preservation Officer
TRACON	Terminal Radar Approach Control Facilities
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
VFR	Visual Flight Rules
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
VOC	Volatile Organic Compounds
VOR	VHF Omnidirectional Range

**Table D-1      List of Acronyms (4 of 4)**

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ZLA	Los Angeles ARTCC
ZLC	Salt Lake City ARTCC
ZOA	Oakland ARTCC
ZSE	Seattle ARTCC

Table D-2 Glossary (1 of 8)

Term	Definition
Acoustics	The science of sound, including the generation, transmission, and effects of sound waves, both audible and inaudible.
Air Carrier	An entity holding a Certificate of Public Convenience and Necessity issued by the Department of Transportation (DOT) to conduct scheduled air services over specified routes and a limited amount of non-scheduled operations.
Air Pollutant	Any substance in air that could, in high enough concentration, harm man, other animals, vegetation, or material. Pollutants may include almost any natural or artificial composition of airborne matter capable of being airborne. They may be in gases, particulates, or in combinations thereof. Generally, they fall into two main groups: (1) those emitted directly from identifiable sources and (2) those produced in the air by interaction between two or more primary pollutants, or by reaction with normal atmospheric constituents, with or without photo- activation.
Air Route Traffic Control Center (ARTCC, Center)	An FAA facility established to provide air traffic control service to aircraft operating on an Instrument Flight Rules (IFR) flight plan within controlled airspace and principally during the en- route phase of flight. When equipment capabilities and controller workload permit, certain advisory/assistance services may be provided to Visual Flight Rules (VFR).
Air Taxi	An air carrier certificated in accordance with Federal Aviation Regulations (FAR) Part 135 and authorized to provide, on demand, public transportation of persons and property by aircraft. Generally operates small aircraft “for hire” for specific trips.
Air Traffic Control (ATC)	A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.
Aircraft Surveillance Systems	Systems set up to enable the ATC system to know the location of an aircraft and where it is heading. Aircraft positions are displayed for controllers as they actively monitor the traffic to ensure that aircraft do not violate separation criteria.
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.
Airspace	Navigable area used by aircraft for purposes of flight.
Airway	An area of Class E airspace established in the form of a corridor, the centerline of which is defined by radio navigational aids. The network of airways serving aircraft operations up to but not including 18,000 feet MSL are referred to as “Victor” airways. The network of airways serving aircraft operations at or above 18,000 feet MSL are referred to as “Jet” airways.

**Table D-2      Glossary (2 of 8)**

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Altitude	Height above a reference point, usually expressed in feet. Reference points are typically sea level, the ground, or airfield elevation in which case Mean Sea Level (MSL), AGL or AFE further describes the altitude, respectively.
Ambient Noise Level	The level of noise that is all-encompassing within a given environment for which a single source cannot be determined. It is usually a composite of sounds from many and varied sources near to and far from the receiver.
Area Navigation (RNAV)	A method of air navigation that permits aircraft to operate on any desired course within a network of station-referenced navigation aids (NAVAIDs), rather than navigating directly to and from the NAVAIDs.
Arithmetic Averaged Sound Pressure Level	The arithmetic sum of a series of sound pressure levels divided by the number of levels included in the sum.
Arrival Stream	A sequence of aircraft that are following similar arrival procedures. This can conserve flight distance, reduce congestion, and allow instrument flight plans into airports with limited NAVAIDs.
Attainment Area	An area in which the Federal or state standards for ambient air quality are being achieved.
A-Weighted Sound Level	A quantity, in decibels, read from a standard sound-level meter with A-weighting circuitry. The A-weighting scale discriminates against the lower frequencies below 1000 hertz according to a relationship approximating the auditory sensitivity of the human ear. The A-weighted sound level is approximately related to the relative “noisiness” or “annoyance” of many common sounds.
Based Aircraft	Active aircraft that are stationed at an airport on a permanent basis.
Block	Census blocks are small areas bounded on all sides by visible features such as streets, roads, streams, and railroad tracks, and by invisible boundaries such as city, town, township, and county limits; property lines; and short, imaginary extensions of streets and roads. Blocks are numbered uniquely within each census tract or block numbering area (BNA). A three-digit number identifies a block, sometimes with a single alphabetical suffix. The U.S. Bureau of Census designates census blocks.
Centroid	A point representing the geographic center of a US Bureau of Census’ census block.
Climb	The act or instance of increasing altitude.
Conformity	A determination that a project conforms with a State Implementation Plan (SIP) whose purpose is to eliminate or reduce the severity and number of violations of the National Ambient Air Quality Standards; and does not impede the scheduled attainment of such standards.
Constructive Use	When the proximity impacts (e.g., noise) of a proposed project adjacent to, or near, a Section 4(f) property result in substantial impairment of the property.
Controlled Airspace	Airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification.



