



# Meeting Packet

## Regular Meeting

Meeting No. 320

**Wednesday, August 7, 2019 - 7:00 p.m.**

David Chetcuti Community Room – Millbrae City Hall  
450 Poplar 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. Jon C. Long Fly Quiet Awards for 2018, Redux**

*ACTION*

Elizabeth Lewis, Roundtable Chairperson  
Bert Ganoung, Noise Abatement Manager

#### **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**

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 Regular Meeting Action Minutes for April 3, 2019 and June 5, 2019.**

#### **5. Airport Director's Reports for May and June 2019.**

*ACTION*

- |   |        |
|---|--------|
| 1. April 3, 2019 Regular Meeting Action Minutes | pg. 9  |
| 2. June 5, 2019 Regular Meeting Action Minutes  | pg. 13 |
| 3. May 2019 Director's Report                   | pg. 17 |
| 4. June 2019 Director's Report                  | pg. 23 |

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REGULAR AGENDA – GENERAL AIRPORT

**6. SFO Updates**

*INFORMATION*

Ivar Satero, Airport Director – San Francisco International Airport

**7. SFO Airport Development Plan, Comment Letters regarding Notice of Preparation (NOP)**

*INFORMATION*

Supervisor Dave Pine, San Mateo County Board of Supervisors

1. Letters submitted from member cities pg. 29

**8. Title 21 Overview**

*INFORMATION*

Gene Reindel, Roundtable Technical Consultant (HMMH)

**9. Presentation by Brüel & Kjær, New Monitoring System Overview and Discussion**

*INFORMATION*

Bert Ganoung, Noise Abatement Manager

REGULAR AGENDA – GROUND-BASED NOISE

**10. Report from Ground-Based Noise Ad-Hoc Subcommittee June 25, 2019**

*INFORMATION*

Ricardo Ortiz, City of Burlingame Representative

1. Meeting summary / Noise Barrier Research Review pg. 43

**11. Additional Matters Related to Ground-Based Noise Discussion**

*INFORMATION*

Elizabeth Lewis, Roundtable Chairperson

REGULAR AGENDA – DEPARTURES

**12. NIITE/HUSSH Procedure Status**

*INFORMATION*

Elizabeth Lewis, Roundtable Chairperson

**13. Additional Matters Related to Departures Discussion**

*INFORMATION*

Elizabeth Lewis, Roundtable Chairperson

REGULAR AGENDA – ARRIVALS

**14. PIRAT TWO Status**

*INFORMATION*

Justin Cook, Roundtable Technical Consultant

## Regular Meeting Packet

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### REGULAR AGENDA - ARRIVALS (continued)

#### **15. Additional Matters Related to Arrivals Discussion**

*INFORMATION*

Elizabeth Lewis, Roundtable Chairperson

### OTHER MATTERS

#### **16. Formal coordination with other Bay Area Roundtables**

*INFORMATION/ACTION*

Elizabeth Lewis, Roundtable Chairperson

1. Memo from SCSC Roundtable

pg. 45

#### **17. Upcoming Technical Working Group Items Discussion**

*INFORMATION*

Elizabeth Lewis, Roundtable Chairperson

James Castañeda, Roundtable Coordinator

#### **18. Glossary and Website Resources**

*INFORMATION*

James Castañeda, Roundtable Coordinator

#### **19. Aviation Noise News and Updates**

*INFORMATION*

Justin Cook, Roundtable Technical Consultant

#### **20. Member Communications / Announcements**

*INFORMATION*

Roundtable Members and Staff

#### **21. Adjourn**

*ACTION*

Elizabeth Lewis, Roundtable Chairperson

### Correspondences / Additional Reports

1. Woodside 2Q 2019 Noise Monitoring Report pg. 47
2. Portola Valley 2Q 2019 Noise Monitoring Report pg. 51
3. Short-Term Noise Monitoring Report for San Francisco pg. 55
4. FAA Instrument Flight Procedures (IFP) Information Gateway Review Updates pg. 59



# 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

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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 2019, 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:

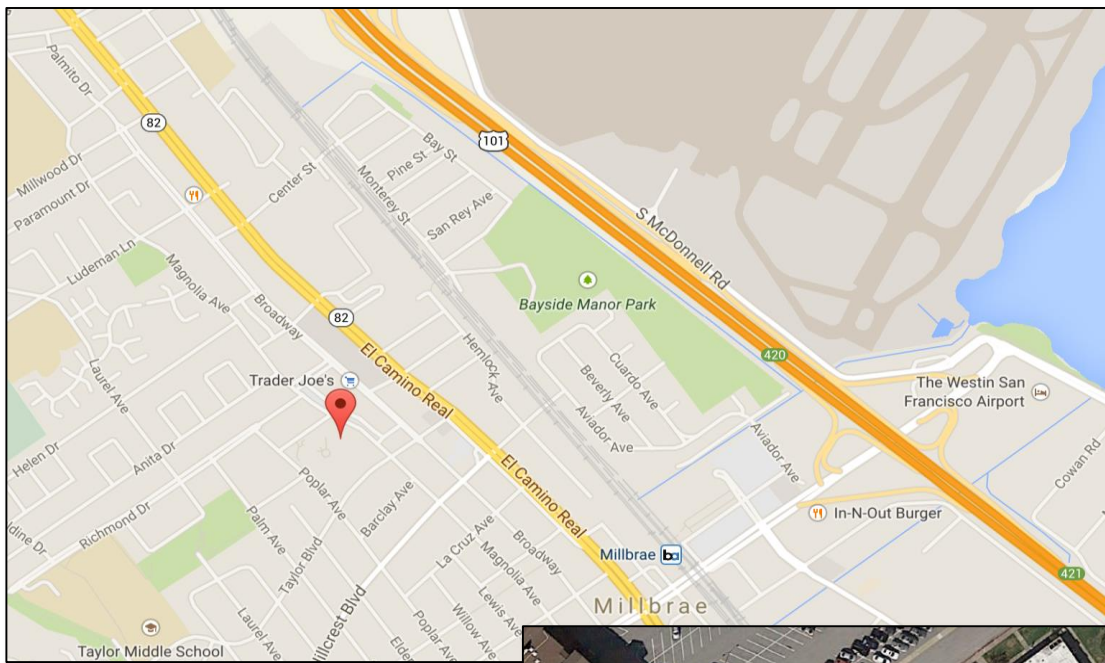
**“No state or political subdivision thereof and no interstate agency or other political agency of two or more states shall enact or enforce any law, rule, regulation, standard, or other provision having the force and effect of law, relating to rates, routes, or services of any air carrier having authority 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

August 2019

**CITY AND COUNTY OF SAN FRANCISCO  
BOARD OF SUPERVISORS**  
Ahsha Safai, Supervisor

**CITY AND COUNTY OF SAN FRANCISCO MAYOR'S  
OFFICE**  
Edward McCaffrey, (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)**  
Carol Ford, ALUC Chairperson (Appointed)

**TOWN OF ATHERTON**  
Elizabeth Lewis, Mayor  
Alternate: Bill Widmer, Council Member

**CITY OF BELMONT**  
Julia Mates Council Member  
Alternate: Douglas Kim, 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**  
Pamela DiGiovanni, Council Member

**CITY OF FOSTER CITY**  
Sanjay Gehani, Council Member  
Alternate: Sam Hindi, Mayor

**CITY OF HALF MOON BAY**  
Adam Eisen, Council Member  
Alternate: Harvey Rarback, Council Member

**TOWN OF HILLSBOROUGH**  
Alvin Royse, Council Member  
Alternate: Shawn Christianson, Council Member

**CITY OF MENLO PARK**  
Ray Mueller, Mayor  
Cecilia Taylor, Mayor Pro Tem

**CITY OF MILLBRAE**  
Ann Schneider, Council Member  
Alternate: Wayne Lee, Mayor

**CITY OF PACIFICA**  
Mike O'Neill, Council Member  
Alternate: Deirdre Martin, Council Member

**TOWN OF PORTOLA VALLEY**  
Ann Wengert, Council Member  
Alternate: Maryann Derwin, Council Member

**CITY OF REDWOOD CITY**  
Giselle Hale, Council Member

**CITY OF SAN BRUNO**  
Marty Medina, Council Member  
Alternate: Rico Medina, Council Member

**CITY OF SAN CARLOS**  
Adam Rak: Council Member  
Alternate: Mark Olbert, Council Member

**CITY OF SAN MATEO**  
Joe Goethals, Council Members  
Alternate: Diane Papan, Council Member

**CITY OF SOUTH SAN FRANCISCO**  
Mark Addiego, Council Member  
Alternate: Mark Nagales, Council Member

**TOWN OF WOODSIDE**  
Thomas Livermore, 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 Systems Manager  
Nastasja von Conta, Senior Noise Abatement Specialist  
Anthony Carpeneti, Noise Abatement Specialist  
Anneliese Taing, Noise Abatement Specialist

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## **SFO Airport/Community Roundtable**

Meeting No. 318 Action Minutes

Wednesday, April 3, 2019

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

Roundtable Vice-Chairperson, Ricardo Ortiz, called the Regular Meeting of the SFO Airport/Community Roundtable to order, at approximately 7:01 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

Ivar Satero – City and County of San Francisco Airport Commission  
Dave Pine – County of San Mateo Board of Supervisors  
Carol Ford – C/CAG Airport Land Use Committee (ALUC)  
Julia Mates – City of Belmont  
Terry O’Connell – City of Brisbane  
Ricardo Ortiz – City of Burlingame  
Pamela DiGiovanni – City of Daly City  
Sanjay Gehani – City of Foster City  
Ray Mueller – City of Menlo Park  
Ann Schneider – City of Millbrae  
Mike O’Neill – City of Pacifica  
Ann Wengert – Town of Portola Valley  
Giselle Hale – City of Redwood City  
Rico Medina – City of San Bruno  
Mark Olbert – City of San Carlos  
Mark Addiego – City of South San Francisco  
Tom Livermore – Town of Woodside

#### REGULAR MEMBERS ABSENT

City and County of San Francisco Board of Supervisors  
City and County of San Francisco Mayor’s Office  
Town of Atherton  
City of Half Moon Bay  
Town of Hillsborough  
City of San Mateo

#### 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 Conta, Senior Noise Abatement Specialist  
Anthony Carpeneti, Noise Abatement Specialist

## **2. Jon C. Long Fly Quiet Awards for 2018**

Vice-Chairperson Ricardo Ortiz presented the Fly Quiet Awards for 2018. Only Interjet Airlines was able to attend.

## **3. Public Comments on Items NOT on the Agenda**

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

Doreen Gotelli  
Charlie Wombeck  
Mary-Jo Freemont  
Elizabeth Lopez  
Mary Plovanic  
Peter Grace  
Robert Holbrook  
Emily Faxon

## **4. Review of Roundtable Regular Meeting Action Minutes for February 6, 2019**

## **5. Airport Director's Reports for January & February 2019 and FlyQuiet Report 4Q 2018**

**ACTION:** Terry O'Connell **MOVED** approval. The motion was seconded by Ann Schneider and **CARRIED**, unanimously.

## **6. Discussion with FAA Regarding Questions Provided from Roundtable Chair, email to FAA dated February 7, 2019**

Mindy Wright, Manager - NAS Analytics & Environmental with the Air Traffic Organization of the FAA Western Service Center, presented an overview and response to the questions submitted in February 2019. Questions were provided by the Roundtable members, as well as some members of the public.

## **7. SFO Updates**

Airport Director Ivar Satero provided an overview of the general operations at SFO and an update on the Second Chance and Replacement Noise Insulation Program. Mr. Satero took questions from Roundtable members.

## **8. Update Technical Working Group meeting**

Roundtable Technical Consultant Justin Cook provided a brief overview of the Technical Working Group meeting on March 7, 2019.

## **9. Update Ground-Based Noise Ad-Hoc Subcommittee**

Roundtable Vice-Chairperson Ricardo Ortiz provided an overview of the Ground-Based Noise Ad-Hoc Subcommittee meeting held March 19, 2019 and discussed next steps for the group.

## **10. Upcoming Noise 101**

Roundtable Coordinator James Castañeda announced that a Noise 101 will be held on April 9, 2019 and will include a tour of the control tower and airfield at SFO.

## **11. Aviation Noise News and Updates**

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

## **12. Member Communications / Announcements**

None

## **13. Adjourn**

Chairperson Lewis adjourned the meeting at 8:48 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. 319 Action Minutes

Wednesday, June 6, 2019

### **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. Justin Cook, Roundtable Technical Consultant, called the roll. A quorum (at least 12 Regular Members) was present as follows:

#### REGULAR MEMBERS PRESENT

Edward McCaffrey – City and County of San Francisco Mayor’s Office  
Ivar Satero – City and County of San Francisco Airport Commission  
Elizabeth Lewis – Town of Atherton  
Terry O’Connell – City of Brisbane  
Ricardo Ortiz – City of Burlingame  
Pamela DiGiovanni – City of Daly City  
Sanjay Gehani – City of Foster City  
Shawn Christianson – Town of Hillsborough  
Ann Schneider – City of Millbrae  
Mike O’Neill – City of Pacifica  
Janet Borgens – City of Redwood City  
Marty Medina – City of San Bruno  
Adam Rak – City of San Carlos  
Diane Papan – City of San Mateo

#### REGULAR MEMBERS ABSENT

City and County of San Francisco Board of Supervisors  
County of San Mateo Board of Supervisors  
C/CAG Airport Land Use Committee (ALUC)  
City of Belmont  
City of Half Moon Bay  
City of Menlo Park  
Town of Portola Valley  
City of South San Francisco  
Town of Woodside

#### ROUNDTABLE STAFF

Justin Cook – Roundtable Consultant (HMMH)

#### SAN FRANCISCO INTERNATIONAL AIRPORT STAFF

Bert Ganoung, Noise Abatement Manager  
David Ong, Noise Abatement Systems Manager  
Nastasja von Conta, Senior Noise Abatement Specialist  
Anthony Carpeneti, Noise Abatement Specialist

## 2. Public Comments on Items NOT on the Agenda

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

Lisa Noel  
Kendra Lock  
Charlie Wombeck  
Lynn Israelit  
Mary-Jo Freemont  
Elizabeth Lopez

## 3. Airport Director's Reports for March & April 2019 and FlyQuiet Report 1Q 2019

Pacifica representative Mike O'Neill questioned if Oakland flights will be included in the future reports. Airport Noise Abatement Manager Bert Ganoung indicated that the matter is slated for discussion with the Technical Working Group, who have not convened recently.

