



Meeting Packet

Regular Meeting

Meeting No. 315

Wednesday, October 3, 2018 - 7:00 p.m.

David Chetcuti Community Room – Millbrae City Hall
450 Popular Avenue – Millbrae, CA 94030

Note: To arrange an accommodation under the Americans with Disabilities Act to participate in this public meeting, please call (650) 363-1853 at least 2 days before the meeting date.

AGENDA

1. Call to Order / Roll Call / Declaration of a Quorum Present

ACTION

Elizabeth Lewis, Roundtable Chairperson / James A. Castaneda, AICP, Roundtable Coordinator

2. Introduction of Guests and Members of the FAA

INFORMATION

Elizabeth Lewis, Roundtable Chairperson

3. Public Comments on Items NOT on the Agenda

INFORMATION

Speakers are limited to two minutes. Roundtable members cannot discuss or take action on any matter raised under this item.

CONSENT AGENDA ITEMS

All items on the Consent Agenda are approved/accepted in one motion. A Roundtable Representative can make a request, prior to action on the Consent Agenda, to transfer a Consent Agenda item to the Regular Agenda. Any items on the Regular Agenda may be transferred on the Consent Agenda in a similar manner.

4. Review of Roundtable Meeting Action Minutes for June 6, 2018 and August 1, 2018

ACTION

- | | |
|--|--------|
| 1. June 6, 2018 Meeting Action Minutes | pg. 15 |
| 2. August 1, 2018 Meeting Action Minutes | pg. 19 |

5. Airport Director's Reports for June, July, and August 2018, Fly Quiet Report Q2 2018

ACTION

- | | |
|--|--------|
| 1. June 2018 Airport Director's Report | pg. 23 |
| 2. July 2018 Airport Director's Report | pg. 29 |
| 3. August 2018 Airport Director's Report | pg. 35 |
| 4. Fly Quiet Report for Q2 2018 | pg. 41 |

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REGULAR AGENDA

6. SFO Updates

INFORMATION

Ivar Satero, Director – San Francisco International Airport

Doug Yakel, Public Information Officer – San Francisco International Airport

7. Ground-Based Augmentation System (GBAS) updates

INFORMATION

Doug Yakel, Public Information Officer – San Francisco International Airport

8. Discussion with FAA Regarding Questions Provided from Roundtable Chair, email to FAA dated August 31, 2018

INFORMATION

FAA Representative(s)

Gene Reindel, Roundtable Technical Consultant

1. Email from Roundtable Chairperson dated August 31, 2018 pg. 55

9. Development of Future Topics of Discussion

a. Priority Items from Roundtable Members

b. Protocol on responses to inquires

c. Prioritization of FAA discussion topics

INFORMATION / ACTION

Elizabeth Lewis, Roundtable Chairperson

James Castañeda, Roundtable Coordinator

10. Follow-Up from September 13, 2018 Technical Working Group meeting, Discuss Possible Future Meeting Time to Accommodate More Members' Schedules

INFORMATION

Gene Reindel, Roundtable Technical Consultant

James Castañeda, Roundtable Coordinator

1. Summary Memo pg. 59

11. Recommendation of Creating a Subcommittee to Investigate Ground-based Noise Impacts at SFO

ACTION

Ricardo Ortiz, Roundtable Vice-Chairperson

12. Roundtable Annual Work Plan status

INFORMATION

James Castañeda, Roundtable Coordinator

1. Summary Memo and Draft Work Plan pg. 63

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REGULAR AGENDA (continued)

13. Announcement of Congresswoman Speier’s Town Hall Meeting Regarding Airplane Noise on October 23, 2018

INFORMATION

Elizabeth Lewis, Roundtable Chairperson

14. Review Letter from Senators Feinstein, Harris, Cardin, and Van Hollen, Re FAA Reauthorization Bill

INFORMATION / ACTION

Elizabeth Lewis, Roundtable Chairperson

1. Letter from Senators Feinstein, Harris, Cardin, and Van Hollen, dated September 18, 2018 pg. 87

15. Discussion, Monitoring FAA Published Flight Procedures and Protentional Community Impacts

INFORMATION / ACTION

Elizabeth Lewis, Roundtable Chairperson

OTHER MATTERS

16. Aviation Noise News and Updates

INFORMATION

Gene Reindel, Roundtable Technical Consultant

17. Member Communications / Announcements

INFORMATION

Roundtable Members and Staff

18. Adjourn

ACTION

Elizabeth Lewis, Roundtable Chairperson

Correspondences / Additional Reports

1. Portola Valley Q3 2018 Monitoring Report pg. 89
2. Woodside Q3 2018 Monitoring Report pg. 93
3. Brisbane Q3 2018 Monitoring Report pg. 97



Welcome

The Airport/Community Roundtable is a voluntary committee that provides a public forum to address community noise issues related to aircraft operations at San Francisco International Airport. The Roundtable encourages orderly public participation and has established the following procedure to help you, if you wish to present comments to the committee at this meeting.

- You must fill out a Speaker Slip and give it to the Roundtable Coordinator at the front of the room, as soon as possible, if you wish to speak on any Roundtable Agenda item at this meeting.
- To speak on more than one Agenda item, you must fill out a Speaker Slip for each item.
- The Roundtable Chairperson will call your name; please come forward to present your comments.

The Roundtable may receive several speaker requests on more than one Agenda item; therefore, each speaker is limited to two (2) minutes to present his/her comments on any Agenda item unless given more time by the Roundtable Chairperson. The Roundtable meetings are recorded. Copies of the audio file can be made available to the public upon request. Please contact the Roundtable Coordinator for any request.

Roundtable Meetings are accessible to people with disabilities. Individuals who need special assistance or a disability-related modification or accommodation to participate in this meeting, or who have a disability and wish to request an alternative format for the Agenda, Meeting Notice, Meeting Packet, or other writings that may be distributed at the meeting, should contact the Roundtable Coordinator at least two (2) working days before the meeting at the phone or e-mail listed below. Notification in advance of the meeting will enable Roundtable staff to make reasonable arrangements to ensure accessibility to this meeting.

AIRPORT/COMMUNITY ROUNDTABLE OFFICERS & STAFF

Chairperson:

ELIZABETH LEWIS
Representative, Town of Atherton
elewis@ci.atherton.ca.us

Vice-Chairperson:

RICARDO ORTIZ
Representative, City of BURLINGAME
rortiz@burlingame.org

Roundtable Coordinator:

JAMES A. CASTAÑEDA, AICP
County of San Mateo
Planning & Building Department
jcastaneda@sforoundtable.org



About the Roundtable

The Airport/Community Roundtable was established in May 1981, by a Memorandum of Understanding (MOU), to address noise impacts related to aircraft operations at San Francisco International Airport (SFO). The Airport is owned and operated by the City and County of San Francisco, but it is located entirely within San Mateo County. This voluntary committee consists of 22 appointed and elected officials from the City and County of San Francisco, the County of San Mateo, and several cities in San Mateo County (see attached Membership Roster). It provides a forum for the public to address local elected officials, Airport management, FAA staff, and airline representatives, regarding aircraft noise issues. The committee monitors a performance-based aircraft noise mitigation program, as implemented by Airport staff, interprets community concerns, and attempts to achieve additional noise mitigation through a cooperative sharing of authority brought forth by the airline industry, the FAA, Airport management, and local government officials. The Roundtable adopts an annual Work Program to address key issues. In 2017, the Roundtable is scheduled to meet on the first Wednesday of the following months: February, April, June, August, October and December. Regular Meetings are held on the first Wednesday of the designated month at 7:00 p.m. at **the David Chetcuti Community Room at Millbrae City Hall, 450 Poplar Avenue, Millbrae, California** unless noted. Special Meetings and workshops are held as needed. The members of the public are encouraged to attend the meetings and workshops to express their concerns and learn about airport/aircraft noise and operations. For more information about the Roundtable, please contact Roundtable staff at (650) 363-1853.

POLICY STATEMENT

The Airport/Community Roundtable reaffirms and memorializes its longstanding policy regarding the “shifting” of aircraft-generated noise, related to aircraft operations at San Francisco International Airport, as follows:

“The Airport/Community Roundtable members, as a group, when considering and taking actions to mitigate noise, will not knowingly or deliberately support, encourage, or adopt actions, rules, regulations or policies, that result in the “shifting” of aircraft noise from one community to another, when related to aircraft operations at San Francisco International Airport.”

(Source: Roundtable Resolution No. 93-01)

FEDERAL PREEMPTION, RE: AIRCRAFT FLIGHT PATTERNS

The authority to regulate flight patterns of aircraft is vested exclusively in the Federal Aviation Administration (FAA). Federal law provides that:

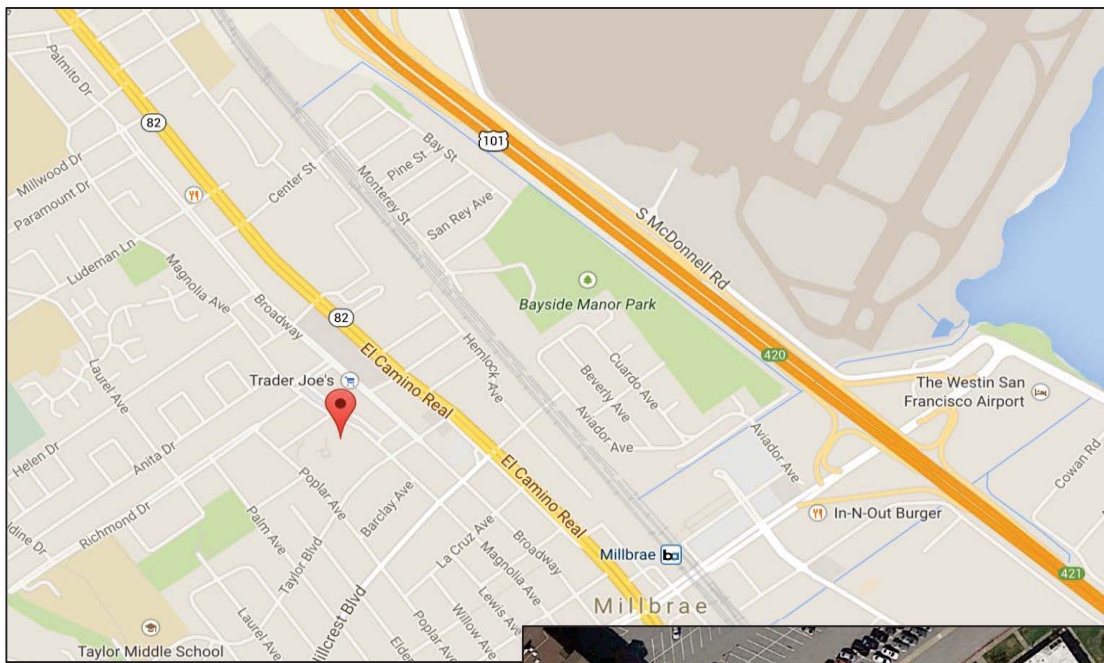
“No state or political subdivision thereof and no interstate agency or other political agency of two or more states shall enact or enforce any law, rule, regulation, standard, or other provision having the force and effect of law, relating to rates, routes, or services of any air carrier having authority under subchapter IV of this chapter to provide air transportation.”

(Source: 49 U.S.C. A. Section 1302(a)(1)).

Meeting Location

**David Chetcuti Community Room
450 Poplar Avenue - Millbrae, CA 94030**

Access through Millbrae Library parking lot on Poplar Avenue





Member Roster

October 2018

CITY AND COUNTY OF SAN FRANCISCO BOARD OF SUPERVISORS

Ahsha Safai, Supervisor

CITY AND COUNTY OF SAN FRANCISCO MAYOR'S OFFICE

David Takashima, (Appointed)

CITY AND COUNTY OF SAN FRANCISCO AIRPORT COMMISSION REPRESENTATIVE

Ivar Satero, Airport Director (Appointed)

Alternate: Doug Yakel, Public Information Officer

COUNTY OF SAN MATEO BOARD OF SUPERVISORS

Dave Pine, Supervisor

Alternate: Don Horsley, Supervisor

CITY/COUNTY ASSOCIATION OF GOVERNMENTS AIRPORT LAND USE COMMITTEE (ALUC)

Adam Kelly, ALUC Chairperson (Appointed)

TOWN OF ATHERTON

Elizabeth Lewis, Mayor

Alternate: Bill Widmer, Council Member

CITY OF BELMONT

Douglas Kim, Council Member

Alternate: Eric Reed, Council Member

CITY OF BRISBANE

Terry O'Connell, Council Member

Alternate: Madison Davis, Council Member

CITY OF BURLINGAME

Ricardo Ortiz, Council Member

CITY OF DALY CITY

Glenn Sylvester, Mayor

CITY OF FOSTER CITY

Sam Hindi, Council Member

CITY OF HALF MOON BAY

Harvey Rarback, Council Member

TOWN OF HILLSBOROUGH

Alvin Royse, Council Member

Alternate: Shawn Christianson, Council Member

CITY OF MENLO PARK

Peter Ohtaki, Council Member

CITY OF MILLBRAE

Anne Oliva, Council Member

Alternate: Ann Schneider, Council Member

CITY OF PACIFICA

Sue Digre, Council Member

Alternate: John Keener, Mayor

TOWN OF PORTOLA VALLEY

Ann Wengert, Council Member

Alternate: Maryann Derwin, Council Member

CITY OF REDWOOD CITY

Janet Borgens, Council Member

CITY OF SAN BRUNO

Marty Medina, Council Member

Alternate: Rico Medina, Council Member

CITY OF SAN CARLOS

Ron Collins: Council Member

Alternate: Matt Grocott, Council Member

CITY OF SAN MATEO

Diane Papan, Council Member

CITY OF SOUTH SAN FRANCISCO

Mark Addiego, Council Member

Alternate: Pradeep Gupta, Council Member

TOWN OF WOODSIDE

Chris Shaw, Council Member

Alternate: Deborah Gordon, Council Member

ROUNDTABLE ADVISORY MEMBERS

AIRLINES/FLIGHT OPERATIONS

Captain James Abell, United Airlines

Glenn Morse, United Airlines

FEDERAL AVIATION ADMINISTRATION

Thann McLeod, NORCAL TRACON

Tony DiBernardo, FAA Sierra-Pacific District

ROUNDTABLE STAFF

James A. Castañeda, AICP, Roundtable Coordinator

Gene Reindel, Technical Consultant (HMMH)

Justin Cook, Technical Consultant (HMMH)

Adam Scholten, Technical Consultant (HMMH)

SAN FRANCISCO INTERNATIONAL AIRPORT NOISE ABATEMENT STAFF

Bert Ganoung, Noise Abatement Manager

David Ong, Noise Abatement Systems Manager

Nastasja von Conta, Senior Noise Abatement Specialist

Anthony Carpeneti, Noise Abatement Specialist

Annelises Taing, Noise Abatement Specialist

Aircraft Noise Abatement Office

Glossary of common Acoustic and Air Traffic Control

terms

A

ADS-B - Automatic Dependent Surveillance – Broadcast

– ADS-B uses ground based antennas and in-aircraft displays to alert pilots to the position of other aircraft relative to their flight path. ADS-B is a key element of NextGen.

Air Carrier - A commercial airline with published schedules operating at least five round trips per week.

Air Taxi – An aircraft certificated for commercial service available for hire on demand.

ALP - Airport Layout Plan – The official, FAA approved map of an airport's facilities.

ALS – Approach Lighting System - Radiating light beams guiding pilots to the extended centerline of the runway on final approach and landing.

Ambient Noise Level – The existing background noise level characteristic of an environment.

Approach Lights – High intensity lights located along the approach path at the end of an instrument runway. Approach lights aid the pilot as he transitions from instrument flight conditions to visual conditions at the end of an instrument approach.

APU - Auxiliary Power Unit – A self-contained generator in an aircraft that produces power for ground operations of the electrical and ventilation systems and for starting the engines.

Arrival – The act of landing at an airport.

Arrival Procedure - A series of directions on a published approach plate or from air traffic control personnel, using fixes and procedures, to guide an aircraft from the en route environment to an airport for landing.

Arrival Stream – A flow of aircraft that are following similar arrival procedures.

ARTCC – Air Route Traffic Control Center - A facility providing air traffic control to aircraft on an IFR flight plan within controlled airspace and principally during the enroute phase of flight.

ATC - Air Traffic Control - The control of aircraft traffic, in the vicinity of airports from control towers, and in the airways between airports from control centers.

ATCT – Air Traffic Control Tower - A central operations tower in the terminal air traffic control system with an associated IFR room if radar equipped, using air/ground communications and/or radar, visual signaling and other devices to provide safe, expeditious movement of air traffic.

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

Altitude MSL – Aircraft altitude measured in feet above mean sea level.

B

Backblast - Low frequency noise and high velocity air generated by jet engines on takeoff.

Base Leg – A flight path at right angles to the landing runway. The base leg normally extends from the downwind leg to the intersection of the extended runway centerline.

C

Center – See ARTCC.

CNEL – Community Noise Equivalent Level - A noise metric required by the California Airport Noise Standards for use by airport proprietors to measure aircraft noise levels. CNEL includes an additional weighting for each event occurring during the evening (7:00 PM – 9:59 PM) and nighttime (10 pm – 6:59 am) periods to account for increased sensitivity to noise during these periods. Evening events are treated as though there were three and nighttime events are treated as though there were ten. This results in a 4.77 and 10 decibel penalty

penalty for operations occurring in the evening and nighttime periods, respectively.

CNEL Contour - The "map" of noise exposure around an airport as expressed using the CNEL metric. A CNEL contour is computed using the FAA-approved Integrated Noise Model (INM), which calculates the aircraft noise exposure near an airport.

Commuter Airline – Operator of small aircraft (maximum size of 30 seats) performing scheduled (maximum size of 30 seats) performing service between two or more points.

D

Decibel (dB) - In sound, decibels measure a scale from the threshold of human hearing, 0 dB, upward towards the threshold of pain, about 120-140 dB. Because decibels are such a small measure, they are computed logarithmically and cannot be added arithmetically. An increase of ten dB is perceived by human ears as a doubling of noise.

dBA - A-weighted decibels adjust sound pressure towards the frequency range of human hearing.

dBC - C-weighted decibels adjust sound pressure towards the low frequency end of the spectrum. Although less consistent with human hearing than A-weighting, dBC can be used to consider the impacts of certain low frequency operations.

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.

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

Departure Procedure – A published IFR departure procedure describing specific criteria for climb, routing, and communications for a specific runway at an airport.

Displaced Threshold - A threshold that is located at a point on the runway other than the physical beginning. Aircraft can begin departure roll before the threshold, but cannot land before it.

DME - Distance Measuring Equipment - Equipment (airborne and ground) used to measure, in nautical miles, a slant range distance of an aircraft from the DME navigational aid.

DNL - Day/Night Average Sound Level - The daily average noise metric in which that noise occurring between 10:00 p.m. and 7:00 a.m. is penalized by 10 dB. DNL is often expressed as the annual-average noise level.

DNL Contour - The "map" of noise exposure around an airport as expressed using the DNL metric. A DNL contour is computed using the FAA-approved Integrated Noise Model (INM), which calculates the aircraft noise exposure near an airport.

Downwind Leg – A flight path parallel to the landing runway in the direction opposite the landing direction.

Duration - The length of time in seconds that a noise event lasts. Duration is usually measured in time above a specific noise threshold.

E

En route – The portion of a flight between departure and arrival terminal areas.

Exceedance— Whenever an aircraft overflight produces a noise level higher than the maximum decibel value established for a particular monitoring site, the noise threshold is surpassed and a noise exceedance occurs. An exceedance may take place during approach, takeoff, or possibly during departure ground roll before lifting off.

F

FAA - The Federal Aviation Administration is the agency responsible for aircraft safety, movement and controls. FAA also administers grants for noise mitigation projects and approves certain aviation studies including FAR Part 150 studies, Environmental Assessments, Environmental Impact Statements, and Airport Layout Plans.

FAR – Federal Aviation Regulations are the rules and regulations, which govern the operation of aircraft, airways, and airmen.

FAR Part 36 – A Federal Aviation Regulation defining maximum noise emissions for aircraft.

FAR Part 91 – A Federal Aviation Regulation governing the phase out of Stage 1 and 2 aircraft as defined under FAR Part 36.

FAR Part 150 – A Federal Aviation Regulation governing noise and land use compatibility studies and programs.

FAR Part 161 – A Federal Aviation Regulation governing aircraft noise and access restrictions.

Fix – A geographical position determined by visual references to the surface, by reference to one or more NavAids, or by other navigational methods.

Fleet Mix – The mix or differing aircraft types operated at a particular airport or by an airline.

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.

FMS – Flight Management System - a specialized computer system in an aircraft that automates a number of in-flight tasks, which reduces flight crew workload and improves the precision of the procedures being flown.

G

GA - General Aviation – Civil aviation excluding air carriers, commercial operators and military aircraft.

GAP Departure – An aircraft departure via Runways 28 at San Francisco International Airport to the west over San Bruno, South San Francisco, Daly City, and Pacifica.

Glide Slope – Generally a 3-degree angle of approach to a runway established by means of airborne instruments during instrument approaches, or visual ground aids for the visual portion of an instrument approach and landing.

GPS - Global Positioning System – A satellite based radio positioning, navigation, and time-transfer system.

GPU - Ground Power Unit – A source of power, generally from the terminals, for aircraft to use while their engines are off to power the electrical and ventilation systems on the aircraft.

Ground Effect – The excess attenuation attributed to absorption or reflection of noise by manmade or natural features on the ground surface.

Ground Track – is the path an aircraft would follow on the ground if its airborne flight path were plotted on the ground the terrain.

H

High Speed Exit Taxiway – A taxiway designed and provided with lighting or marking to define the path of aircraft traveling at high speed from the runway center to a point on the center of the taxiway.

I

IDP - Instrument Departure Procedure - An aeronautical chart designed to expedite clearance delivery and to facilitate transition between takeoff and en route operations. IDPs were formerly known as SIDs or Standard Instrument Departure Procedures.

IFR - Instrument Flight Rules -Rules and regulations established by the FAA to govern flight under conditions in which flight by visual reference is not safe.

ILS - Instrument Landing System – A precision instrument approach system which normally consists of a localizer, glide slope, outer marker, middle marker, and approach lights.

IMC – Instrument Meteorological Conditions - 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.

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

J

K

Knots – A measure of speed used in aerial navigation. One knot is equal to one nautical mile per hour (100 knots = 115 miles per hour).

L

Load Factor – The percentage of seats occupied in an aircraft.

Lmax – The peak noise level reached by a single aircraft event.

Localizer – A navigational aid that consists of a directional pattern of radio waves modulated by two signals which, when receding with equal intensity, are displayed by compatible airborne equipment as an “on-course” indication, and when received in unequal intensity are displayed as an “off-course” indication.

LDA – Localizer Type Directional Aid – A facility of comparable utility and accuracy to a localizer, but not part of a complete ILS and not aligned with the runway.

M

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

Missed Approach Procedure – A procedure used to redirect a landing aircraft back around to attempt another landing. This may be due to visual contact not established at authorized minimums or instructions from air traffic control, or for other reasons.

N

NAS – National Airspace System - The common network of U.S. airspace; air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, manpower and material.

Nautical Mile – A measure of distance used in air and sea navigation. One nautical mile is equal to the length of one minute of latitude along the earth's equator. The nautical mile was officially set as 6076.115 feet. (100 nautical miles = 115 statute miles)

Navaid – Navigational Aid.

NCT – Northern California TRACON – The air traffic control facility that guides aircraft into and out of San Francisco Bay Area airspace.

NDB – Non-Directional Beacon - Signal that can be read by pilots of aircraft with direction finding equipment. Used to determine bearing and can “home” in or track to or from the desired point.

NEM – Noise Exposure Map – A FAR Part 150 requirement prepared by airports to depict noise contours. NEMs also take into account potential land use changes around airports.

NextGen – The Next Generation of the national air transportation system. NextGen represents the movement from ground-based navigation aids to satellite-based navigation.

NMS – See RMS

Noise Contour – See CNEL and DNL Contour.

Non-Precision Approach Procedure – A standard instrument approach procedure in which no electronic glide slope is provided.

O

Offset ILS – Offset Parallel Runways – Staggered runways having centerlines that are parallel.

Operation – A take-off, departure or overflight of an aircraft. Every flight requires at least two operations, a take-off and landing.

Outer Marker – An ILS navigation facility in the terminal area navigation system located four to seven miles from the runways edge on the extended centerline indicating the beginning of final approach.

Overflight – Aircraft whose flights originate or terminate outside the metropolitan area that transit the airspace without landing.

P

PASSUR System – Passive Surveillance Receiver - A system capable of collecting and plotting radar tracks of individual aircraft in flight by passively receiving transponder signals.

PAPI – Precision Approach Path Indicator - An airport lighting facility in the terminal area used under VFR conditions. It is a single row of two to four lights, radiating high intensity red or white beams to indicate whether the pilot is above or below the required runway approach path.

PBN –Performance Based Navigation - Area navigation based on performance requirements for aircraft operating along an IFR route, on an instrument approach procedure or in a designated airspace.

Preferential Runways - The most desirable runways from a noise abatement perspective to be assigned whenever safety, weather, and operational efficiency permits.

Precision Approach Procedure – A standard instrument approach procedure in which an electronic glide slope is provided, such as an ILS. GPS precision approaches may be provided in the future.

PRM – Precision Runway Monitoring – A system of high-resolution monitors for air traffic controllers to use in landing aircraft on parallel runways separated by less than 4,300’.

Q

R

Radar Vectoring – Navigational guidance where air traffic controller issues a compass heading to a pilot.

Reliever Airport – An airport for general aviation and other aircraft that would otherwise use a larger and busier air carrier airport.

RMS – Remote Monitoring Site - A microphone placed in a community and recorded at San Francisco International Airport's Noise Monitoring Center. A network of 29 RMS's generate data used in preparation of the airport's Noise Exposure Map.

RNAV – Area Navigation - A method of IFR navigation that allows an aircraft to choose any course within a network of navigation beacons, rather than navigating directly to and from the beacons. This can conserve flight distance, reduce congestion, and allow flights into airports without beacons.

RNP – Required Navigation Performance - A type of performance-based navigation (PBN) that allows an aircraft to fly a specific path between two 3- dimensionally defined points in space. RNAV and RNP systems are fundamentally similar. The key difference between them is the requirement for on-board performance monitoring and alerting. A navigation specification that includes a requirement for on-board navigation performance monitoring and alerting is referred to as an RNP specification. One not having such a requirement is referred to as an RNAV specification.

Run-up – A procedure used to test aircraft engines after maintenance to ensure safe operation prior to returning the aircraft to service. The power settings tested range from idle to full power and may vary in duration.

Run-up Locations - Specified areas on the airfield where scheduled run-ups may occur. These locations are sited, so as to produce minimum noise impact in surrounding neighborhoods.

Runway – A long strip of land or water used by aircraft to land on or to take off from.

S

Sequencing Process – Procedure in which air traffic is merged into a single flow, and/or in which adequate separation is maintained between aircraft.

Shoreline Departure – Departure via Runways 28 that utilizes a right turn toward San Francisco Bay as soon as feasible. The Shoreline Departure is considered a noise abatement departure procedure.

SENEL – Single Event Noise Exposure Level - The noise exposure level of a single aircraft event measured over the time between the initial and final points when the noise level exceeds a predetermined threshold. It is important to distinguish single event noise levels from cumulative noise levels such as CNEL. Single event noise level numbers are generally higher than CNEL numbers, because CNEL represents an average noise level over a period of time, usually a year.

Single Event – Noise generated by a single aircraft over-flight.

SOIA – Simultaneous Offset Instrument Approach

Is an approach system permitting simultaneous Instrument Landing System approaches to airports having staggered but parallel runways. SOIA combines Offset ILS and regular ILS definitions.

STAR – Standard Terminal Arrival Route is a published IFR arrival procedure describing specific criteria for descent, routing, and communications for a specific runway at an airport.

T

Taxiway – A paved strip that connects runways and terminals providing the ability to move aircraft so they will not interfere with takeoffs or landings.

Terminal Airspace - The air space that is controlled by a TRACON.

Terminal Area – A general term used to describe airspace in which approach control service or airport traffic control service is provided.

Threshold – Specified boundary.

TRACON -Terminal Radar Approach Control – is an FAA air traffic control service to aircraft arriving and departing or transiting airspace controlled by the facility. TRACONS control IFR and participating VFR flights. TRACONS control the airspace from Center down to the ATCT.

U

V

Vector – A heading issued to a pilot to provide navigational guidance by radar. Vectors are assigned verbally by FAA air traffic controllers.

VFR – Visual Flight Rules are rules governing procedures for conducting flight under visual meteorological conditions, or weather conditions with a ceiling of 1,000 feet above ground level and visibility of three miles or greater. It is the pilot's responsibility to maintain visual separation, not the air traffic controller's, under VFR.

Visual Approach – Wherein an aircraft on an IFR flight plan, operating in VFR conditions under the control of an air traffic facility and having an air traffic control authorization, may proceed to destination airport under VFR.

VASI – Visual Approach Slope Indicator - An airport lighting facility in the terminal area navigation system used primarily under VFR conditions. It provides vertical visual guidance to aircraft during approach and landing, by radiating a pattern of high intensity red and white focused light beams, which indicate to the pilot that he/she is above, on, or below the glide path.

VMC – Visual Meteorological Conditions - weather conditions equal to or greater than those specified for aircraft operations under Visual Flight Rules (VFR).

VOR - Very High Frequency Omni-directional Range – A ground based electronic navigation aid transmitting navigation signals for 360 degrees oriented from magnetic north. VOR is the historic basis for navigation in the national airspace system.

W

X

Y

how to reach us

**SFO Aircraft Noise Abatement Office mailing address is:
P.O. Box 8097, San Francisco, CA 94128**

Phone:	650.821.5100
Fax:	650.821.5112
Noise Complaint Line:	650.821.4736
Toll Free Noise Complaint Line:	877.206.8290
Noise Complaint E-mail:	sfo.noise@flysfo.com
Airport Web Page:	www.flysfo.com
Noise Abatement Web Page:	http://www.flysfo.com/community-environment/noise-abatement
Roundtable Web Page:	www.sforoundtable.org

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SFO Airport/Community Roundtable

Meeting No. 313 Action Minutes

Wednesday, June 6, 2018

1. Call to Order / Roll Call / Declaration of a Quorum Present

Roundtable Chairperson, Elizabeth Lewis, called the Regular Meeting of the SFO Airport / Community Roundtable to order, at approximately 7:00 p.m., in the David Chetcuti Community Room at the Millbrae City Hall. James A. Castañeda, AICP, Roundtable Coordinator, called the roll. A quorum (at least 12 Regular Members) was **NOT** present as follows:

REGULAR MEMBERS PRESENT

Ivar Satero – City and County of San Francisco Airport Commission
Elizabeth Lewis – Town of Atherton
Doug Kim – City of Belmont
Terry O’Connell – City of Brisbane
Ricardo Ortiz – City of Burlingame
Sue Digre – City of Pacifica
Janet Borgens – City of Redwood City
Ron Collins – City of San Carlos

REGULAR MEMBERS ABSENT

City and County of San Francisco Board of Supervisors
City and County of San Francisco Mayor’s Office
County of San Mateo Board of Supervisors
C/CAG Airport Land Use Committee (ALUC)
City of Daly City
City of Foster City
City of Half Moon Bay
Town of Hillsborough
City of Menlo Park
City of Millbrae
Town of Portola Valley
City of San Bruno
City of San Mateo
City of South San Francisco
Town of Woodside

ROUNDTABLE STAFF

James A. Castañeda, AICP – Roundtable Coordinator
Justin Cook – Roundtable Consultant (HMMH)

SAN FRANCISCO INTERNATIONAL AIRPORT STAFF

Bert Ganoung, Noise Abatement Manager
David Ong, Noise Abatement Systems Manager
Nastasja von Contra, Senior Noise Abatement Specialist
Annelises Taing, Noise Abatement Specialist

2. Public Comments on Items NOT on the Agenda

A total of seven members of the public spoke during public comments:

Michael Harris
Al Wong
Doreen Gotelli
Darline Yaplee
Jennifer Landesmann
Ken Miles
Alastair Fyfe

3. Review of Roundtable Meeting Action Minutes for April 4, 2018

4. Airport Director's Reports for March and April 2018, Fly Quiet Report Q1 2018

ACTION: Due to a lack of quorum, no action could be taken on these items.