**Table D-2 Glossary (3 of 8)**

Corner-Post Configuration	Corner-post Configuration refers to an arrangement of air traffic pathways in a terminal area that brings incoming flights over fixes at four corners of the traffic area, while outbound flights depart between the fixes, thus minimizing conflicts between arriving and departing traffic.
Criteria Pollutants	The 1970 amendments to the Clean Air Act required EPA to set National Ambient Air Quality Standards for certain pollutants known to be hazardous to human health. EPA has identified and set standards to protect human health and welfare for six pollutants: ozone, carbon monoxide, total suspended particulates, sulfur dioxide, lead, and nitrogen oxide. The term, “criteria pollutants” derives from the requirement that EPA must describe the characteristics and potential health and welfare effects of these pollutants. It is on the basis of these criteria that standards are set or revised.
Day-Night Average Sound Level (DNL)	A measure of the annual average noise environment over a 24-hour day. It is the 24-hour, logarithmic- (or energy-) average, A-weighted sound pressure level with a 10-decibel penalty applied to the nighttime event levels that occur between 10 p.m. and 7 a.m.
De minimis Levels	De minimis is defined as lacking significance or importance, or so minor as to be disregarded. De minimis levels are minimum air pollutant levels and vary according to the type of pollutant and severity of the non-attainment area. Unless state minimums are lower than Federal, these levels are consistent for all conformity determinations. The calculation of total project emissions is made and compared to these de minimis cutoffs. If the emissions for a pollutant are above de minimis, the project requires a conformity determination. All emissions from the project must be analyzed and found to conform, not only those above the de minimis levels.
Decibel (dB)	Commonly used to define the level produced by a sound source. The decibel scale is logarithmic (e.g., when the scale goes up by ten, the perceived level is twice as loud).
Departure	The act of an aircraft taking off from an airport.
Departure Procedure (DP)	A preplanned IFR ATC departure procedure printed for pilot use in graphic and/or textual form. DPs provide transition from the terminal to the appropriate en route structure. SIDs are a type of DP.
Descent	The process of decreasing altitude.
Design and Implementation Team (D&I team)	Air traffic controllers and airspace procedures specialists from the NCT TRACON facility and ZOA ARTCC, with additional participation by OAPM Program Office personnel.
Distance Measuring Equipment (DME)	Equipment installed on an aircraft that provides the distance of the aircraft in relation to a navigation aid as well as ground speed. DME transmitters are often co-located with a Very High Frequency Omni-directional Radio Range Station (VOR), known in this case as a VOR-DME.
Downwind Leg	A flight path parallel to the landing runway in the direction opposite to the landing. The downwind leg normally extends between the crosswind leg and the base leg.