ACTION: Ricardo Ortiz **MOVED** approval. The motion was seconded by Janet Borgens and **CARRIED**, unanimously.

## 4. SFO Updates

Airport Director Ivar Satero provided an overview of the general operations at SFO, including upcoming relocation of app ride-share pickups, emergency runway repair closures, and the status of the Second Chance and Replacement Noise Insulation Program. Mr. Satero also provided a status of the discussions related to the NITTE/HUUSH procedures and working with FAA and airlines.

## 5. SFO Airport Development Plan

Airport Public Information Officer Doug Yakel presented an overview of the SFO Airport Development Plan that projects anticipated facilities improvements at the airport. Members provided questions related to the maximum airport operating capacity, noise studies for new infrastructure, and traffic impacts. Mr. Yakel made note of them to report back to those members.

## 6. PIRAT TWO Update

Roundtable Technical Consultant Justin Cook provided a brief update the PIRAT TWO procedure that was published on April 25, 2019. The procedure was discounted by the FAA to resolve conflicts experienced with it after implementation. Joe Brooke with the FAA NAS Analytics & Environmental Team – Western-Pacific Service Center, helped answered questions from the Roundtable members on the topic.

**7. Discussion with FAA Regarding Questions, email to FAA dated May 3, 2019**

Joe Brooke with the FAA NAS Analytics & Environmental Team – Western-Pacific Service Center responded to the questions submitted dated May 3, 2019 and presented a Google Earth visual of flights utilizing the SSTIK waypoint. Mr. Brooke took several questions from Roundtable members.

**8. Update On NIITE/HUSSH Procedure**

Updates on the procedure was discussed in items 6 and 7.

**9. Update Ground-Based Noise Ad-Hoc Subcommittee (Postponed Meeting)**

Roundtable Vice-Chairperson Ricardo Ortiz reported that the Ground-Based Noise Ad-Hoc Subcommittee was unable to meet in May due to schedule conflicts, and the group will hold their next meeting on June 25, 2019.

**10. Noise Monitoring System Hardware/Software RFP Update**

Airport Noise Abatement Manager Bert Ganoung provided an update on the RFP process at SFO to install new noise monitoring system. The contract was awarded to Brüel & Kjær. Mr. Ganoung took questions from the Roundtable members regarding site locations, noise contours, and if there be anticipated changes for noise insulation qualifications.

**11. N.O.I.S.E. Update**

Roundtable Technical Consultant Justin Cook provided an update from N.O.I.S.E.

**12. SFO Roundtable Noise 101 Workshop update**

San Bruno representative Marty Media gave a summary of the Noise 101/SFO tower and airfield tour that occurred on April 9, 2019. Airport Noise Abatement Manager Bert Ganoung indicated that a future tour of the Northern California TRACON is being coordinated with the Oakland Noise Forum and the Santa Clara/Santa Cruz Counties Community Roundtable.

**13. Aviation Noise News and Updates**

Roundtable Technical Consultant Justin Cook directed members to their packet for the recent updates.

**14. Member Communications / Announcements**

None

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June 5, 2019

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**15. Adjourn**

Chairperson Lewis adjourned the meeting at approximately 9:30 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.*





# Airport Director's Report

Presented at the August 7, 2019  
Airport Community Roundtable Meeting

Aircraft Noise Abatement Office  
May 2019



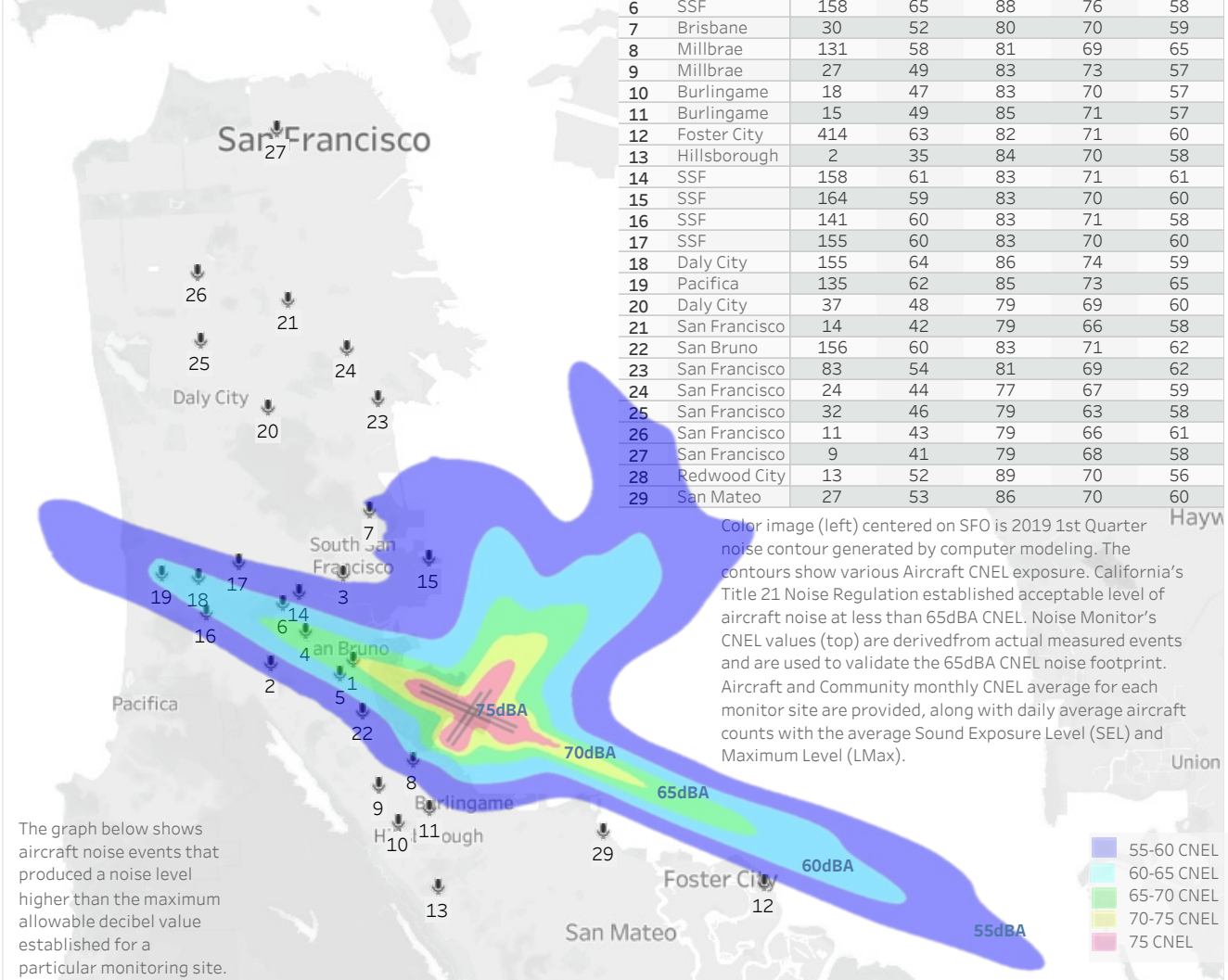
San Francisco  
International  
Airport

# Aircraft Noise Levels

May 2019

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.

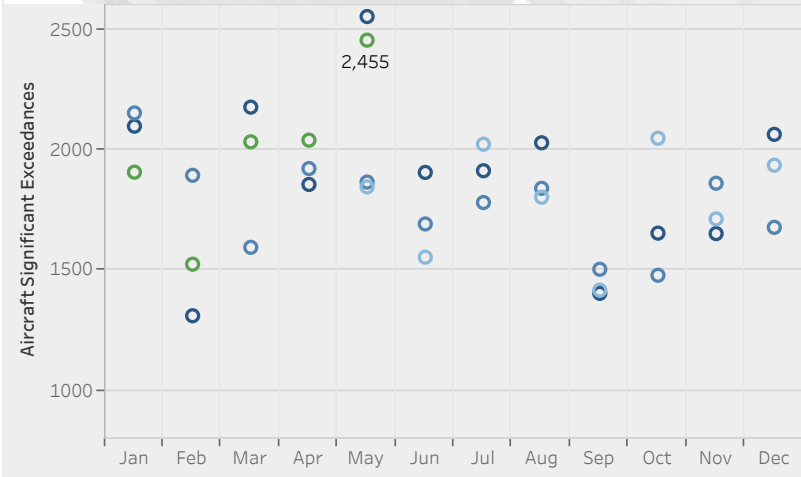
Site	City	Noise Events (AVG Day)	Aircraft			Community
			CNEL (dBA)	SEL (dBA)	LMax (dBA)	CNEL (dBA)
1	San Bruno	232	74	93	80	66
3	SSF	89	56	81	69	60
4	SSF	173	68	90	78	60
5	San Bruno	187	67	88	76	60
6	SSF	158	65	88	76	58
7	Brisbane	30	52	80	70	59
8	Millbrae	131	58	81	69	65
9	Millbrae	27	49	83	73	57
10	Burlingame	18	47	83	70	57
11	Burlingame	15	49	85	71	57
12	Foster City	414	63	82	71	60
13	Hillsborough	2	35	84	70	58
14	SSF	158	61	83	71	61
15	SSF	164	59	83	70	60
16	SSF	141	60	83	71	58
17	SSF	155	60	83	70	60
18	Daly City	155	64	86	74	59
19	Pacifica	135	62	85	73	65
20	Daly City	37	48	79	69	60
21	San Francisco	14	42	79	66	58
22	San Bruno	156	60	83	71	62
23	San Francisco	83	54	81	69	62
24	San Francisco	24	44	77	67	59
25	San Francisco	32	46	79	63	58
26	San Francisco	11	43	79	66	61
27	San Francisco	9	41	79	68	58
28	Redwood City	13	52	89	70	56
29	San Mateo	27	53	86	70	60



Color image (left) centered on SFO is 2019 1st Quarter noise contour generated by computer modeling. 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

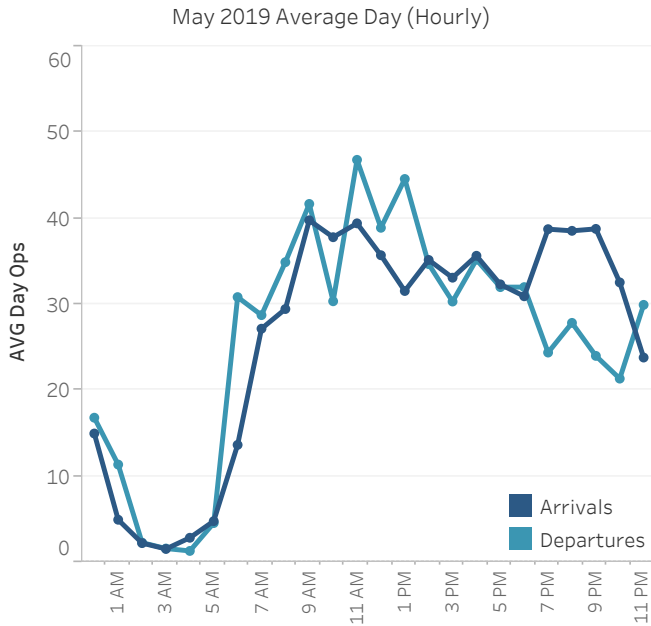
# Operations

May 2019

Monthly Ops    AVG Daily Ops    12 Month AVG    YOY Growth

38,721	1,249	37,814	-0.8%
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Major Arrival and Departure Routes (West Flow)



West Flow is depicted in the above image and is a predominate flow at SFO. West Flow 96%

## Top Destinations

Los Angeles	Seattle
7%	5%

## Down the Bay vs Peninsula

1.1 BDEGA East	23%
1.2 BDEGA West	77%

## Arrival Route

1. BDEGA	31%
2. DYAMD	36%
3. SERFR	26%
4. OCEANIC	6%

## Departure Route

A. GAP	27%
B. SSTIK	27%
C. NIITE	7%
D. TRUKN RWY 01	34%
D. TRUKN RWY 28	6%

## Airlines with the Most Operations

United	40%
Skywest	23%
Alaska	13%
Delta	9%
American	8%
Southwest	8%

## Non Airline

6%

## Narrow Body

78%

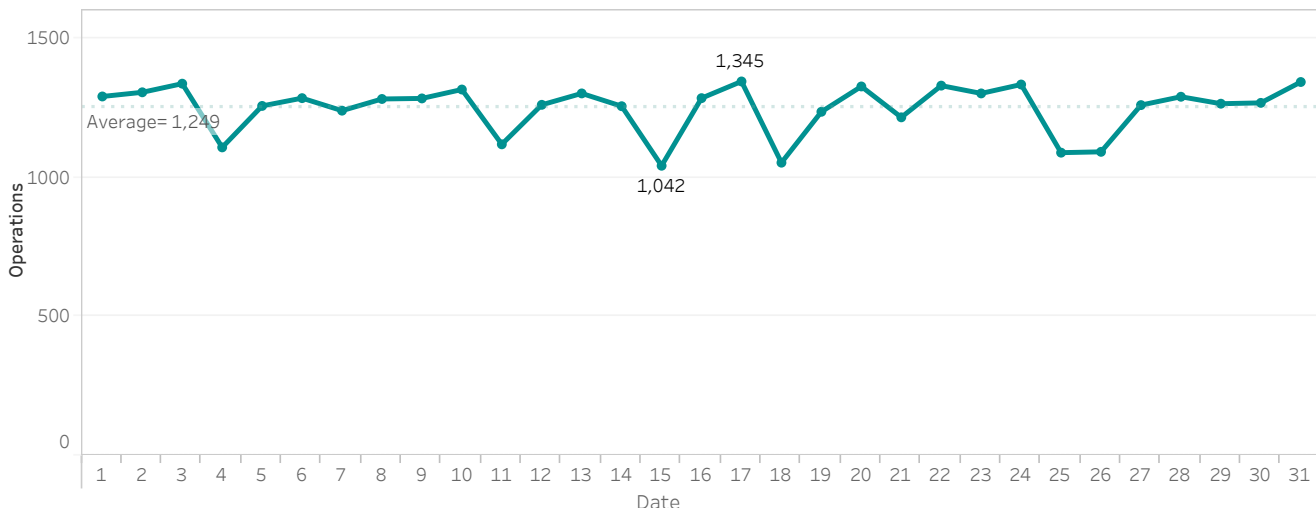
## Wide Body

16%

## Most Utilized Aircraft Types

Boeing B737	32%
Airbus A320 Family	31%
Embraer E170	16%
Bombardier CRJ2	10%
Boeing B752	6%
Boeing B77W	6%

## 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 airlines nighttime power runup counts shown below. Percent [%] is rounded to the nearest whole number.