5. SFO Updates

6. Presentation on Second Chance and Replacement Noise Insulation Program

Airport Director Ivar Satero provided a brief report on the current operations at SFO, including the forthcoming installation of a Ground-Based Augmentation System (GBAS) at SFO. Doug Yakel, SFO Public Information Officer for SFO, provided an overview of the Second Change and Replacement Noise Insulation Program and details of how to qualify.

7. Status/Update, FAA Initiative Phase 2 – Technical Working Group follow-up, next steps, and upcoming meeting dates

Roundtable Technical Consultant Justin Cook provided a brief recap of the May 3, 2018 Technical Working Group meeting, and the next steps for the July meeting.

8. Upcoming 3-Year Strategic Plan and 2018-2019 Work Plan meeting, Member Appointment to Work Plan Subcommittee

Roundtable Coordinator James Castañeda provided an overview of the two documents and announced a future meeting of the Work Program Subcommittee in the coming weeks, and would be reaching out for volunteers to assist.

9. Aviation Noise News and Updates

Roundtable Technical Consultant Justin Cook provided a brief mention of relevant aviation noise news to the Roundtable.

Regular Meeting Action Minutes / Meeting No. 313

June 6, 2018

Page 3 of 3

10. Member Communications / Announcements

None.

11. Adjourn

Chairperson Lewis adjourned the meeting at 8:27 p.m.

Roundtable action minutes are considered draft until approved by the Roundtable at a regular meeting. A video recording of this meeting is available on the Roundtable's website.

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SFO Airport/Community Roundtable

Meeting No. 314 Action Minutes

Wednesday, August 1, 2018

1. Call to Order / Roll Call / Declaration of a Quorum Present

Roundtable Chairperson, Elizabeth Lewis, called the Regular Meeting of the SFO Airport / Community Roundtable to order, at approximately 7:00 p.m., in the David Chetcuti Community Room at the Millbrae City Hall. James A. Castañeda, AICP, Roundtable Coordinator, called the roll. A quorum (at least 12 Regular Members) was present as follows:

REGULAR MEMBERS PRESENT

Doug Yakel – City and County of San Francisco Airport Commission
Dave Pine – County of San Mateo Board of Supervisors
Carlo Ford - C/CAG Airport Land Use Committee (ALUC)
Elizabeth Lewis – Town of Atherton
Julia Mates – City of Belmont
Terry O’Connell – City of Brisbane
Harvey Rarback – City of Half Moon Bay
Alvin Royse – Town of Hillsborough
Ann Schneider – City of Millbrae
Sue Digre – City of Pacifica
Craig Hughes – Town of Portola Valley
Janet Borgens – City of Redwood City
Marty Medina – City of San Bruno
Diane Papen – City of San Mateo
Mark Addiego – City of South San Francisco

REGULAR MEMBERS ABSENT

City and County of San Francisco Board of Supervisors
City and County of San Francisco Mayor’s Office
City of Burlingame
City of Daly City
City of Foster City
City of Menlo Park
City of San Carlos
Town of Woodside

ROUNDTABLE STAFF

James A. Castañeda, AICP – Roundtable Coordinator
Gene Reindel – Roundtable Consultant (HMMH)

SAN FRANCISCO INTERNATIONAL AIRPORT STAFF

Bert Ganoung, Noise Abatement Manager
David Ong, Noise Abatement Systems Manager
Anthony Carpeneti, Noise Abatement Specialist
Annelises Taing, Noise Abatement Specialist
Wing Kwok, Noise Abatement Intern

2. Public Comments on Items NOT on the Agenda

A total of three members of the public spoke during public comments:

Doreen Gotelli
Elizabeth Lopez
Mark Shull

3. Review of Roundtable Meeting Action Minutes for April 4, 2018

4. Airport Director's Reports for March, April, May 2018, Fly Quiet Report Q2 2018

Brisbane resident Peter Grace commented on the director reports, followed by City of Millbrae representative Ann Schneider suggesting a future discussion on noise monitor placement.

ACTION: Janet Borgens **MOVED** approval of the action minutes for April 4, 2018, Airport Director's Reports for March, April, and May 2018, and Q2 2018 Fly Quiet Report. The motion was seconded by Ann Schneider and **CARRIED**, unanimously.

5. SFO Updates

6. Ground-Based Augmentation System (GBAS) updates

Doug Yakel, SFO Public Information Officer for San Francisco International Airport (SFO), provided an overview of the general operations at SFO, status of Ground-Based Augmentation System (GBAS) installation process, and an update on the Second Chance and Replacement Noise Insulation Program. Mr. Yakel provided clarification for those Roundtable members who had questions on the items.

7. Discussion with FAA Regarding Questions Provided from Roundtable Chair, email to FAA dated June 29, 2018

Shawn Kozica, Operations Support Group Manager with the FAA's Western Service Center, answered questions that were provided to the FAA on June 29, 2018 from the Roundtable Chairperson. Mr. Kozica attempted to address additional questions from Roundtable members. At the conclusions of the discussion with the FAA, several questions were taken from both Roundtable members and the public.

8. Follow-Up from July 12, 2018 Technical Working Group meeting

Roundtable Technical Consultant Gene Reindel provided an overview of the Technical Working Group meeting that occurred on July 12, 2018.

9. Follow-Up from June 26, 2018 Work Program Subcommittee meeting (Strategic Plan)

Roundtable Coordinator James Castañeda provided a brief an overview of the June 26, 2018 Work Program Subcommittee meeting and what can be expected in the coming weeks. Vice-Chairperson and City of Burlingame representative Ricardo Ortiz suggested the Roundtable consider at the next meeting the creation of a subcommittee to investigate ground-based noise at SFO.

10. Follow-Up from July 17, 2018 Legislative Subcommittee meeting

Redwood City representative Janet Borgens provided an update and overview of the July 17, 2018 Legislative Subcommittee meeting.

11. Aviation Noise News and Updates

Roundtable Technical Consultant Gene Reindel provided a brief recap of relevant aviation noise news to the Roundtable. Mr. Reindel also took questions from Roundtable members.

12. Member Communications / Announcements

Pacifica representative Sue Digre suggested revisiting how the Roundtable briefs new members to familiarize them with current efforts and terminology. Other members announced upcoming community events in their respective cities.

13. Adjourn

Chairperson Lewis adjourned the meeting at 9:11 p.m.

Roundtable action minutes are considered draft until approved by the Roundtable at a regular meeting. A video recording of this meeting is available on the Roundtable's website.

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Airport Director's Report

Presented at the October 3, 2018
Airport Community Roundtable Meeting

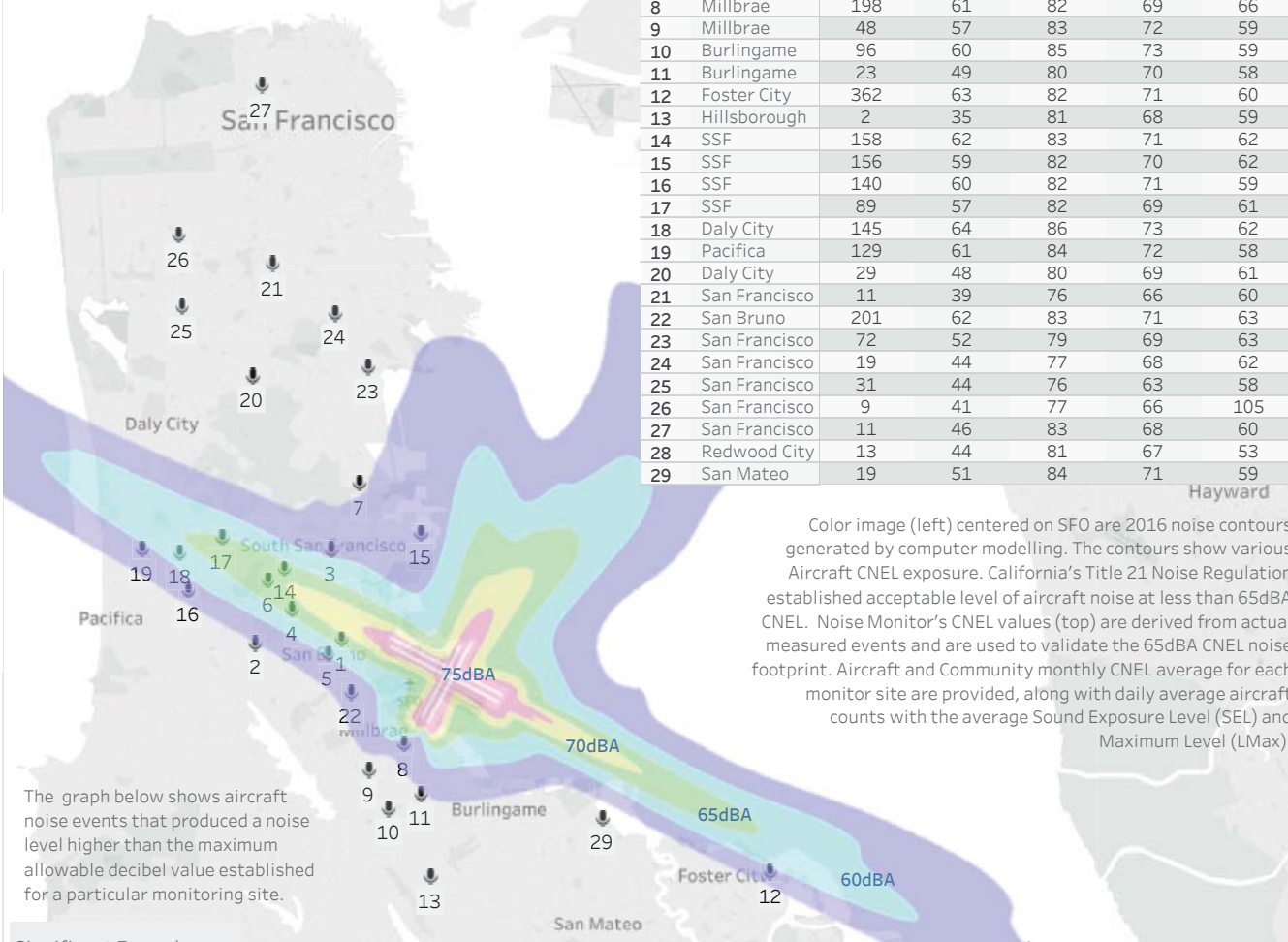
Aircraft Noise Abatement Office
June 2018



San Francisco
International
Airport

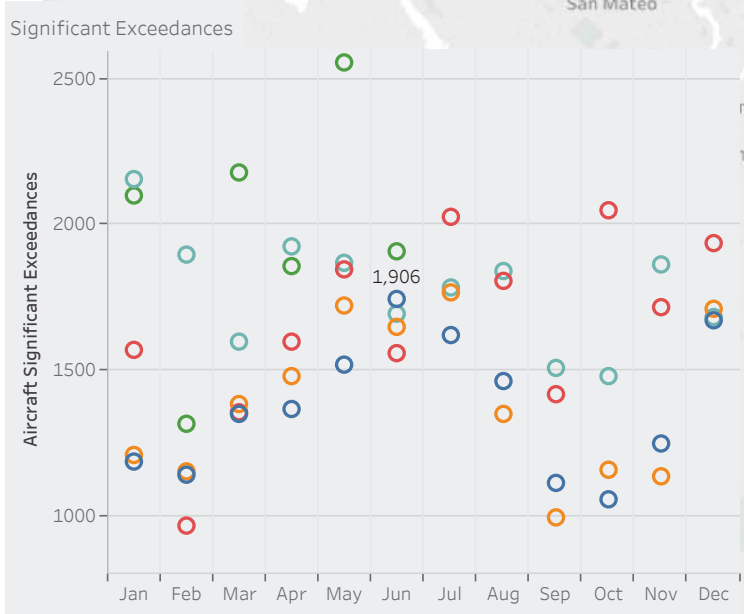
The map shows 29 aircraft noise monitoring locations that keep track of noise levels in the communities around the airport. Image centered on SFO airport shows quarterly aircraft noise levels (dBA) exposure. The green zone marks 65dBA Community Noise Exposure Level (CNEL). The CNEL metric is used to assess and regulate aircraft noise exposure in communities surrounding the airport.

Site	City	Noise Events (AVG Day)	Aircraft			City
			CNEL (dBA)	SEL (dBA)	LMax (dBA)	
1	San Bruno	274	74	92	77	67
3	SSF	96	55	80	69	62
4	SSF	186	69	90	77	61
5	San Bruno	220	68	88	76	63
6	SSF	169	66	87	75	60
7	Brisbane	32	51	79	70	60
8	Millbrae	198	61	82	69	66
9	Millbrae	48	57	83	72	59
10	Burlingame	96	60	85	73	59
11	Burlingame	23	49	80	70	58
12	Foster City	362	63	82	71	60
13	Hillsborough	2	35	81	68	59
14	SSF	158	62	83	71	62
15	SSF	156	59	82	70	62
16	SSF	140	60	82	71	59
17	SSF	89	57	82	69	61
18	Daly City	145	64	86	73	62
19	Pacifica	129	61	84	72	58
20	Daly City	29	48	80	69	61
21	San Francisco	11	39	76	66	60
22	San Bruno	201	62	83	71	63
23	San Francisco	72	52	79	69	63
24	San Francisco	19	44	77	68	62
25	San Francisco	31	44	76	63	58
26	San Francisco	9	41	77	66	105
27	San Francisco	11	46	83	68	60
28	Redwood City	13	44	81	67	53
29	San Mateo	19	51	84	71	59



Color image (left) centered on SFO are 2016 noise contours generated by computer modelling. The contours show various Aircraft CNEL exposure. California's Title 21 Noise Regulation established acceptable level of aircraft noise at less than 65dBA CNEL. Noise Monitor's CNEL values (top) are derived from actual measured events and are used to validate the 65dBA CNEL noise footprint. Aircraft and Community monthly CNEL average for each monitor site are provided, along with daily average aircraft counts with the average Sound Exposure Level (SEL) and Maximum Level (LMax).

The graph below shows aircraft noise events that produced a noise level higher than the maximum allowable decibel value established for a particular monitoring site.



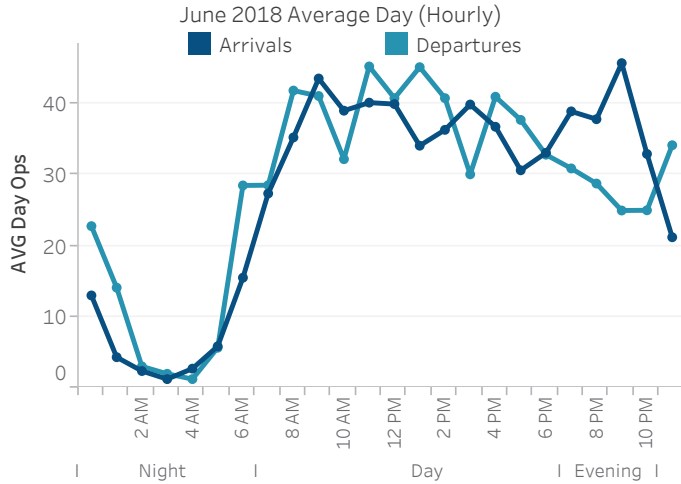
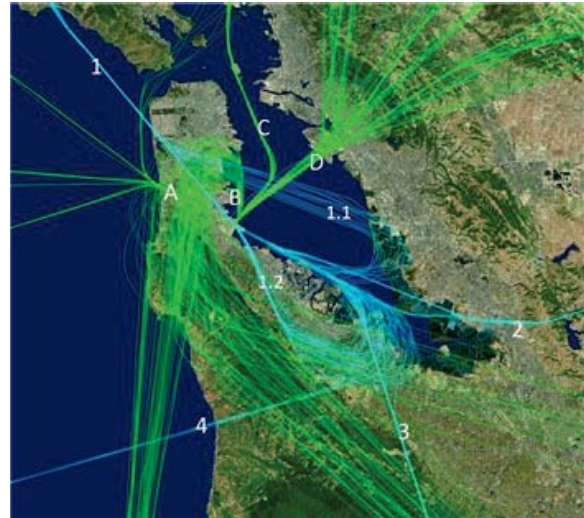
Note: Site 2 is currently not operational.

Monthly Operations Summary

June 2018

40,005	1,334	38,712	1.4%
Monthly Operations	Average Daily Operations	12 Month AVG	YOY Growth

Major Arrival and Departure Route Pattern (West Flow)



Arrivals

1. BDEGA	29%
2. DYAMD	39%
3. SERFR	27%
4. OCEANIC	5%

Departures

A. GAP	26%
B. SSTIK	24%
C. NIITE	9%
D. TRUKN RWY 01	34%
D. TRUKN RWY 28	8%

Top Destinations

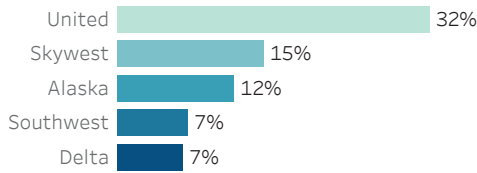
Los Angeles	Seattle	Portland
7%	5%	4%

West Flow
100%

Down the Bay vs Peninsula

1.1 BDEGA East	28%
1.2 BDEGA West	72%

Airlines with the Most Operations



Business Jets / Helicopters / GA 17%



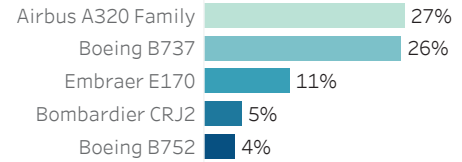
Narrowbody Jets 69%



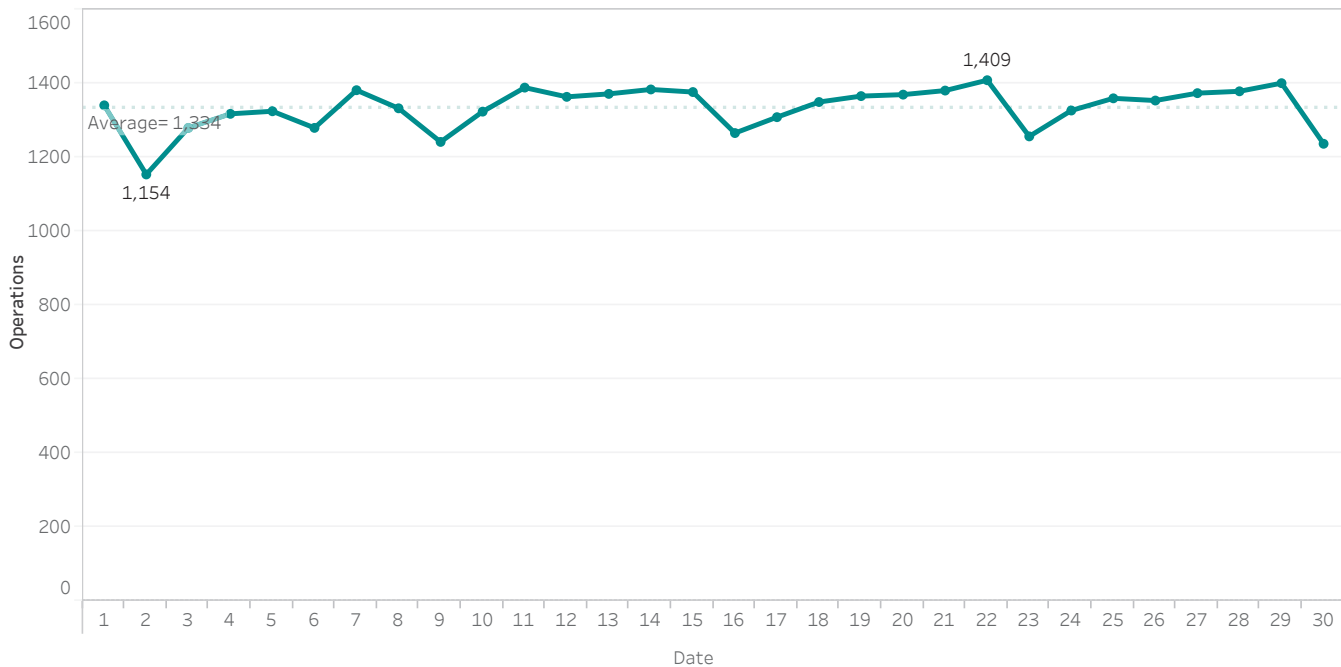
Widebody Jets 14%



Most Utilized Aircraft Types



Daily Aircraft Operations



Runway Usage and Nighttime Operations

Monthly runway usage is shown for arrivals and departures, further categorized by all hours and nighttime hours. Graph at the bottom of the page shows hourly nighttime operations for each day. Power Runup locations are depicted on the airport map with airline nighttime power runup counts shown below. (Percent [%] rounded to nearest whole number)

Runway Utilization (all hours)

	Arrivals	Departures
01 L/R		68% 12,694
10 L/R		0% 16
28 L/R	100% 18,082	32% 6,037

Late Night Preferential Runway Use (1 am - 6 am)

	Departures
10 L/R	2% 17
01 L/R	47% 325
28 L/R	50% 347

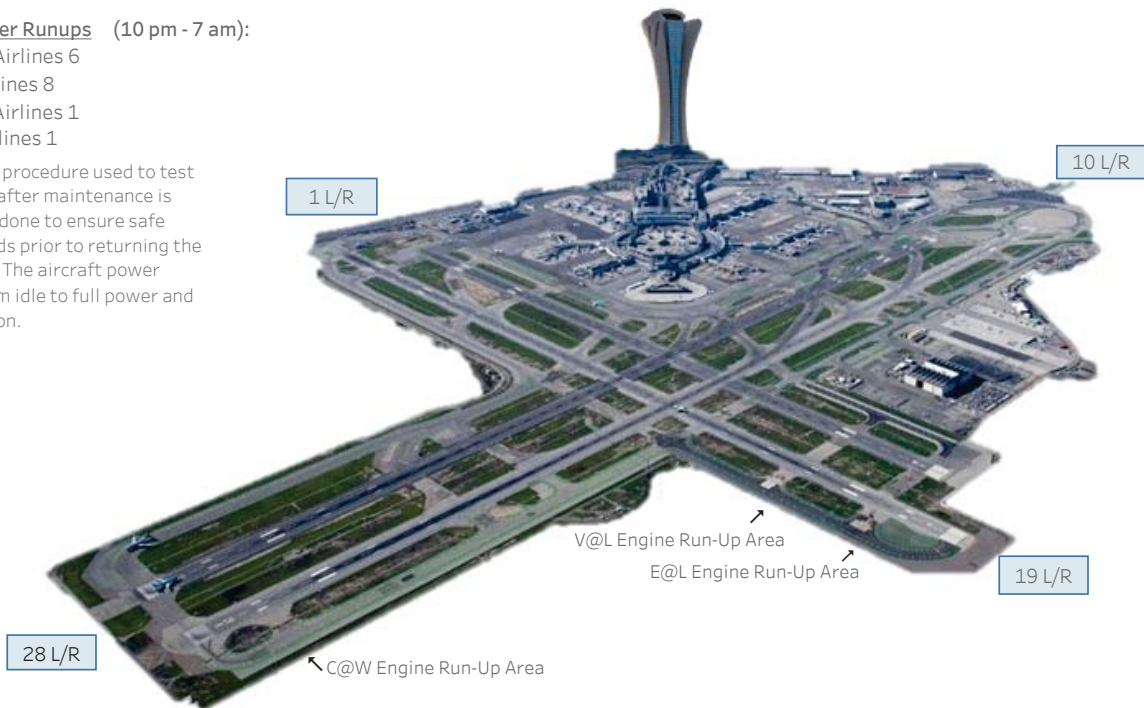
28 L vs R

Arrivals	
28L	28R
44%	56%
Night (10 pm - 7 am)	
32%	68%

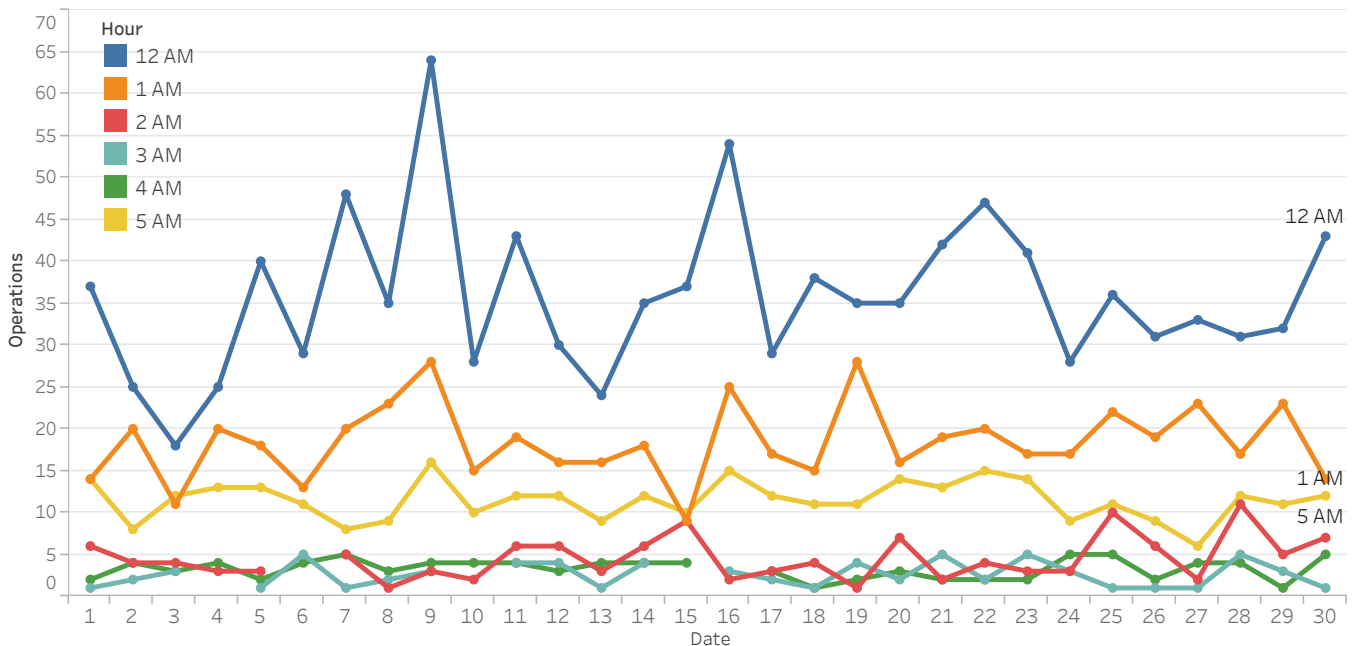
Nighttime Power Runups (10 pm - 7 am):

- American Airlines 6
- United Airlines 8
- Cal Cargo Airlines 1
- Korean Airlines 1

A power runup is a procedure used to test an aircraft engine after maintenance is completed. This is done to ensure safe operating standards prior to returning the aircraft to service. The aircraft power settings range from idle to full power and may vary in duration.