**Table D-2 Glossary (4 of 8)**

Emissions	Pollution discharged into the atmosphere from stationary sources such as smokestacks, surface areas of commercial or industrial facilities, residential chimneys, and from mobile sources such as motor vehicles, locomotives, or aircraft exhausts.
En Route Airspace	A general term to describe the airspace controlled by an ARTCC.
Energy-Averaged Sound Pressure Level	The logarithmic sum of the sound power of a series of sound pressure levels divided by the number of levels included in the sum.
Enplanement	The total number of revenue passengers boarding aircraft, including originating, stopover, and transfer passengers, in scheduled and non-scheduled services.
Environmental Assessment (EA)	An EA is a concise document that assesses the environmental impacts of a proposed Federal Action. It discusses the need for, and environmental impacts of, the proposed action and alternatives. An environmental assessment should provide sufficient evidence and analysis for a Federal determination whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).
Environmental Noise	Unwanted sound from various outdoor sources that produce noise (e.g., aircraft, cars, trucks, buses, railways, industrial plants, construction activities).
Equipage	Communication, navigation and surveillance equipment installed on an aircraft.
Equivalent Sound Level (Leq)	The level of a constant sound, which, in the given situation and time period, has the same average sound energy, as does a time-varying sound. Specifically, equivalent sound level is the energy-averaged sound pressure level of the individual A-weighted sound pressure levels occurring during the time interval.
Federal Aviation Administration (FAA)	The Federal Aviation Administration (FAA) is the agency of the United States Department of Transportation with primary responsibility for civil aviation. Among its major functions are the regulation of civil aviation to promote safety, fulfill the requirements of national defense and development, and operate a common system of air traffic control and navigation for both civil and military aircraft.
Federal Infrastructure Projects Dashboard	Part of an inter-agency initiative, spearheaded by the Office of Management and Budget, to institutionalize best practices to reduce the amount of time required to make permitting and review decisions and improve environmental and community outcomes.
Fix	A geographical position determined by reference to one or more radio NAVAIDS, celestial plotting, or by some other means such as satellite navigation.
Flight Data Information	Specific information used by ATC for an individual flight, including information such as aircraft identification, destination, type, route, and altitude.
Flight Track	The path an aircraft describes over the ground.
Flow	Describes the direction in which aircraft take-off and land at a particular airport. Aircraft generally take-off and land into the wind. However, other factors (e.g., nearby airports, construction) can also affect flow.
Flyways	Migration routes for avian species.
Frequency (acoustic)	The number of oscillations per second completed by a vibrating object.

**Table D-2 Glossary (5 of 8)**

General Aviation (GA)	All civil aviation except scheduled passenger, air taxi and cargo airlines.
Global Positioning System (GPS)	A satellite-based radio positioning and navigation system operated by the U.S. Department of Defense. The system provides highly accurate position and velocity information, and precise time, on a continuous global basis to an unlimited number of properly equipped users.
Hand-Off	An action taken to transfer the radar identification of an aircraft from one controller to another.
Heading	A compass bearing indicating the direction of travel.
Hertz (Hz)	The unit used to designate frequency; specifically, the number of cycles per second.
Household	A household includes all the persons who occupy a housing unit. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated persons who share living arrangements.
Housing Unit	A housing unit is a house, apartment, a mobile home or trailer, a group of rooms or a single room occupied as separate living quarters or, if vacant, intended for occupancy as separate living quarters.
Hydrocarbons (HC)	Chemical compounds that consist entirely of carbon and hydrogen.
Instrument Approach Procedure	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 land or to a point from which a landing may be made visually. It is prescribed and approved for a specific airport by a competent authority.
Instrument Departure Procedure	A preplanned instrument flight rule (IFR) departure procedure published for pilot use, in graphic or textual format, that provides obstruction clearance from the terminal area to the appropriate en route structure. There are two types of DP, Obstacle Departure Procedure (ODP), printed either textually or graphically, and, Standard Instrument Departure (SID), which is always printed graphically.
Instrument Flight Rules (IFR)	Rules governing the procedures for conducting instrument flight in aircraft. Also a term used by pilots and controllers to indicate type of flight plan.
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 program developed, updated and maintained by the Federal Aviation Administration to evaluate aircraft noise impacts in the vicinity of airports.
In-Trail Spacing	The distance between two aircraft on an identical route; one aircraft is following another.
Invasive Species	Invasive species are organisms (usually transported by humans) that successfully establish themselves in, and then overcome, otherwise intact, pre-existing native ecosystems.
Knots	Speed measured in nautical miles per hour.