## Runway Utilization

	Arrivals	Departures
01 L/R		67% 12,297
10 L/R		5% 835
19 L/R	5% 837	
28 L/R	95% 17,467	28% 5,195

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

	Departures
10 L/R	2% 14
01 L/R	31% 182
28 L/R	66% 388

## Runway Utilization

Arrivals	
28L	28R
48%	52%
Night (10pm-7am)	
41%	59%

## Nighttime Power Run-Ups

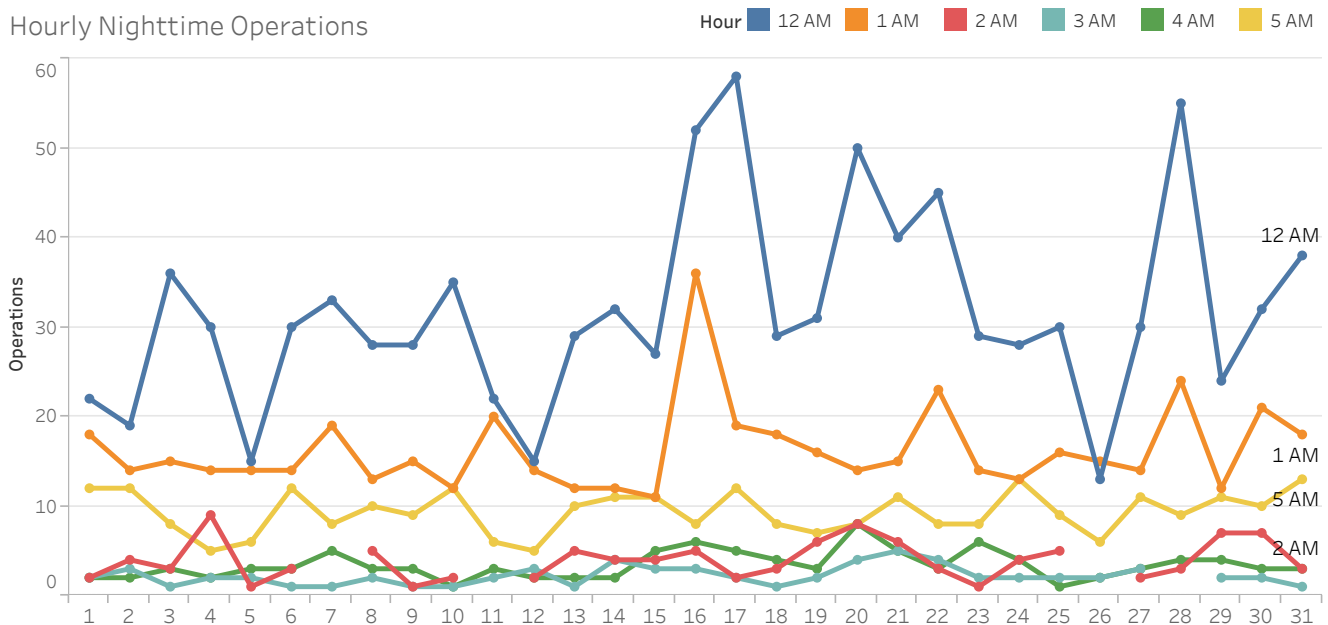
10pm-7am

Alaska Airlines	5
American Airlines	5
Finnair	1
Delta Airlines	1
SkyWest Airlines	1
United Airlines	8

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

May 2019

Noise Reporters / Noise Reports

	Reporters	Noise Reports
<b>Roundtable</b>		
Atherton	5	324
Belmont	2	358
Brisbane	28	3,391
Burlingame	4	185
Daly City	8	1,015
El Granada	2	365
Foster City	12	396
Half Moon Bay	4	203
Hillsborough	3	185
Menlo Park	27	1,511
Pacifica	37	4,324
Portola Valley	33	7,898
Redwood City	10	1,638
San Bruno	8	320
San Carlos	3	216
San Francisco	32	7,096
San Mateo	15	2,063
South San Francisco	11	71
Woodside	10	1,741
<b>Other</b>		
Alameda	2	42
Aptos	8	326
Ben Lomond	5	38
Berkeley	3	41
Bonny Doon	2	97
Boulder Creek	6	206
Brookdale	1	10
Capitola	18	1,891
Carmel Valley	2	31
Castro Valley	1	14
Cupertino	1	724
Danville	1	27
East Palo Alto	3	50
Emerald Hills	10	616
Felton	10	697
Fremont	2	116
Hayward	1	178
La Honda	1	7
Lafayette	2	4
Los Altos	135	20,469
Los Altos Hills	26	12,418
Los Gatos	115	18,214
Montara	2	945
Monte Sereno	1	1
Moraga	4	481
Morgan Hill	2	174
Moss Beach	1	4
Mountain View	41	5,105
Oakland	30	9,853
Orinda	2	313
Palo Alto	189	48,215
Piedmont	1	17
Pinole	2	357
Richmond	3	2,595
San Jose	1	1
Santa Clara	1	7
Santa Cruz	118	20,570
Saratoga	4	509
Scotts Valley	64	12,364
Soquel	74	8,937
Stanford	4	1,048
Sunnyvale	9	523
Union City	1	566
Watsonville	1	153
<b>Grand Total</b>	<b>1,164</b>	<b>202,254</b>

Reporters Annual AVG

1,283

Reports Annual AVG

196,380

New Reporters

29

New Reporters Top City

Foster City

Furthest Report

101 Miles

Reports per SFO Operation

6

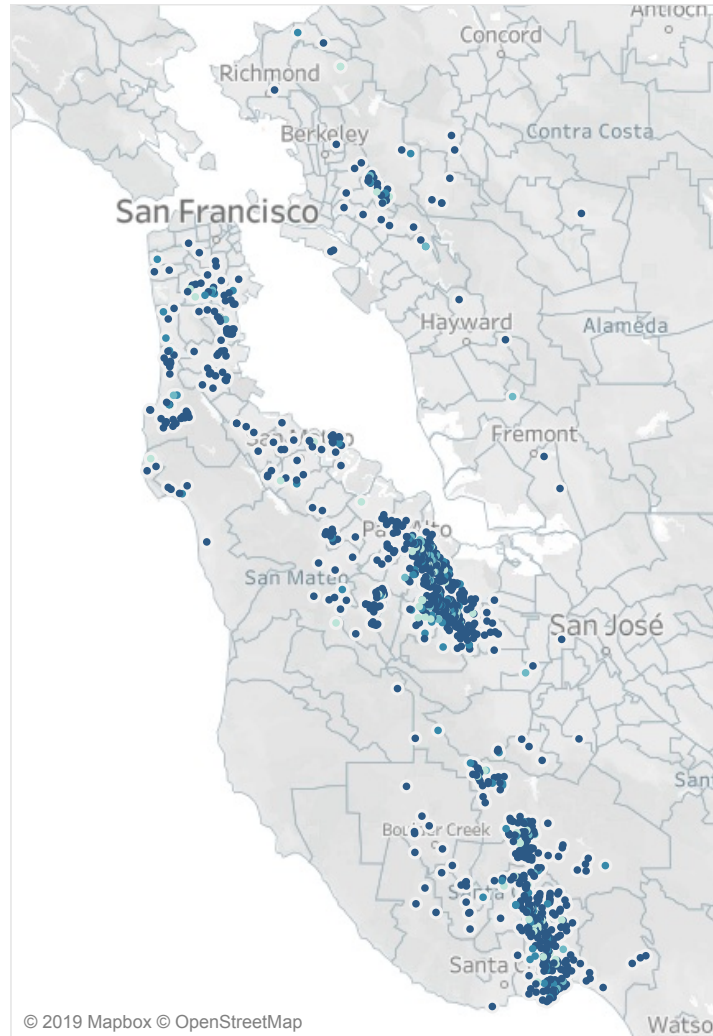
Top Aircraft Type

B737  
A320  
E75L

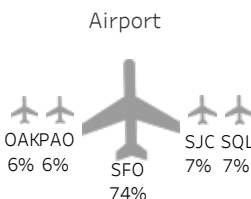
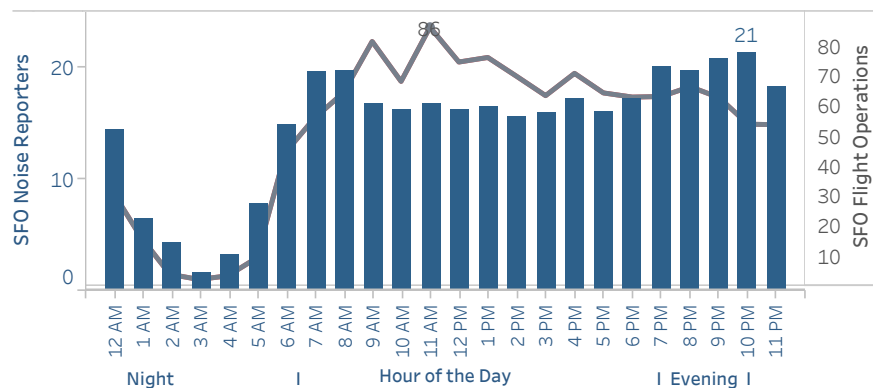
Top Flight Number

ASA1969  
UAL2201  
DAL1381

Noise Reporters Location Map



Hourly Noise Reports (Average Day in a Month) ■ Noise Reporters ■ Operations



Source: SFO Intl Airport Noise Monitoring System

Notes: Address validation Relies on USPS-provided ZIP Code look up table and USPS-specified default city values.

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# Airport Director's Report

Presented at the August 7, 2019  
Airport Community Roundtable Meeting

Aircraft Noise Abatement Office  
June 2019



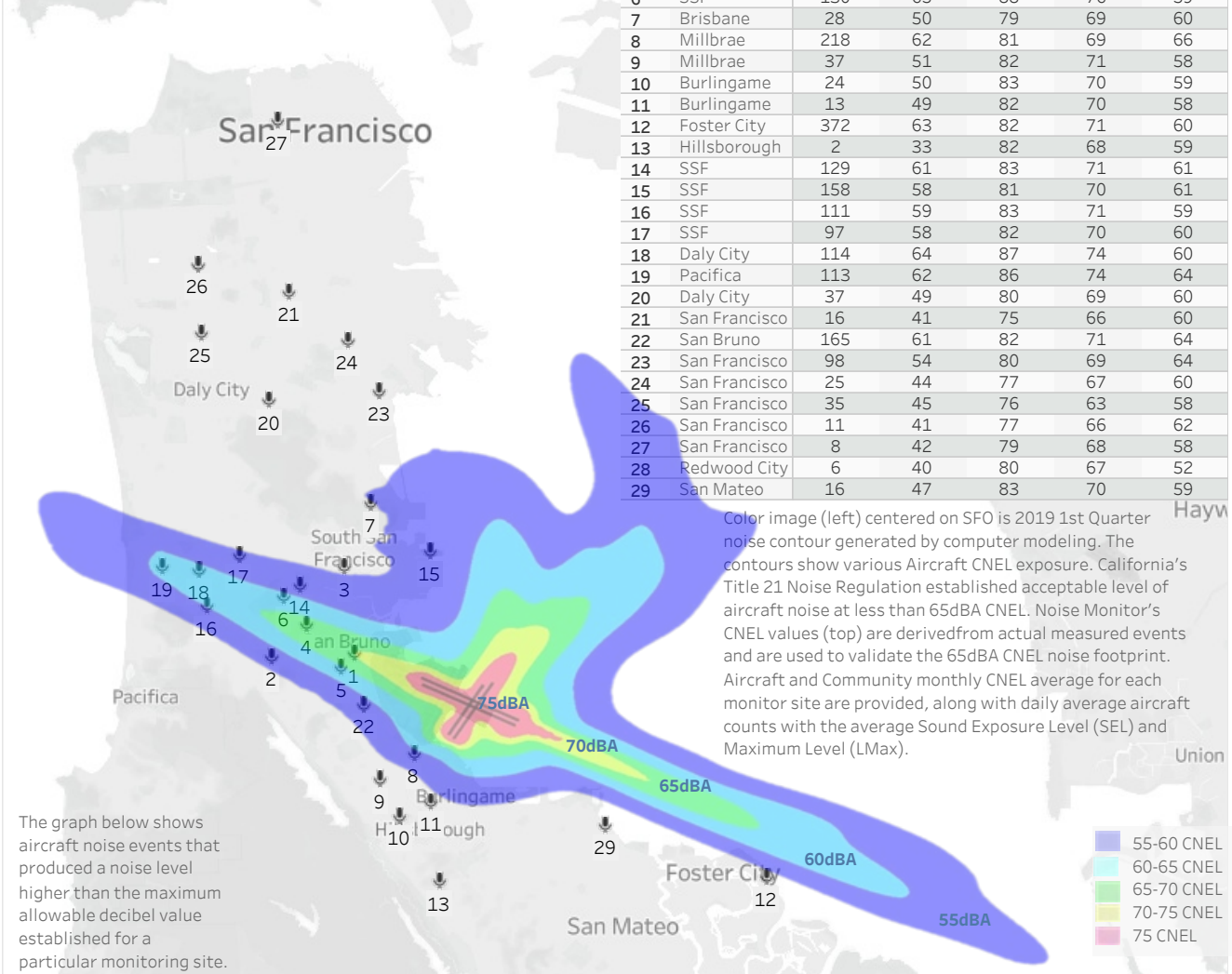
San Francisco  
International  
Airport

# Aircraft Noise Levels

June 2019

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.