Hourly Nighttime Operations



Noise Reports



June 2018

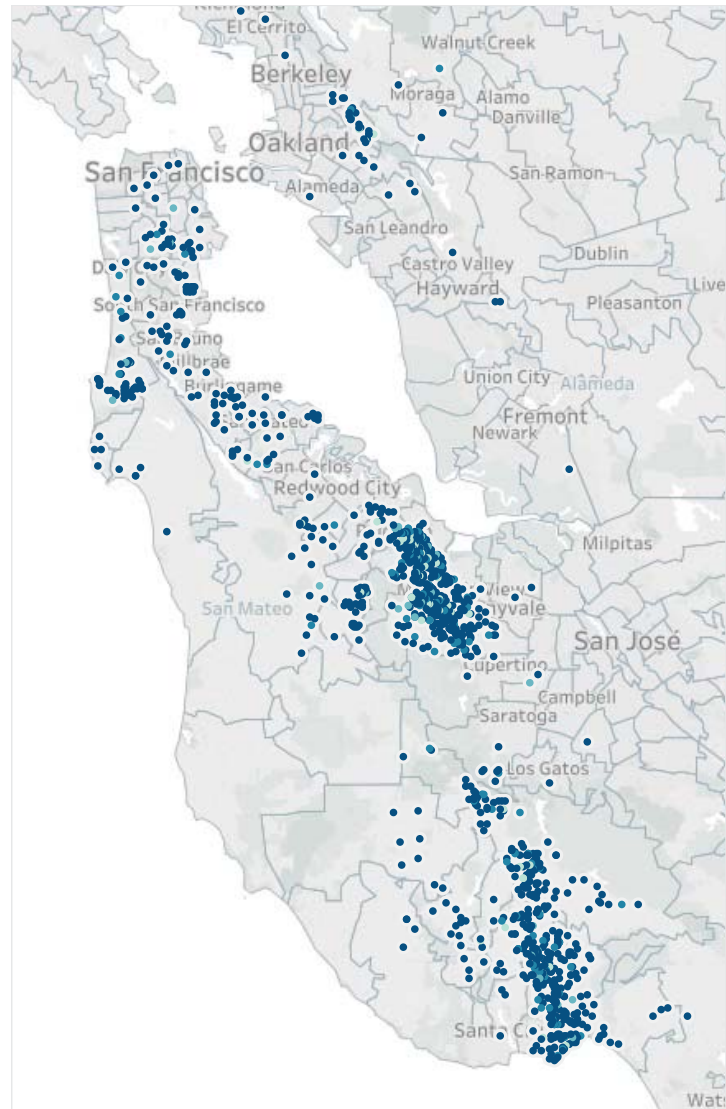
Noise Reporters / Noise Reports

	Noise Reporters	Noise Reports
Atherton	5	939
Belmont	4	630
Brisbane	28	2,255
Burlingame	15	148
Daly City	10	1,185
El Granada	1	475
Foster City	8	449
Half Moon Bay	9	259
Hillsborough	9	97
Menlo Park	20	1,787
Millbrae	3	4
Pacifica	45	5,024
Portola Valley	41	6,672
Redwood City	15	1,595
San Bruno	6	423
San Carlos	2	3
San Francisco	37	3,736
San Mateo	21	1,220
South San Francisco	12	62
Woodside	12	1,356
Alameda	1	31
Aptos	12	325
Ben Lomond	9	162
Berkeley	4	170
Bonny Doon	4	167
Boulder Creek	8	389
Brookdale	1	1
Capitola	20	2,666
Carmel	5	143
Castro Valley	1	7
Cupertino	2	599
East Palo Alto	2	24
El Cerrito	2	2
El Sobrante	1	2
Felton	14	1,139
Fremont	1	24
Hayward	2	2
Lafayette	1	494
Los Altos	173	24,241
Los Altos Hills	32	9,129
Los Gatos	145	19,068
Moraga	2	189
Morgan Hill	2	138
Mountain View	70	5,634
Oakland	29	7,178
Orinda	1	103
Palo Alto	239	48,093
Richmond	1	52
San Jose	2	39
Santa Cruz	131	15,715
Saratoga	9	702
Scotts Valley	82	9,469
Soquel	86	6,139
Sunnyvale	13	573
Watsonville	2	194
Total	1,412	181,322

Roundtable Communities

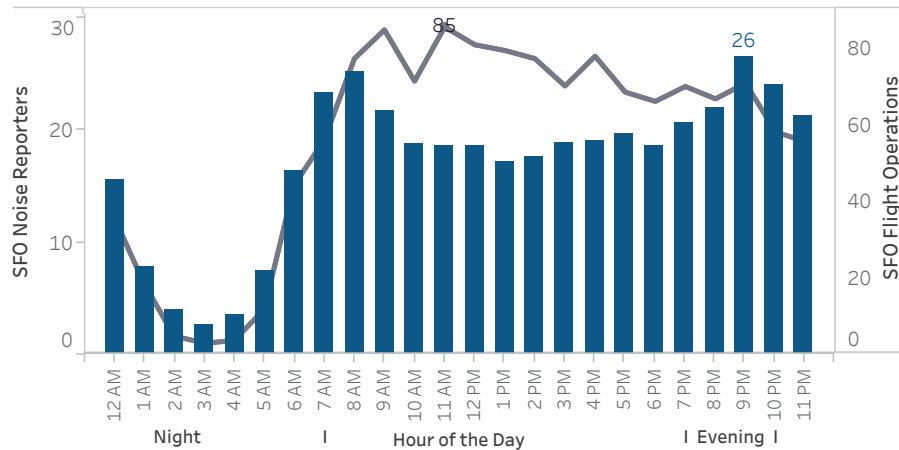
Other Communities

Noise Reporters Location Map



- 1,510 Noise Reporters (12 month AVG)
- 181,476 Noise Reports (12 Month AVG)
- 65 New Reporters
- Palo Alto New Reporters Top City
- 88 miles Furthest Report
- 5 Reports per SFO Operation
- B737 A320 E75L Top Aircraft Type
- CMP382* KAL213 * JBU736 Top Flight Number *Night

Hourly Noise Reporters vs. Flight Operations (AVG Day)



Our software vendor's address validation relies on USPS-provided ZIP code look up table and USPS-specified default city values. Source: SFO Intl Airport Noise Monitoring System

99% of noise reports correlate to a flight origin/destination airport:

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Airport Director's Report

Presented at the October 3, 2018
Airport Community Roundtable Meeting

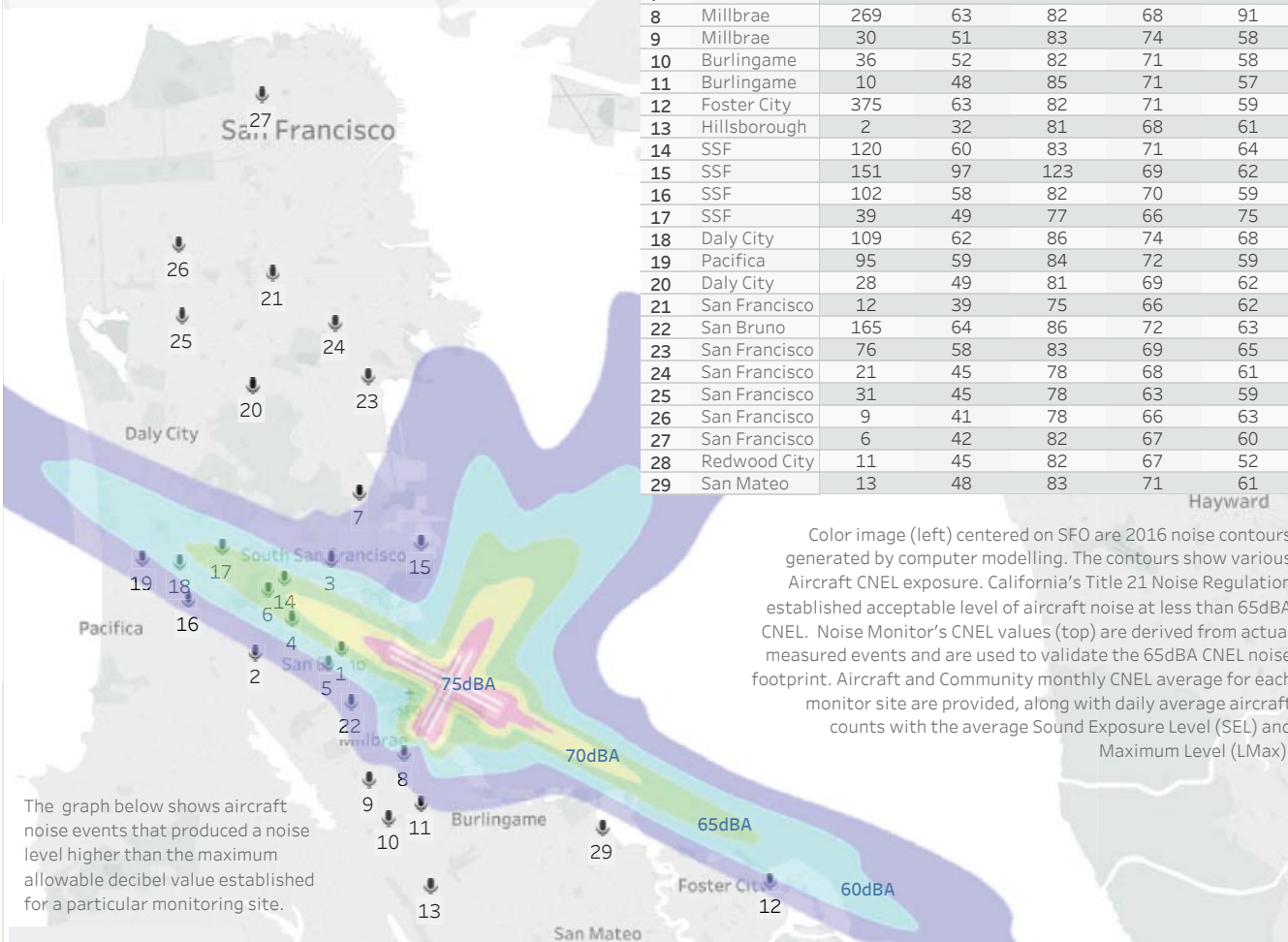
Aircraft Noise Abatement Office
July 2018



San Francisco
International
Airport

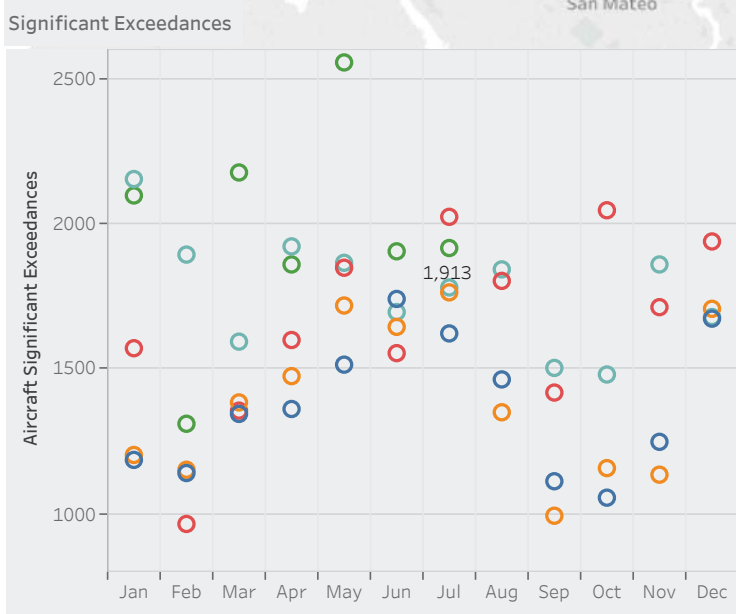
The map shows 29 aircraft noise monitoring locations that keep track of noise levels in the communities around the airport. Image centered on SFO airport shows quarterly aircraft noise levels (dBA) exposure. The green zone marks 65dBA Community Noise Exposure Level (CNEL). The CNEL metric is used to assess and regulate aircraft noise exposure in communities surrounding the airport.

Site	City	Noise Events (AVG Day)	Aircraft			City
			CNEL (dBA)	SEL (dBA)	LMax (dBA)	
1	San Bruno	222	74	93	77	68
3	SSF	65	53	80	69	61
4	SSF	136	69	91	78	60
5	San Bruno	156	67	88	76	62
6	SSF	123	65	87	76	60
7	Brisbane	24	49	79	69	58
8	Millbrae	269	63	82	68	91
9	Millbrae	30	51	83	74	58
10	Burlingame	36	52	82	71	58
11	Burlingame	10	48	85	71	57
12	Foster City	375	63	82	71	59
13	Hillsborough	2	32	81	68	61
14	SSF	120	60	83	71	64
15	SSF	151	97	123	69	62
16	SSF	102	58	82	70	59
17	SSF	39	49	77	66	75
18	Daly City	109	62	86	74	68
19	Pacifica	95	59	84	72	59
20	Daly City	28	49	81	69	62
21	San Francisco	12	39	75	66	62
22	San Bruno	165	64	86	72	63
23	San Francisco	76	58	83	69	65
24	San Francisco	21	45	78	68	61
25	San Francisco	31	45	78	63	59
26	San Francisco	9	41	78	66	63
27	San Francisco	6	42	82	67	60
28	Redwood City	11	45	82	67	52
29	San Mateo	13	48	83	71	61



Color image (left) centered on SFO are 2016 noise contours generated by computer modelling. The contours show various Aircraft CNEL exposure. California's Title 21 Noise Regulation established acceptable level of aircraft noise at less than 65dBA CNEL. Noise Monitor's CNEL values (top) are derived from actual measured events and are used to validate the 65dBA CNEL noise footprint. Aircraft and Community monthly CNEL average for each monitor site are provided, along with daily average aircraft counts with the average Sound Exposure Level (SEL) and Maximum Level (LMax).

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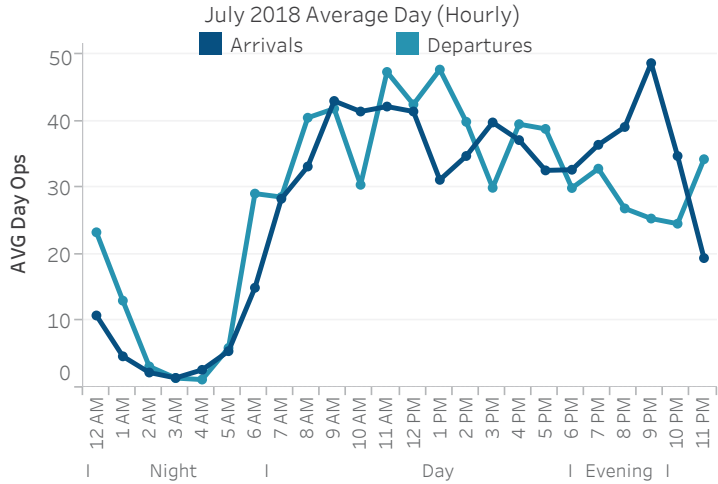


Note: Site 2 is currently not operational.

Monthly Operations Summary

July 2018

41,412	1,336	38,682	-0.9%
Monthly Operations	Average Daily Operations	12 Month AVG	YOY Growth



Major Arrival and Departure Route Pattern (West Flow)



Arrivals

1. BDEGA	30%
2. DYAMD	37%
3. SERFR	28%
4. OCEANIC	5%

Departures

A. GAP	19%
B. SSTIK	27%
C. NIITE	11%
D. TRUKN RWY 01	40%
D. TRUKN RWY 28	3%

Top Destinations

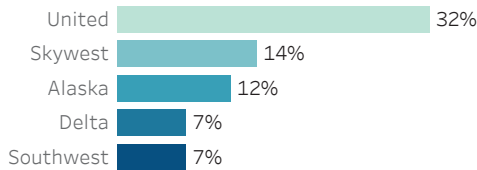
Los Angeles	Seattle
7%	5%

West Flow
100%

Down the Bay vs Peninsula

1.1 BDEGA East	31%
1.2 BDEGA West	69%

Airlines with the Most Operations



Business Jets / Helicopters / GA 17%



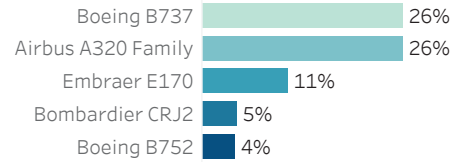
Narrowbody Jets 68%



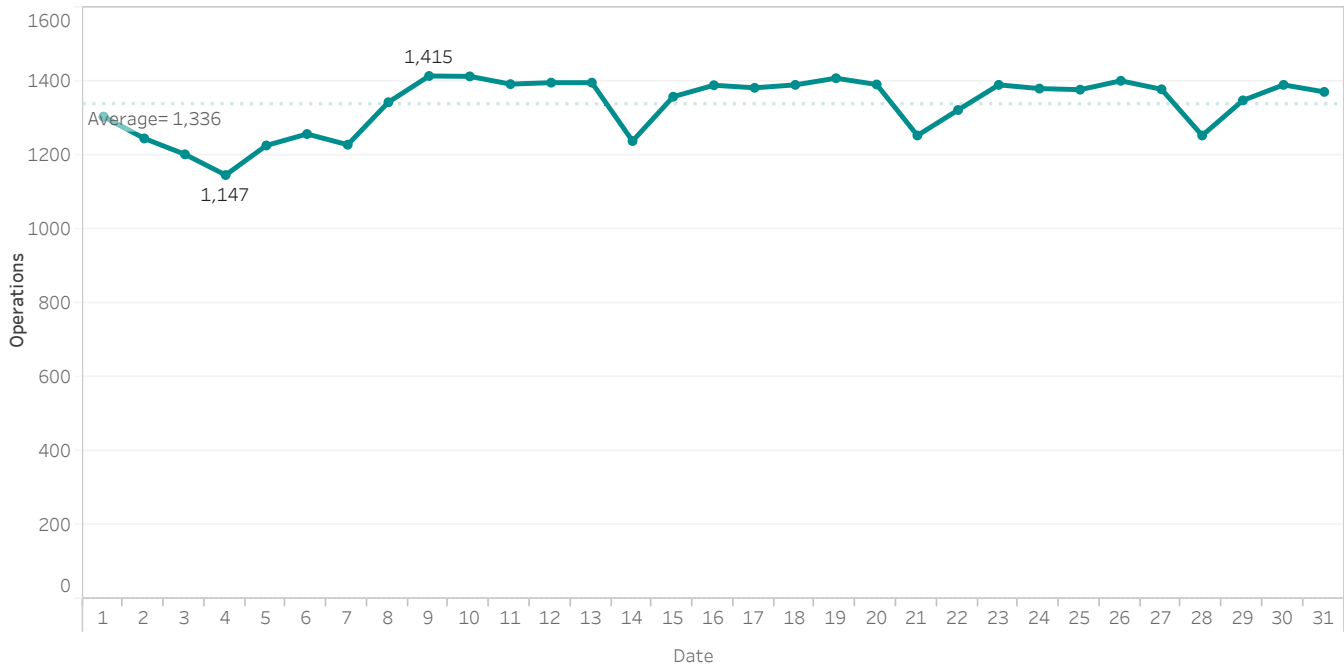
Widebody Jets 14%



Most Utilized Aircraft Types



Daily Aircraft Operations



Runway Usage and Nighttime Operations

Monthly runway usage is shown for arrivals and departures, further categorized by all hours and nighttime hours. Graph at the bottom of the page shows hourly nighttime operations for each day. Power Runup locations are depicted on the airport map with airline nighttime power runup counts shown below. (Percent [%] rounded to nearest whole number)

Runway Utilization (all hours)

	Arrivals	Departures
01 L/R		80% 15,400
10 L/R		0% 3
28 L/R	100% 18,532	20% 3,843

Late Night Preferential Runway Use (1 am - 6 am)

	Departures
10 L/R	0% 1
01 L/R	48% 341
28 L/R	52% 371

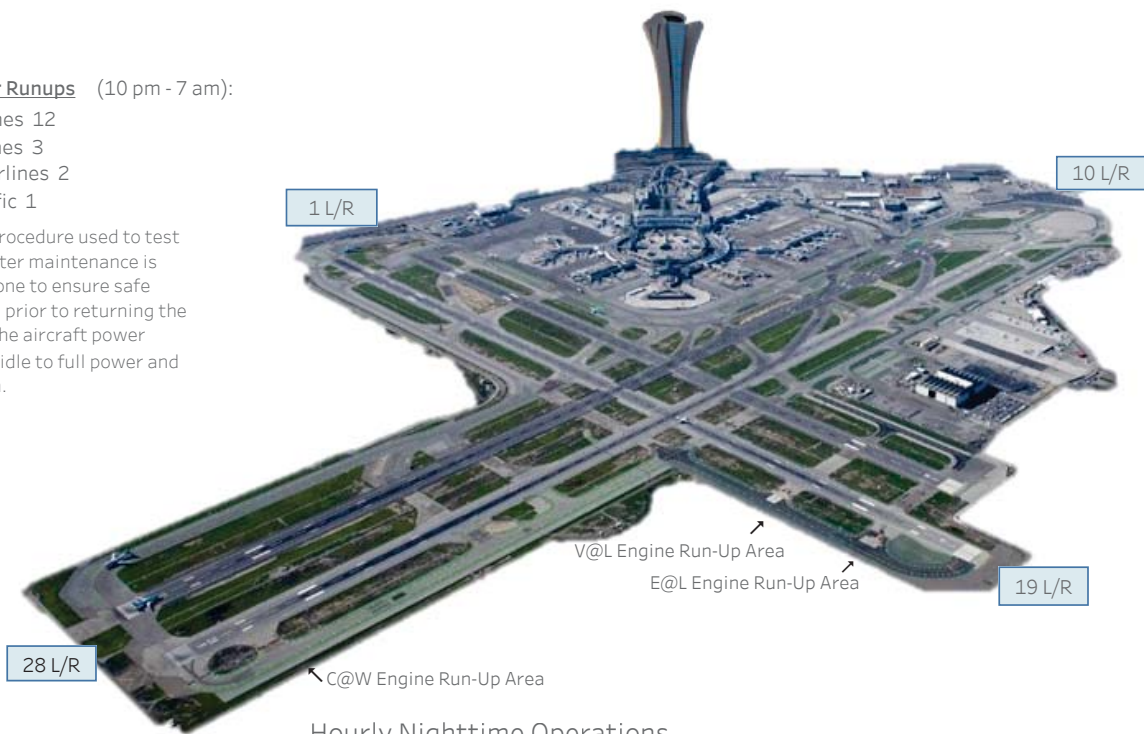
28 L vs R

Arrivals	
28L	28R
47%	53%
Night (10 pm - 7 am)	
32%	68%

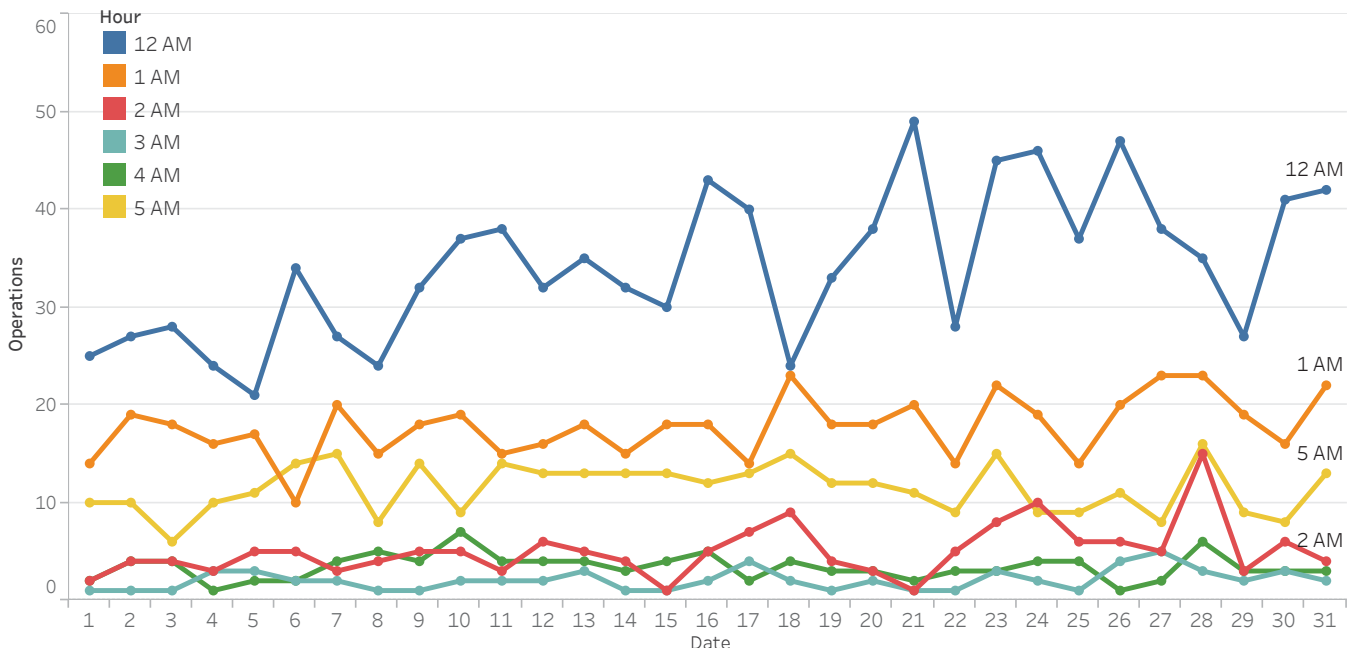
Nighttime Power Runups (10 pm - 7 am):

- United Airlines 12
- Alaska Airlines 3
- American Airlines 2
- Cathay Pacific 1

A power runup is a procedure used to test an aircraft engine after maintenance is completed. This is done to ensure safe operating standards prior to returning the aircraft to service. The aircraft power settings range from idle to full power and may vary in duration.



Hourly Nighttime Operations



Noise Reports



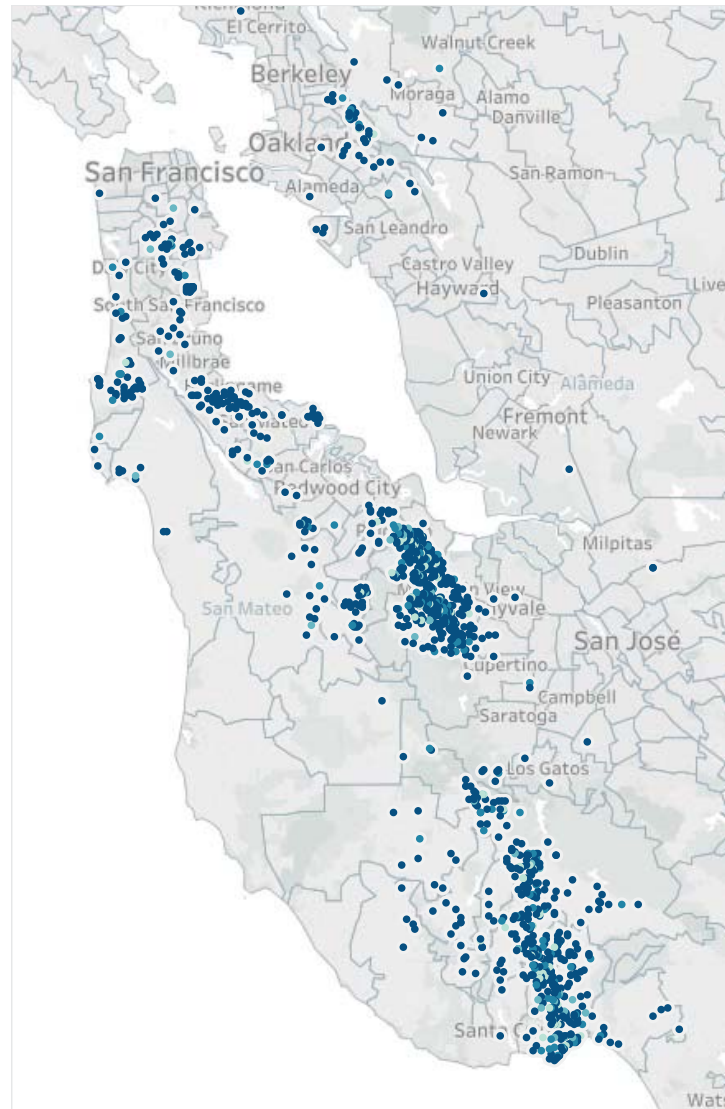
July 2018

Noise Reporters / Noise Reports

Noise Reporters Location Map

Community	Noise Reporters	Noise Reports
Atherton	5	988
Belmont	6	669
Brisbane	23	2,025
Burlingame	37	341
Daly City	6	692
El Granada	2	741
Foster City	12	142
Half Moon Bay	9	382
Hillsborough	11	138
Menlo Park	19	1,952
Millbrae	3	10
Pacifica	46	4,943
Portola Valley	40	7,184
Redwood City	13	1,725
San Bruno	4	784
San Carlos	3	32
San Francisco	31	3,342
San Mateo	31	1,327
South San Francisco	9	28
Woodside	15	1,538
Alameda	5	24
Aptos	11	812
Ben Lomond	8	288
Berkeley	4	306
Bonny Doon	4	201
Boulder Creek	10	532
Brookdale	1	4
Capitola	23	4,725
Carmel	3	588
Cupertino	2	496
East Palo Alto	1	5
El Sobrante	1	2
Felton	17	1,525
Fremont	1	16
Hayward	1	5
Lafayette	1	336
Los Altos	176	23,589
Los Altos Hills	36	9,651
Los Gatos	151	29,451
Moraga	3	177
Morgan Hill	2	55
Mountain View	56	4,281
Oakland	38	8,707
Orinda	3	40
Palo Alto	226	51,852
Piedmont	1	2
Pinole	1	1
Richmond	1	82
San Jose	4	25
Santa Cruz	140	27,440
Saratoga	9	770
Scotts Valley	82	16,900
Soquel	89	11,737
Sunnyvale	7	191
Watsonville	1	261
Total	1,444	224,060

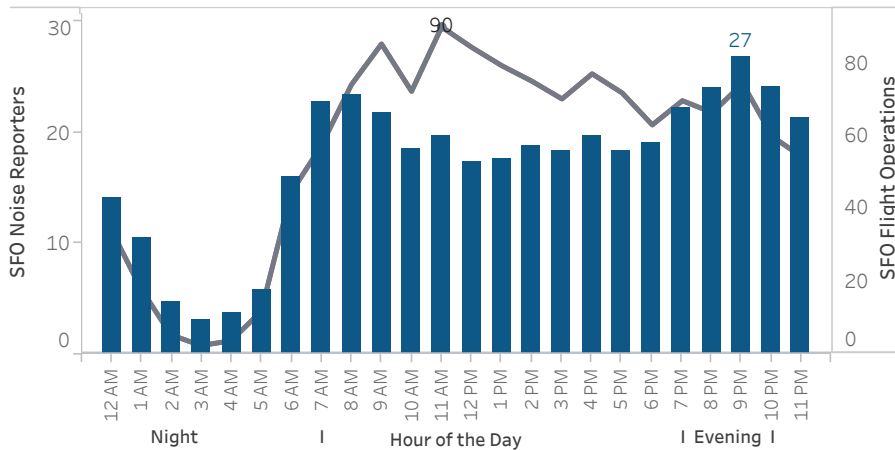
1,495
Noise Reporters (12 month AVG)
222,719
Noise Reports (12 Month AVG)
77
New Reporters
Palo Alto
New Reporters Top City
88 Miles
Furthest Report
5
Reports per SFO Operation
B737
A320
E75L
Top Aircraft Type
CMP382*
KAL213 *
JBU736
Top Flight Number *Night



Roundtable Communities

Other Communities

Hourly Noise Reporters vs. Flight Operations (AVG Day)



Our software vendor's address validation relies on USPS-provided ZIP code look up table and USPS-specified default city values.

Source: SFO Intl Airport Noise Monitoring System

99% of noise reports correlate to a flight origin/destination airport:

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Airport Director's Report

Presented at the October 3, 2018
Airport Community Roundtable Meeting

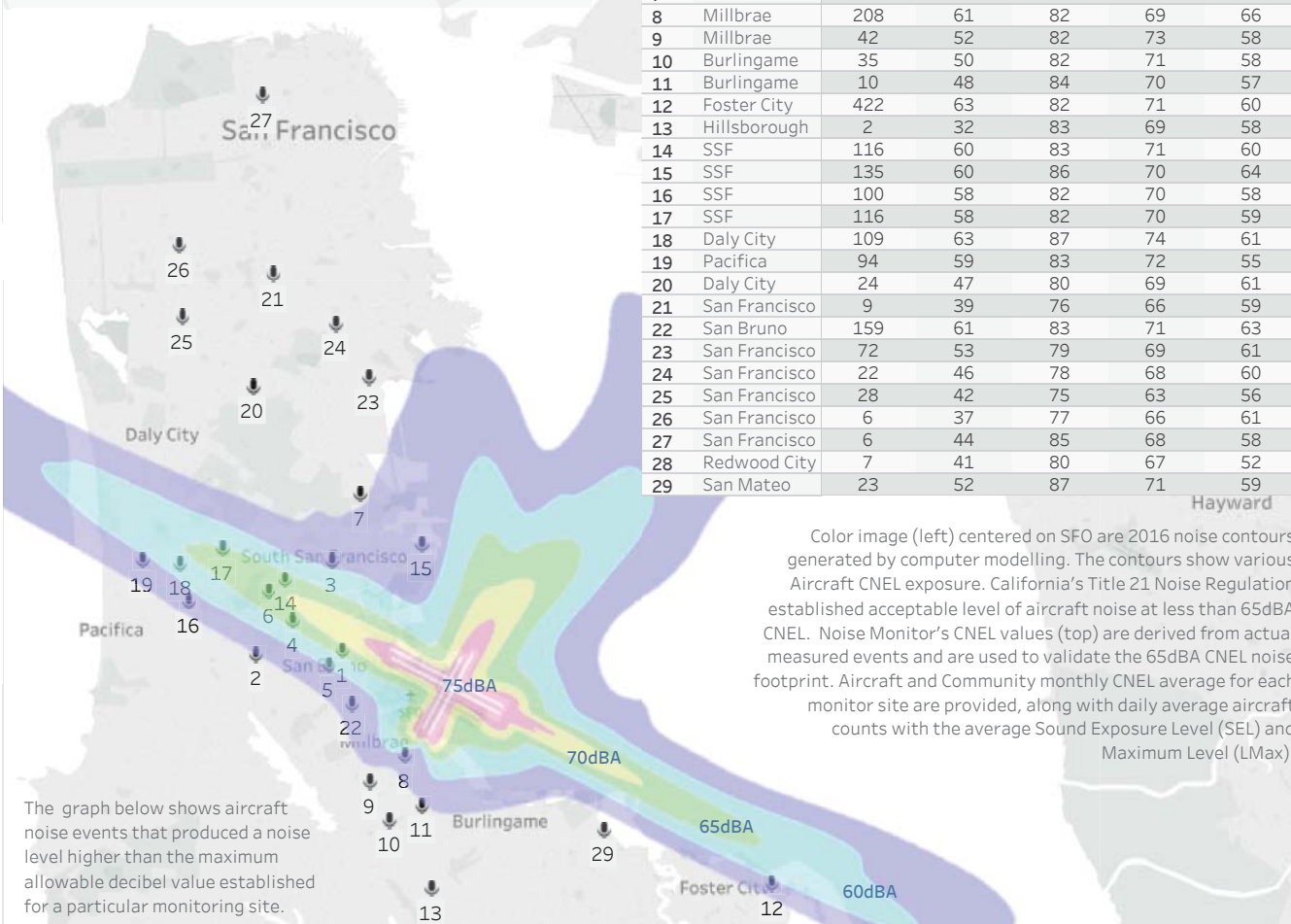
Aircraft Noise Abatement Office
August 2018



San Francisco
International
Airport

The map shows 29 aircraft noise monitoring locations that keep track of noise levels in the communities around the airport. Image centered on SFO airport shows quarterly aircraft noise levels (dBA) exposure. The green zone marks 65dBA Community Noise Exposure Level (CNEL). The CNEL metric is used to assess and regulate aircraft noise exposure in communities surrounding the airport.