**Table D-2      Glossary (6 of 8)**

Level-off	The process by which an aircraft that is climbing or descending transitions to a constant altitude. This can be done once the aircraft reaches its cruise altitude in the en route environment, or as a series of steps taken as the aircraft transition to/from the en route environment to guarantee adequate separation from other aircraft.
Loudness	The attribute of an auditory sensation in terms of which sounds may be ordered on a scale extending from soft to loud. Loudness depends primarily upon the sound pressure of the source, but it also depends upon the frequency and waveform of the source.
Low-Income	A person whose median household income is at or below the Department of Health and Human Services poverty guidelines.
Mean Sea Level (MSL)	The height of the surface of the sea for all stages of the tide, used as a reference for elevations or altitude of aircraft flight. Also called sea level datum.
Metroplex	A geographic area containing several airports serving major metropolitan areas and a diversity of aviation stakeholders.
National Airspace System (NAS)	The common network of air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, and manpower and material.
National Ambient Air Quality Standards (NAAQS)	Standards for criteria pollutants established by United States Environmental Protection Agency that apply to outdoor air.
Nautical Mile (NM)	A measure of distance equal to 1 minute of arc on the earth’s surface (approximately 6,076 ft. or approximately 1.15 statute miles).
Navigation Aids (NAVAIDs)	Any visual or electronic device airborne or on the surface that provides point to point guidance information or position data to aircraft in-flight.
Next Generation Air Transportation Systems (NextGen)	A program shifting aircraft procedures from fixed, ground-based radio navigation transmitting facilities and radar to satellite, or GPS, navigation and onboard surveillance.
Noise	Any sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying.
Noise Abatement Procedure	A measure taken to reduce the off-airport impacts of aircraft noise through changes in airport layout or aircraft operations. Noise abatement procedures are generally developed by airport operators in cooperation with the FAA, aircraft operators, pilots, and other aviation interests, to address noise concerns raised by residents and local community officials.
Noise Exposure	The cumulative acoustic stimulation reaching the ear of a person over a specified period of time (e.g., a work shift, a day, a working life, or a lifetime).
Noise Integrated Routing System (NIRS)	A computer program developed, updated, and maintained by the FAA to evaluate aircraft noise impact for air traffic actions involving multiple airports over broad geographic areas.
Non-Attainment Area	Areas with levels that exceed one or more of the NAAQS for the criteria pollutants designated in the Clean Air Act.