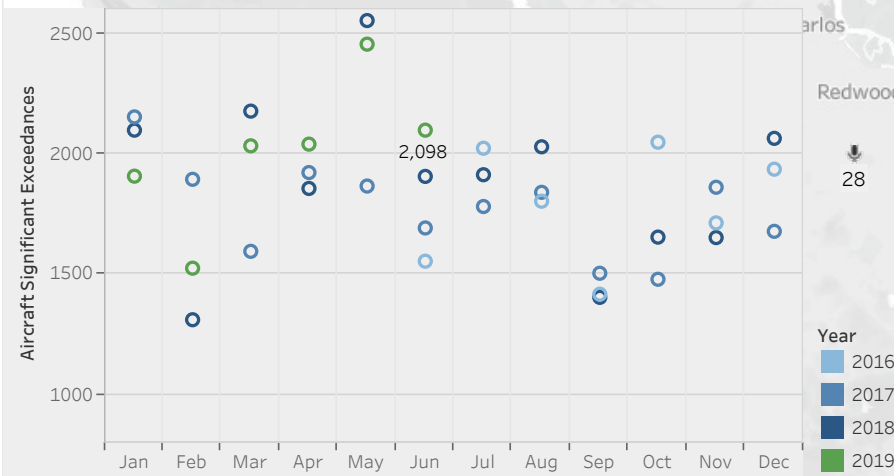
Site	City	Noise Events (AVG Day)	Aircraft			Community
			CNEL (dBA)	SEL (dBA)	LMax (dBA)	CNEL (dBA)
1	San Bruno	201	74	94	78	67
3	SSF	77	54	81	69	62
4	SSF	141	69	91	78	61
5	San Bruno	147	68	89	77	63
6	SSF	130	65	88	76	59
7	Brisbane	28	50	79	69	60
8	Millbrae	218	62	81	69	66
9	Millbrae	37	51	82	71	58
10	Burlingame	24	50	83	70	59
11	Burlingame	13	49	82	70	58
12	Foster City	372	63	82	71	60
13	Hillsborough	2	33	82	68	59
14	SSF	129	61	83	71	61
15	SSF	158	58	81	70	61
16	SSF	111	59	83	71	59
17	SSF	97	58	82	70	60
18	Daly City	114	64	87	74	60
19	Pacifica	113	62	86	74	64
20	Daly City	37	49	80	69	60
21	San Francisco	16	41	75	66	60
22	San Bruno	165	61	82	71	64
23	San Francisco	98	54	80	69	64
24	San Francisco	25	44	77	67	60
25	San Francisco	35	45	76	63	58
26	San Francisco	11	41	77	66	62
27	San Francisco	8	42	79	68	58
28	Redwood City	6	40	80	67	52
29	San Mateo	16	47	83	70	59



Color image (left) centered on SFO is 2019 1st Quarter noise contour generated by computer modeling. 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 (2)



Note: Site 2 is currently not operational



# Operations

June 2019

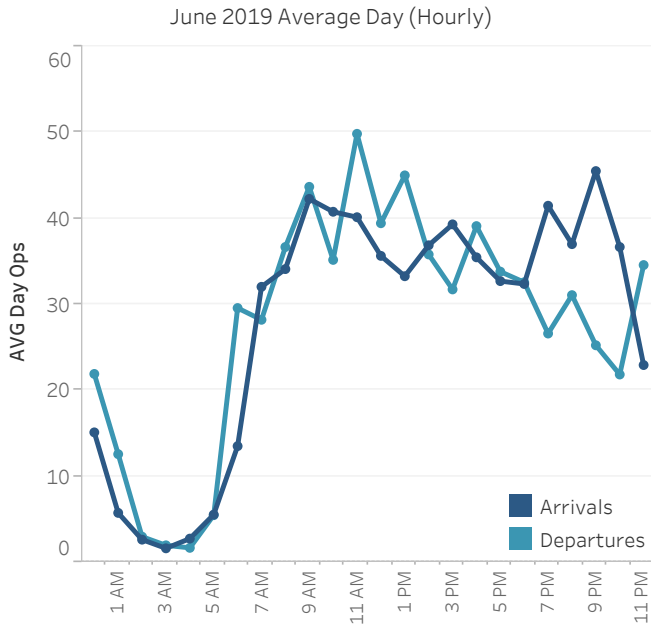
Monthly Ops    AVG Daily Ops    12 Month AVG    YOY Growth

39,848	1,328	37,970	-0.4%
--------	-------	--------	-------

Major Arrival and Departure Routes (West Flow)



West Flow is depicted in the above image and is a predominate flow at SFO. West Flow 100%



Top Destinations

Los Angeles	Seattle
6%	6%

Down the Bay vs Peninsula

1.1 BDEGA East	29%
1.2 BDEGA West	71%

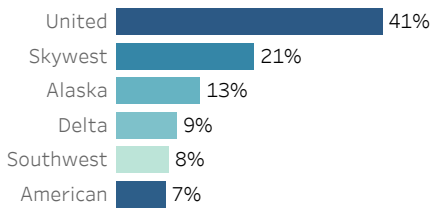
Arrival Route

1. BDEGA	29%
2. DYAMD	38%
3. SERFR	26%
4. OCEANIC	6%

Departure Route

A. GAP	20%
B. SSTIK	29%
C. NIITE	9%
D. TRUKN RWY 01	41%
D. TRUKN RWY 28	1%

Airlines with the Most Operations



Non Airline

6%

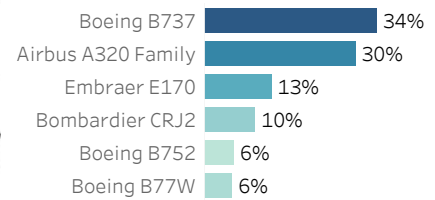
Narrow Body

79%

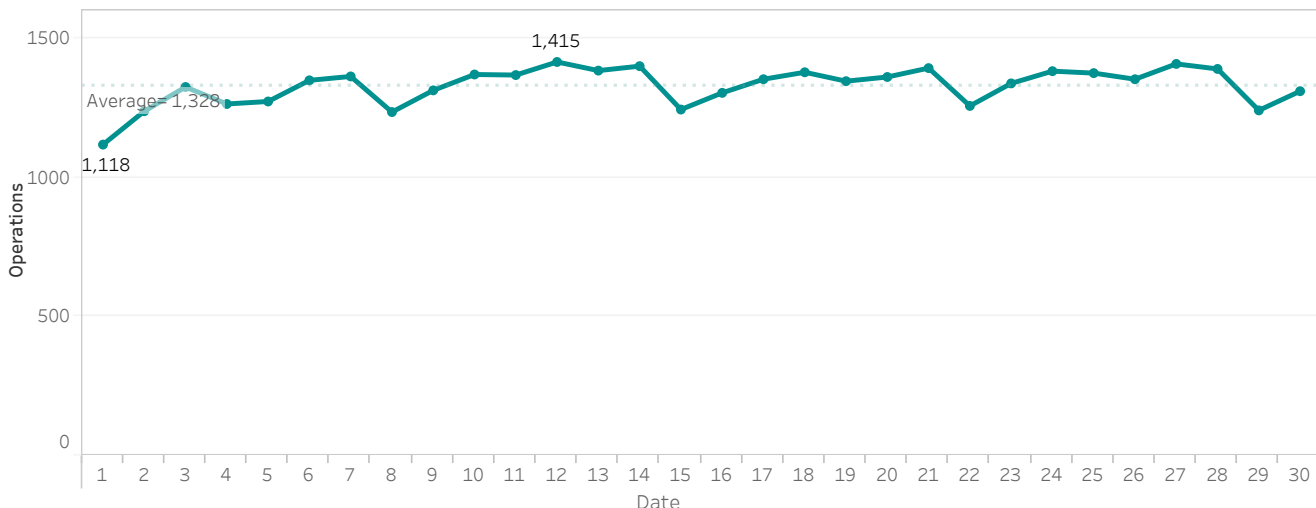
Wide Body

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 airlines nighttime power runup counts shown below. Percent [%] is rounded to the nearest whole number.