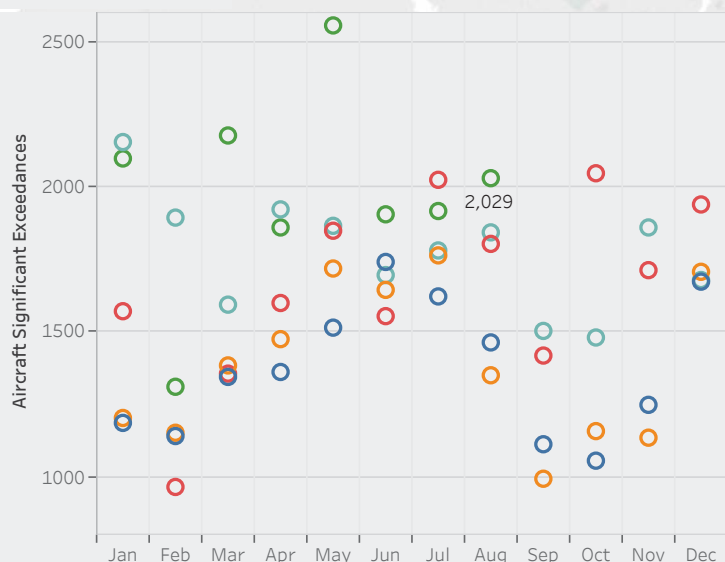
Site	City	Noise Events (AVG Day)	Aircraft			City
			CNEL (dBA)	SEL (dBA)	LMax (dBA)	
1	San Bruno	204	73	93	78	67
3	SSF	63	52	80	69	60
4	SSF	134	68	91	78	61
5	San Bruno	143	66	88	76	61
6	SSF	119	64	88	76	58
7	Brisbane	25	49	80	70	58
8	Millbrae	208	61	82	69	66
9	Millbrae	42	52	82	73	58
10	Burlingame	35	50	82	71	58
11	Burlingame	10	48	84	70	57
12	Foster City	422	63	82	71	60
13	Hillsborough	2	32	83	69	58
14	SSF	116	60	83	71	60
15	SSF	135	60	86	70	64
16	SSF	100	58	82	70	58
17	SSF	116	58	82	70	59
18	Daly City	109	63	87	74	61
19	Pacifica	94	59	83	72	55
20	Daly City	24	47	80	69	61
21	San Francisco	9	39	76	66	59
22	San Bruno	159	61	83	71	63
23	San Francisco	72	53	79	69	61
24	San Francisco	22	46	78	68	60
25	San Francisco	28	42	75	63	56
26	San Francisco	6	37	77	66	61
27	San Francisco	6	44	85	68	58
28	Redwood City	7	41	80	67	52
29	San Mateo	23	52	87	71	59



Color image (left) centered on SFO are 2016 noise contours generated by computer modelling. The contours show various Aircraft CNEL exposure. California's Title 21 Noise Regulation established acceptable level of aircraft noise at less than 65dBA CNEL. Noise Monitor's CNEL values (top) are derived from actual measured events and are used to validate the 65dBA CNEL noise footprint. Aircraft and Community monthly CNEL average for each monitor site are provided, along with daily average aircraft counts with the average Sound Exposure Level (SEL) and Maximum Level (LMax).

The graph below shows aircraft noise events that produced a noise level higher than the maximum allowable decibel value established for a particular monitoring site.

Significant Exceedances

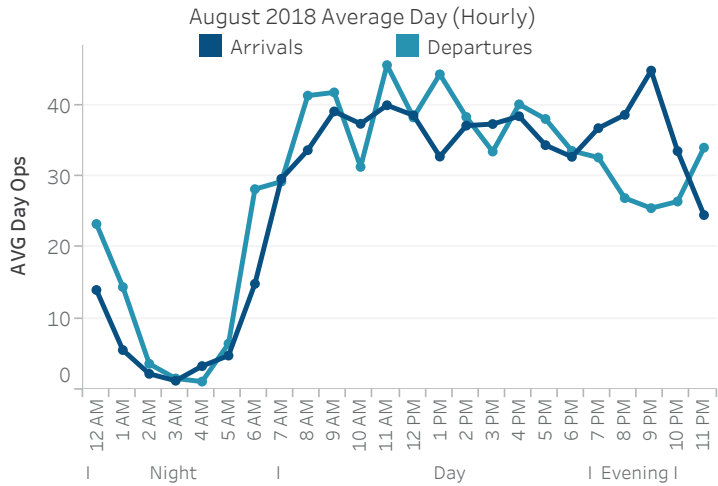


Note: Site 2 is currently not operational.
Site 15 noise data through August 19 only

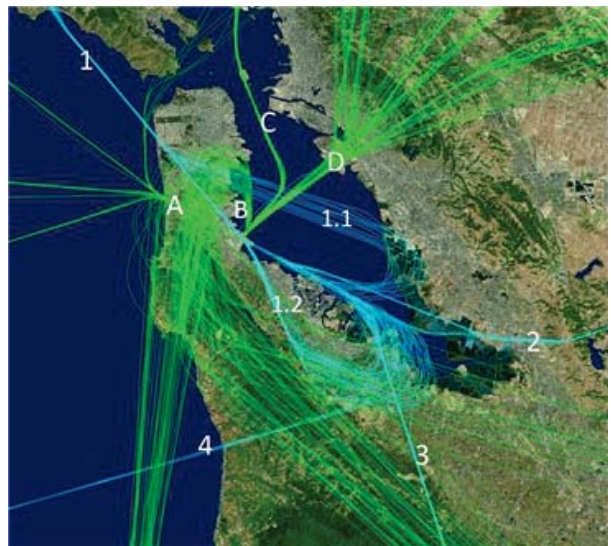
Monthly Operations Summary

August 2018

41,396	1,335	38,553	-3.7%
Monthly Operations	Average Daily Operations	12 Month AVG	YOY Growth



Major Arrival and Departure Route Pattern (West Flow)



Arrivals

1. BDEGA	29%
2. DYAMD	39%
3. SERFR	28%
4. OCEANIC	5%

Departures

A. GAP	18%
B. SSTIK	28%
C. NIITE	10%
D. TRUKN RWY 01	42%
D. TRUKN RWY 28	2%

Top Destinations

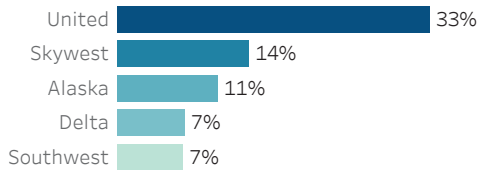
Los Angeles	7%
Seattle	6%

West Flow
100%

Down the Bay vs Peninsula

1.1 BDEGA East	26%
1.2 BDEGA West	74%

Airlines with the Most Operations



Business Jets / Helicopters / GA 16%



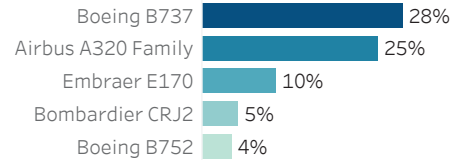
Narrowbody Jets 69%



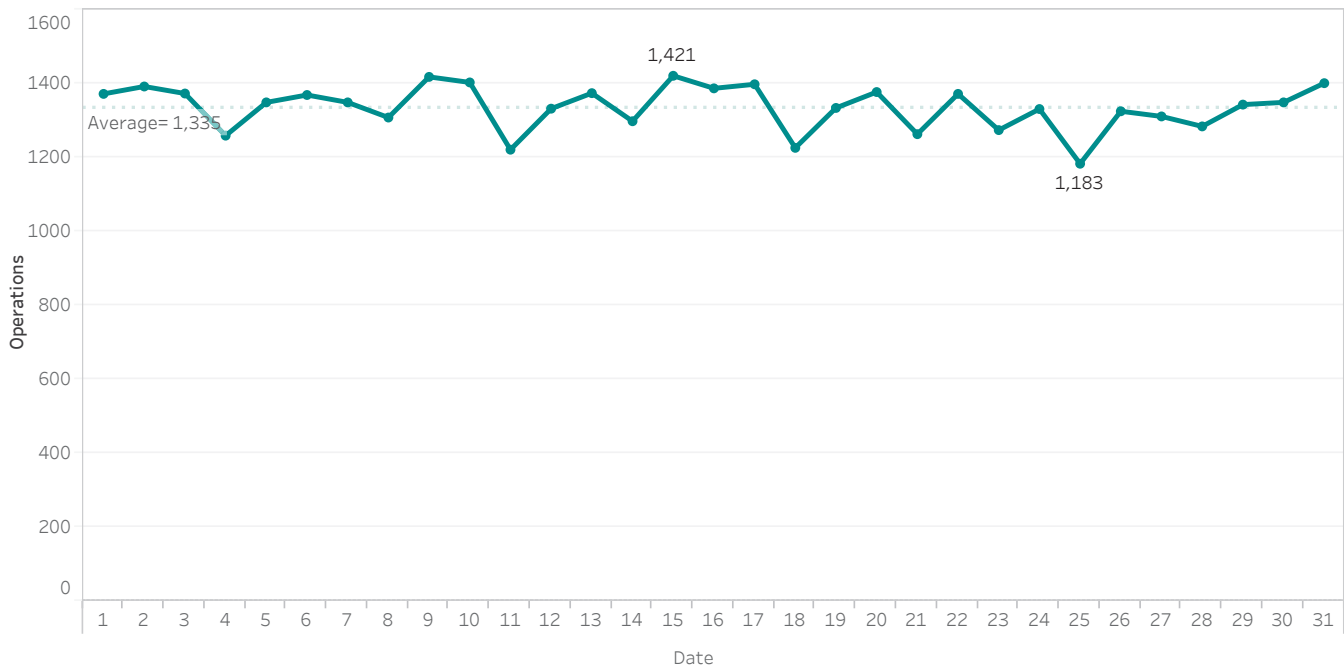
Widebody Jets 15%



Most Utilized Aircraft Types



Daily Aircraft Operations



Runway Usage and Nighttime Operations

Monthly runway usage is shown for arrivals and departures, further categorized by all hours and nighttime hours. Graph at the bottom of the page shows hourly nighttime operations for each day. Power Runup locations are depicted on the airport map with airline nighttime power runup counts shown below. (Percent [%] rounded to nearest whole number)

Runway Utilization (all hours)

	Arrivals	Departures
01 L/R		81% 16,109
10 L/R		0% 1
28 L/R	100% 19,123	19% 3,734

Late Night Preferential Runway Use (1 am - 6 am)

	Departures
10 L/R	0% 3
01 L/R	53% 414
28 L/R	47% 364

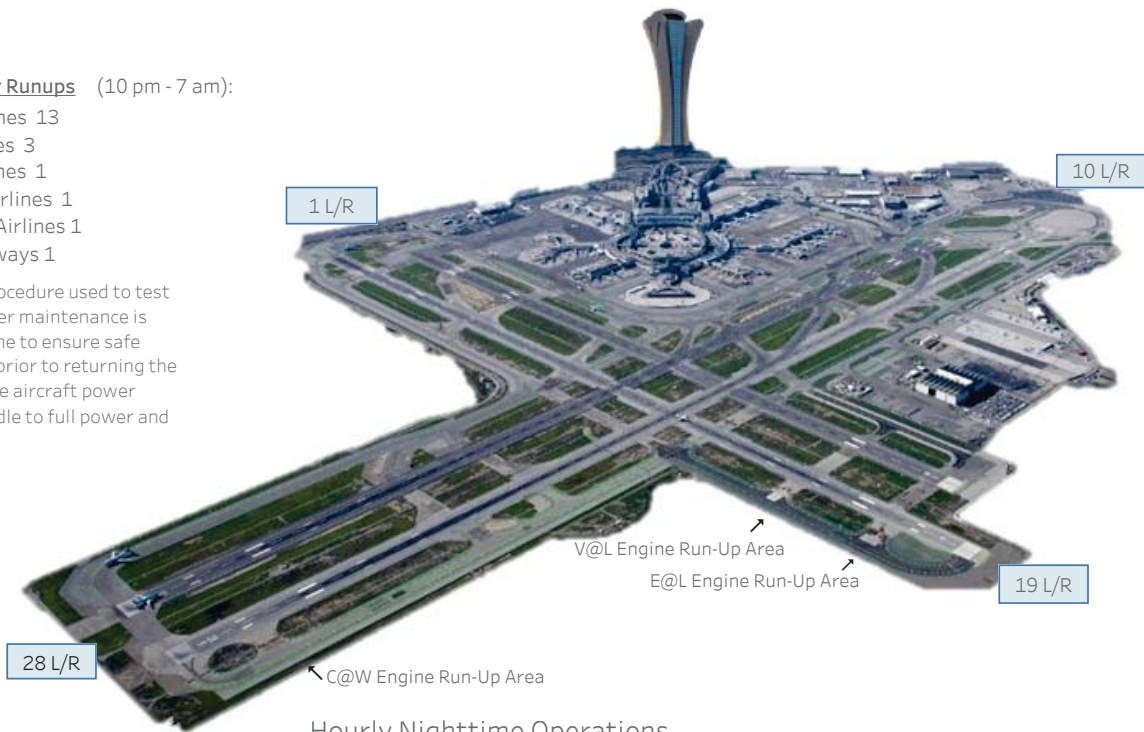
28 L vs R

Arrivals	
28L	28R
46%	54%
Night (10 pm - 7 am)	
35%	65%

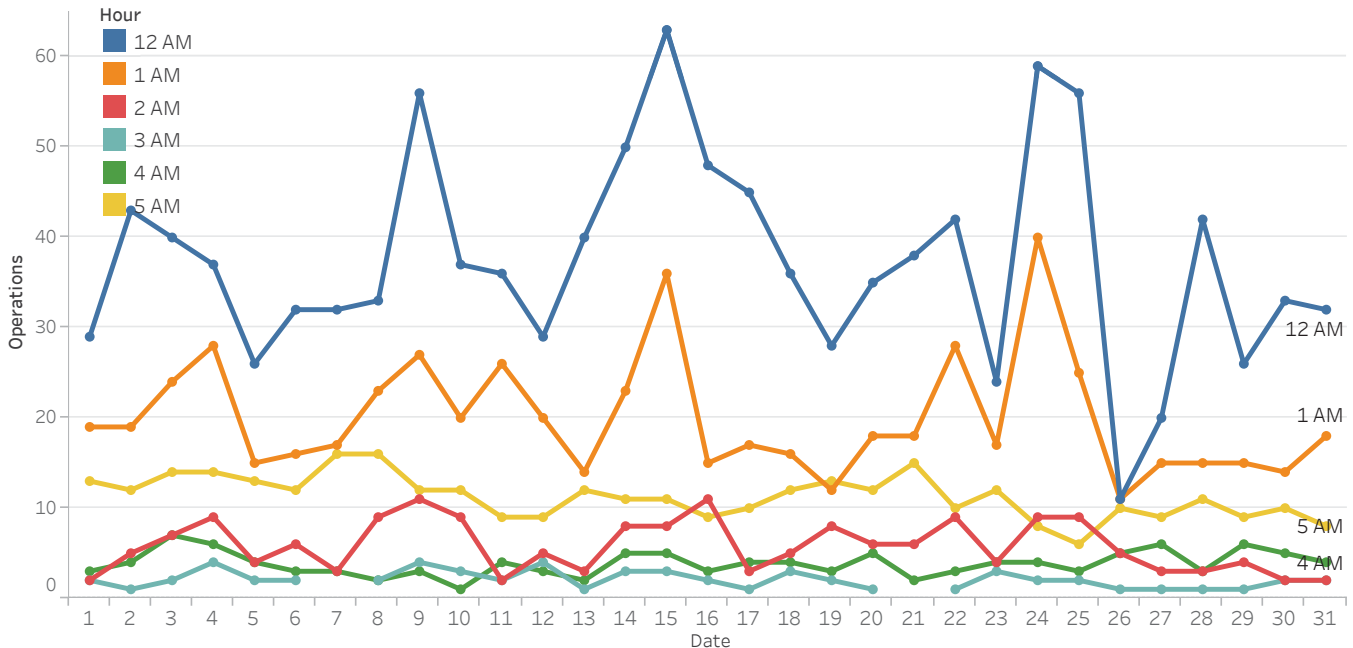
Nighttime Power Runups (10 pm - 7 am):

- United Airlines 13
- Delta Airlines 3
- Alaska Airlines 1
- American Airlines 1
- Southwest Airlines 1
- JetBlue Airways 1

A power runup is a procedure used to test an aircraft engine after maintenance is completed. This is done to ensure safe operating standards prior to returning the aircraft to service. The aircraft power settings range from idle to full power and may vary in duration.



Hourly Nighttime Operations



Noise Reports

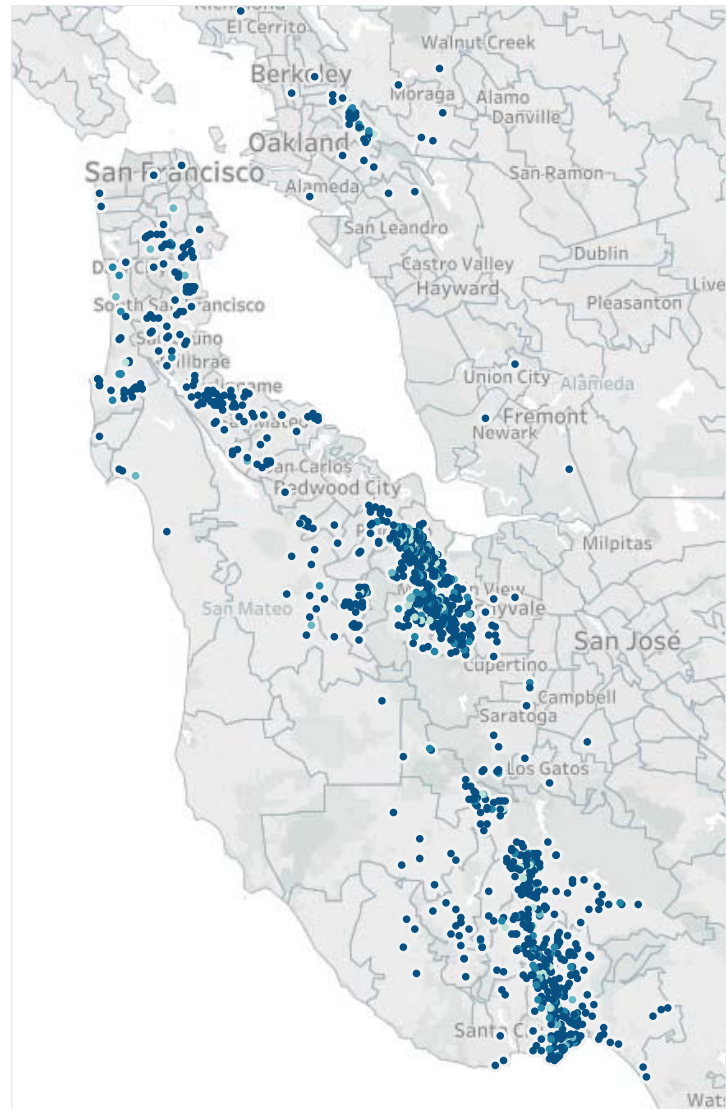


August 2018

Noise Reporters / Noise Reports

	Noise Reporters	Noise Reports
Atherton	6	598
Belmont	8	410
Brisbane	23	2,620
Burlingame	34	577
Daly City	7	1,435
El Granada	2	543
Foster City	14	112
Half Moon Bay	4	133
Hillsborough	18	202
Menlo Park	23	1,951
Millbrae	10	26
Pacifica	32	4,203
Portola Valley	38	5,086
Redwood City	16	1,619
San Bruno	10	581
San Carlos	2	128
San Francisco	35	3,283
San Mateo	23	1,026
South San Francisco	16	105
Woodside	13	1,367
Alameda	1	10
Aptos	13	526
Ben Lomond	10	168
Berkeley	5	362
Bonny Doon	3	157
Boulder Creek	9	273
Brookdale	1	4
Capitola	25	2,663
Carmel	3	225
Cupertino	1	363
East Palo Alto	3	12
Felton	15	1,059
Fremont	2	12
La Selva Beach	1	34
Lafayette	1	2
Los Altos	163	25,681
Los Altos Hills	31	9,801
Los Gatos	154	22,524
Moraga	3	117
Morgan Hill	2	72
Mountain View	59	4,323
Oakland	29	7,478
Orinda	1	30
Palo Alto	226	53,751
Pinole	2	689
Richmond	1	21
San Jose	2	11
Santa Cruz	138	22,449
Saratoga	10	793
Scotts Valley	79	13,778
Soquel	85	8,576
Sunnyvale	9	277
Union City	1	53
Watsonville	1	273
Total	1,423	202,572

Noise Reporters Location Map

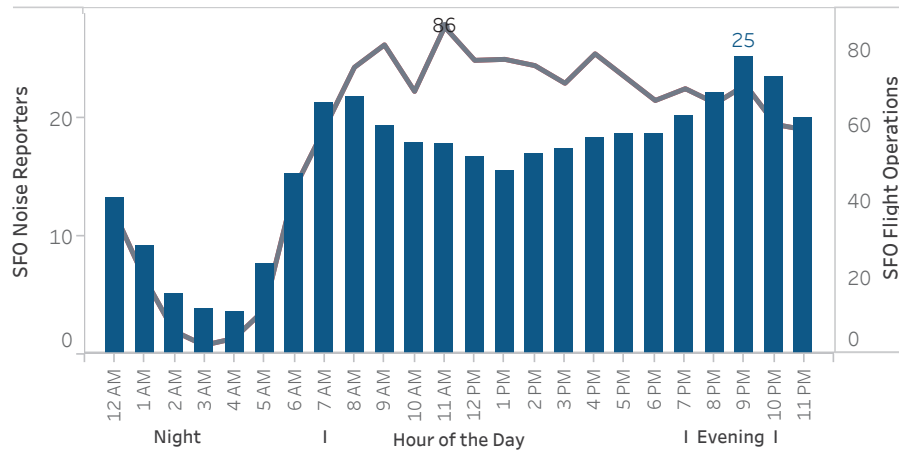


- 1,476 Noise Reporters (12 month AVG)
- 217,279 Noise Reports (12 Month AVG)
- 46 New Reporters
- Palo Alto New Reporters Top City
- 88 Miles Furthest Report
- 5 Reports per SFO Operation
- B737 A320 E75L Top Aircraft Type
- CMP382* KAL213 * JBU736 Top Flight Number *Night

Roundtable Communities

Other Communities

Hourly Noise Reporters vs. Flight Operations (AVG Day)



Our software vendor's address validation relies on USPS-provided ZIP code look up table and USPS-specified default city values.

Source: SFO Intl Airport Noise Monitoring System

98% of noise reports correlate to a flight origin/destination airport:

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Fly Quiet Report

Presented at the October 3, 2018
Airport Community Roundtable Meeting

Aircraft Noise Abatement Office
Second Quarter 2018



San Francisco
International
Airport

Fly Quiet Program

San Francisco International Airport's Fly Quiet Program is an Airport Community Roundtable initiative implemented by the Aircraft Noise Abatement Office. Its purpose is to encourage individual airlines to operate as quietly as possible at SFO. The program promotes a participatory approach in complying with noise abatement procedures and objectives by grading an airline's performance and by making the scores available to the public via newsletters, publications, and public meetings.

Fly Quiet offers a dynamic venue for implementing new noise abatement initiatives by praising and publicizing active participation rather than a system that admonishes violations from essentially voluntary procedures.

Program Goals

The overall goal of the Fly Quiet Program is to influence airlines to operate as quietly as possible in the San Francisco Bay Area. A successful Fly Quiet Program can be expected to reduce both single event and total noise levels around the airport.

Program Reports

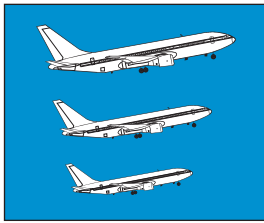
Fly Quiet reports communicate results in a clear, understandable format on a scale of 0-10, zero being poor and ten being good. This allows for an easy comparison between airlines over time. Individual airline scores are computed and reports are generated each quarter. These quantitative scores allow airline management and flight personnel to measure exactly how they stand compared to other operators and how their proactive involvement can positively reduce noise in the Bay Area.

Program Elements

Currently the Fly Quiet Program rates jets and regional jets on six elements: the overall noise quality of each airline's fleet operating at SFO, an evaluation of single overflight noise level exceedences, a measure of how well each airline complies with the preferred nighttime noise abatement runways, assessment of airline performance to the Gap and Shoreline Departures, and over the bay approaches to runways 28L and 28R.



SFO's Fly Quiet Ratings



Fleet Noise Quality

The Fly Quiet Program Fleet Noise Quality Rating evaluates the noise contribution of each airline's fleet as it actually operates at SFO. Airlines generally own a variety of aircraft types and schedule them according to both operational and marketing considerations. Fly Quiet assigns a higher rating or grade to airlines operating quieter, new generation aircraft, while airlines operating older, louder technology aircraft would rate lower. The goal of this measurement is to fairly compare airlines—not just by the fleet they own, but by the frequency that they schedule and fly particular aircraft into SFO.



Noise Exceedance

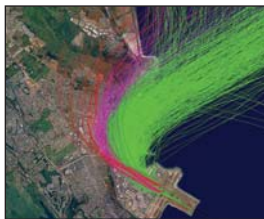
Eliminating high-level noise events is a long-standing goal of the Airport and the Airport Community Roundtable. As a result the Airport has established single event maximum noise level limits at each noise-monitoring site. These thresholds were set to identify aircraft producing noise levels higher than are typical for the majority of the operations.

Whenever an aircraft overflight produces a noise level higher than the maximum decibel value established for a particular monitoring site, the noise threshold is surpassed and a noise exceedance occurs. An exceedance may take place during approach, takeoff, or possibly during departure ground roll before lifting off. Noise exceedances are logged by the exact operation along with the aircraft type and airline name.



Nighttime Preferential Runway Use

SFO's Nighttime Preferential Runway Use program was developed in 1988. Although the program cannot be used 100% of the time because of winds, weather, and other operational factors, the Airport, the Community Roundtable, the FAA, and the Airlines have all worked together to maximize its use when conditions permit. The program is voluntary; compliance is at the discretion of the pilot in command. The main focus of this program is to maximize flights over water and minimize flights over land and populated areas between 1:00 a.m. and 6:00 a.m. Fortunately, because airport activity levels are lower late at night, it is feasible to use over-water departure procedures more frequently than would be possible during the day. Reducing nighttime noise—especially sleep disturbance—is a key goal of SFO's aircraft noise abatement program.



Shoreline Departure Quality

Aircraft departing SFO using Runways 28L and 28R are also considered by the Fly Quiet grading system whenever they use the Shoreline Departure Procedure. This predominately VFR (visual flight rules) departure steers aircraft to the northeast shortly after takeoff in an attempt to keep aircraft and aircraft noise away from the residential communities located to the northwest of SFO. By keeping aircraft east of Highway 101 the majority of the overflights will be experienced by industrial and business parks instead of residential areas.

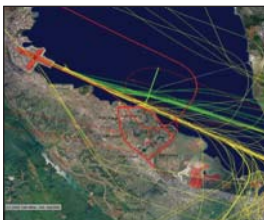
In order to evaluate each airline's performance when flying a Shoreline Departure, a corridor was established using Interstate 101 (green colored flight tracks) as a reference point. The corridor runs north along 101, beginning approximately one-mile north-northwest of the end of Runways 28L and 28R and continuing up into the City of Brisbane. Departures west of 101 are scored marginal or poor depending on their location.



Gap Departure Quality

Aircraft departing SFO using Runways 28L and 28R frequently depart straight out using a procedure known as the Gap Departure. This procedure directs air traffic to fly a route that takes them over the area northwest of the airport over the cities of South San Francisco, San Bruno, Daly City, and Pacifica. In an attempt to mitigate noise in this specific area, the Gap Departure Quality Rating has been included as a category in the Fly Quiet Program.

Since "higher is quieter", aircraft altitudes are recorded along the departure route. Scores are assigned at specified points or gates set approximately one mile apart, with the higher aircraft receiving higher scores.

















































































Foster City Arrival Quality

The Arrival Quality Rating is the latest addition to the Fly Quiet Program. In an effort to further reduce nighttime noise in neighboring communities, this rating is designed to maximize over-bay approaches to Runways 28 between 11:00 p.m. and 6:00 a.m. Airlines arriving to Runways 28 during these hours are assessed based on which approach flight path was used. Over-the-bay approaches are rated good (green colored flight tracks), versus over-the-communities which are rated poor.