**Table D-2 Glossary (7 of 8)**

NorCal OAPM Airports	These are the airports that are the subject of the Proposed Action.
Operation	Landing or take-off of an aircraft.
Over-flights	Aircraft whose flights originate or terminate outside the controlling facility’s area that transit the airspace without landing.
Performance-Based Navigation (PBN)	Specifies that aircraft Required Navigation Performance (RNP) and Area Navigation (RNAV) systems performance requirements be defined in terms of accuracy, integrity, availability, continuity and functionality required for the proposed operations in the context of a particular airspace, when supported by the appropriate navigation infrastructure.
Piston Aircraft	Propeller-driven aircraft powered by an internal combustion engine.
Power Settings	Amount of engine power used by the pilot.
Procedural Deconfliction	Defined altitude or lateral restrictions as part of a procedure to keep aircraft from conflicting with other aircraft on different procedures.
Q-route	`Q' is the designator assigned to published RNAV routes used by the United States.
Quadrant	A quarter part of a circle, centered on a NAVAID oriented clockwise from magnetic north.
Radar (primary)	A device which, by measuring the time interval between transmission and reception of radio pulses, and correlating the angular orientation of the radiated antenna beam, or beams in azimuth and/or elevation, provides information on range, azimuth, and /or elevation of objects in the path of the transmitted pulses. Also known as “Primary Radar”.
Radar (secondary)	A radar system in which the object to be detected is fitted with cooperative equipment in the form of a radio receiver/transmitter (transponder). Radar pulses transmitted from the searching transmitter/receiver (interrogator) site are received in the cooperative equipment and used to trigger a distinctive transmission from the transponder. This reply transmission, rather than a reflected signal, is then received back at the interrogator site for processing and display at an ATC facility. Also known as a “Radar Beacon”.
Radial	A magnetic bearing extending from a VOR/VORTAC/TACAN navigation facility.
Required Navigation Performance (RNP)	A type of performance-based navigation (PBN) that allows an aircraft to fly a specific path between two 3-dimensionally defined points in space. RNP differs from Area Navigation (RNAV) systems in that there is a requirement for on-board performance monitoring and alerting specification.
Satellite Navigation	See Global Positioning System (GPS).
Section 4(f)	A property that may be protected under special provisions of the U.S. Department of Transportation Act, 49 USC 303(c).
Sector	A defined volume of airspace, including both lateral and vertical limits, in which an air traffic controller is responsible for the safe movement of air traffic. A TRACON's or ARTCC's airspace is comprised of multiple sectors.

**Table D-2 Glossary (8 of 8)**

Separation	Required FAA minimum spacing between aircraft.
Sequencing	A process used to merge air traffic into an orderly flow.
Sound Exposure Level (SEL)	A time-integrated metric (i.e., continuously summed over a time period) that quantifies the total energy in the A-weighted sound level measured during a transient noise event. The time period for this measurement is generally taken to be that between the moments when the A-weighted sound level is 10 dB below the maximum.
Sound Pressure Level	A measure, in decibels, of the magnitude of the sound. Specifically, the sound pressure level of a sound that is 10 times the logarithm to the base 10 of the ratio of the squared pressure of this sound to the squared reference pressure. The reference pressure is usually taken to be 20 micropascals. See also Energy-Averaged Sound Pressure Level.
Source (acoustic)	The object that generates the sound.
Standard Instrument Approach Procedure (SIAP)	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 land or to a point from which a landing may be made visually. It is prescribed and approved for a specific airport by a competent authority.
Standard Instrument Departure Procedure (SID)	A preplanned instrument flight rule (IFR) departure procedure published for pilot use, in graphic or textual format, that provides obstruction clearance from the terminal area to the appropriate en route structure.
Standard Terminal Arrival (STAR)	A preplanned instrument flight rule (IFR) air traffic control arrival procedure published for pilot use in graphic and/or textual form. STAR's provide transition from the en route structure to an outer fix or an instrument approach fix/arrival waypoint in the terminal area.
Statute Mile (SM)	A measure of distance equal to 5,280 feet.
Sulfur Dioxide (SO <sub>2</sub> )	Sulfur dioxide typically results from combustion processes, refining of petroleum, and other industrial processes.
Tactical Separation	The separation of aircraft by air traffic control instruction versus procedural deconfliction.
Terminal Area	A general term used to describe airspace in which approach control service or airport traffic control service is provided.
Terminal Radar Approach Control (TRACON)	An FAA ATC facility that uses radar and two-way radio communication to provide separation of air traffic within a specified geographic area in the vicinity of one or more large airports.
Threshold of Significance	A threshold of significance is a quantitative or qualitative standard, or set of criteria, pursuant to which the significance of a given environmental effect may be determined. These standards or criteria are established by the lead government agency performing a NEPA review, in this case the FAA.
T-Route	T-routes are available for use by RNAV equipped aircraft from 1,200 feet above the surface (or in some instances higher) up to but not including 18,000 ft. mean sea level (MSL).