## Runway Utilization

	Arrivals	Departures
01 L/R		81% 15,380
10 L/R		0% 2
28 L/R	100% 18,850	19% 3,498

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

	Departures
10 L/R	0% 2
01 L/R	43% 287
28 L/R	56% 375

## Runway Utilization

Arrivals	
28L	28R
48%	52%
Night (10pm-7am)	
39%	61%

## Nighttime Power Run-Ups

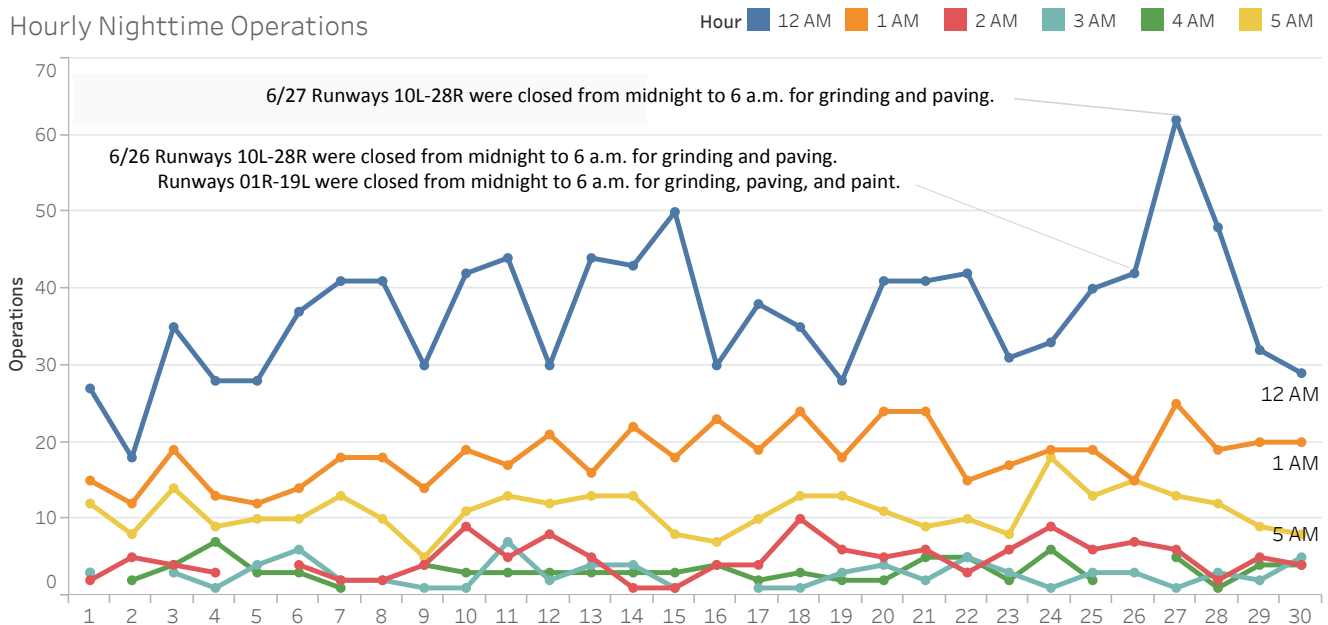
10pm-7am

- Alaska Airlines 7
- American Airlines 12
- United Airlines 10

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

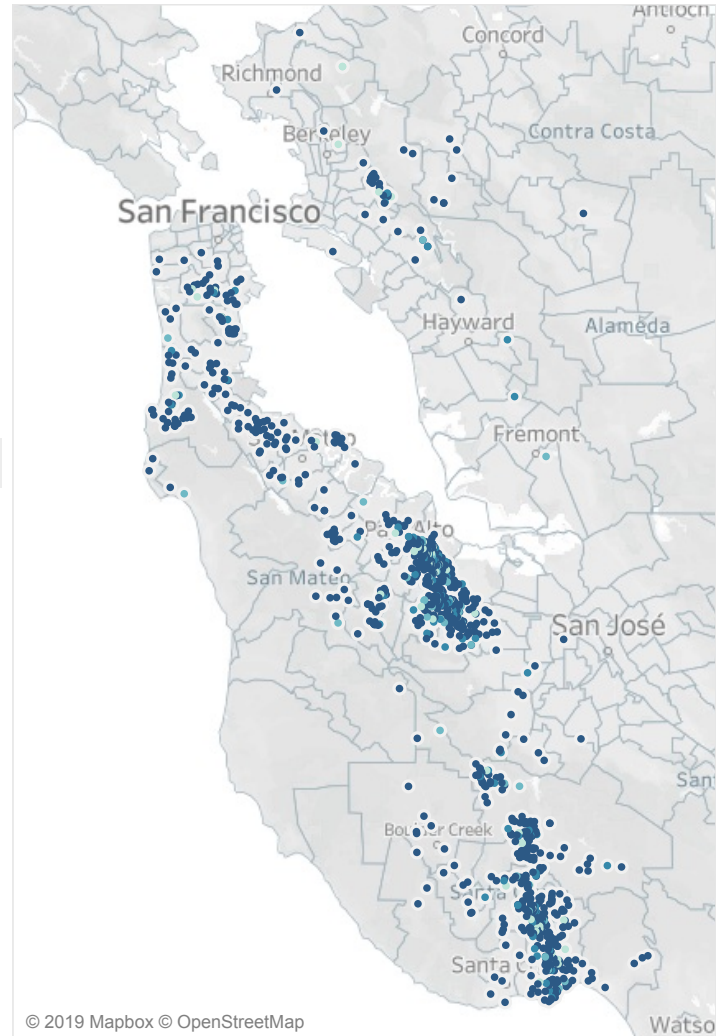
June 2019

Noise Reporters / Noise Reports

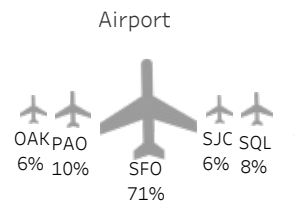
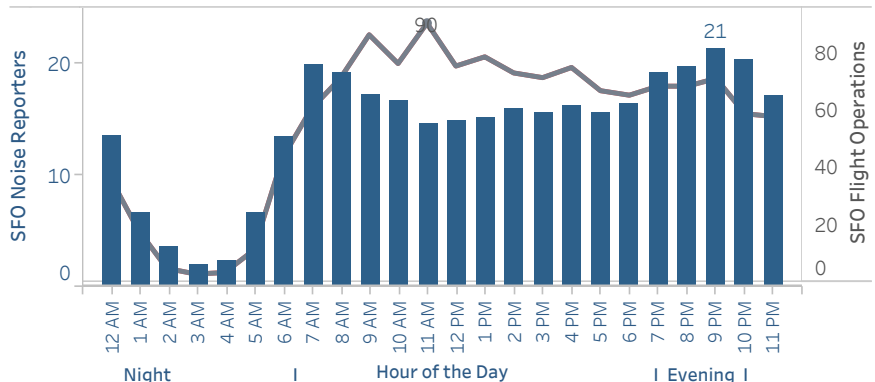
	Reporters	Noise Reports
<b>Roundtable</b>		
Atherton	5	1,331
Belmont	2	206
Brisbane	22	2,668
Burlingame	12	240
Daly City	6	929
El Granada	1	568
Foster City	8	405
Half Moon Bay	1	78
Hillsborough	11	105
Menlo Park	21	1,231
Millbrae	4	5
Pacifica	36	4,424
Portola Valley	34	6,892
Redwood City	12	1,044
San Bruno	10	567
San Carlos	5	126
San Francisco	34	5,944
San Mateo	18	2,717
South San Francisco	11	103
Woodside	8	950
<b>Other</b>		
Alameda	1	4
Aptos	8	281
Ben Lomond	4	21
Berkeley	3	1,304
Bonny Doon	2	83
Boulder Creek	6	186
Brookdale	1	4
Capitola	15	2,013
Carmel Valley	3	13
Castro Valley	1	2
Cupertino	1	332
Danville	1	12
East Palo Alto	2	30
Emerald Hills	9	244
Felton	10	722
Fremont	2	585
Hayward	1	289
La Honda	1	2
Lafayette	2	13
Los Altos	131	18,554
Los Altos Hills	26	10,173
Los Gatos	121	15,677
Montara	1	226
Moraga	4	202
Morgan Hill	2	280
Moss Beach	1	4
Mountain View	38	4,326
Oakland	27	7,810
Orinda	2	158
Palo Alto	223	47,775
Penngrove	1	20
Piedmont	1	5
Pinole	1	64
Richmond	3	2,405
San Jose	1	3
Santa Clara	1	7
Santa Cruz	114	19,131
Saratoga	8	327
Scotts Valley	68	10,960
Soquel	72	9,591
Stanford	6	717
Sunnyvale	7	410
Union City	1	444
Watsonville	1	129
<b>Grand Total</b>	<b>1,195</b>	<b>186,071</b>

Reporters Annual AVG	1,264
Reports Annual AVG	188,410
New Reporters	47
New Reporters Top City	Palo Alto
Furthest Report	88 Miles
Reports per SFO Operation	6
Top Aircraft Type	B737 A320 E75L
Top Flight Number	ASA1947 DAL1381 UAL2201

Noise Reporters Location Map



Hourly Noise Reports (Average Day in a Month) ■ Noise Reporters ■ Operations



100% of noise reports correlate to a flight origin/destination airport.  
Source: SFO Intl Airport Noise Monitoring System

Notes: Address validation Relies on USPS-provided ZIP Code look up table and USPS-specified default city values.

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HALL OF JUSTICE AND RECORDS  
400 COUNTY CENTER  
REDWOOD CITY, CA 94063

TEL: (650) 363-4571  
FAX: (650) 368-3012  
E-MAIL: dpine@smcgov.org

## DAVE PINE

Supervisor, First District, County of San Mateo

July 10, 2019

Michael Li  
San Francisco Planning Department  
1650 Mission Street, Suite 400  
San Francisco, CA 94103

**Re: Notice of Preparation of an Environmental Impact Report Regarding SFO  
Recommended Airport Development Plan (RADP); Case No. 2017-007468ENV**

Dear Mr. Li:

This letter sets forth my comments regarding the Notice of Preparation for the Environmental Impact Report (EIR) for the SFO Recommended Airport Development Plan (RADP).

As the San Mateo County Supervisor for District 1, I represent not only the unincorporated area on which San Francisco International Airport (SFIA) sits, but also the surrounding communities of Millbrae, Burlingame, San Bruno, Hillsborough and South San Francisco, as well as the unincorporated areas of Burlingame Hills and San Mateo Highlands. I also have been the County's representative to the SFO Community Roundtable for more than eight years, and I am quite attuned to the impact of SFIA's operations on our local residents. Finally, I am a leading voice in the County for addressing the impact of Sea Level Rise (SLR) in the County and have helped initiate several major studies of SLR vulnerabilities along the Bayshore.

I recognize the need to modernize and increase the efficiency of SFIA operations, especially in light of expected passenger and operations growth. However, I am concerned about the environmental impacts of the RADP on surrounding communities and look forward to the preparation of a comprehensive and detailed review of all potential environmental impacts resulting from the RADP. The Notice of Preparation (NOP) for the RADP EIR highlights some significant impacts to be addressed. However, as explained below, I would recommend that the sea level rise and ground-based noise be added to the EIR:



**Sea Level Rise** – The most critical omission in the NOP is the absence of any reference to climate change or the potential for significant sea level rise from the San Francisco Bay. San Mateo County has been working with SFO on addressing Sea Level Rise since 2014. The first initiative, which was funded by the Coastal Conservancy, was a San Bruno/Colma Creek study finalized in August 2015 by Moffatt & Nichol. (See [San Bruno Colma Creek study](#) for more information.) More recently, SFO was a key participant in the development of the San Mateo County Sea Level Rise Vulnerability Assessment, which was finalized in March 2018. (See: [SMC Vulnerability-assessment](#).)

San Mateo County staff, primarily led by my office, has had ongoing meetings with the SFO engineering staff, since 2014, regarding the airport Shoreline Protection Program. In those meetings, we have expressly shared the work/planning being done by SFO and San Mateo County. Although these meetings have focused on the perimeter of the airport, (tentative plans would expand the RADP boundary at the end of runways 19 R and 19 L), Sea Level Rise will directly and indirectly impact the work being planned under the RADP. In particular, the footprint of the RADP will likely be impacted by the Shoreline Protection Program, and the RADP and Shoreline Protection Program projects are mutually dependent.

In light of this, I recommend that the RADP EIR include a cross-reference to the Shoreline Protection Program, specifically so that the environmental impacts of both projects can be considered holistically. Moreover and along related lines, given anticipated sea level rise along the Bay, it seems likely that some components of the RADP may need to be adjusted over the course of their useful lives in order to address sea level rise and the impact of such likely adjustments should be identified and analyzed in the EIR.

**Ground-Based Noise** -- The breadth and depth of projects in the RADP will surely increase SFIA-related noise impacts in our communities. The NOP notes that “Noise” will be among the topics addressed by the EIR, and I am confident that it will address both temporary noise impacts caused by construction work, as well as any long term noise impacts from additional air traffic. However, I would also expect the EIR to identify and analyze Low Frequency Noise (also referred to as Ground-Based Noise) resulting from the RADP.

As a long-time member of the SFO Community Roundtable, and a founding member of its Ground Based Noise (GBN) Subcommittee, I am among a group of elected officials currently working to identify solutions for the recent uptick of community concerns related to GBN. The Subcommittee, working with the Roundtable’s technical consultant and the SFO Noise Abatement Office (NAO), has recently launched a study specifically to assess whether physical changes at SFIA (due to previous capital improvement projects, including movement of the taxiways) has had a material impact on GBN. One component of the study will be to review historical data, in order to compare GBN during different time periods. The Subcommittee is also working with the NAO as it implements a new noise monitoring system, both within and outside of the legally defined and established noise contours, to make sure that its measurements helps meet community needs.

Among the myriad projects under the RADP, the NOP lists two potential options that would result in the movement of taxiways. Specifically, Project #10 would shift Taxiway A by 15 feet and Taxiway B by 22 feet to the northwest, while Variant #2 would shift Taxiway A by 265 feet and Taxiway B by 272 feet to the northwest. Movement of taxiways has the potential to change the dynamics of low-frequency/ground-based noise, and its impact on nearby communities.

The EIR should include a specific analysis of low-frequency noise from taxiing aircraft, and reference earlier changes in the taxi footprint at SFO, as well as other low-frequency impacts from other construction projects within the RADP.

**Notifications required for the RADP** -- The NOP (pp 20-21) lists the agencies *required* for approval of any RADP projects. Given the impacts that the RADP will have on the residents of San Mateo County, I request that presentations, regular updates and formal notifications be made to the following San Mateo County entities and individuals, and that each of these entities/individuals be placed on the notice list for the RADP project:

- The San Mateo County Board of Supervisors (Deputy Clerk of the Board Sukhmani Purewal)
- San Mateo County Manager/Clerk of the Board Mike Callagy
- San Mateo County Director of Planning and Building Steve Monowitz
- San Mateo County Counsel John Beiers
- The SFO Community Roundtable (Chair Elizabeth Lewis)

This request encompass notifications of any scoping meetings or draft documents related to the EIR as well as regular public outreach.

I appreciate the opportunity to participate in the early part of this planning process, and look forward to continued collaboration with the City and County of San Francisco. If you have any questions, please contact Linda Wolin of my staff at [lwolin@smcgov.org](mailto:lwolin@smcgov.org) or at (650)363-4571.

Sincerely,



Dave Pine  
San Mateo County Supervisor, District 1

cc: Mike Callagy, San Mateo County Manager/Clerk of the Board  
Members, San Mateo County Board of Supervisors  
Steve Monowitz, Director, San Mateo County Planning and Building  
Elizabeth Lewis, Chair, SFO Community Roundtable  
Mayors, Millbrae, San Bruno, South San Francisco, Burlingame, Hillsborough  
City Managers, Millbrae, San Bruno, South San Francisco, Burlingame, Hillsborough

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Jovan D. Grogan  
City Manager

July 10, 2019

Mr. Michael Li  
San Francisco Planning Department  
1650 Mission St., Suite 400  
San Francisco, CA 94103-2479  
*via first class mail and email to: Michael.j.li@sfgov.org*

**RE:** Comments regarding Notice of Preparation of Environmental Impact Report for SFO Recommended Airport Development Plan (Case no. 2017-007468ENV)

Dear Mr. Li,

The City of San Bruno ("City") provides the following comments regarding the proposed Environmental Impact Report for the San Francisco International Airport (SFO) Recommended Airport Development Plan (RADP) and variant based on publication of the Notice of Preparation dated May 22, 2019 ("NOP"). We appreciate the opportunity to work with SFO and the San Francisco Planning Department on identifying and mitigating potential environmental impacts including but not limited to transportation and circulation, noise, and air quality impacts on the City's residents, businesses, and public infrastructure and facilities.

The City is particularly concerned about the potential significant impacts the RADP projects' will have on transportation and circulation in the City and major freeways that run through and adjacent to the City. "[W]ith portions of the Airport within the city boundaries of South San Francisco to the north, Millbrae to the south, and *San Bruno* to the west," as stated in the NOP; the proposed construction of the RADP projects will inevitably impact San Bruno. The City of San Bruno is located just to the west of SFO, and daily airport operations have a direct effect on the City's current and future development pattern and land use policies. While the proposed expansion will serve the Airport's forecasted 71.1 million annual passengers, the RADP projects will exacerbate increasing traffic gridlock along U.S. Highway 101 and local access roads that serve both the Airport and the City's residents and businesses. For example, San Bruno Avenue is a key important local access road that serves both the Airport and San Bruno. The RADP projects could result in cumulative traffic volumes that exceed the capacity of certain ramps and cause significant queue impacts if the EIR does not identify adequate mitigation measures to relieve critical traffic movements.

As noted in the NOP, “The current amount of existing and independently planned parking at SFO includes approximately 27,700 spaces, utilized by airport commission employees, rental car facilities, and tenants. With the proposed RADP, an additional approximately 10,000 parking spaces would be provided – primarily for the Central Hub, Consolidated Rental Car Center Facility, Consolidated Rental Car Center Quick Turn Around Facility, and the Long Term Parking Garage #3 projects.” The City is concerned about the addition of 10,000 parking spaces and the related to transportation and circulation impacts on City streets, El Camino Real, and adjacent major freeways including Highway 101, Interstate 280 and Interstate 380.

As identified in the San Bruno General Plan Chapter 7, the City should aim to “*protect the health and comfort of residents by reducing the impact of noise from ... San Francisco International Airport...* (General Plan Policy HS F & G)” The General Plan policies also encourages the City to actively participate in any SFO expansion and development process via the SFO/Community Roundtable, an environmental review process and/or working closely with San Mateo County Airport-Land Use Compatibility Commission (ALUC) in identifying shared concerns to achieve fullest noise mitigation possible (General Plan Policy HS-39 through 52). Further, the RADP should demonstrate full compliance to the City’s Noise Ordinance.