Airline Fly Quiet Summary Report - 2nd Quarter 2018

April 1 to June 30, 2018

Airline		Fleet Noise Quality	Noise Exceedance	Nighttime Runway Use	Departures Shoreline	Arrivals Foster City	Final Score	Airline Fly Quiet Rating			
 NCA	NCA	9.59	9.95	-	-	8.28	-	9.27			
 AIR CHINA	CCA	10.00	10.00	-	-	7.77	-	9.26			
 Emirates	UAE	10.00	9.98	-	-	5.79	-	8.59			
 virgin atlantic	VIR	7.03	9.98	-	-	8.52	-	8.51			
 SAS	SAS	8.17	10.00	-	-	6.85	-	8.34			
 ANA	ANA	7.15	9.98	-	-	7.63	-	8.25			
 AIRFRANCE	AFR	8.16	9.99	-	-	5.58	-	7.91			
 Horizon Air	QXE	9.62	9.93	-	-	7.07	5.00	7.90			
 JAPAN AIRLINES	JAL	7.15	9.98	-	-	6.26	-	7.80			
 FINNAIR	FIN	4.05	10.00	-	10.00	6.67	-	7.68			
 Jazz	JZA	10.00	9.96	-	9.13	3.75	5.00	7.57			
 WESTJET	WJA	5.82	9.92	-	9.61	7.25	5.00	7.52			
 SWISS	SWR	7.15	10.00	-	-	5.18	-	7.44			
 Compass Airlines	CPZ	9.08	9.86	3.33	9.90	7.53	4.88	7.43			
 SkyWest	SKW	9.99	9.96	2.73	9.27	6.96	4.73	7.27			
 BRITISH AIRWAYS	BAW	6.66	9.89	-	-	5.21	-	7.25			
 DELTA	DAL	6.62	9.86	4.72	7.91	7.32	6.91	7.22			
 AIR NEW ZEALAND	ANZ	6.70	7.86	-	-	6.71	-	7.09			
 FRONTIER AIRLINES	FFT	5.20	9.72	4.08	9.00	-	7.33	7.07			
 中国東方航空 CHINA EASTERN	CES	5.86	9.98	-	-	5.34	-	7.06			
 AJT	AJT	4.87	9.71	-	-	8.44	5.00	7.00			
 FedEx	FDX	3.84	9.22	-	9.29	7.50	5.10	6.99			
 AIR CANADA	ACA	5.93	9.80	4.67	8.68	5.42	7.21	6.95			
 中国南方航空 CHINA SOUTHERN AIRLINES	CSN	7.15	8.82	-	-	4.88	-	6.95			
 Frenchbee	FBU	9.50	9.89	0.00	8.33	8.94	5.00	6.94			
 ATLAS AIR	GTI	4.20	8.73	-	8.91	7.89	4.89	6.93			
 TURKISH AIRLINES	THY	7.15	9.98	-	-	3.63	-	6.92			
 Aer Lingus	EIN	4.05	10.00	-	-	6.67	-	6.91			
 HAWAIIAN AIRLINES	HAL	4.05	9.64	-	-	6.82	-	6.84			
 Southwest	SWA	5.83	9.83	3.33	9.70	6.20	6.07	6.83			
 sun country airlines	SCX	5.82	9.95	5.00	9.19	3.21	7.27	6.74			
 Lufthansa	DLH	9.08	9.91	-	0.00	7.43	-	6.61			
 UNITED	UAL	5.86	9.78	3.34	8.38	6.55	5.63	6.59			
								6.54	SFO AVERAGE		
 volaris	VOI	4.90	9.54	3.17	-	9.79	5.00	6.48			
 interjet	AIJ	4.85	9.05	3.33	-	9.79	5.00	6.41			
 jetBlue	JBU	4.76	9.81	4.17	7.33	6.28	6.01	6.39			
 Alaska	ASA	5.10	9.83	3.33	9.22	5.34	5.40	6.37			
 KOREAN AIR	KAL	9.77	8.28	0.80	-	7.32	4.75	6.18			
 ICELANDAIR	ICE	3.84	10.00	-	5.83	5.00	-	6.17			

Airline Fly Quiet Summary Report - 2nd Quarter 2018















































April 1 to June 30, 2018

Airline		Fleet Noise Quality	Noise Exceedance	Nighttime Runway Use	Departures Shoreline	Arrivals Gap Foster City	Final Score	Airline Fly Quiet Rating										
American Airlines	AAL	4.93	9.78	3.46	9.06	2.93	6.67	6.14										
AEROMEXICO	AMX	5.82	9.22	3.70	-	5.48	5.00	5.84										
Avianca	TAI	4.92	9.12	2.93	-	6.67	4.89	5.70										
CATHAY PACIFIC	CPA	7.89	8.99	0.28	-	6.20	5.00	5.67										
Thomas Cook Airlines	TCX	4.05	10.00	-	5.00	3.39	-	5.61										
INDONESIA AIR	AIC	7.15	8.46	1.32	3.33	7.88	5.00	5.52										
HONGKONG AIRLINES	CRK	9.50	9.92	0.00	5.00	3.67	5.00	5.52										
Philippines	PAL	7.46	6.16	0.26	10.00	3.66	-	5.51										
IBERIA	IBE	4.05	10.00	-	5.00	2.90	-	5.49										
SINGAPORE AIRLINES	SIA	8.32	8.66	0.22	-	4.84	5.00	5.41										
wow	WOW	4.05	9.92	3.33	2.50	7.55	5.00	5.39										
KLM	KLM	3.43	9.89	-	2.21	5.75	-	5.32										
Copa Airlines	CMP	5.82	9.17	1.09	6.82	3.77	4.83	5.25										
CHINA AIRLINES	CAL	5.48	8.50	0.22	-	6.33	5.00	5.11										
XL airways	XLF	4.05	10.00	-	5.00	1.25	-	5.07										
EVA AIR	EVA	7.15	8.04	0.23	-	4.90	5.00	5.06										
ASIANA AIRLINES	AAR	6.77	8.04	0.22	0.00	6.61	4.86	4.42										
FIJI AIRWAYS	FJI	4.05	7.31	0.00	-	5.69	5.00	4.41										
QANTAS	QFA	3.43	0.35	-	-	6.72	-	3.50										
KALITTA AIR	CKS	3.43	0.00	0.00	-	3.59	4.00	2.20										
SFO Average		6.38	9.15	2.18	7.02	6.07	5.34	6.54										

Fleet Noise Quality - 2nd Quarter 2018

April 1 to June 30, 2018

Airline	Nationwide		San Francisco		Fleet Noise Quality Rating
	Fleet Noise Quality Rating		Average Daily Jet Operations	Score	
AIR CHINA CCA	6.90		1	10.00	
Emirates UAE	7.20		1	10.00	
JAL JZA	8.90		3	10.00	
SkyWest SKW	8.50		46	9.99	
KOREAN AIR KAL	6.60		2	9.77	
Horizon Air QXE	8.40		0	9.62	
NCA NCA	8.90		0	9.59	
HONGKONG AIRLINES CRK	6.50		1	9.50	
Frenchbee FBU	6.50		0	9.50	
Compass Airlines CPZ	5.30		0	9.08	
Lufthansa DLH	6.60		2	9.08	
SINGAPORE AIRLINES SIA	7.30		2	8.32	
Scandinavian Airlines SAS	4.90		1	8.17	
AIRFRANCE AFR	7.00		2	8.16	
CATHAY PACIFIC CPA	7.30		3	7.89	
Philippines PAL	6.90		1	7.46	
ANA ANA	7.80		1	7.15	
中国南方航空 CSN	7.30		1	7.15	
JAPAN AIRLINES JAL	7.80		1	7.15	
SWISS SWR	4.90		1	7.15	
TURKISH AIRLINES THY	5.70		1	7.15	
INDIA AIR AIC	7.30		1	7.15	
EVA AIR EVA	6.90		3	7.15	
virgin atlantic VIR	6.10		1	7.03	
ASIANA AIRLINES AAR	6.90		2	6.77	
AIR NEW ZEALAND ANZ	7.90		1	6.70	
BRITISH AIRWAYS BAW	7.30		2	6.66	
DELTA DAL	5.80		40	6.62	
6.38					
SFO AVERAGE					
AIR CANADA ACA	6.60		8	5.93	
UNITED UAL	5.70		186	5.86	
中国东方航空 CES	4.90		1	5.86	
Southwest SWA	5.50		46	5.83	
AEROMEXICO AMX	7.90		3	5.82	
Copa Airlines CMP	5.50		3	5.82	
WESTJET WJA	5.70		2	5.82	
sun country airlines SCX	5.30		2	5.82	

Airline	San Francisco		Fleet Noise Quality Rating	
	Nationwide Fleet Noise Quality Rating	Average Daily Jet Operations		Score
 CAL	6.40	2	5.48	
 FFT	5.20	2	5.20	
 ASA	5.20	79	5.10	
 AAL	5.50	36	4.93	
 TAI	5.18	2	4.92	
 VOI	5.20	1	4.90	
 AJT	5.20	0	4.87	
 AUJ	5.00	1	4.85	
 JBU	5.80	16	4.76	
 GTI	5.60	2	4.20	
 EIN	4.50	1	4.05	
 FJI	4.40	0	4.05	
 HAL	5.60	2	4.05	
 IBE	5.20	0	4.05	
 WOW	5.00	1	4.05	
 XLF	3.80	0	4.05	
 FIN	3.80	0	4.05	
 TCX	3.80	0	4.05	
 FDX	5.10	1	3.84	
 ICE	6.90	0	3.84	
 CKS	5.60	0	3.43	
 KLM	6.60	1	3.43	
 QFA	5.80	1	3.43	
AVERAGE	6.15	9	6.38	





































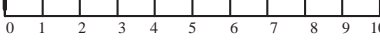



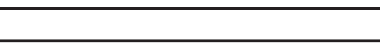
Noise Exceedance Rating Report - 2nd Quarter 2018

April 1 to June 30, 2018

Airline	Noise Exceedances				Noise Exceedance Quality Rating
	Total Noise Exceedances	Total Quarterly Operations	Exceedances per 1000 Operations	Score	
AIR CHINA CCA	0	181	0	10.00	
Aer Lingus EIN	0	182	0	10.00	
FINNAIR FIN	0	48	0	10.00	
IBERIA IBE	0	58	0	10.00	
ICELANDAIR ICE	0	34	0	10.00	
SAS SAS	0	181	0	10.00	
SWISS SWR	0	181	0	10.00	
Thomas Cook Airlines TCX	0	41	0	10.00	
XL airways XLF	0	8	0	10.00	
AIRFRANCE AFR	1	291	3	9.99	
中國東方航空 CHINA EASTERN CES	1	259	4	9.98	
virgin atlantic VIR	2	397	5	9.98	
ANA ANA	1	182	5	9.98	
JAPAN AIRLINES JAL	1	181	6	9.98	
TURKISH AIRLINES THY	1	181	6	9.98	
Emirates UAE	1	180	6	9.98	
SkyWest SKW	171	17,031	10	9.96	
JAL JZA	6	586	10	9.96	
sun country airlines SCX	4	343	12	9.95	
NCA NCA	1	81	12	9.95	
Horizon Air QXE	13	780	17	9.93	
HONGKONG AIRLINES 香港航空 CRK	2	102	20	9.92	
WESTJET WJA	7	353	20	9.92	
WOW WOW	3	146	21	9.92	
Lufthansa DLH	8	363	22	9.91	
KLM Royal Dutch Airlines KLM	7	270	26	9.89	
Frenchbee FBU	2	74	27	9.89	
BRITISH AIRWAYS BAW	10	362	28	9.89	
Compass Airlines CPZ	76	2,283	33	9.86	
DELTA DAL	255	7,234	35	9.86	
Southwest SWA	338	8,326	41	9.83	
Alaska ASA	604	14,293	42	9.83	
jetBlue JBU	138	2,957	47	9.81	
AIR CANADA ACA	83	1,729	48	9.80	
American Airlines AAL	343	6,492	53	9.78	
UNITED UAL	1,894	35,769	53	9.78	
FRONTIER AIRLINES FFT	23	332	69	9.72	
AJT AJT	2	28	71	9.71	
HAWAIIAN AIRLINES HAL	32	366	87	9.64	


























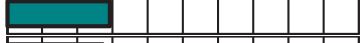

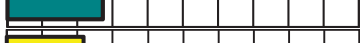


















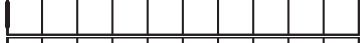



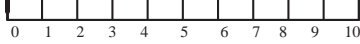

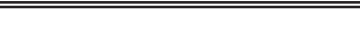






Noise Exceedance Rating Report - 2nd Quarter 2018

April 1 to June 30, 2018

Airline	Noise Exceedances				Noise Exceedance Quality Rating
	Total Noise Exceedances	Total Quarterly Operations	Exceedances per 1000 Operations	Score	
 VOI	13	117	111	9.54	
 FDX	37	195	190	9.22	
 AMX	101	532	190	9.22	
 CMP	94	467	201	9.17	
SFO AVERAGE					
 TAI	67	311	215	9.12	
 AIJ	36	156	231	9.05	
 CPA	130	529	246	8.99	
 CSN	57	198	288	8.82	
 GTI	93	300	310	8.73	
 SIA	118	362	326	8.66	
 CAL	120	328	366	8.50	
 AIC	87	232	375	8.46	
 KAL	221	528	419	8.28	
 EVA	224	470	477	8.04	
 AAR	159	332	479	8.04	
 ANZ	95	182	522	7.86	
 FJI	38	58	655	7.31	
 PAL	245	262	935	6.16	
 QFA	367	156	2353	0.35	
 CKS	39	16	2438	0.00	
TOTAL	6,371	108,616			
SFO AVERAGE			206	9.15	

Nighttime Preferential Runway Use - 2nd Quarter 2018

April 1 to June 30, 2018

Airline	Nighttime Departures (1:00 am to 6:00 am)						Nighttime Runway Use Rating	
	Total	10L/R	28L/R Shoreline	01L/R	28L/R Straight	Score		
 SCX	4	25%	0%	75%	0%	5.00		
 DAL	36	14%	14%	72%	0%	4.72		
 ACA	5	0%	40%	60%	0%	4.67		
 JBU	32	9%	9%	78%	3%	4.17		
 FFT	85	5%	13%	82%	0%	4.08		
 AMX	9	11%	0%	78%	11%	3.70		
 AAL	82	4%	12%	68%	16%	3.46		
 UAL	511	4%	5%	81%	11%	3.34		
 AIJ	2	0%	0%	100%	0%	3.33		
 ASA	16	0%	6%	88%	6%	3.33		
 CPZ	55	2%	0%	95%	4%	3.33		
 SWA	173	1%	3%	91%	5%	3.33		
 WOW	1	0%	0%	100%	0%	3.33		
 VOI	21	5%	0%	81%	14%	3.17		
 TAI	90	2%	0%	81%	17%	2.93		
 SKW	11	0%	0%	82%	18%	2.73		
							2.18	
 AIC	38	3%	16%	0%	82%	1.32		
 CMP	89	3%	11%	0%	85%	1.09		
 KAL	87	8%	0%	0%	92%	0.80		
 CPA	106	3%	0%	0%	97%	0.28		
 PAL	117	3%	0%	0%	97%	0.26		
 EVA	171	2%	0%	0%	98%	0.23		
 AAR	45	2%	0%	0%	98%	0.22		
 SIA	90	2%	0%	0%	98%	0.22		
 CAL	92	2%	0%	0%	98%	0.22		
 CKS	6	0%	0%	0%	100%	0.00		
 CRK	1	0%	0%	0%	100%	0.00		
 FBU	3	0%	0%	0%	100%	0.00		
 FJI	2	0%	0%	0%	100%	0.00		
TOTAL	1,980							
SFO AVERAGE		4%	4%	45%	47%	2.18		







































































Shoreline Departure Rating - 2nd Quarter 2018

April 1 to June 30,2018

Airline	Shoreline Departures					Shoreline Departure Rating
	Total	Successful	Marginal	Poor	Score	
FIN	3	100%	0%	0%	10.00	
PAL	1	100%	0%	0%	10.00	
CPZ	48	98%	2%	0%	9.90	
SWA	165	94%	6%	0%	9.70	
WJA	38	92%	8%	0%	9.61	
FDX	28	86%	14%	0%	9.29	
SKW	337	88%	9%	3%	9.27	
ASA	644	85%	14%	1%	9.22	
SCX	43	84%	16%	0%	9.19	
JZA	40	83%	18%	0%	9.13	
AAL	307	83%	16%	2%	9.06	
FFT	35	80%	20%	0%	9.00	
GTI	23	83%	13%	4%	8.91	
ACA	136	80%	13%	7%	8.68	
UAL	1,195	73%	21%	6%	8.38	
FBU	6	67%	33%	0%	8.33	
DAL	422	62%	35%	4%	7.91	
JBU	172	49%	49%	2%	7.33	
					7.02	
CMP	11	36%	64%	0%	6.82	
ICE	6	17%	83%	0%	5.83	
CRK	1	0%	100%	0%	5.00	
IBE	1	0%	100%	0%	5.00	
TCX	8	13%	75%	13%	5.00	
XLF	1	0%	100%	0%	5.00	
AIC	6	0%	67%	33%	3.33	
WOW	2	0%	50%	50%	2.50	
KLM	34	6%	32%	62%	2.21	
AAR	1	0%	0%	100%	0.00	
DLH	3	0%	0%	100%	0.00	
TOTAL	3,717					
SFO AVERAGE		54%	33%	13%	7.02	






























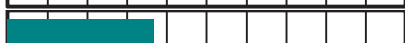

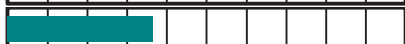















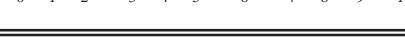
Gap Departure Climb Rating - 2nd Quarter 2018

April 1 to June 30, 2018

Airline	Gap Departures		Gap Departure Quality Rating
	Total	Score	
 Interjet AIJ	6	9.79	
 Volaris VOI	6	9.79	
 Frenchbee FBU	27	8.94	
 Virgin Atlantic VIR	135	8.52	
 Alaska Airlines AJT	4	8.44	
 NCA NCA	40	8.28	
 Atlas Air GTI	54	7.89	
 Air India AIC	105	7.88	
 Air China CCA	89	7.77	
 ANA ANA	90	7.63	
 WOW WOW	47	7.55	
 Compass Airlines CPZ	185	7.53	
 FedEx FDX	3	7.50	
 Lufthansa DLH	179	7.43	
 Delta DAL	297	7.32	
 Korean Air KAL	254	7.32	
 WestJet WJA	5	7.25	
 Horizon Air QXE	72	7.07	
 SkyWest SKW	1311	6.96	
 Scandinavian Airlines SAS	89	6.85	
 Hawaiian Airlines HAL	22	6.82	
 Qantas QFA	77	6.72	
 Air New Zealand ANZ	90	6.71	
 Aer Lingus EIN	90	6.67	
 Finnair FIN	21	6.67	
 Avianca TAI	18	6.67	
 Asiana Airlines AAR	163	6.61	
 United UAL	4436	6.55	
 China Airlines CAL	162	6.33	
 JetBlue JBU	93	6.28	
 Japan Airlines JAL	88	6.26	
 Cathay Pacific CPA	260	6.20	
 Southwest SWA	668	6.20	
		6.07	SFO AVERAGE
 Emirates UAE	89	5.79	
 KLM KLM	15	5.75	

Gap Departure Climb Rating - 2nd Quarter 2018

April 1 to June 30, 2018

Airline	Gap Departures		Gap Departure Quality Rating
	Total	Score	
 FIJ	29	5.69	
 SVA	4	5.63	
 AFR	134	5.58	
 AMX	34	5.48	
 ACA	27	5.42	
 CES	129	5.34	
 ASA	892	5.34	
 BAW	171	5.21	
 SWR	90	5.18	
 ICE	4	5.00	
 EVA	230	4.90	
 CSN	97	4.88	
 SIA	178	4.84	
 CMP	212	3.77	
 JZA	4	3.75	
 CRK	49	3.67	
 PAL	127	3.66	
 THY	90	3.63	
 CKS	8	3.59	
 TCX	7	3.39	
 SCX	7	3.21	
 AAL	560	2.93	
 IBE	28	2.90	
 XLF	1	1.25	
TOTAL	12402		
SFO Average		6.07	

Foster City Arrival Rating - 2nd Quarter 2018

April 1 to June 30, 2018

Airline	Foster City Arrivals					Foster City Arrival Rating
	Total	Successful	Marginal	Poor	Score	
FFT	60	47%	53%	0%	7.33	
SCX	11	55%	36%	9%	7.27	
ACA	104	44%	56%	0%	7.21	
DAL	265	39%	60%	1%	6.91	
AAL	362	34%	66%	0%	6.67	
SWA	452	23%	76%	1%	6.07	
JBU	232	22%	77%	1%	6.01	
UAL	1,422	16%	81%	3%	5.63	
ASA	517	10%	87%	3%	5.40	
					5.34	
FDX	50	2%	98%	0%	5.10	
AIC	1	0%	100%	0%	5.00	
AIJ	3	0%	100%	0%	5.00	
AJT	2	0%	100%	0%	5.00	
AMX	7	0%	100%	0%	5.00	
CAL	5	0%	100%	0%	5.00	
CPA	3	0%	100%	0%	5.00	
CRK	1	0%	100%	0%	5.00	
EVA	1	0%	100%	0%	5.00	
FBU	1	0%	100%	0%	5.00	
FJI	1	0%	100%	0%	5.00	
JZA	2	0%	100%	0%	5.00	
QXE	2	0%	100%	0%	5.00	
SIA	1	0%	100%	0%	5.00	
VOI	9	0%	100%	0%	5.00	
WJA	5	0%	100%	0%	5.00	
WOW	2	0%	100%	0%	5.00	
GTI	46	2%	93%	4%	4.89	
TAI	91	0%	98%	2%	4.89	
CPZ	86	0%	98%	2%	4.88	
AAR	36	0%	97%	3%	4.86	
CMP	89	0%	97%	3%	4.83	
KAL	80	0%	95%	5%	4.75	
SKW	75	4%	87%	9%	4.73	
CKS	5	0%	80%	20%	4.00	
TOTAL	4,029					
SFO AVERAGE		9%	89%	2%	5.34	



San Francisco International
Airport/Community Roundtable

455 County Center, 2nd Floor
Redwood City, CA 94063
T (650) 363-1853
sfroundtable.org

September 25, 2018

TO: Roundtable Representatives, Alternates, and Interested Persons
FROM: James A. Castañeda, AICP, Roundtable Coordinator
SUBJECT: FAA Topics/Questions for October 3, 2018 Roundtable Meeting

On August 31, 2018, the Roundtable Chairperson transmitted three topics to the FAA for discuss at the October 3, 2018 Roundtable Regular Meeting. Due to the limited time, the questions were developed from the Roundtable's thorough review of FAA Initiative document as a result of the Technical Working Group's efforts throughout the past nine months. The process of prioritizing and development of future topics/questions will be discussed as a separate agenda item.



August 31, 2018

TO: Maurice Hoffman, Airspace Services Director
Federal Aviation Administration

FROM: Elizabeth Lewis, Chairperson
SFO Airport/Community Roundtable

SUBJECT: Questions for the October 3, 2018 SFO Airport/Community Roundtable Meeting

The following are three (3) questions for the Federal Aviation Administration (FAA) to answer at the October 3, 2018 SFO Airport/Community Roundtable Meeting. Each item is broken out into three (3) parts: Roundtable Request from the FAA Initiative response, FAA Response to those requests, and Roundtable's question. The Roundtable requests that the FAA come prepared to discuss and provide graphics and other materials to help support responses to the following questions at the October 3, 2018 Regular Meeting:

Question 1:

Roundtable's Request: South arrivals route to terminate east of Bay to Runway 28R during the night.

FAA Response: Will not address but appears that the reasons were focused on daytime operations/procedures rather than nighttime.

Roundtable's Question: Routes such as the SERFR could terminate east of the Bay when arriving 28R. Why is it not possible for such procedure to be implemented at night when traffic volumes throughout the Bay Area are extremely low? What is required for the FAA to reconsider this request?

Question 2:

Roundtable's Request: Use decommissioned DUMBARTON Procedure during south winds, which mostly occurs during the winter

FAA Response: FAA does not support creating a departure procedure off Runway 10 for nighttime operations. This would counter the current FAA criteria for opposite direction operations.

Roundtable's Question: Would the FAA reconsider this measure as it appears the use of the DUMBARTON was limited to only south wind conditions during the winter? The FAA's response appeared to not acknowledge this fact.

Questions for the FAA at the October 3, 2018 SFO Airport/Community Roundtable Meeting

August 31, 2018

Page 2 of 2

Question 3:

Roundtable's Request: Create a Runway 10 departure procedures that mirrors the previous DUMBARTON procedure.

FAA Response: Will not develop a procedure that requires opposite direction operations.

Roundtable's Question: Can the FAA develop a Runway 10 departure procedure for use during southeast flow conditions – not opposite direction operations?

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September 24, 2018

TO: Roundtable Members and Interested Parties

FROM: Justin W. Cook – INCE, LEED GA
Roundtable Technical Consultant - HMMH

SUBJECT: Summary of the September 13, 2018 Technical Working Group (TWG)

Since the August 2017 Technical Working Group (TWG) meeting, the primary focus has been on reviewing the Federal Aviation Administration's (FAA) Phase 2 Initiative Document¹ and compared the Roundtable's recommendations to the FAA responses that were dated November 2016.

Subsequent TWG meetings throughout 2018 continued review and analyze the FAA's Update on Phase 2 Initiative Document² to: 1) determine how the Roundtable should go about monitoring those measures the FAA will implement and 2) determine if there are any opportunities to work with the FAA on items they found not feasible.

The FAA Update on Phase 2 Initiative Document was released in November 2017 and is an update to the interim Phase 2 Initiative Document released in July 2017. The update provides details on 203 items, which consists of the original 104 recommendations and their associated sub-recommendations.

Below is the agenda and discussion summary for the September 13, 2018 TWG meeting:

1. Work Plan Update Status
 - a. Draft work plan to be presented for review at the next regular Roundtable meeting on October 3, 2018.
 - b. The draft work plan will include priority items from prior TWG meetings as mentioned in #2 below.
2. Review of Priority Work Plan Items from Prior Technical Working Group Meetings
 - a. General discussion was conducted regarding the seven possible work plan items that were initially prioritized based on the 2018 TWG summary documents. Most of these items will be incorporated as work plan items in the draft work plan document (see attached memo).
3. Formalize Vetting and Prioritization Process of future FAA Discussion Topics and Questions
 - a. Initial discussions were had regarding this process. Item will be discussed at the next regular Roundtable meeting on October 3, 2018.
4. Discuss and Formalize FAA Discussion Topics/Questions for Next TWG Meeting

¹ FAA Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties, Phase Two, Compiled at the Requests of Representatives Farr (Panetta), Eshoo and Speier, July 2017

² FAA Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties, Update on Phase Two, Compiled at the Requests of Representatives Farr (Panetta), Eshoo and Speier, November 2017

Summary of the September 13, 2018 TWG Meeting

September 24, 2018

Page 2 of 2

- a. Since the next TWG meeting will occur on November 8, 2018, it was decided that questions would be formulated after the regular Roundtable meeting on October 3, 2018, but prior to October 8, 2018. If follow up questions are needed based on the FAA responses on October 3, 2018, they can be formulated in time for submission.
5. Break
6. Ground-Based Augmentation System (GBAS) Update
 - a. SFO GBAS consultant provided a PowerPoint update that includes preliminary noise modeling.
7. Summarize Action Items
8. Public Comments on Items NOT on the Agenda
9. Adjourn

Attached:

Technical Working Group memo



September 11, 2018

TO: Roundtable Members and Interested Parties

FROM: Justin W. Cook – INCE, LEED GA
Roundtable Technical Consultant - HMMH

SUBJECT: Possible Work Plan Items and Initial Prioritization Based on 2018 TWG Summaries

The initial prioritization done below was based on the 2018 Technical Working Group (TWG) summaries of the meeting discussions.

1. Nighttime Operations – NIITE/HUSSH South Transition (GOBBS) Over Bay
 - Maximize use of procedures that route aircraft over the Bay (GOBBS) when departing to southerly destinations.
 - Note e-mail concern from Elizabeth Lopez.
Who to Work With? FAA
Provide Relief to Communities Such As: Brisbane, Daly City, Pacifica
Shifting Noise? No – Over Bay

2. Nighttime Operations – Use Decommissioned DUMBARTON Procedure or Create New Procedure that Mirrors It
 - This procedure was mainly used in the winter during winds coming from the South.
Who to Work With? FAA
Provide Relief to Communities Such As: Brisbane, Daly City, Pacifica
Shifting Noise? No – Over Bay

3. Nighttime Operations – South Arrivals Route to Terminate East of Bay to Runway 28R
 - FAA response appeared to be focused on daytime hours in regards to SJC and complicated airspace. Focus is on the nighttime when less airspace traffic and SJC has curfew.
Who to Work With? Northern California TRACON
Provide Relief to Communities Such As: Foster City, East Palo Alto
Shifting Noise? No – Over Bay

4. Nighttime Operations – Runway 01 Departures – 050 Degree Heading
 - Utilize the heading without increasing the number of departures utilizing Runway 01.
 - Note that since this conflicts with BDEGA East Downwind procedure, a percentage and/or priority may need to be established between these two.
Who to Work With? Northern California TRACON
Provide Relief to Communities Such As: Brisbane, Daly City, Pacifica
Shifting Noise? No – Over Bay

Technical Working Group Meeting (TWG) for Thursday, September 13, 2018

September 11, 2018

Page 2 of 2

5. Near Bay Daytime Operations – Runway 01 Departures – SSTIK

- SSTIK currently does not include the SEPDY waypoint although most aircraft on this procedure pass over it. An analysis should be done on where to move the SEPDY waypoint and how to incorporate into the procedure.

Who to Work With? FAA

Provide Relief to Communities Such As: Brisbane

Shifting Noise? No – Over Bay

6. Near Bay Daytime Operations – Runway 28 Arrivals – MENLO

- Continue GBAS updates and discussions at future TWG meetings.
- Note e-mail and associated documents from Darlene Yaplee and Marie-Jo Fremont regarding proposed rewording support from Mayor Ohtaki on at or above 5,000 ft MSL.

Who to Work With? FAA

Provide Relief to Communities Such As: Foster City, East Palo Alto

Shifting Noise? No – Over Bay

7. Near Bay Daytime Operations – Runway 01 Departures – NIITE

- Working off of #1 above, add transition to NIITE to route over the Bay (GOBBS).

Who to Work With? FAA

Provide Relief to Communities Such As: Brisbane, Daly City, Pacifica

Shifting Noise? No – Over Bay

Attached: Summary of the 2018 Technical Working Group (TWG) Meetings



September 25, 2018

TO: Roundtable Representatives, Alternates, and Interested Persons

FROM: James A. Castañeda, AICP, Roundtable Coordinator

SUBJECT: Upcoming Annual Roundtable Work Plan Status

Earlier this summer, staff started the process of preparing for the Roundtable's Work Program Subcommittee to begin working on the upcoming Roundtable Annual Work Plan. Attached is an initial draft of the edits/additions that have been made so far related to the items identified at the September 13, 2018 Technical Working Group meeting as those items to work on the short term (next 12-18 months). Staff will coordinate a future meeting of the Work Program Subcommittee in the coming weeks to gather feedback and additional comments based on the priorities identified by Roundtable members to address in the upcoming year.



[DRAFT]
**ROUNDTABLE ANNUAL
WORK PLAN**

July 1, 2018 through June 30, 2019

Approved and adopted by the Roundtable on [meeting date]

Organization of the Work Program

The Work Program is organized as follows. Each of the items includes: item description, background, present to Roundtable, staff assigned, Strategic Plan goal and budget allocated.

- Administrative Items
- Legislative Items
- Research Items
- Aircraft Operations/Airspace

Introduction

The Work Program is part of the Roundtable's overall approach to planning efforts; it is guided by the Roundtable's Strategic Plan. The Strategic Plan has a three-year planning horizon and the Work Program has a one-year planning horizon. The Work Program items are distilled from the overall Strategic Plan goals; each of the Work Program items are associated with a Strategic Plan goal.

While the Work Program is a one-year document, many items will be rolled over through multiple planning cycles. This is due to the longer-term nature of some items, including standing updates and future technologies. These longer-term items remain on the Work Program in order for the Roundtable to maintain their understanding of the issue. The Roundtable appointed a Work Program Subcommittee to carry out the work program planning process and to bring a recommended Work Program back to the full Roundtable for its consideration and adoption.

ADMINISTRATIVE ITEMS

AI-1. Roundtable Website Maintenance

Item Description: Maintain the Roundtable website¹ and update with new information as required for the public.

- Maintain existing website.
- Include historical information as required.
- Upload agendas, agenda packets, and subcommittee meeting information.
- Maintain and continue to populate informational section containing Noise 101 presentations ~~and noise metric videos.~~
- Maintain list of other Roundtable group information (include links)
- ~~Residential Sound Insulation Program FAQ~~
- ~~Create and m~~Maintain a dedicated resource page for Federal Aviation Administration (FAA) Initiative documents and progress/status reports.

Background: The Roundtable updated its website as a Work Program item in 2013–2014 and it was presented to the Roundtable at its September 2013 meeting.

This is a maintenance item. Roundtable ~~staff~~ and consultant staff will update the website per-meeting with the agenda and agenda packet, upload subcommittee agendas, and update the website with appropriate documents, links, and tweets.

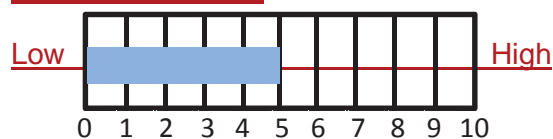
Present to Roundtable: As new information is uploaded.

Staff Assigned: Roundtable.

Strategic Goal: 4 – Address Community Concerns.

Budget Allocated: None; updates will utilize existing staff resources where possible, or additional funding to be allocated if necessary to be reviewed/approved by the Roundtable.

Assigned Priority:



AI-2. Fly Quiet Reporting and Evaluation

Item Description: Continue receiving updates to the Airport's Fly Quiet Program, and investigate/discuss effectiveness of current program.

Background: The Roundtable and Airport launched the Fly Quiet Program in 2001. The Fly Quiet Program is a quarterly report of airline performance in specific categories. The

¹ <http://sforoundtable.org/>

Roundtable typically holds the Fly Quiet awards between February and June meeting each year, inviting the overall winner and category winners to the Roundtable meeting for an official presentation of the awards. The awards presented are: Chairman’s Award, Fly Quiet Award, and Most Improved. It is recommended the February meeting be held at the Airport’s Museum to present the awards to airlines receiving them to celebrate their accomplishments. In an effort to keep the program effective, periodic discussions of the current successes and potential improvements is encouraged.

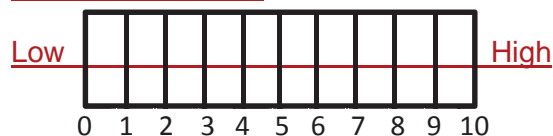
Present to Roundtable: This item is anticipated to be presented to the Roundtable at meetings immediately following the closing of each reporting quarter, including information on fleet mix trends at the Airport. Program status, progress, and effectiveness can be discussed either during the report presentations, and/or assigned to the Operations and Efficiencies subcommittee or an Ad-Hoc subcommittee to collaborate with the Airport’s Aircraft Noise Abatement staff.

Staff Assigned: Airport Aircraft Noise Abatement, Roundtable Operations and Efficiencies Subcommittee, Roundtable Ad-Hoc Subcommittee.

Strategic Goal: 2 – Airline Outreach.

Budget Allocated: Budget expenditure to include refreshments and the existing budget for awards.

Assigned Priority:



AI-3. Airport Updates

Item Description: Continue receiving updates from the Airport Director or other staff at the Airport on significant airport happenings, traffic levels, operations, and other data from the preceding months.

Background: The Airport provides information germane to the Roundtable and noise issues at each meeting. The briefing is typically provided by the Airport Director.

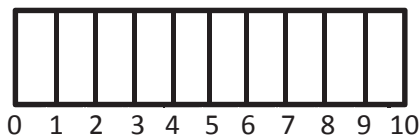
Present to Roundtable: This item is anticipated to be presented to the Roundtable at each meeting.

Staff Assigned: Airport.

Strategic Goal: 4 – Address Community Concerns.

Budget Allocated: None.

Assigned Priority:



Low _____ High

AI-4. Outreach to Regional Roundtables/Noise Forums

Item Description: Continue dialogue with other noise forums within Northern California (include Oakland International Airport (OAK) Community Noise Management Forum² and, Mineta San Jose International Airport (SJC); ~~Sacramento International Airport (SMF),~~) to share information and best practices, discuss issues relating to the Bay Area, Northern California, and national airport noise issues. When opportunities exist, explore the potential of joint meetings.

Background: The Roundtable has a history of maintaining interaction with fellow airport-sponsored noise organizations in the Bay Area. This has led to joint letters to the FAA and other organizations regarding noise mitigation issues, joint trips to Northern California TRACON, and understanding how all of the regional airports interact with regards to airspace and noise mitigation. Santa Clara County does not currently have a sanctioned group focused on aircraft noise issues, however there are studies being commissioned by municipalities in Santa Clara County regarding SFO-related aircraft operations. In the past, Mineta San Jose International Airport (SJC) had a noise forum that met on a quarterly basis; the noise forum stopped meeting and all noise-related issues are now heard at its Airport Commission meetings.

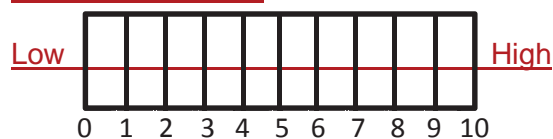
Present to Roundtable: This item is anticipated to be presented to the Roundtable following interactions with regional groups.

Staff Assigned: Roundtable leadership and staff.

Strategic Goal: 3 – Support Aircraft Noise Reduction Legislation and Research.

Budget Allocated: None.

Assigned Priority:



² <http://flyquietoak.com/pages/noise-forum/noise-forum.html>

AI-5. Develop Relationships with State and National Roundtables/Noise Forums

Item Description: Maintain contact with other roundtables/noise forums via correspondence relating to Roundtable issues on a state and national level.

Background: The Roundtable has a history of maintaining interaction with national and regional airport-sponsored noise organizations through sharing correspondence relating to current noise issues including pending legislation, funding allocation, or new technology.

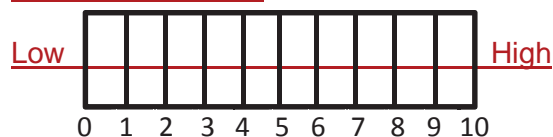
Present to Roundtable: This item is anticipated to be in the correspondence section of the Roundtable packets as required.

Staff Assigned: Roundtable.

Strategic Goal: 3 – Support Aircraft Noise Reduction Legislation and Research.

Budget Allocated: None.

Assigned Priority:



AI-6. Send Roundtable Member(s) to Roundtables/Noise Forums or Technical Conferences

Item Description: Maintain knowledge base of the Roundtable and its members by sending members to technical conferences or other roundtables/noise forums.

Background: The Roundtable has a history of maintaining a strong knowledge base of aircraft noise theory that is communicated to the membership. This has been done through conducting Noise 101 sessions, sending Roundtable members to Northern California TRACON, and to technical conferences.

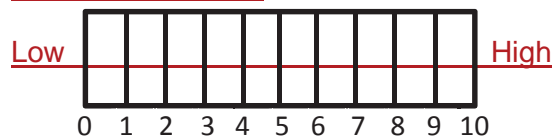
Present to Roundtable: Post-conference attendance updates

Staff Assigned: Roundtable.

Strategic Goal: 4 – Address Community Concerns.

Budget Allocated: Anticipated budget of \$2,000/member to attend the AAAE/ACI-NA Airport Noise Conference typically held in the fall, or the UC Davis Aviation Noise and Air Emissions (ANE) Quality Symposium in the spring. Local meeting attendance not anticipated to have a budgetary impact.

Assigned Priority:



AI-7. Send Roundtable Coordinator to LAX Community Noise Roundtable³ and/or SAN Airport Noise Advisory Committee⁴ Meetings

Item Description: Continue to correspond and maintain understanding of the Los Angeles International Airport (LAX) Community Noise Roundtable and San Diego International Airport (SAN) Airport Noise Advisory Committee structure and issues by making a yearly site visit.

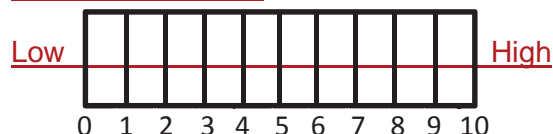
Background: The Roundtable keeps in contact with other airport noise organizations, including the Los Angeles International Airport (LAX) Community Noise Roundtable and San Diego International Airport (SAN) Airport Noise Advisory Committee. In the past, the Roundtable has sent the Coordinator to a meeting to observe their practices and exchange information with their staff.

Staff Assigned: Roundtable.

Strategic Goal: 4 – Address Community Concerns.

Budget Allocated: Anticipated budget of \$1,000 for the Roundtable Coordinator.

Assigned Priority:



AI-9. Communications and Educational Strategies for Accessibility

Item Description: The Roundtable will explore and develop intuitive and easy to understand communication tools to discuss and deliver aviation noise studies, reports and relevant information to the public. Through the use of the Roundtable's website, include resources such as a Frequently Asked Questions (FAQ) page, links to other resources and research available online (such as Noise Quest⁵, FAA, and other aircraft noise related webpages).

³ <http://www.lawa.org/LAXNoiseRoundTable.aspx>

⁴ <http://www.san.org/Airport-Noise/Initiatives>

⁵ <http://www.noisequest.psu.edu/>

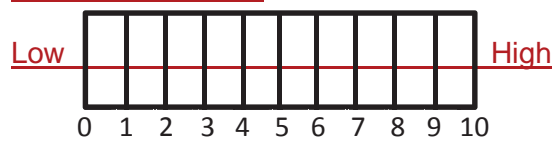
Background: Roundtable members, representing their respective constituents, are often faced with the challenge of communicating complex technical issues that relate to noise impacts many of them experience in their communities. The Roundtable endeavors to provide those who participate with clear and understandable information on technical issues the Roundtable discusses in an effort to better inform the public and allow for more effective engagement.

Staff Assigned: Roundtable staff, Roundtable Operations and Efficiencies Subcommittee.

Strategic Goal: 3 – Support Aircraft Noise Reduction Legislation and Research.

Budget Allocation: None; updates will utilize existing staff resources where possible, or additional funding to be allocated if necessary to be reviewed/approved by the Roundtable.

Assigned Priority:



LEGISLATIVE ITEMS

LI-1. Ongoing Research of Federal, State, and International Noise Legislation

Item Description: The Roundtable will continue its research of federal, state, and international proposed noise legislation to aid in the proactive engagement on such issues to determine any implications on operation and issues at the Airport and associated noise affects.

Background: The Roundtable monitors legislative issues on state, federal, and international levels through its Legislative Subcommittee. In order to be as effective as possible, up-to-date resources are necessary to be informed and effective in their role. Currently, this is partly done through a subscription to the Airport Noise Report (ANR), membership to the National Organization to Insure a Sound Controlled Environment (N.O.I.S.E.), and -as well as- monitoring legislation through the Federal Register and other list services. In addition, the Roundtable monitors noise regulations suggested by the Committee on Aviation Environmental Protection (CAEP) and International Civil Aviation Organization (ICAO) as voluntary or mandatory. ICAO is an organization that recommends best practices and adopts standards for the aviation industry, including noise as it relates to aircraft operations. This research could result in correspondence from the Roundtable to the legislative sponsor regarding any positive or negative impact of the legislation.

The Roundtable, as well as the County of San Mateo, has historically been involved with N.O.I.S.E.. The Roundtable in its endeavors to proactively pursue legislative solutions can investigate opportunities to participate and collaborate with N.O.I.S.E. and the League of Cities to make presentations regarding aircraft noise issues.

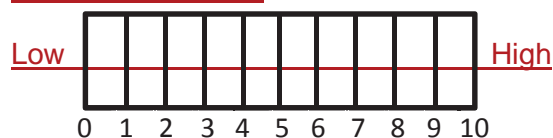
Present to Roundtable: This item will be reviewed by the Roundtable as required.

Staff Assigned: Roundtable.

Strategic Goal: 3 – Support Aircraft Noise Reduction Legislation and Research.

Budget Allocated: The yearly subscription to ANR is \$850. The yearly membership to N.O.I.S.E. is \$X. Other expenses for resources that would assist in monitoring and research legislative issues will be explored by the Legislative Subcommittee and additional funding to be allocated will be reviewed/approved by the Roundtable.

Assigned Priority:



LI-2. Opportunities for Proactive Participation in Legislative and Regulatory Advocacy

Item Description: Maintain understanding of regional and national aircraft noise issues and engage in proactive legislative and regulatory advocacy to further Roundtable objectives and goals for aircraft noise mitigation. Explore the potential of joining/partnering with local, regional, and national as well as grassroots groups to support legislation and research related to quieter aircraft, procedures, and technology. Groups such as the ~~National Organization to Insure a Sound Controlled Environment (N.O.I.S.E.)~~, California League of Cities, and Airports Council International (ACI) are potential organizations to consider, but additional research and outreach will also be considered.

Background: ~~The Roundtable, as well as the County of San Mateo, has historically been involved with N.O.I.S.E.. The Roundtable in its endeavors to proactively pursue legislative solutions can investigate opportunities to participate and collaborate with N.O.I.S.E. and the League of Cities to make presentations regarding aircraft noise issues.~~ Through the Legislative Subcommittee, the Roundtable can further investigate the benefits of membership and participation with these groups, as well as other groups and organizations.

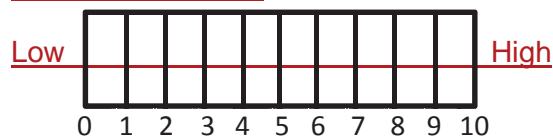
Present to Roundtable: As required and as legislative information is available.

Staff Assigned: Roundtable.

Strategic Goal: 3 – Support Aircraft Noise Reduction Legislation and Research.

Budget Allocated: Proposed allocations will be presented to the Roundtable for approval once a recommendation has been presented by the Legislative Subcommittee as to which group is best suited to aid the Roundtable's legislative objectives.

Assigned Priority:



LI-3. Pursue Potential Legislative Solutions

Item Description: Work with elected representatives to support/sponsor legislative solutions mitigate aircraft noise impact.

Background: The Roundtable often faces challenges in developing solutions as a result of current and potentially outdated regulations that create constraints in exploring meaningful noise mitigation. The Airport Noise and Capacity Act of 1990 (ANCA), which does not allow SFO to impose flight curfews, is often cited in discussions regarding potential legislative updates. The Legislative Subcommittee, will explore the possibility of updating, amending or replacing ANCA and will also discuss other legislative updates including newer equipment requirements utilized internationally.

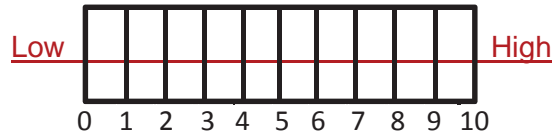
Present to Roundtable: As required and as legislative information is available.

Staff Assigned: Legislative Subcommittee

Strategic Goal: 3 – Support Aircraft Noise Reduction Legislation and Research.

Budget Allocated: None.

Assigned Priority:



RESEARCH ITEMS

RI-1. Guest Speakers

Item Description: The Roundtable will continue its efforts to have guest speakers invited to Roundtable meetings to present information regarding a topic of interest to the Roundtable.

Background: In an effort to keep current on trends in noise and airports, the Roundtable has invited guest speakers to present on occasion when opportunity and time allows. It is the goal of the Roundtable to continue inviting speakers to the meetings in an effort to increase the membership and public's understanding of current issues. The Roundtable staff and Airport staff will recommend speakers, and the Roundtable members are also encouraged to request experts in a specific topic to speak.

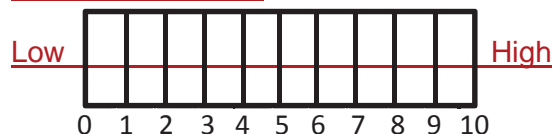
Present to Roundtable: This item will be reviewed by the Roundtable as required.

Staff Assigned: Roundtable.

Strategic Goal: 3 – Support Aircraft Noise Reduction Legislation and Research.

Budget Allocated: None.

Assigned Priority:



RI-2. Ground Based Aircraft Noise Effects

Item Description: ~~Determine~~ Review research on the cause, impacts, and potential long term solutions to backblast noise, auxiliary power unit (APU) noise and other aircraft associated low frequency noise.

Background: Backblast, auxiliary power unit (APU), and other low frequency aircraft noise impact those communities in direct proximity to the Airport. This is an ongoing issue for communities such as Millbrae, Burlingame, and San Bruno. The Roundtable should review research to investigate any possible solution that may exist at present or discuss potential innovations that mitigate these noise impacts.

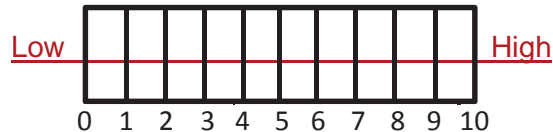
Present to Roundtable: This item will be reviewed by the Roundtable as required.

Staff Assigned: Roundtable and Technical Consultant in conjunction with Airport Aircraft Noise Abatement.

Strategic Goal: 1 – Aircraft Procedures.

Budget Allocated: Budget to be determined if additional studies need to be conducted beyond capabilities of the Airport's Aircraft Noise Abatement staff.

Assigned Priority:



RI-3. Use of Supplemental Noise Metrics to Evaluate Noise Outside of the 65 CNEL

Item Description: The Roundtable will monitor ongoing research on the feasibility of using supplemental noise metrics outside of the 65 dB CNEL to determine the impact of aircraft operations.

Background: The 65 dB CNEL is the federally and state accepted metric to determine impacts from aircraft noise as well as eligibility for sound insulation programs. As aircraft become quieter, the 65 dB CNEL noise contour becomes smaller in size, reducing the “affected areas” as defined by federal and state standards. As a response to this, airports have studied utilizing supplemental metrics, which show noise levels at various locations in the community utilizing metrics including LMax, SEL, Leq, TA, NA, etc.

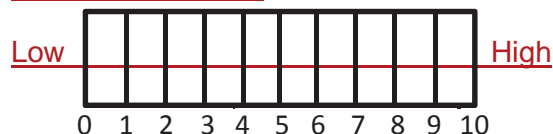
Present to Roundtable: This item will be reviewed by the Roundtable as required.

Staff Assigned: Roundtable.

Strategic Goal: 3 – Support Aircraft Noise Reduction Legislation and Research.

Budget Allocated: None.

Assigned Priority:



RI-4. Airport Cooperative Research Program (ACRP) Participation and Review of Published Research Reports

Item Description: The Roundtable has the option to become involved with the Airport Cooperative Research Program (ACRP) in three ways: 1) submit a problem statement to the ACRP for an item to study in depth; 2) submit applications to serve on an ACRP panel; or 3) support research statements to carry forward. Once relevant research reports have been published by ACRP, the Roundtable should review and discuss.

Background: ACRP is a subset of the Transportation Research Board (TRB) that studies issues relating to airport operations, including noise abatement. Each year ACRP solicits problem statements relating to a global issue that affect airports throughout the country. ACRP chooses the problem statements to then turn into research projects. Each research project is comprised of a panel of experts and a consultant that completes the research document under the guidance of the expert panel.

In addition to ACRP soliciting for proposals, expert panel members are also required each year. If there are research projects that are applicable to community noise groups or noise mitigation, members of the Roundtable are encouraged to apply to these expert panels. The expert panels meet 2-3 times per project in Washington, D.C.

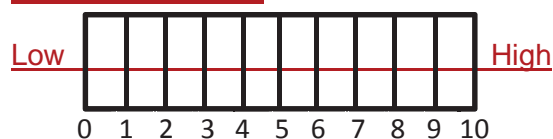
Present to Roundtable: ACRP problem statements are solicited in the spring and applications to serve on an ACRP panel open up in the fall.

Staff Assigned: Roundtable.

Strategic Goal: 3 – Support Aircraft Noise Reduction Legislation and Research.

Budget Allocated: No extra budget effort; travel expenses are reimbursed by ACRP.

Assigned Priority:



RI-5. Receive Updates of the Residential Sound Insulation Program

Item Description: The Roundtable will receive updates on the status of the residential sound insulation program at the Airport on a biannual basis to include items such as: number of residences within the currently approved Noise Exposure Map (NEM) that are not insulated; number of residences that declined participation in the program; and estimated number of residences currently being insulated. ~~This information will be added on the Roundtable's website under the FAQ section. A link will be provided on the Roundtable website to the most current information published by the Airport.~~

Background: The Roundtable has received updates from the Airport over the course of the residential sound insulation program. The program's focus is to find and inform eligible homeowners that their residence can receive sound insulation treatments if they meet a two-step eligibility process. The first step is to determine if the residence is within the 65 dB CNEL noise contour of the latest NEM. The second step is to determine if the residences' interior noise level is at or above 45 dB CNEL. The Airport latest NEM was approved on January 29, 2016.

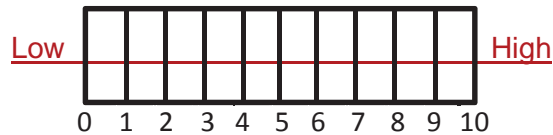
Present to Roundtable: This item will be reviewed by the Roundtable as required.

Staff Assigned: Roundtable, Airport.

Strategic Goal: 4 – Address Community Concerns.

Budget Allocated: No extra budget effort for Roundtable staff.

Assigned Priority:



RI-6. Receive Updates of the Unmanned Aerial System in the National Airspace System

Item Description: The Roundtable’s technical consultant will monitor legislation and research related to Unmanned Aerial Systems (UAS) within the National Airspace System (NAS) that is controlled by the Federal Aviation Administration and where applicable, by local legislation. The Roundtable will receive updates on a biannual basis.

Background: UAS are any unmanned aerial vehicle, drone, or system that is flown remotely by a pilot or via an onboard computer system. Rules and regulations for UAS operations are in its infancy. This program item will monitor uses of UAS and FAA regulations regarding their use and noise abatement regulations.

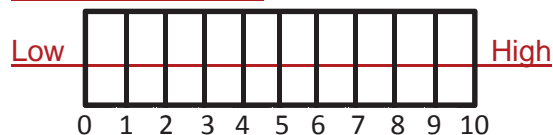
Present to Roundtable: This item will be reviewed by the Roundtable as required.

Staff Assigned: Roundtable and Technical Consultant.

Strategic Goal: 4 – Address Community Concerns.

Budget Allocated: No extra budget effort for Roundtable staff.

Assigned Priority:



RI-7. Research Expanded Membership Beyond Current Membership Area

Item Description: Investigate the expansion of the Roundtable membership to include other communities affected by SFO noise issues. The analysis will focus on the opportunities and challenges associated with an expanded membership.

Background: In order to address the regional impacts associated with the implementation of NextGen, the Roundtable may consider allowing additional members from cities outside of the

current membership cities to participate on the Roundtable. The current membership on the Roundtable is defined by the Memorandum of Understanding Agreement.

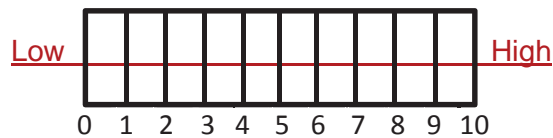
Present to the Roundtable: As needed when discussions occur.

Staff Assigned: Roundtable Operations and Efficiencies Subcommittee.

Strategic Goal: 4 – Address Community Concerns.

Budget Allocated: None.

Assigned Priority:



RI-8. Monitor Research Aircraft Noise as a Health Issue

Item Description: Identify national and international research updates on the health effects related to aircraft noise. Further identify research gaps and encourage research in these areas.

Background: There is well-documented detrimental effects of noise on the health of the members of affected communities. Documented in peer-reviewed scientific journals, noise adversely and seriously affects blood pressure, cardiovascular and other health issues in adults and children.

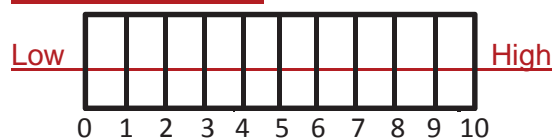
Present to the Roundtable: As needed when discussions occur.

Staff Assigned: Roundtable.

Strategic Goal: 4 – Address Community Concerns.

Budget Allocated: None

Assigned Priority:



AIRCRAFT OPERATIONS/AIRSPACE

AO-1. Northern California Metroplex Project and the FAA Initiative

Item Description: The Roundtable will aggressively pursue status updates and take a more proactive approach to the implementation and modification of any flight procedures in the Northern California Metroplex Project ~~or the 29 adjustments in the FAA Initiative specific to the Airport.~~

Background: ~~The Northern California Metroplex⁶ is the update of the airspace in the Bay Area. Federal regulations required the FAA complete an Environmental Assessment (EA)⁷ for the project, determining any environmental effects to the project study area. The Final EA⁸ was released in July 2014 and the Record of Decision (ROD)⁹ on the Final EA was issued on August 7, 2014; Metroplex procedures related to SFO operations were fully operational prior to April 2015.~~

~~The FAA's first response to the SFO Roundtable was provided in a FAA Initiative Phase 1 Report¹⁰ released November 2015. The FAA's first response contained 29 adjustments that were under the purview of the Roundtable; of this total, 13 were deemed by the FAA as "Feasible" while 16 were deemed by the FAA as "Not Feasible." The SFO Roundtable released a documented recommendations response¹¹ to the FAA Initiative Phase 1 Report on November 17, 2016.~~

~~In July 2017, the FAA issued a FAA Initiative Phase 2 Report¹² that provided information on the feasibility and status of each of the recommendations put forward by the SFO Roundtable and Select Committee.~~

~~The Northern California Metroplex is the update of the airspace in the Bay Area. Federal regulations required the FAA to complete an Environmental Assessment (EA) for the project, determining any environmental impacts to the project study area. The EA was released in March 2014 and the Record of Decision on the EA was published in July 2014. All Metroplex procedures related to SFO operations are operational at this time.~~

~~The FAA Initiative document was released in November 2014 and contained 29 adjustments that were under the purview of the Roundtable; of this total, 13 were deemed by the FAA as "Feasible" while 16 were deemed by the FAA as "Not Feasible." The Roundtable released a detailed documented response to the FAA Initiative on November 17, 2016.~~

Present to Roundtable: This item will be reviewed by the Roundtable as required and updates to the Roundtable will be from Roundtable staff or the FAA.

⁶ <https://www.faa.gov/nextgen/snapshots/metroplexes/?locationId=14>

⁷ http://metroplexenvironmental.com/norcal_metroplex/norcal_introduction.html

⁸ [Final Environmental Assessment for Northern California Optimization of Airspace and Procedures in the Metroplex, July 2014.](#)

⁹ http://www.metroplexenvironmental.com/docs/norcal_metroplex/NorCal_OAPM_FONSI-ROD.pdf

¹⁰ [FAA Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties, PHASE ONE, Compiled at the Requests of Representatives Farr, Eshoo and Speier, November 2015.](#)

¹¹ [FAA Initiative Phase 1, SFO Airport/Community Roundtable Response, November 17, 2016.](#)

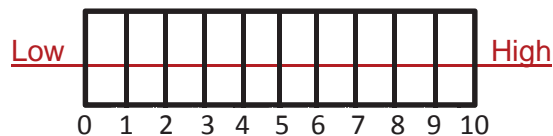
¹² [FAA Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties, PHASE TWO, Compiled at the Requests of Representatives Farr \(Panetta\), Eshoo and Speier, July 2017.](#)

Staff Assigned: Roundtable and Technical Consultant.

Strategic Goal: 1 – Aircraft Procedures.

Budget Allocated: None.

Assigned Priority:



AO-2. Woodside Optimized Profile Descents

Item Description: The Roundtable will receive briefings on the Woodside Optimized Profile Descents (OPD).

Background: The Airport currently publishes the weekly Woodside VOR report on its website. This report shows the number of aircraft that flew over the Woodside VOR between the hours of 10:30 p.m. – 6:30 a.m. This ~~Work Program~~ item would require the Airport to provide a report on aircraft that utilized the OPD approach between these hours.

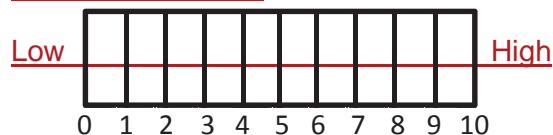
Present to Roundtable: This item will be reviewed by the Roundtable as required.

Staff Assigned: Roundtable.

Strategic Goal: 1 – Aircraft Procedures.

Budget Allocated: None.

Assigned Priority:



AO-3. SSTIK and PORTE Departures

Item Description: The Roundtable will continue to monitor operations on the SSTIK and PORTE departures.

Background: As part of the Metroplex, the SSTIK departure procedure replaced the PORTE departure for all aircraft equipped to fly Area Navigation (RNAV) procedures. Both departures fly over portions of the City of Brisbane. ~~In 2012-2013, the Roundtable resumed its work with Northern California TRACON, the Airport tower, airlines, and Airport Aircraft Noise Abatement staff to determine why the number of aircraft flying over southern portions of Brisbane increased.~~ This ~~Work Program~~ item will continue to monitor this issue and initiate

outreach to stakeholders that can assist with mitigation. This is one of the top recommendations based on discussions had at Technical Working Group (TWG) meetings in 2018. The discussions noted that SSTIK currently does not include the SEPDY waypoint although most aircraft on this procedure pass over it. It was recommended that an analysis be done on where to move the SEPDY waypoint and how to incorporate into the procedure.

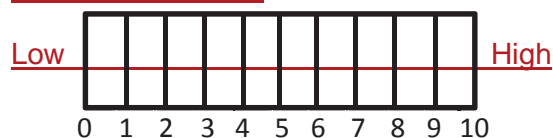
Present to Roundtable: This item will be reviewed by the Roundtable as required.

Staff Assigned: Roundtable.

Strategic Goal: 1 – Aircraft Procedures.

Budget Allocated: None.

Assigned Priority:



AO-4. Visit Northern California TRACON

Item Description: The Roundtable membership will visit the Northern California TRACON facility in Mather, California.

Background: Northern California TRACON is a radar approach facility that controls aircraft movements in the bay area and other portions of Northern California and Nevada. Northern California TRACON is a key stakeholder for the Roundtable and has historically worked with the Roundtable to implement noise abatement procedures when traffic allows. This site visit will provide members of the Roundtable with an understanding of how Northern California TRACON operates and watch aircraft movements in real time.

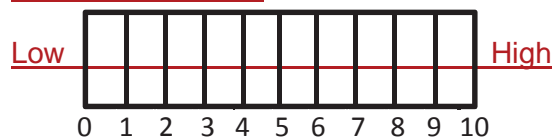
Present to Roundtable: Schedule a trip in the future; present a trip report to the Roundtable following the trip.

Staff Assigned: Roundtable.

Strategic Goal: 4 – Address Community Concerns.

Budget Allocated: The Roundtable’s contribution on previous joint trips with the Oakland International Airport (OAK) Noise Forum has been approximately \$550, which included transportation and meals for up to 10-12 Roundtable members. For the 2018 trip, the Roundtable’s contribution would be approximately \$1,000 for transportation and meals as the primary coordinator of the trip.

Assigned Priority:



AO-5. Aircraft Use of Satellite Procedures Monitor FAA’s Instrument Flight Procedures (IFP) Gateway

Item Description: Monitor ~~additional uses of satellite-based procedures to enhance operations as they are applicable to the Airport.~~ the FAA’s Instrument Flight Procedures (IFP) gateway.