These transportation and circulation concerns are only one of many concerns the City has with respect to the Airport's proposed RADP and variant. Accordingly, the City respectfully requests that the Planning Department consult with the City of South San Francisco's Planning Department on the analysis of potential transportation and circulation, noise, and air quality impacts on the City's residents, businesses, and public infrastructure and facilities while it is preparing the Draft EIR prior to public release. Such consultation should be completed prior to the EIR public release. In addition, please include the City on the notice list for the final EIR release and the RADP.

Please feel free to contact me with any questions at (650) 616-7056 or via email at [jgrogan@sanbruno.ca.gov](mailto:jgrogan@sanbruno.ca.gov).

Sincerely,



Jovan D. Grogan  
City Manager

CC: City of San Bruno City Council  
Darcy Smith, City of San Bruno Community Development Director



---

## CITY OF PACIFICA

170 Santa Maria Avenue • Pacifica, California 94044-2506  
www.cityofpacifica.org

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Scenic Pacifica  
Incorporated Nov. 22, 1957

**MAYOR**  
Sue Vaterlaus

**MAYOR PRO TEM**  
Deirdre Martin

**COUNCIL**  
Sue Beckmeyer  
Mary Bier  
Mike O'Neill

June 21, 2019

ATTN: Michael Li  
San Francisco Planning Department  
1650 Mission Street, Suite 400  
San Francisco, CA 94103

Subject: Notice of Preparation of Environmental Impact Report and Notice of Public Scoping Meeting,  
May 22, 2019 – SFO Recommended Airport Development Plan

Dear Mr. Li:

I write on behalf of the City of Pacifica in response to the above-referenced Notice of Preparation of EIR, in connection with SFO's Airport Development Plan. In particular, I write regarding the planned scope of the EIR to address *all* environmental impacts potentially arising from the Plan, as they affect the Airport's many surrounding communities.

The Plan, as described in the Notice and as outlined in the various presentations made by SFO officials to local city councils in the preceding months contemplates a dramatic increase in the capacity of the airport's ground facilities. According to the Plan, the expansion is needed to accommodate an expected increase in passenger volume in the coming years to over 70 million. Although SFO claims that the expansion will not "change aircraft operations," it is difficult to see how such a large expansion in the Airport's ground-based facilities would not result in a corresponding increase in *air traffic* arriving at and departing from SFO on a 24-hour basis, seven days per week.

Moreover, the Notice does not acknowledge *all* arriving and departing flights, including not just passenger flights but, in addition, cargo aircraft, private jets, and helicopters. The forthcoming EIR analysis should evaluate all such aircraft, not just commercial passenger flights. Nor is there any mention of arriving and departing flights from *other* Bay Area airports, such as Oakland or San Jose, which obviously will contribute to the ground-level noise and vibration impacts.

The proposed EIR should also include enhanced measures to *monitor* the noise and vibration impacts of arriving and departing aircraft. It is not clear what types of noise and vibration monitoring systems will be in place in surrounding communities, to determine the *actual* impacts of the Airport expansion and potential increases in arriving and departing flights on the people who live and work in the many communities who are members of the Roundtable. Pacifica, in particular, is topographically higher than many communities surrounding SFO and is uniquely impacted by noise from low-flying aircraft. We understand that, although the Airport proposes new, state-of-the-art monitors, nothing in the Notice

addresses the *number or location* of these monitors. Due to ever-increasing flights and revised flight paths, more monitors are needed and they need to be located in areas over which the new flight paths are located.

The proposed EIR should also include an analysis of the direct and indirect effects of greenhouse gas (GHG) emissions from the Airport expansion. Increased GHG emissions will reasonably be expected to result from the additional air traffic at the Airport, additional vehicle miles traveled (VMT) from arriving and departing passengers traveling in automobiles, additional VMT from new airport employees commuting in automobiles, and Airport ground support equipment servicing the increased air traffic.

In light of the foregoing, the City of Pacifica requests that the EIR for the SFO Airport Development Plan address the following specific issues:

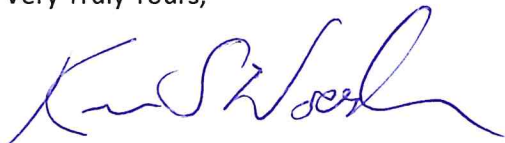
1. Any and all potential noise and vibration impacts to the surrounding communities arising from the planned SFO expansion and development, and accompanying increases in air traffic arrivals and/or departures.
2. Inclusion in the analysis of issue 1 of all aircraft, including passenger flights, cargo aircraft, private jets, and helicopters.
3. Inclusion in the analysis of issues 1 and 2 of potential cumulative noise and vibration impacts from aircraft departing from or arriving at all Bay Area airports, including Oakland and San Jose.
4. Improved state-of-the art noise monitoring that includes more stations as well as stations located directly under or close to flight paths that are currently used by departing or arriving flights at the airports described above.
5. Inclusion in the analysis of issue 3 of potential direct and indirect effects of GHG emissions, including how they may contribute to increased sea level rise along Pacifica's coastline.

Please be aware that the list above is not intended to be final or exclusive. It is intended to serve merely as the starting point in the process of involving the City of Pacifica in the ongoing discussions with SFO over the Airport's future expansion and development plans, and in managing the noise impacts that in the past several years have increased and negatively impacted the residents of the City and surrounding communities.

**We ask that the Planning Department provide the City of Pacifica with written notice as soon as the draft EIR is available for review.**

Please feel free to contact me at any time regarding the points stated above or any other questions you may have as to the City's position on this important issue.

Very Truly Yours,



Kevin Woodhouse  
City Manager





**CITY COUNCIL 2019**

KARYL MATSUMOTO, MAYOR  
RICHARD A. GARBARINO, MAYOR PRO TEMPORE  
MARK ADDIEGO, COUNCILMEMBER  
MARK NAGALES, COUNCILMEMBER  
BUENAFLOR NICHOLAS, COUNCILMEMBER

MIKE FUTRELL, CITY MANAGER

July 8, 2019

**Via E-mail and First-Class Mail**

Michael Li  
San Francisco Planning Department  
1650 Mission Street, Suite 400  
San Francisco, CA 94103  
Phone: (415) 575-9107  
Email: michael.j.li@sfgov.org

**Re: Comments regarding Notice of Preparation of Environmental Impact Report  
for SFO Recommended Airport Development Plan (Case No: 2017-007468ENV)**

Dear Mr. Li,

The City of South San Francisco ("City") provides the following comments regarding the proposed Environmental Impact Report for the San Francisco International Airport (SFO) Recommended Airport Development Plan (RADP) and variant. We appreciate the opportunity to work with SFO on identifying and mitigating potential transportation and circulation, noise, and air quality impacts on the City's residents, businesses, and public infrastructure and facilities.

As "the Birthplace of Biotechnology" and home to the world's largest life-science research hub, South San Francisco is particularly concerned about the negative impacts the RADP projects' will have on transportation and circulation in the Highway 101 corridor. "[W]ith portions of the Airport within the city boundaries of South San Francisco to the north," as stated in the Notice of Preparation dated May 22, 2019; the proposed construction of the RADP projects will inevitably impact South San Francisco. While the proposed expansion will serve the Airport's forecasted 71.1 million annual passengers, the RADP projects will exacerbate increasing traffic gridlock along U.S. Highway 101 and local access roads that serve both the Airport and the City's residents and businesses. For example, North Access Road and South Airport Boulevard are important local access roads that serve both the Airport and South San Francisco. The RADP projects could result in cumulative traffic volumes that exceed the capacity of certain ramps and cause significant queue impacts if the EIR does not identify adequate mitigation measures to relieve critical traffic movements.

These transportation and circulation concerns are only one of many concerns the City has with respect to the Airport's proposed RADP and variant. Accordingly, we request that the Planning Department consult with the City of South San Francisco's Planning Department on the analysis of potential traffic, noise and air quality impacts on the City and its residents while it is preparing

Page 2 of 2

Subject: Airport RADP and Variant (Case No: 2017-007468ENV)

the Draft EIR prior to public release. Please also place the City on the notice list for the EIR and RADP.

Thank you again for the opportunity to participate in the planning process. Should you have any questions or want to discuss these issues further, please feel free to contact me or Senior Planner Billy Gross by phone at 650-829-6626 or email at [billy.gross@ssf.net](mailto:billy.gross@ssf.net).

Sincerely,



Mike Futrell  
City Manager  
City of South San Francisco

cc: South San Francisco City Council  
Congresswoman Jackie Speier  
San Mateo County Board of Supervisors  
San Francisco Mayor London Breed  
San Francisco Board of Supervisors  
Assembly Speaker pro Tempore Kevin Mullin  
Assemblymember Phil Ting  
Senator Scott Wiener  
Senator Jerry Hill



# City of Millbrae

621 Magnolia Avenue, Millbrae, CA 94030

WAYNE J. LEE  
Mayor

REUBEN D. HOLOBER  
Vice Mayor

ANN SCHNEIDER  
Councilmember

ANNE OLIVA  
Councilmember

GINA PAPAN  
Councilmember

July 10, 2019

ATTN: Michael Li  
San Francisco Planning Department  
1650 Mission Street, Suite 400  
San Francisco, CA 94103

Subject: Notice of Preparation of Environmental Impact Report and Notice of Public Scoping Meeting, June 4, 2019 - SFO Recommended Airport Development Plan

Dear Mr. Li:

This letter is on behalf of the City of Millbrae to provide the City of San Francisco formal comments regarding the Notice of Preparation of an EIR for San Francisco International Airport's (SFO) Recommended Airport Development Plan (RADP). We appreciate the public scoping meeting held in Millbrae on Tuesday, June 4, 2019, providing information and outreach within the City of Millbrae.

According to the project summary, long-term demand forecasts estimate over 70 million annual passengers, which could be accommodated by the airport's existing ground facilities. The summary indicates that without the proposed RADP, the level of service would deteriorate substantially resulting in inefficiencies and potential substantial passenger delays, inconvenience in the terminals, access roadways and curbsides, and rental car facilities. Furthermore, the project summary indicates that the goal of the RADP would allow modernization, increase efficiency of Airport operations, and enhance the passenger experience. The summary also indicates the RADP **would not** induce passenger demand, airfield expansion or capacity increase, change aircraft operations or types, or affect the volume of passengers to use SFO.



From the City's perspective, it is unclear how the proposed RADP would not result in an increase in air traffic arrivals and departures and ground based noise, especially since the plan seems to suggest new, larger aircraft would be accommodated.

Accordingly, the City of Millbrae requests detailed review of the following specific issues:

1. Analysis to determine the cumulative noise and vibration impacts of arriving and departing aircraft, including an analysis of how noise travels and bounces within the built environment, if possible. The analysis should include methods for monitoring noise and vibration to determine the real-time impacts and an identification of locations where noise monitoring equipment may be located.
2. Analysis to determine ground-based noise and vibration impacts from demolition, new construction, final configuration (including the Taxiway A and B shifts) and impacts associated with accommodating new and larger aircrafts. Also, specific attention should be focused on any and all impacts to Lomita Park School, Marina Vista and Bayside Manor neighborhoods.
3. Analysis of increased ground based noise impacts associated with an increase in airport operations, including but not limited to, baggage handling, maintenance, catering trucks and personnel vehicles and whether electric operation vehicles would substantially decrease both noise and GHG potential impacts.
4. Analysis of all construction related impacts, including identification of any and all proposed off-site staging areas, storage areas, vehicle hauling routes, supply vehicles, and construction worker parking areas.
5. Air quality impacts to the Millbrae Community and specifically to Lomita Park School (this area may be the site of a future community garden) and the two neighborhoods mentioned above.
6. Furthermore, it appears all types of aircrafts are not being accounted for studied for potential impacts. Specifically, analysis should be prepared to determine whether the proposed RADP would promote additional air traffic associated with any diverted flights to SFO, cargo planes, private jets, and/or helicopters.
7. A full analysis of the effects of greenhouse gas (GHG) emissions, including additional air traffic, vehicle miles traveled (VMT) from arriving and departing passengers traveling in automobiles (including airport employees), and ground support vehicles and equipment servicing the increased air traffic.



8. Analysis of Transportation Network Company (TNC) vehicles along with shuttle, limousine, and other automobile travel patterns, staging areas, and drop-off/pick-up routes.
9. Traffic impact analysis along Millbrae Avenue Corridor including both US101 on-off ramps due to spill over traffic from the Airport.
10. Identification of the locations of modern noise monitoring equipment that can provide real-time data.
11. The City also urges a Zero Waste approach to the demolition and recycling/reuse of materials on-site.

The list above is provided to help guide the preparation of specific analysis in the Environmental Impact Report. These issues are in addition to the commonly studied issues consistent with both the Appendix G of the State CEQA guidelines as well as the City of San Francisco's environmental checklist. The City of Millbrae also intends to thoroughly review and respond to the draft EIR when it is available for review and requests that the City is notified as soon as the Draft EIR is available.

Please feel free to contact me directly if you have any questions concerning these comments.