Background: Periodically, the FAA modifies flight procedures in the Bay Area. Almost all of these proposed modified (or new) flight procedures are entered into the Instrument Flight Procedures (IFP) gateway on the FAA website which is publically available. Publications will be monitored and any changes will be shared. ~~As referenced in Work Program Item AO-1, the airspace related to operations at the Airport was part of the Metroplex airspace project. This project identified numerous RNAV procedures to enhance existing arrival and departure procedures. This Work Program item will further define procedures to help noise abatement efforts at the Airport, including Required Navigation Performance (RNP). This item would be collaborative with the Airport’s Aircraft Noise Abatement office and at least one airline to assist with procedure enhancements. This item has moved from information to research/action.~~

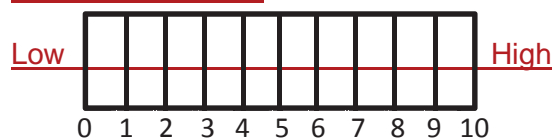
Present to Roundtable: As required.

Staff Assigned: Roundtable and Technical Consultant. ~~Roundtable.~~

Strategic Goal: 1 – Aircraft Procedures.

Budget Allocated: None.

Assigned Priority:



AO-6. Airbus A320 Aircraft Vortex Generator

Item Description: Continue to w~~W~~ork with the Airport’s Aircraft Noise Abatement office to equip carriers that use the Airbus A320/319 family of aircraft with vortex generators for the underwing fuel vent.

Background: Research has shown that Airbus A320 aircraft have a fuel vent on the underside of each wing. At certain altitudes and speeds, air coming in contact with these vents results in a wind vortex that emits a high-pitched whine noise. This is typically heard 20-30 miles away from an airport on arrival. The Airport’s Aircraft Noise Abatement office has researched the solution and determined that a fix would cost approximately \$3,000.00, which includes labor and parts to

install. The Roundtable will work with the Airport's Aircraft Noise Abatement office to advance this effort.

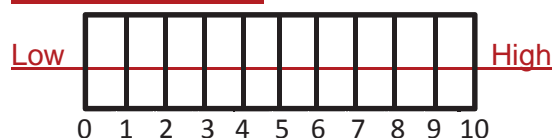
Present to Roundtable: As required.

Staff Assigned: Roundtable.

Strategic Goal: 2 – Airline Outreach.

Budget Allocated: No extra budget effort for Roundtable staff.

Assigned Priority:



AO-7. Nighttime Flight Procedures Plan

Item Description: The Roundtable will continue to discuss ~~night's nighttime~~ procedures ~~plan~~ with FAA representatives in an effort to refine ~~the~~ nighttime flight procedure recommendations ~~and plan as~~ needed.

Background: The Roundtable has compiled a prioritized list of nighttime flight procedure recommendations based on discussions had at Technical Working Group (TWG) meetings in 2018. The following is that prioritized list which would help with the longstanding Roundtable goal of 100% of all nighttime flight departures and arrivals over the Pacific Ocean and the Bay.

1. comprehensive Nighttime Procedures Plan which includes recommendations for new and revised flight procedures, filing for alternative flight paths and requests to the professional air traffic controllers to use their best efforts to manage traffic with a goal of 100% of all nighttime flights departing and arriving over water such as the Pacific Ocean and Bay. NIITE/HUSSH South Transition Over Bay (GOBBS)
2. Use Decommissioned DUMBARTON Procedure or Create New Procedure that Mirrors the Decommissioned DUMBARTON Procedure
3. South Arrivals Route to Terminate East of Bay to Runway 28R
4. Runway 01 Departures to Use 050° Heading
5. Add Transition to NIITE to Route Over Bay (GOBBS)

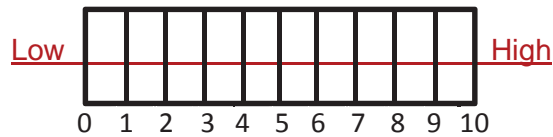
Present to Roundtable: This item will be reviewed by the Roundtable as required and updates to the Roundtable will be from Roundtable staff or the FAA.

Staff Assigned: Roundtable.

Strategic Goal: 1 – Aircraft Procedures.

Budget Allocated: None.

Assigned Priority:



AO-8. MENLO

Item Description: The Roundtable will continue to monitor operations for where aircraft cross the MENLO intersection on Runway 28 arrivals.

Background: Roundtable requested that the agreement stay in place (between noise office and NCT) where aircraft cross MENLO intersection during visual conditions at 5,000' AGL and 4,000' AGL during instrument conditions. Roundtable should continue to have Ground-Based Augmentation System (GBAS) updates. This is one of the top recommendations based on discussions had at Technical Working Group (TWG) meetings in 2018.

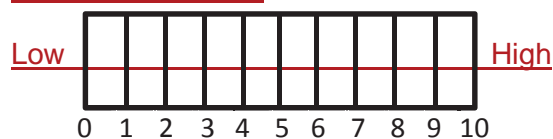
Present to Roundtable: This item will be reviewed by the Roundtable as required.

Staff Assigned: Roundtable.

Strategic Goal: 1 – Aircraft Procedures.

Budget Allocated: None.

Assigned Priority:





United States Senate

WASHINGTON, DC 20510

September 19, 2018

The Honorable John Thune
Chairman, Committee on Commerce,
Science, and Transportation
United States Senate
Washington, DC 20510

The Honorable Bill Nelson
Ranking Member, Committee on
Commerce, Science, and Transportation
United States Senate
Washington, DC 20510

Dear Chairman Thune and Ranking Member Nelson:

Thank you for your leadership in advancing the Senate's legislation to reauthorize the Federal Aviation Administration (FAA). As you work to finalize the bill, we ask that you ensure important aircraft noise provisions are included in any version that reaches the Senate floor.

Since the FAA began implementing changes to flight paths as part of the NextGen modernization program, Americans living near airports across the country have been forced to tolerate new and increased incidents of aircraft noise. Our states are no different. Hundreds of constituents living near major airports have contacted our offices to report that increased noise, more frequent flyovers, and aircraft passing at lower altitudes are causing disruption in their lives.

Many believe that the FAA has not done enough to monitor and accurately measure true aviation noise levels. Several provisions included in H.R. 4 would improve data collection methods and encourage the consideration of alternative noise metrics to address the FAA's outdated noise measurement standards and attempt to capture the cumulative impact of aircraft noise. Specifically, we recommend inclusion of the following provisions of the House-passed bill—many of which are also included in amendments that we were prepared to offer to the Senate Commerce Committee's bill had it been considered by the full Senate—in any negotiated Senate FAA legislation in order to ensure a modern, accurate account of true aviation noise levels in communities near major airports:


- Sec. 155. Stage 3 aircraft study
- Sec. 156. Addressing community noise concerns
- Sec. 157. Study on potential health and economic impacts of overflight noise
- Sec. 158. Environmental mitigation pilot programs
- Sec. 159. Aircraft noise exposure
- Sec. 160. Community involvement in FAA NextGen projects located in metroplexes
- Sec. 164. Aircraft noise, emission, and fuel burn reduction program
- Sec. 166. Noise and health impact training


- Sec. 167. Airport noise mitigation and safety study
- Sec. 550. Report on air traffic control modernization
- Sec. 569. Study regarding day-night average sound levels

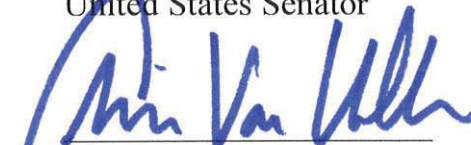
We look forward to working with you to address these issues in final FAA reauthorization legislation.

Sincerely,


Dianne Feinstein
United States Senator


Kamala D. Harris
United States Senator


Benjamin L. Cardin
United States Senator


Chris Van Hollen
United States Senator

Dave Ong (AIR)

From: Dave Ong (AIR)
Sent: Friday, September 21, 2018 4:18 PM
To: 'annwengert@yahoo.com'; 'jdennis@portolavalley.net'
Cc: 'Sue Chaput'; Bert Ganoung (AIR); 'James A Castañeda'
Subject: 3Q 2018 Aircraft Noise Monitoring Results for Portola Valley
Attachments: 3Q2018 Portola Valley Quarterly Monitoring Report.pdf

Dear Honorable Ann Wengert,

Please find attached the aircraft noise monitoring results for 3Q2018 noise measurements collected in the Town of Portola Valley. Please do not hesitate to call Nastasja von Conta, a Senior Noise Abatement Specialist with our office or me at (650) 821-5100 if you have any questions about the report or would like to discuss this information.

Thank you,

David



David Ong

Noise Systems Manager | Planning, Design & Construction
San Francisco International Airport | P.O. Box 8097 | San Francisco, CA 94128
Tel 650-821-5100 | flysfo.com

[Facebook](#) | [Twitter](#) | [YouTube](#) | [Instagram](#) | [LinkedIn](#)

MEMORANDUM

TO: PORTOLA VALLEY COMMUNITY

**FROM: SAN FRANCISCO INTERNATIONAL AIRPORT AIRCRAFT NOISE
ABATEMENT OFFICE**

SUBJECT: 3Q 2018 PORTOLA VALLEY NOISE MONITORING REPORT

DATE: SEPTEMBER 20, 2018

The San Francisco International Airport (SFO) Aircraft Noise Abatement Office (ANAO) conducts aircraft noise monitoring in the Town of Portola Valley to determine noise levels within the community from aircraft operations at SFO. Noise monitoring occurs every quarter for a 14-day data collection period. This quarter's measurement period was from August 4, 2018 to August 17, 2018. The monitoring was made possible with the assistance of a Portola Valley resident.

The overall average daily noise level from all aircraft was 40dBA CNEL. The Community daily noise level was 47dBA CNEL. Noise from all aircraft over this location increased the total average daily noise level by 1dBA. Non-aircraft noise sources included residential noise.

The Town of Portola Valley is a quiet suburban community with ambient noise levels of 42dBA. On an average day, Portola Valley had 179 overflights out of which 39 exceeded the noise monitor thresholds and recorded a noise event. The thresholds were 55dBA during the daytime and 50dBA for nighttime. Aircraft destined to SFO typically overfly Portola Valley during high traffic conditions or inclement weather days with aircraft vectoring. Also known as delay vectoring, is when a FAA (Federal Aviation Administration) Air Traffic Controller instructs the pilot to fly specific headings. The headings are not the most direct path to the runways. Reasons why aircraft may be vectored include: adjusting the arrival sequence in order to maintain safe separation between all aircraft, maximizing use of available airspace, achieving an expeditious flow of aircraft traffic, avoiding areas of known hazardous weather or known severe turbulence, and maneuvering an aircraft into a suitable position to accommodate a visual approach and landing.

As flights to SFO cross over the peninsula, they are typically between 5,000 and 7,000 feet, and represent about 65 percent of all aircraft noise events over Portola Valley. The remaining aircraft noise events are low-flying general aviation traffic using San Carlos Airport, Palo Alto Airport, and other airports. An average sound exposure level (SEL) for a single noise event for all aircraft were recorded at 70dBA and maximum noise levels (LMax) at 58dBA. SFO aircraft have lower SEL and LMax levels and are slightly quieter than the general aviation traffic as they overfly the area at higher altitudes. On average, there were 4 nighttime noise events from SFO aircraft. During the noise-monitoring period, SFO ANAO received noise reports from 35 individuals in Portola Valley primarily during the morning and nighttime hours. During these hours, there is a noticeable spike of noise reports disproportionate with aircraft noise events. Overall, it seems reasonable to assume that the morning and evening hours are most disturbing to Portola Valley reporters even though this is the time when SFO operations are at its lowest.

In view of the fact that the monitoring location in Portola Valley is located in a quiet suburb with ambient noise in the low 40dB range, any aircraft noise above this threshold may become a nuisance for the residents.

dBa- stands for A-weighted decibel. Decibel unit measures the loudness of a sound and is computed as the signal to noise ratio. A-weighting is used to adjust for frequency range of human hearing. An increase of ten decibels is perceived by human ear as a doubling of noise.

SEL - Sound Exposure Level of a noise event is measured over time between the initial and final points when the noise level exceeds a predetermined threshold and its energy is compressed into one second.

LMax - The maximum noise level is a measurement of the peak level of a noise event.

CNEL- This metric is used to assess and regulate aircraft noise exposure in communities surrounding the airport. California Title 21 Noise Regulations established acceptable level of aircraft noise of 65dBA CNEL.

Short Term Noise Monitoring Report - Site 978

Portola Valley 3Q 2018

August 4 - August 17

Aircraft CNEL: **40dBA**

Community CNEL: **47dBA**

Total CNEL: **48 dBA**

Aircraft SEL: **70dBA**

Aircraft LMax: **58dBA**

Ambient Noise: **42dBA**

Noise Monitor Treshold: **55dBA (Day), 50dBA(Night)**

SFO Aircraft Noise Events: **27 per day**

SFO Operations Flow: **West Flow**

Cause of Aircraft Overflights : **SFO aircraft arrivals, delayed vectoring, and small general aviation aircraft transitioning the area**



Daily Noise Event Averages

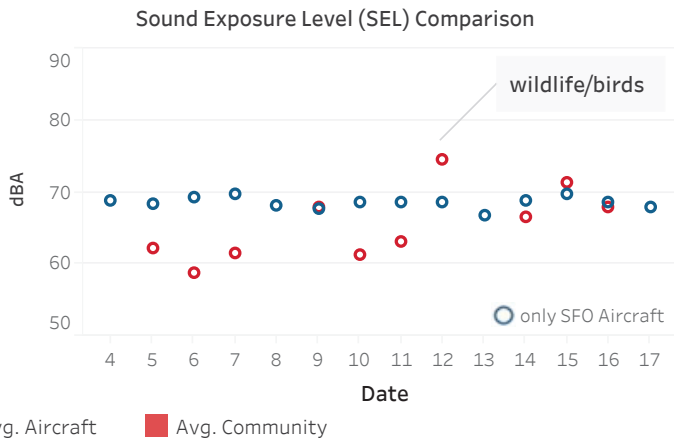
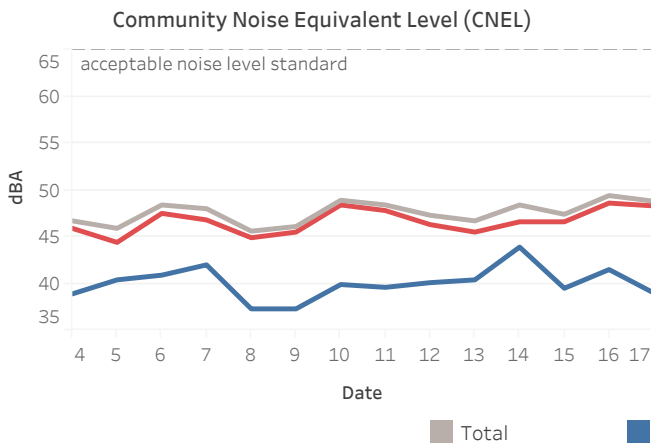
Date	SFO			Non-SFO			Community		
	Noise Events	SEL (dBA)	Avg. LMax (dB)	Noise Events	SEL (dBA)	Avg. LMax (dB)	Noise Events	SEL (dBA)	Avg. LMax (dB)
4	23	69	57	24	68	59			
5	20	68	58	27	71	60	3	62	57
6	32	69	57	20	69	59	4	59	52
7	37	70	58	19	72	60	10	61	54
8	19	68	58	13	67	57			
9	18	68	57	9	75	62	2	68	61
10	19	69	57	7	68	58	9	61	51
11	15	69	58	20	70	59	1	63	52
12	23	69	58	19	71	60	3	74	67
13	24	67	55	10	72	60			
14	60	69	57	18	75	62	16	66	57
15	31	70	58	16	69	60	2	71	65
16	39	68	57	5	70	61	9	68	59
17	21	68	56	17	73	62			
Daily Average	27	68	57	16	71	60	6	65	56

SFO Events are: Single SFO Aircraft, Multiple SFO Aircraft, Simultaneous SFO and Non-SFO Aircraft, and Simultaneous Community and SFO Aircraft.

SEL - Sound Exposure Level of a noise event is measured over time between the initial and final points when the noise level exceeds a predetermined threshold and its energy is compressed into one second.

Lmax - The maximum noise level is a measurement of the peak level of a noise event.

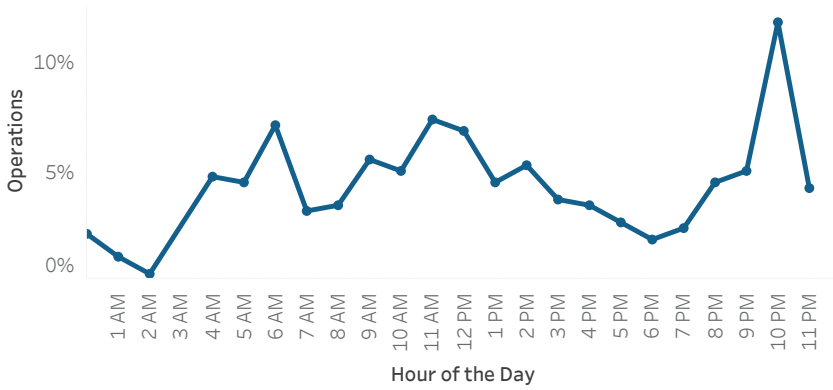
CNEL - This metric is used to assess and regulate aircraft noise exposure in communities surrounding the airport. California Title 21 Noise Regulations established acceptable level of aircraft noise of 65dBA CNEL.



SFO Aircraft Noise Events by Day (7am-7pm), Evening (7pm-10pm) and Night (10pm-7am)

	Noise Events	SFO Noise Events (%)	SEL (dBA)	Min. SEL (dBA)	Max. SEL (dBA)	Avg. LMax (dB)	Min. LMax (dBA)	Max. LMax (dBA)	Avg. Duration (sec)	Min. Duration (sec)	Max. Duration (sec)
Day	200	52%	69	60	78	59	55	67	16	5	37
Evening	45	12%	69	61	78	58	55	68	15	5	36
Night	136	36%	67	57	73	55	50	61	22	5	57

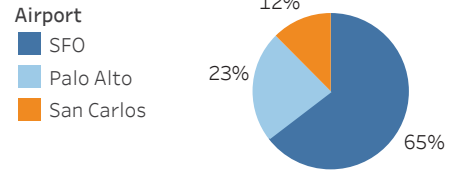
SFO Noise Events by Hour of the Day



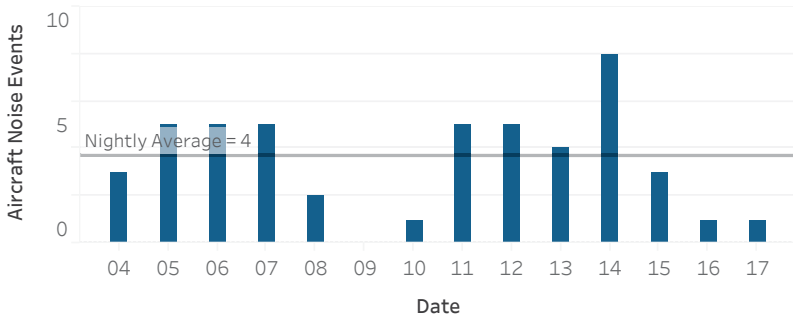
SFO Arrivals Altitude

Altitude	Percentage
4,000ft	11%
5,000ft	51%
6,000ft	30%
>7,000ft	7%

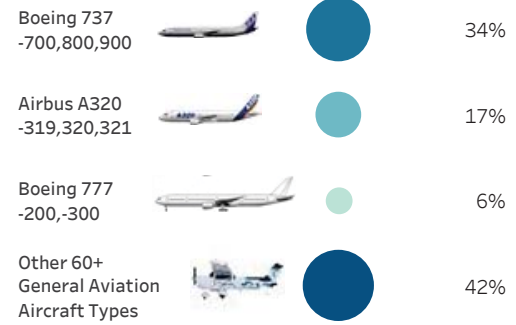
Only aircraft that registered a noise event on the monitor are considered.



SFO Nighttime (midnight-6am)



Aircraft Type

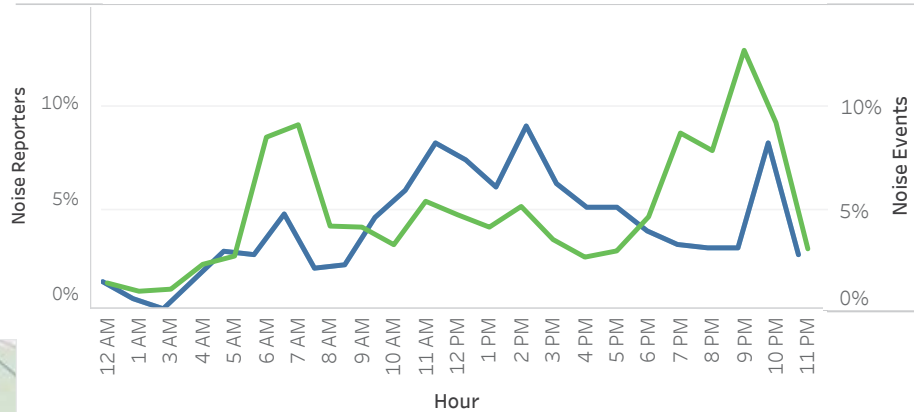


Noise Reporters

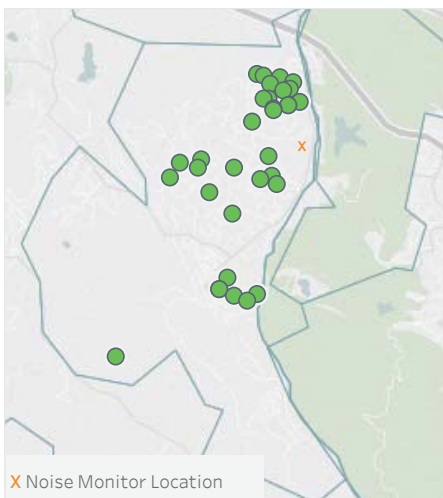
Date	Noise Reporters	Noise Reports
Aug 4	15	86
5	9	65
6	18	149
7	16	107
8	12	74
9	8	25
10	15	95
11	16	43
12	14	95
13	17	137
14	23	349
15	18	152
16	17	220
17	17	247
Total	35	1,844

22% of overflights registered a noise event (179 avg daily overflights of which 39 created a noise event)

Noise Reporters vs Aircraft Noise Events



Noise Reporters Location



Noise Monitor on Location



Dave Ong (AIR)

From: Dave Ong (AIR)
Sent: Friday, September 21, 2018 4:22 PM
To: 'c.shaw@woodsidetown.org'
Cc: Bert Ganoung (AIR); 'James A Castañeda'
Subject: 3Q 2018 Aircraft Noise Monitoring Results for Woodside VOR
Attachments: 3Q2018 Woodside Quarterly Monitoring Report.pdf

Dear Honorable Chris Shaw,

Please find attached aircraft noise monitoring results for Third Quarter 2018, for noise measurements collected in the Town of Woodside. Please do not hesitate to call Nastasja von Conta, a Senior Noise Abatement Specialist with our office or me at (650) 821-5100 if you have any questions about the report or would like to discuss this information.

Thank you,

David



David Ong

Noise Systems Manager | Planning, Design & Construction
San Francisco International Airport | P.O. Box 8097 | San Francisco, CA 94128
Tel 650-821-5100 | flysfo.com

[Facebook](#) | [Twitter](#) | [YouTube](#) | [Instagram](#) | [LinkedIn](#)

MEMORANDUM

TO: WOODSIDE COMMUNITY

**FROM: SAN FRANCISCO INTERNATIONAL AIRPORT AIRCRAFT NOISE
ABATEMENT OFFICE**

SUBJECT: 3Q 2018 WOODSIDE NOISE MONITORING REPORT

DATE: SEPTEMBER 20, 2018

The San Francisco International Airport (SFO) Aircraft Noise Abatement Office (ANAO) conducts aircraft noise monitoring in the Town of Woodside to determine noise levels within the community from aircraft operations at SFO. The monitoring occurs every quarter for a 14-day data collection period. This quarter's measurement period was from August 4, 2018 to August 17, 2018. The monitoring is made possible with the assistance of the Federal Aviation Administration (FAA) San Jose Technical Operations team. They continue to provide support and participate in our efforts to collect noise data by allowing us access to their facility to monitor aircraft noise.

The overall average daily noise level from all aircraft was 44dBA CNEL. The Community daily noise level was 52dBA CNEL. Non-aircraft noise sources mainly included strong winds and rustling leaves from nearby trees. Noise from all aircraft over this location increased the total average daily noise level by 1dBA.

The Town of Woodside is a quiet suburban community with ambient noise levels of 45dBA. On an average day of this study, Woodside had 176 overflights out of which 61 exceeded the noise monitor thresholds and recorded a noise event. The thresholds were 52dBA during the daytime and 50dBA in the nighttime. Aircraft destined to SFO typically overfly Woodside during high traffic conditions or inclement weather days with aircraft vectoring. Also known as delay vectoring, it is when an FAA Air Traffic Controller instructs the pilot to fly specific headings. These headings are not the most direct path to the runways. Reasons for aircraft vectoring may include adjusting the arrival sequence in order to maintain safe separation between all aircraft, maximizing use of available airspace, achieving an expeditious flow of aircraft traffic, avoiding areas of known hazardous weather or known severe turbulence, and maneuvering an aircraft into a suitable position to accommodate a visual approach and landing.

As flights to SFO cross over the peninsula, they represent 67 percent of all aircraft noise events over Woodside and are typically above 6,000 feet. The remaining 33 percent of aircraft were attributed to general aviation traffic using San Carlos Airport, San Jose International Airport, and Oakland International Airport. An average sound exposure level (SEL) for a single noise event for all aircraft were recorded at 70dBA and maximum noise levels (LMax) at 58dBA. On average, there were 7 SFO noise events from midnight to 6 am.

During the noise-monitoring period, SFO ANAO received noise reports from 11 individuals in Woodside. Majority of aircraft noise events occurred between the hours of 2pm and 8pm. The Town of Woodside is a quiet suburban community with ambient noise in the quiet 40-45dBA range; any aircraft noise level above the background may become a nuisance for the residents.

dBa- stands for A-weighted decibel. Decibel unit measures the loudness of a sound and is computed as the signal to noise ratio. A-weighting is used to adjust for a frequency range of human hearing. An increase of ten decibels is perceived by the human ear as a doubling of noise.

SEL - Sound Exposure Level of a noise event is measured over time between the initial and final points when the noise level exceeds a predetermined threshold and its energy is compressed into one second.

LMax - The maximum noise level is a measurement of the peak level of a noise event.

CNEL- This metric is used to assess and regulate aircraft noise exposure in communities surrounding the airport. California Title 21 Noise Regulations established the acceptable level of aircraft noise of 65dBA CNEL.

Short Term Noise Monitoring Report - Site 969

Woodside 3Q 2018

August 4 - August 17

Aircraft CNEL: **44dBA**
 Community CNEL: **52dBA**
 Total CNEL: **53 dBA**
 SEL: **70dBA**
 LMax: **58dBA**

Ambient Noise: **45dBA**
 Noise Monitor Treshold: **52dBA (Day), 50dBA(Night)**

SFO Aircraft Noise Events: **38 per day**

SFO Operations Flow: **West Flow**

Cause of Aircraft Overflights: **SFO Oceanic Arrival Route, delayed vectoring, nighttime delays, general aviation-small aircraft**



Daily Noise Event Averages

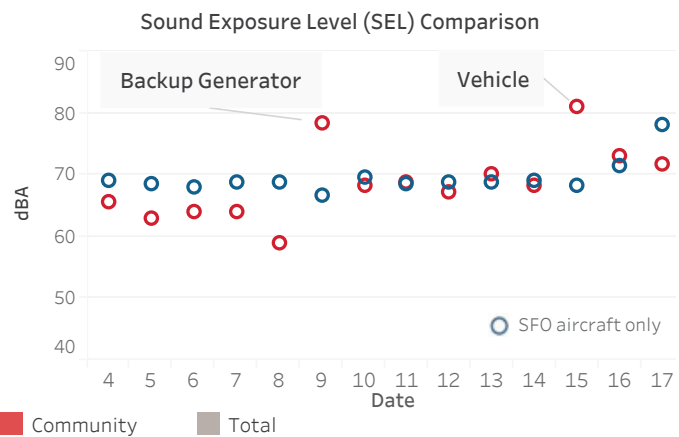
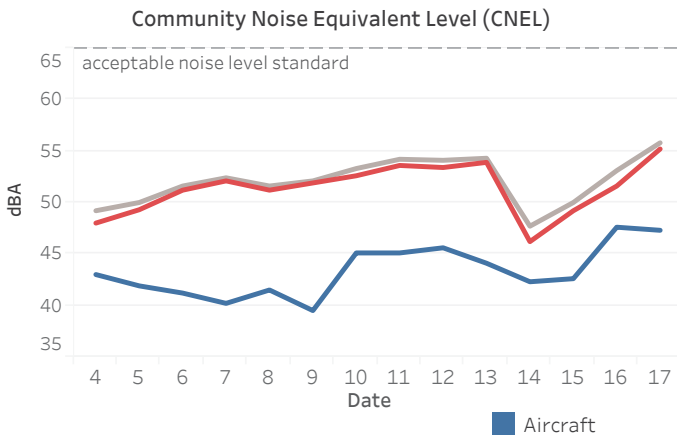
Date	Noise Events	SFO		Noise Events	Non-SFO		Community		
		Avg. SEL (dBA)	Avg. LMax (dB)		Avg. SEL (dBA)	Avg. LMax (dB)	Noise Events	Avg. SEL (dBA)	Avg. LMax (dB)
4	31	69	56	31	73	60	7	66	56
5	29	68	57	26	71	60	25	63	55
6	40	68	57	14	70	60	70	64	55
7	32	69	58	18	69	59	84	64	55
8	38	69	58	18	71	60	1	59	52
9	26	67	55	21	67	57	10	78	58
10	46	69	56	20	70	58	60	68	52
11	41	68	55	26	69	56	124	69	52
12	46	69	55	27	70	57	118	67	51
13	42	69	56	22	70	58	132	70	52
14	51	69	57	12	70	59	7	68	62
15	65	68	57	17	71	60	33	81	64
16	68	71	57	32	72	59	88	73	53
17	42	78	56	25	71	58	183	72	53
Daily Average	43	69	56	22	70	58	67	69	53

SFO Events are: Single SFO Aircraft, Multiple SFO Aircraft, Simultaneous SFO and Non-SFO Aircraft, and Simultaneous Community and SFO Aircraft.

SEL - Sound Exposure Level of a noise event is measured over time between the initial and final points when the noise level exceeds a predetermined threshold and its energy is compressed into one second.

Lmax - The maximum noise level is a measurement of the peak level of a noise event.

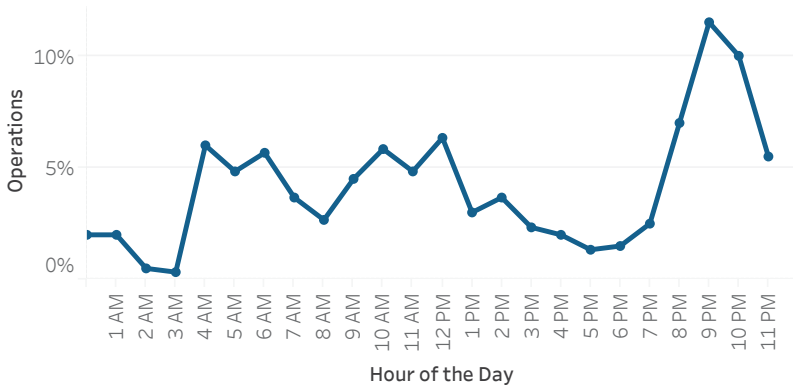
CNEL - This metric is used to assess and regulate aircraft noise exposure in communities surrounding the airport. California Title 21 Noise Regulations established acceptable level of aircraft noise of 65dBA CNEL.