Sincerely,



Bradley J. Misner, AICP  
Community Development Director

Cc: Thomas C. Williams, City Manager  
Khee Lim, Public Works Director

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August 7, 2019

TO: Roundtable Members and Interested Parties

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

SUBJECT: Ground-Based Noise (GBN) Ad-Hoc Subcommittee Meeting on June 26, 2019 – Noise Barrier Research Review

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During the GBN ad-hoc subcommittee meeting on June 26, 2019, HMMH discussed noise barriers in more detail based on the following five (5) research studies:

1. Study of Low Frequency Takeoff Noise at BWI Airport (HMMH 1998)
2. Status of Low-Frequency Aircraft Noise Research and Mitigation (Wyle 2001)
3. Findings of the Low-Frequency Noise Expert Panel (MSP 2000)
4. Low-Frequency Noise Study (PARTNER FAA 2007 Study)
5. Study of the Levels, Annoyance and Potential Mitigation of Backblast Noise at San Francisco International Airport (BBN Technologies, 2000)

The following bullet points contain information that was summarized at the meeting:

- Most sound energy generated by backblast noise is below 200 Hz, at these levels noise propagates over longer distances, travels more freely through structures, and can cause structures to vibrate more readily than noise at medium and high frequencies.
- In open air, at distances greater than a few hundred feet, the noise level decreases at the rate of 6 dB per doubling of the distance regardless of the frequency content of the noise.
- As an aircraft departs, there are two noise peaks, first when the thrust is increased to near maximum levels at the start of the takeoff roll and second as the aircraft rotates and climbs from the runway. It is believed that as the jet orientation changes to a vertical direction, there rear lobe of the directivity pattern is pointed more towards the ground which causes a sudden increase in noise level. The distance between the source to a potential barrier at the second peak would be too distant for any attenuation.
- Barriers can be effective if they are placed close to the receiver, so they can be a mitigation measure for residences that require protection. To provide even minimal attenuation, the barrier would need to be at least 15 feet tall and located within 50 to 100 feet of the residence.
- Potential for barriers near runway ends, however they could pose a safety hazard to aircraft and attenuation would be low. Weather could also reduce effectiveness, depending on speed and direction of winds.

- Barriers provide attenuation by eliminating the direct line of sight between source and receiver. They don't work quite as well as might be expected however because the sound diffracts, or bends, over the top of the barriers, and prorogates into the shadow zone behind it, thereby reducing the attenuation. This is especially the case for low frequency noise.
- Sources close to the barrier are better attenuated than those farther away, and the same goes for receiver distance.
- It is difficult to provide any attenuation from a realistic-sized barrier if the distance between the source and receiver is greater than a few hundred meters.
- Barriers close to the runway are not suitable for reducing backblast noise because it is difficult to place close to the source and it would then be quite distant from the community; attenuation would be low.



**SANTA CLARA/SANTA CRUZ COUNTIES  
AIRPORT/COMMUNITY ROUNDTABLE**

PO Box 3144  
Los Altos, CA 94024

June 19, 2019

Ms. Elizabeth Lewis, Chair  
SFO Airport/Community Roundtable  
C/o James Castañeda, Roundtable Coordinator  
San Mateo County Planning and Building Department  
455 County Center, 2nd Floor | Redwood City, CA 94063

**Subject: Formal Coordination Amongst the San Francisco Bay Area Roundtables and Noise Forums**

Dear Chair Lewis:

The Santa Clara/Santa Cruz Counties Airport/Community Roundtable (SCSC Roundtable) believes that it is in the best interest of the San Francisco Bay Area Roundtables and Noise Forums to work together on matters of common interest to their respective organizations' constituents. To that end, the SCSC Roundtable would like to establish a formal process through which the SFO Airport/Community Roundtable, Oakland International Airport Noise Forum, and SCSC Roundtable can share timely information on a regular, ongoing basis.

While we are open to your suggestions, perhaps each Roundtable or Noise Forum can designate a representative and alternate to serve as Roundtable liaisons with the expressed purpose of sharing information with the other Roundtables about activities that may influence noise in one or more of the other Roundtable's/Noise Forum's jurisdictions. This group could meet on a mutually convenient basis, so that ample discussion and information can be brought back to the full Roundtable/Noise Forum membership before policies/approaches become formalized. We are hopeful that this approach would provide the greatest noise benefit to all noise impacted constituents without shifting noise from one community to another.

I would be happy to meet with you to discuss this proposal further, but I am also prepared to bring it to the SCSC Roundtable membership if you agree with the approach outlined above.

I appreciate your consideration of this proposal. Please let me know how the SFO Airport/Community Roundtable would like to proceed.

Sincerely,

Mary-Lynne Bernald  
Chairperson

Cc: SCSC Roundtable Members and Alternates

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## Dave Ong (AIR)

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**From:** Dave Ong (AIR)  
**Sent:** Friday, July 12, 2019 5:15 PM  
**To:** t.livermore@woodsidetown.org  
**Cc:** Bert Ganoung (AIR); James Castaneda; Anneliese Taing (AIR); Anthony Carpeneti (AIR); Nastasja von Conta (AIR); Linda Wu (AIR)  
**Subject:** 2Q 2019 Aircraft Noise Monitoring Results for Woodside VOR  
**Attachments:** 2Q 2019 Woodside Noise Monitoring Report.pdf

Dear Honorable Thomas Livermore,

Please find attached aircraft noise monitoring results for second quarter 2019, for noise measurements collected in the Town of Woodside. Past reports are also available online at [link](#), located under the Quarterly Portable Noise Monitoring section, then Woodside. If you have any questions or like to discuss the information provided, please don't hesitate to call our office at (650) 821-5100.

Thank you,



**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](http://flysfo.com)

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



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**MEMORANDUM**

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**TO: WOODSIDE COMMUNITY**

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

**SUBJECT: 2Q 2019 WOODSIDE NOISE MONITORING REPORT**

**DATE: JULY 12, 2019**

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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 May 4, 2019 to May 21, 2019. We were only able to get 11 days worth of data, from May 4 through May 14, 2019 due to power supply issues. 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 46dBA CNEL. The Community daily noise level was 47dBA CNEL, higher than usual, due to the generator noise. Other non-aircraft noise sources included wind, rain and wildlife. Noise from all aircraft over this location increased the total average daily noise level by 1.6dBA. The total noise level was 49 dBA CNEL.

The Town of Woodside is a quiet suburban community with ambient noise levels of 45dBA. On an average day of this study, Woodside had 160 overflights out of which 95 exceeded noise monitor thresholds and recorded a noise event. The threshold was 52dBA. 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 about 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, airline traffic using San Jose International Airport and traffic from other airports in the area.

An average sound exposure level (SEL) for a single noise event for all aircraft were recorded at 71dBA and maximum noise levels (LMax) at 59dBA. On average, there were six nighttime noise events from SFO aircraft. During the noise-monitoring period, SFO ANAO received noise reports from 10 individuals. The Town of Woodside is a quiet suburban community with ambient noise in the quiet 40-45dB range; any aircraft noise level above the background may become a nuisance for the residents. The majority of the aircraft noise events occurred during the evening between 8:00 pm and 10:00 pm.

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**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 2Q 2019

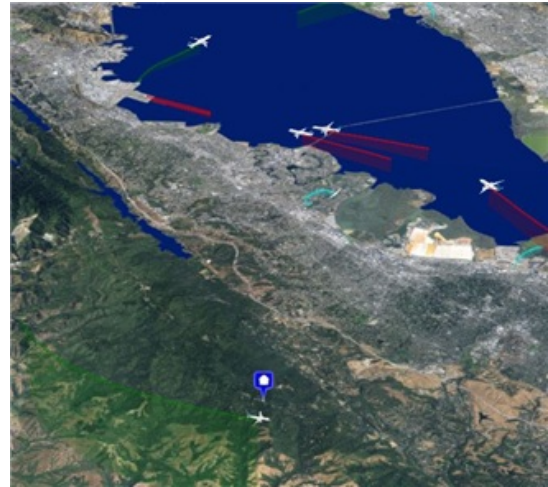
May 4 - May 14

Aircraft CNEL: 46dBA  
 Community CNEL: 47dBA  
 Total CNEL: 49dBA  
 SEL: 71dBA  
 LMax: 59dBA  
 Ambient Noise: 45dBA

Noise Monitor Treshold: 52dBA.  
 SFO Aircraft Noise Events: 62 per day

SFO Operations Flow: West Flow

Cause of Aircraft Overflights: SFO Oceanic Arrival Route, San Jose Arrivals, delayed vectoring, SFO Departures and general aviation-small aircraft



### 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)
4	8	68	57	27	72	62	3	63	57
5	37	70	58	32	72	59	281 **	67	54
6	112	71	58	38	74	59	60	66	55
7	49	71	58	26	72	60	9	69	57
8	78	71	58	45	73	59	11	74	60
9	104	70	58	43	71	59	3	62	55
10	69	71	59	48	72	58	24	68	54
11	61	70	57	24	73	60	2	62	54
12	55	69	57	19	71	59	6	65	57
13	75	71	58	24	70	59	5	69	59
14	31	70	58	22	72	58	484 *	76	64
<b>Daily AVG</b>	<b>62</b>	<b>70</b>	<b>58</b>	<b>32</b>	<b>72</b>	<b>59</b>	<b>81</b>	<b>68</b>	<b>60</b>

\*Generator

\*\* Rain, Wind, Wildlife

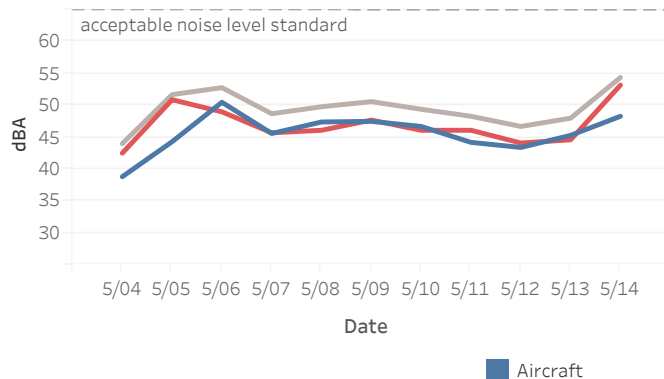
**SFO Events** are: Single SFO Aircraft, Multiple SFO Aircraft, Simultaneous SFO and Non-SFO Aircraft, and Simultaneous Community and SFO Aircraft.

**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.

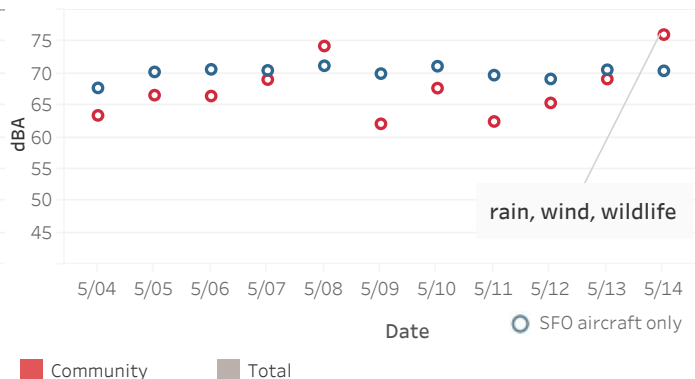
**Lmax** - The maximum noise level is a measurement of the peak level of a noise event.

**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 Equivalent Level (CNEL)



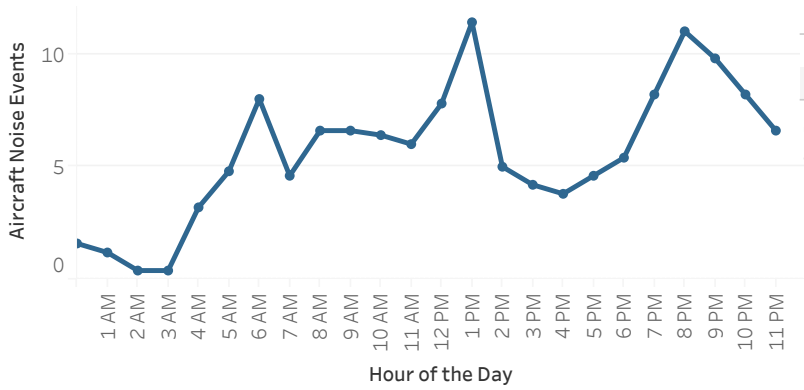
Sound Exposure Level (SEL) Comparison



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

	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	362	53%	70	58	81	58	51	72	28	8	60
Evening	145	21%	71	59	79	58	52	73	28	8	60
Night	172	25%	70	59	79	58	52	73	27	8	60

### SFO Noise Events by Hour of the Day

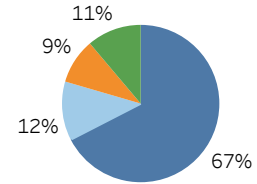


### SFO Aircraft Altitude

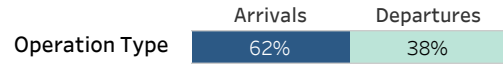
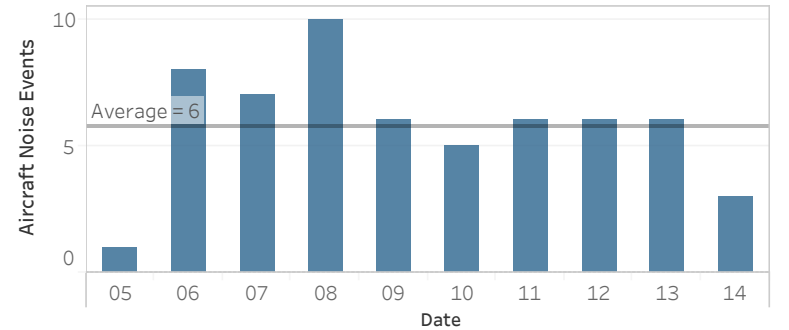
	<6000ft	≥6000ft	≥7000ft	≥8,000ft	≥9,000ft
Arrivals	20%	23%	42%	15%	
Departures	11%				89%

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

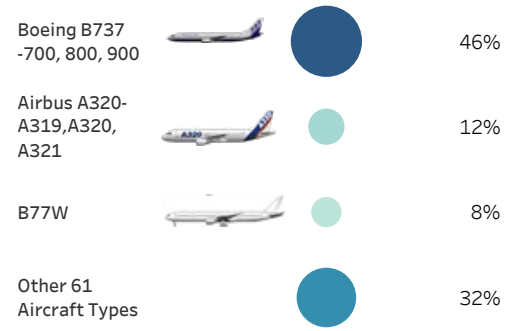
Airport  
 ■ SFO  
 ■ San Carlos  
 ■ San Jose Intl  
 ■ Other Airports