SFO Aircraft Noise Events by Day (7am-7pm), Evening (7pm-10pm) and Night (10pm-7am)

Day	Noise Events	SFO Noise Events (%)	Avg. SEL (dBA)	Min. SEL (dBA)	Max. SEL (dBA)	Avg. LMax (dB)	Min. LMax (dBA)	Max. LMax (dBA)	Avg. Duration (sec)	Min. Duration (sec)	Max. Duration (sec)
Day	250	42%	72	58	94	58	52	88	19	5	71
Evening	126	21%	70	58	79	57	52	68	33	5	120
Night	221	37%	68	57	76	55	50	65	39	5	120

SFO Noise Events by Hour of the Day

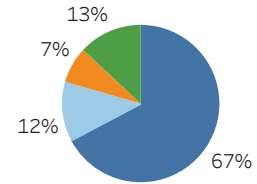


SFO Aircraft Altitude

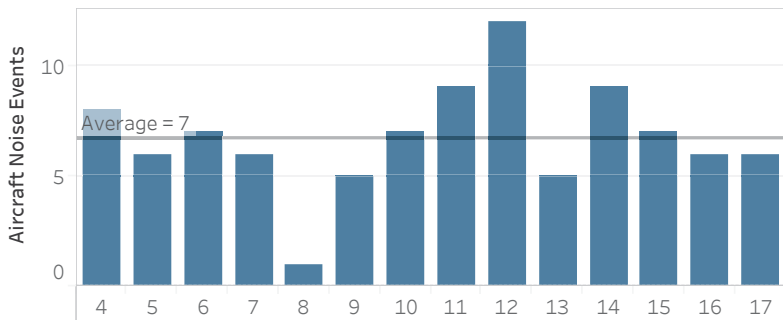
	<6000ft	≥6000ft	≥7000ft	≥8,000ft	≥9,000ft
Arrivals	24%	31%	32%	13%	1%
Departures	14%				86%

Only aircraft that registered a noise event on the monitor are considered.

- Airport
- SFO
- San Carlos
- San Jose Intl
- Other Airports



SFO Nighttime (midnight-6am)



Aircraft Type

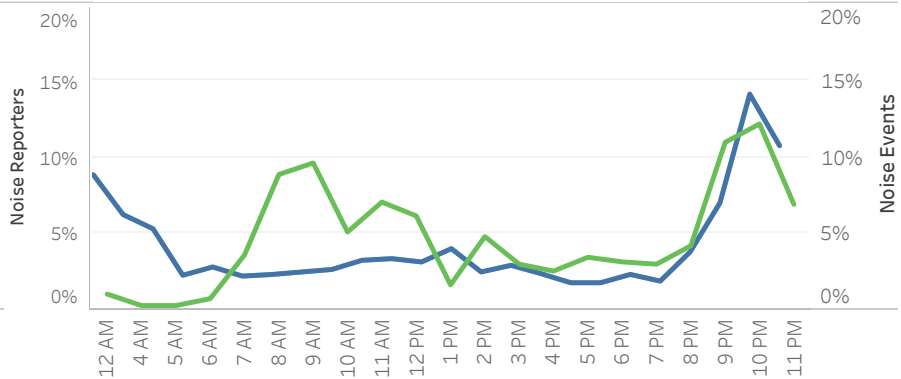
- Airbus A320-A319, A320, A321: 13%
- Boeing B737-700, 800, 900: 34%
- Boeing B777-200, 300: 9%
- Other 121 Aircraft Types: 44%

Noise Reporters

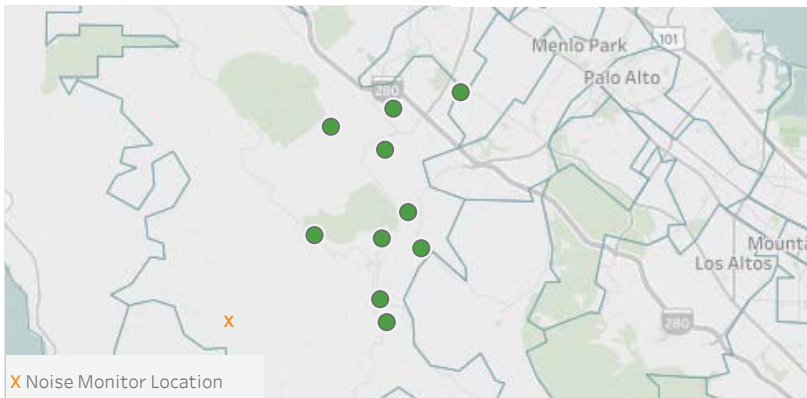
35% of overflights registered a noise event. (176 avg daily overflights of which 61 created a noise event)

Aug	Noise Reporters	Noise Reports
4	3	22
5	6	34
6	4	44
7	7	52
8	7	52
9	5	24
10	6	42
11	5	37
12	5	61
13	4	43
14	5	62
15	6	43
16	5	75
17	3	66
Total	11	657

Noise Reporters vs Noise Events

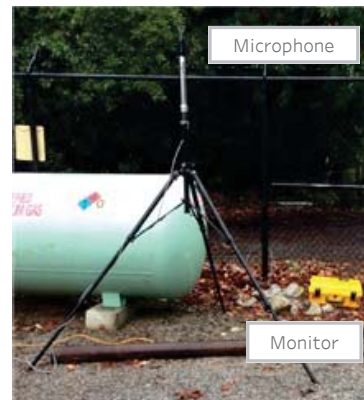


Noise Reporters Location



Hour

Noise Monitor on Location



Subject: 3Q 2018 Aircraft Noise Monitoring Results for Brisbane
Date: Tuesday, September 4, 2018 at 2:20:44 PM Pacific Daylight Time
From: Dave Ong (AIR)
To: Terry O'Connell
CC: Holstine, Clay, Bert Ganoung (AIR), James Castaneda
Attachments: image001.png, Brisbane 3Q2018 FINAL.pdf

Dear Honorable Terry O'Connell,

Please find attached aircraft noise monitoring results for Third Quarter 2018, for noise measurements collected in the City of Brisbane at two locations. Past results are also available online at <https://www.flysfo.com/community/noise-abatement/reports-and-resources/aircraft-noise-monitoring-reports>. Please do not hesitate to call Nastasja von Conta, a Senior Noise Abatement Specialist with our office or me at (650) 821-5100 if you have any questions about the report or would like to discuss this information.

Thank you,

David



David Ong

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MEMORANDUM

TO: BRISBANE COMMUNITY

FROM: SAN FRANCISCO INTERNATIONAL AIRPORT AIRCRAFT NOISE ABATEMENT OFFICE

SUBJECT: 3Q 2018 BRISBANE NOISE MONITORING REPORT

DATE: AUGUST 27, 2018

The San Francisco International Airport (SFO) Aircraft Noise Abatement Office (ANAO) conducts aircraft noise monitoring in the City of Brisbane, California to determine noise levels within the community from aircraft operations at SFO. Noise monitoring occurs every quarter for a 14-day data collection period. This quarter's measurement period was from July 18, 2018 to July 31, 2018. The monitoring is made possible with the assistance of the City Manager, resulting in two temporary sites in Brisbane. The first site was located at Mission Blue Center (Site 966) and the second was located above the Brisbane Community Garden (Site 997) on Solano Street.

The overall average daily noise level from all Aircraft at Site 966 was 50 A-weighted decibels (dBA) Community Noise Equivalent Level (CNEL), and at Site 997 the Aircraft, CNEL was 51dBA. The Community daily noise level at Site 966 was 56dBA CNEL and at Site 997, it was 57dBA. Noise from all aircraft increased the total average daily noise level by 1.6dBA at Site 966 and 1.5 at Site 997. In comparison, the human ear can detect a 3dB sound change and a 6dB increase may result in higher annoyance levels. The results of this monitoring period are consistent with previous quarters.

Brisbane is located approximately 4 miles from the SFO Airport, and aircraft noise events sources include primarily SFO departures utilizing the SSTIK and OFFSHORE departure procedures. During the monitoring period, there were no runway construction projects that altered the departure patterns. Aircraft departing SFO from Runways 01L/R for destinations to the west, south, and southeast typically overfly Brisbane. Occasionally when the winds on the airfield are stronger from the west, the TRUKN or NIITE departures will be utilized for destinations to the northeast and east. Departing aircraft from Runways 28L/R will initiate a right turn once the aircraft reaches the minimum altitude of 520 feet, consequently, this may have some aircraft fly over Brisbane. SFO traffic arriving from the north on the BDEGA, STINS or GOLDEN GATE arrival on a typical day (West Plan) overfly Brisbane at 10,000 feet or higher. The ambient levels within Brisbane during the monitoring period were as follows: Site 966 - 52dBA and Site 997 - 53dBA. Non-aircraft noise sources included residential and vehicular traffic.

Brisbane experienced about 247 daily overflights of which about 28% exceeded the noise monitor threshold and recorded a noise event. The threshold was set at 62dBA for both Site 966 and 997 during the monitoring period. During the noise-monitoring period, SFO ANAO received noise reports from 19 individuals in Brisbane. Majority of aircraft noise events at both sites occurred between 6 am and 10 pm. On average, there were two nighttime noise events between hours of midnight and 6 am.

In view of the fact that the monitoring locations in Brisbane are located in an urban area with ambient noise in the low 50 dBA, any aircraft noise above this threshold may become a nuisance for the residents. Additionally, the frequency of flights due to the close proximity of the Airport may increase annoyance levels.

dBA- stands for A-weighted decibel. Decibel unit measures the loudness of a sound and is computed as the signal to noise ratio. A-weighting is used to adjust for frequency range of human hearing. An increase of ten decibels is perceived by human ear as a doubling of noise.

CNEL- This metric is used to assess and regulate aircraft noise exposure in communities surrounding the airport. California Title 21 Noise Regulations established acceptable level of aircraft noise of 65dBA CNEL.

West Plan – Standard operations at the Bay Area International Airports. Aircraft arrive to the west at all three airports. At San Jose and Oakland Airports, aircraft depart to the west. While at San Francisco Airport, aircraft depart either to the north or to the west depending on wind conditions on the airfield.

TRUKN and NIITE – RNAV departure procedures off Runways 28L/R at SFO, has aircraft climb heading of 284° to 520 feet then right turn to initial fix. These procedures replaced the legacy departures procedures SHORELINE and QUIET, respectively.

Mission Blue Center 3Q 2018

July 18, July 20-23*

Aircraft CNEL: **50dBA**
 Community CNEL: **56dBA**
 Total CNEL: **57dBA**
 Aircraft SEL: **79dBA**
 Aircraft LMax: **69dBA**
 Ambient Noise: **52dBA**
 Noise Monitor Treshold: **62dBA**
 SFO Aircraft Noise Events: **78 per day**
 SFO Operations Flow: **West Flow (all days)**
 Cause of Aircraft Overflights : **SFO SSTIK Departures from Runway 01L/R making the left turn over Brisbane and departures making a right turn from Runways 28L/R performing the TRUKN / NIITE Departure**



*Only 5 days of 24 hour monitoring are available for this measurement period.
Unable to recover missing data from monitor.

Daily Noise Event Averages

Date	SFO			Non-SFO			Community		
	Noise Events	Avg. SEL (dBA)	Avg. LMax (dB)	Noise Events	Avg. SEL (dBA)	Avg. LMax (dB)	Noise Events	Avg. SEL (dBA)	Avg. LMax (dB)
18	72	77	67	2	75	66	11	81	71
20	69	78	68	4	74	66	32	81	70
21	61	78	68	4	71	64	3	81	78
22	85	78	67	2	74	65			
23	102	79	68	10	79	72	104*	81	70
Daily Average	78	78	68	4	74	68	38	81	71

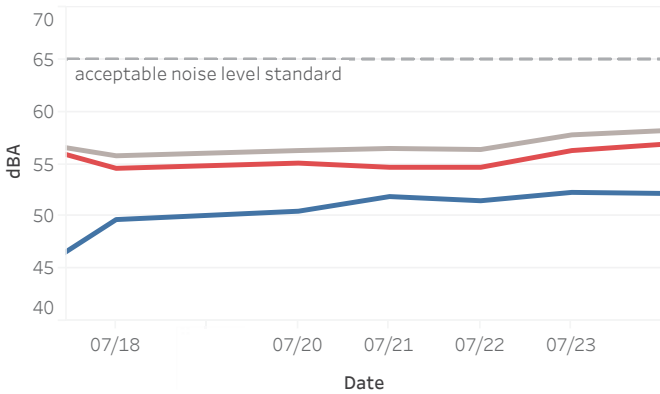
*Children playing from 10 am to 3 pm

SFO Events are: Single SFO Aircraft, Multiple SFO Aircraft, Simultaneous SFO and Non-SFO Aircraft, and Simultaneous Community and SFO Aircraft.
SEL - Sound Exposure Level of a noise event is measured over time between the initial and final points when the noise level exceeds a predetermined threshold and its energy is compressed into one second.

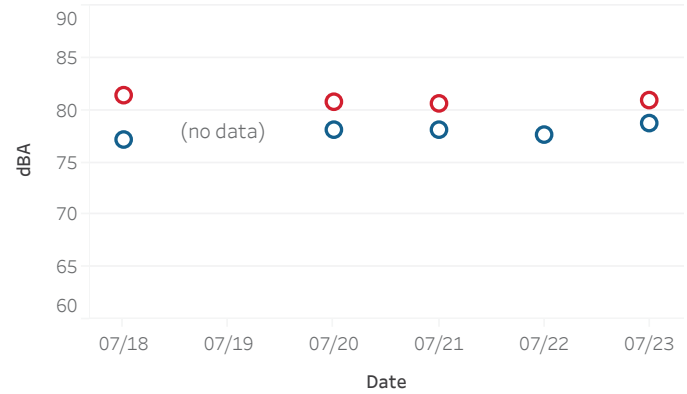
Lmax - The maximum noise level is a measurement of the peak level of a noise event.

CNEL - This metric is used to assess and regulate aircraft noise exposure in communities surrounding the airport. California Title 21 Noise Regulations established acceptable level of aircraft noise of 65dBA CNEL.

Community Noise Exposure Level (CNEL)



Sound Exposure Level (SEL) Comparison

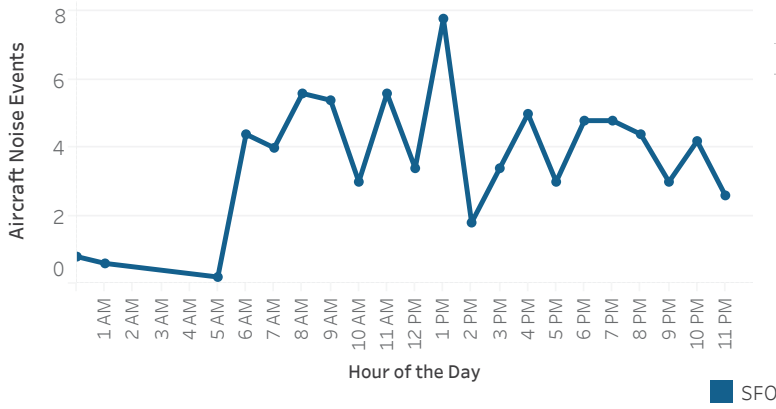


■ Aircraft ■ Community ■ Total

SFO Aircraft Noise Events by Day (7am-7pm), Evening (7pm-10pm) and Night (10pm-7am)

Day	Noise Events	SFO Noise Events (%)	Avg. SEL (dBA)	Min. SEL (dBA)	Max. SEL (dBA)	Avg. LMax (dB)	Min. LMax (dBA)	Max. LMax (dBA)	Avg. Duration (sec)	Min. Duration (sec)	Max. Duration (sec)
Day	264	68%	78	68	90	68	62	83	17	5	60
Evening	61	16%	77	69	83	67	63	73	16	5	37
Night	64	16%	77	68	83	67	63	73	16	5	36

SFO Noise Events by Hour of the Day

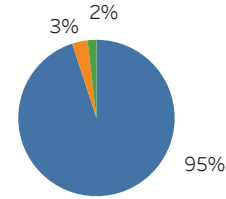


SFO Departures Altitude

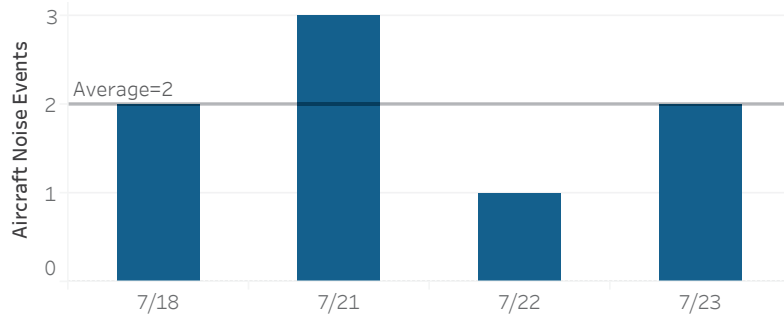
Altitude	Percentage
≤3000ft	10%
3000ft	15%
3500ft	32%
4000ft	25%
≥4500ft	18%

Only aircraft that registered a noise event on the monitor are considered.

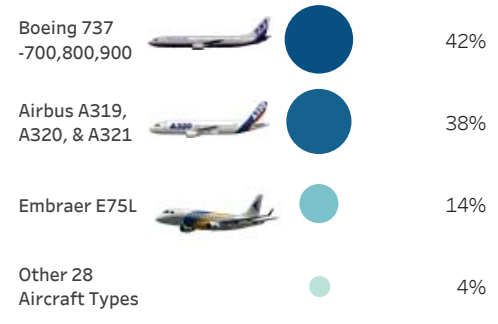
Airport
 ■ SFO
 ■ OAK
 ■ Others



SFO Nighttime (Midnight-6am)



Aircraft Type



Noise Reporters

	Noise Reporters	Noise Reports
July 18	9	66
20	11	70
21	10	69
22	11	103
23	10	92
Total	16*	400

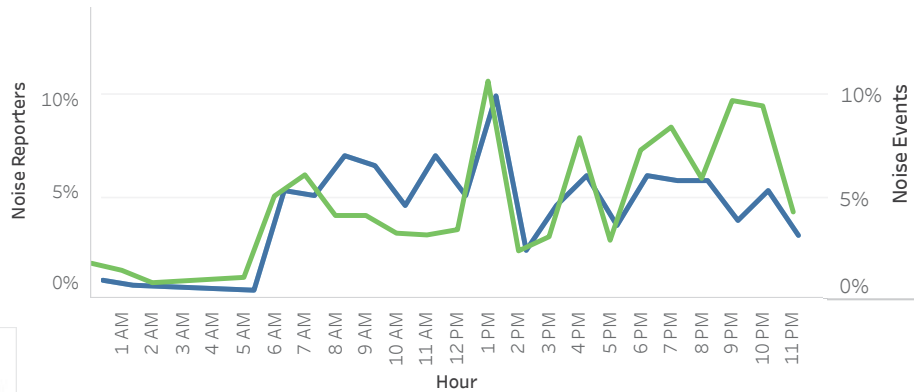
* Individual Reporters

32%

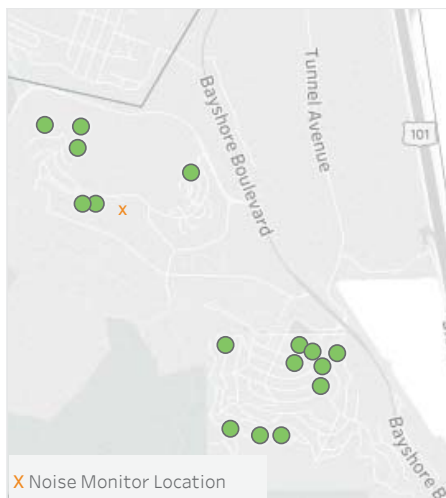
of overflights registered a noise event.
 (238 avg daily overflights of which 77 created a noise event)

Operation Type	Arrivals	Departures
	1%	99%

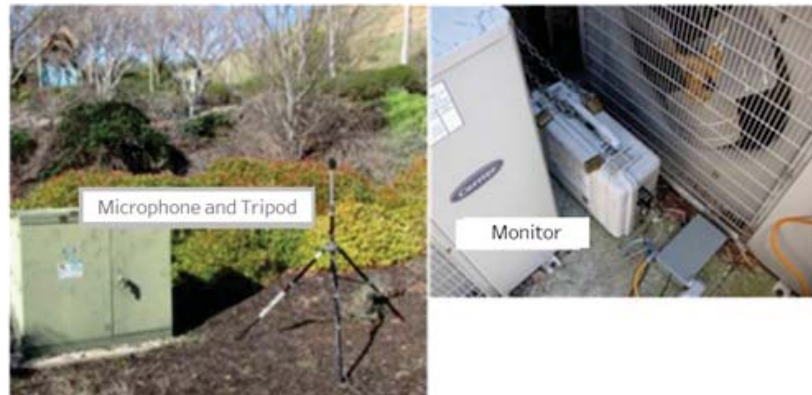
Noise Reporters vs Aircraft Noise Events



Noise Reporters Location



Noise Monitor on Location



Solano Street 3Q 2018

July 18 - July 31

Aircraft CNEL: **51dBA**
Community CNEL: **57dBA**
Total CNEL: **58dBA**
Aircraft SEL: **79dBA**
Aircraft LMax: **67dBA**
Ambient Noise: **53dBA**
Noise Monitor Treshold: **62dBA**

SFO Aircraft Noise Events: **64 per day**
SFO Operations Flow: **West Flow (all days)**
Cause of Aircraft Overflights : **SFO SSTIK Departures from Runway 01L/R making the left turn over Brisbane and departures making a right turn from Runways 28L/R performing the TRUKN / NIITE Departure**



Daily Noise Event Averages

Date	Noise Events	SFO		Noise Events	Non-SFO		Community		
		Avg. SEL (dBA)	Avg. LMax (dB)		Avg. SEL (dBA)	Avg. LMax (dB)	Noise Events	Avg. SEL (dBA)	Avg. LMax (dB)
18	50	80	68				20	83	70
19	43	79	67	2	74	68	18	77	68
20	38	79	68	5	73	66	16	75	68
21	50	77	67	6	74	66	9	72	66
22	61	78	68	3	73	64	9	74	68
23	76	81	68				15	81	67
24	86	77	67	1	77	71	19	74	67
25	68	78	67	3	72	65	18	79	68
26	79	78	68	1	89	83	13	76	69
27	126	81	67	3	82	66	100*	83	68
28	40	77	67	2	79	69	6	75	66
29	55	77	67				8	73	67
30	56	77	67	1	73	66	13	77	68
31	68	78	67	1	68	62	29	82	68
Daily Average	64	78	67	3	76	67	21	77	68

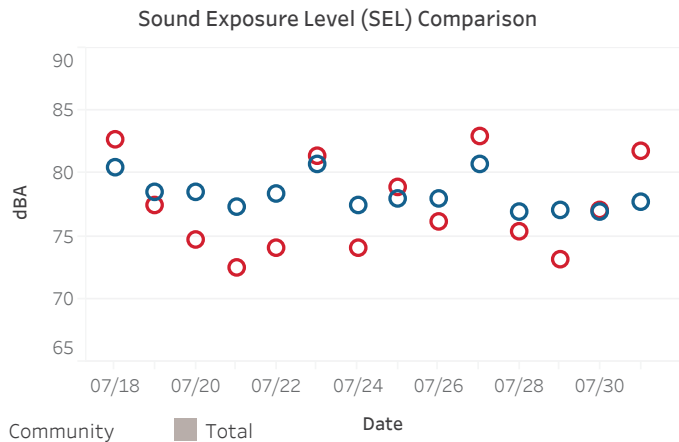
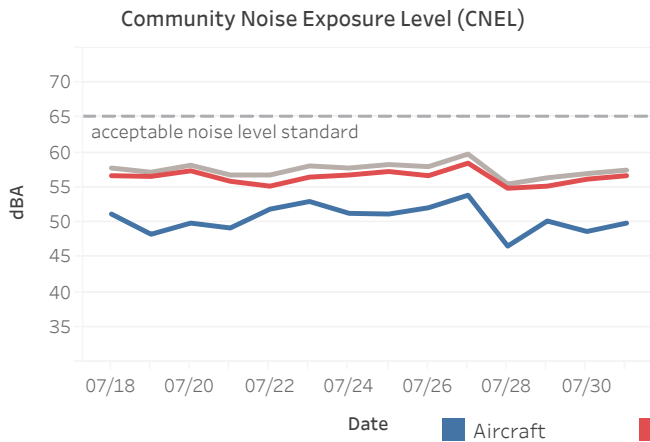
*Machine Noise from 12PM to 3PM

SFO Events are: Single SFO Aircraft, Multiple SFO Aircraft, Simultaneous SFO and Non-SFO Aircraft, and Simultaneous Community and SFO Aircraft.

SEL - Sound Exposure Level of a noise event is measured over time between the initial and final points when the noise level exceeds a predetermined threshold and its energy is compressed into one second.

Lmax - The maximum noise level is a measurement of the peak level of a noise event.

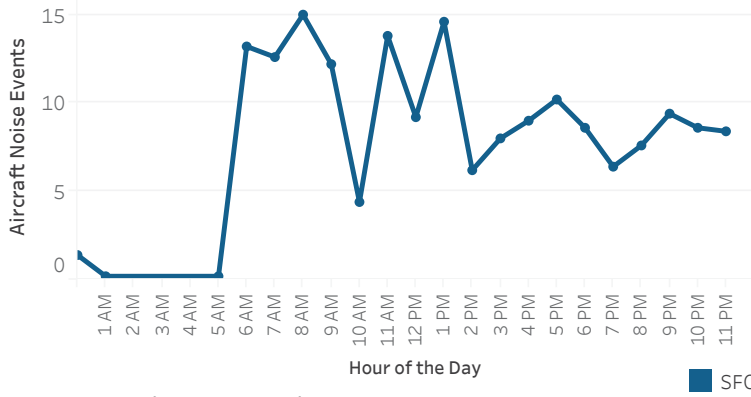
CNEL - This metric is used to assess and regulate aircraft noise exposure in communities surrounding the airport. California Title 21 Noise Regulations established acceptable level of aircraft noise of 65dBA CNEL.



SFO Aircraft Noise Events by Day (7am-7pm), Evening (7pm-10pm) and Night (10pm-7am)

Day	Noise Events	SFO Noise Events (%)	Avg. SEL (dBA)	Min. SEL (dBA)	Max. SEL (dBA)	Avg. LMax (dB)	Min. LMax (dBA)	Max. LMax (dBA)	Avg. Duration (sec)	Min. Duration (sec)	Max. Duration (sec)
Day	619	69%	79	68	95	67	61	88	19	5	60
Evening	117	13%	77	69	82	67	63	73	16	5	36
Night	160	18%	77	68	83	67	62	75	16	5	38

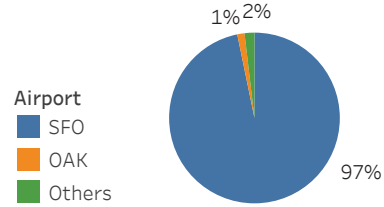
SFO Noise Events by Hour of the Day



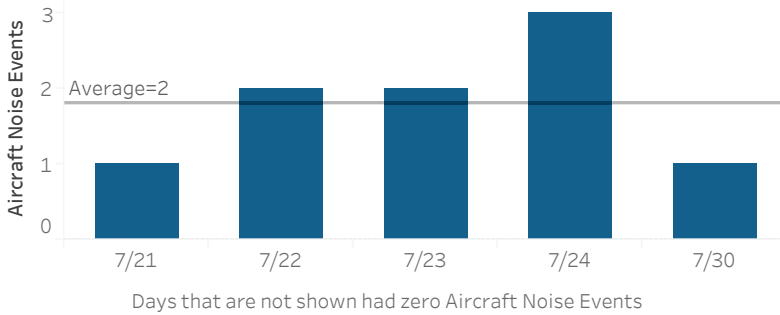
SFO Departures Altitude

Altitude	Percentage
≤3000ft	15%
3000ft	33%
3500ft	34%
4000ft	13%
≥4500ft	6%

Only aircraft that registered a noise event on the monitor are considered.

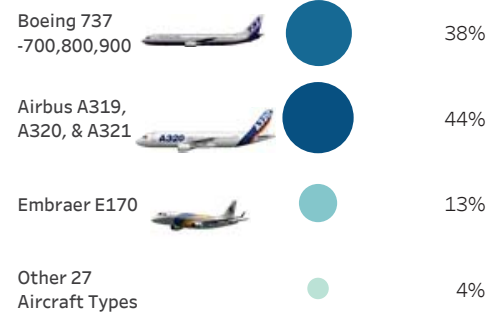


SFO Nighttime (Midnight-6am)



Operation Type	Arrivals	Departures
	1%	99%

Aircraft Type

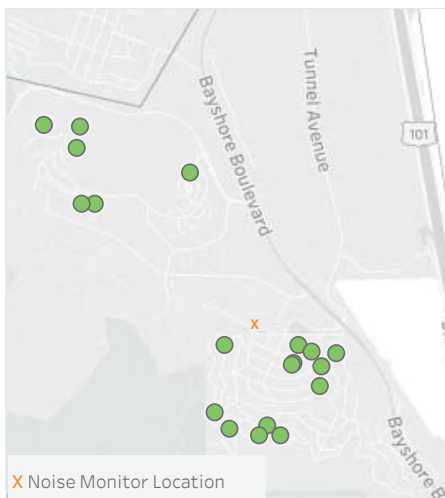


Noise Reporters

Day	Noise Reporters	Noise Reports
July 18	9	45
19	4	20
20	12	49
21	11	59
22	12	71
23	10	79
24	10	56
25	7	46
26	8	64
27	9	67
28	8	35
29	8	33
30	8	16
31	7	39
Total	19*	679

*Individual Reporters

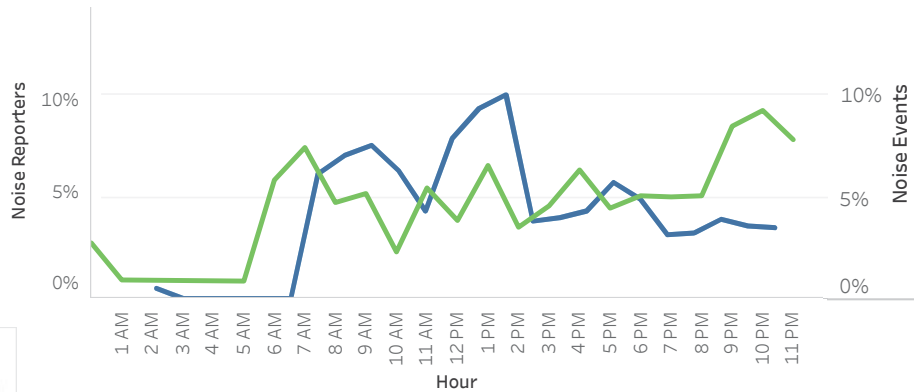
Noise Reporters Location



24%

of overflights registered a noise event.
(255 avg daily overflights of which 62 created a noise event)

Noise Reporters vs Aircraft Noise Events



Noise Monitor on Location