### SFO Nighttime (midnight-6am)



### Aircraft Type



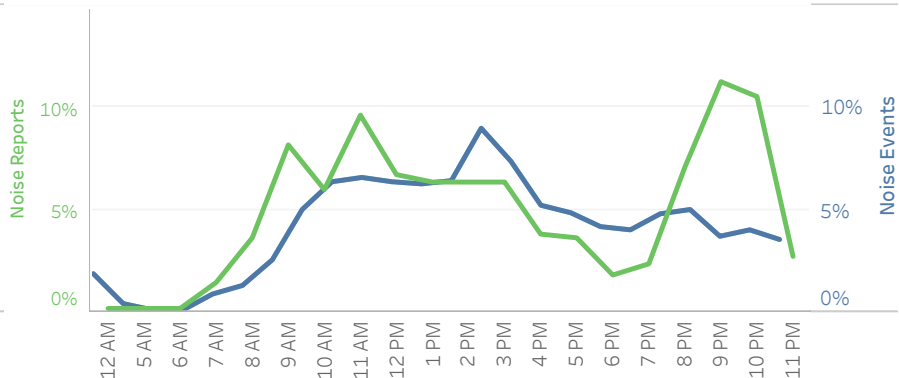
### Noise Reporters

	Noise Reporters	Noise Reports
4	3	19
5	3	30
6	5	51
7	5	55
8	5	75
9	6	87
10	4	49
11	5	55
12	5	48
13	7	38
14	4	35
<b>Total</b>	<b>10 *</b>	<b>542</b>

**59%**

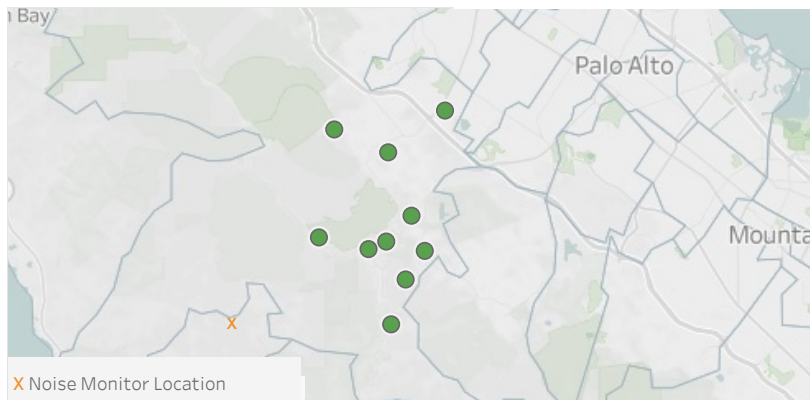
of overflights registered a noise event.  
 (160 avg daily overflights of which 95 created a noise event)

### Noise Reports vs Noise Events

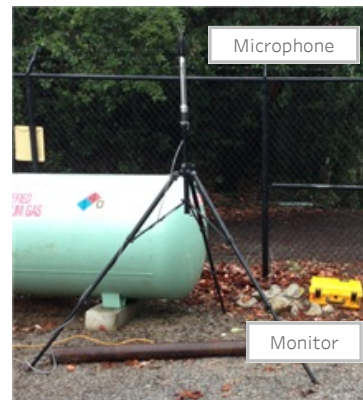


\* Individual Reporters

### Noise Reporters Location



### Noise Monitor on Location



## Dave Ong (AIR)

---

**From:** Dave Ong (AIR)  
**Sent:** Wednesday, July 10, 2019 5:08 PM  
**To:** annwengert@yahoo.com; jdennis@portolavalley.net  
**Cc:** Sue Chaput; Bert Ganoung (AIR); James Castaneda; Anneliese Taing (AIR); Anthony Carpeneti (AIR); Nastasja von Conta (AIR)  
**Subject:** 2Q 2019 Aircraft Noise Monitoring Results for Portola Valley  
**Attachments:** 2Q 2019 Portola Valley Noise Monitoring Report.pdf

Dear Honorable Ann Wengert,

Please find attached the aircraft noise monitoring results for 2Q 2019 noise measurements collected in the Town of Portola Valley. Past reports are also available online at [link](#), located under the Quarterly Portable Noise Monitoring section, then Portola Valley. If you have any questions or like to discuss the information please don't hesitate to call our office at (650) 821-5100.

Thank you,



**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](http://flysfo.com)

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



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**MEMORANDUM**

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**TO: PORTOLA VALLEY COMMUNITY**  
**FROM: SAN FRANCISCO INTERNATIONAL AIRPORT AIRCRAFT NOISE ABATEMENT OFFICE**  
**SUBJECT: 2Q 2019 PORTOLA VALLEY NOISE MONITORING REPORT**  
**DATE: JULY 8, 2019**

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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 May 3, 2019 to May 21, 2019. We were only able to get data between May 4, 2019 and May 11, 2019 because of problems with our portable batteries. The monitoring was made possible with the assistance of a Portola Valley resident.

The overall average daily noise level from all aircraft was 43dBA CNEL. The Community daily noise level was 47dBA CNEL. Noise from all aircraft over this location increased the total average daily noise level by 1.6dBA. Non-aircraft noise sources included residential noise and wind. The total noise level was 48 dBA CNEL.

The Town of Portola Valley is a quiet suburban community with ambient noise levels of 42dBA. On an average day, Portola Valley had 173 overflights out of which 63 exceeded the noise monitor thresholds and recorded a noise event. The threshold was 55dBA. 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 82 percent of all aircraft noise events over Portola Valley. The remaining aircraft noise events are low-flying general aviation traffic using San Carlos and Palo Alto Airport.

An average sound exposure level (SEL) for a single noise event for all aircraft were recorded at 69dBA and maximum noise levels (LMax) at 59dBA. On average, there were four nighttime noise events from SFO aircraft. During the noise-monitoring period, SFO ANAO received noise reports from 21 individuals in Portola Valley primarily during the daytime hours. 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.

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**dB**A- 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.

# Portola Valley 2Q 2019

May 4 - May 11

Battery failure caused the monitor to only record 8 days of data

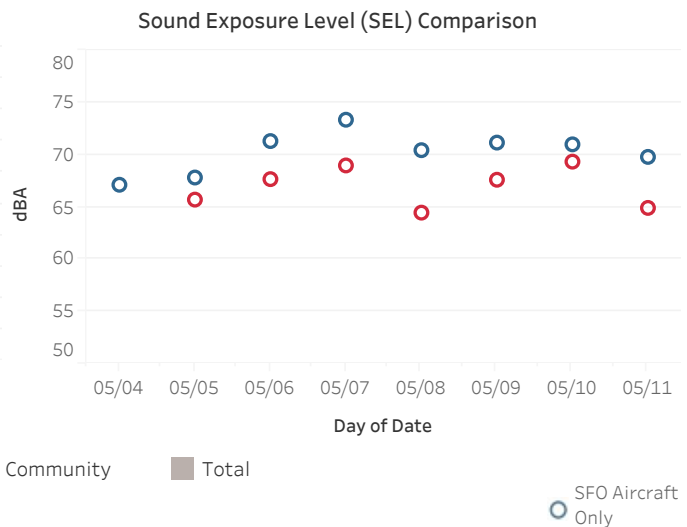
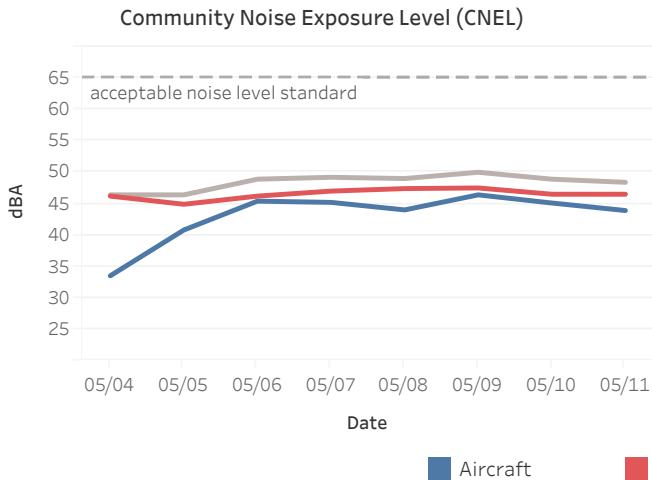
Aircraft CNEL: 43dBA  
 Community CNEL: 47dBA  
 Total CNEL: 48dBA  
 Aircraft SEL: 69dBA  
 Aircraft LMax: 59dBA  
 Ambient Noise: 42dBA  
 Noise Monitor Treshold: 55dBA  
 SFO Aircraft Noise Events: 56 per day  
 SFO Operations Flow: West Flow  
 Cause of Aircraft Overflights: SFO aircraft arrivals, delayed vectoring and small general aviation aircraft transitioning the area



## Daily Noise Event Averages

Date	SFO			Non-SFO			Community		
	Noise Events	Avg. SEL (dBA)	Avg. LMax (dB)	Noise Events	Avg. SEL (dBA)	Avg. LMax (dB)	Noise Events	Avg. SEL (dBA)	Avg. LMax (dB)
May 4	3	67	57	17	69	59			
5	20	68	58	24	72	61	1	66	57
6	78	71	60	11	69	57	10	68	56
7	57	73	59	12	73	60	2	69	57
8	79	70	59	17	69	58	7	64	55
9	102	71	59	12	71	60	11	68	59
10	70	71	59	24	71	60	4	69	59
11	41	70	58	25	71	59	7	65	57
<b>Daily Average</b>	<b>56</b>	<b>70</b>	<b>59</b>	<b>18</b>	<b>71</b>	<b>59</b>	<b>6</b>	<b>67</b>	<b>57</b>

**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.

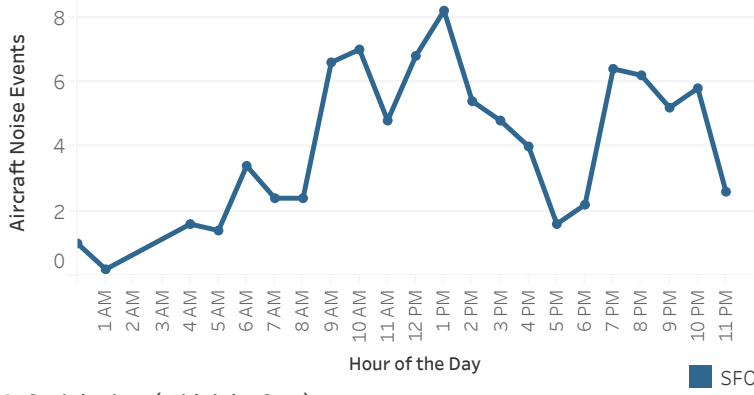


## SFO Aircraft Noise Events by Day (7am-7pm), Evening (7pm-10pm) and Night (10pm-7am)

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	281	64%	72	60	87	59	54	78	27	8	60
Evening	89	20%	71	61	78	59	54	68	27	8	60
Night	72	16%	70	62	78	59	55	66	28	9	49



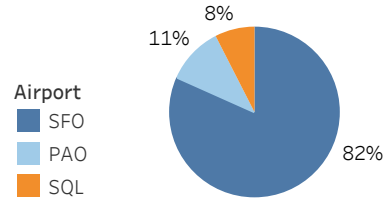
### SFO Noise Events by Hour of the Day



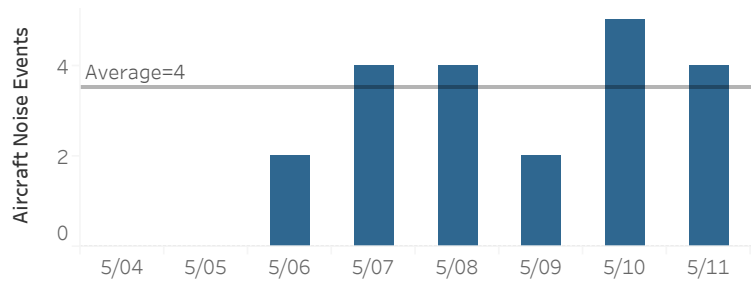
### SFO Arrivals Altitude

Altitude	Percentage
≤3000ft	1%
4,000ft	15%
5,000ft	44%
6,000ft	29%
>7,000ft	11%

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



### SFO Nighttime (Midnight-6am)



May 4 and 5 did not have any nighttime aircraft noise events.

### Noise Reporters

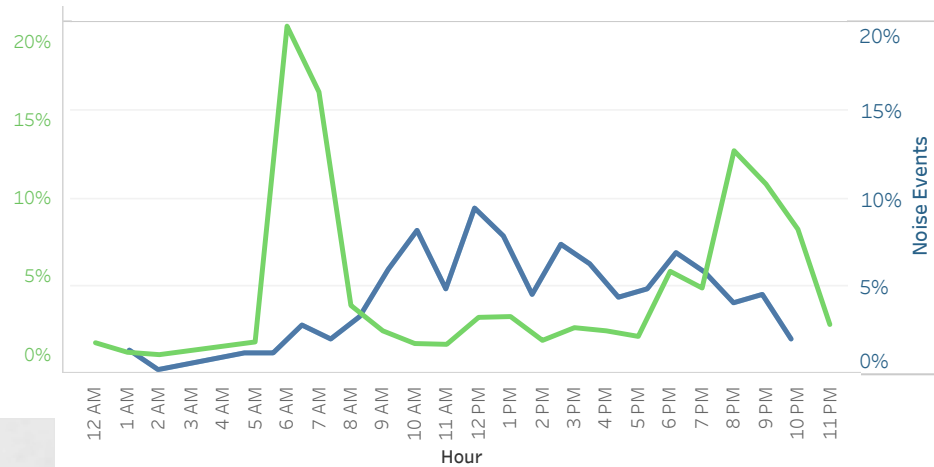
Day	Noise Reporters	Noise Reports
4	6	106
5	10	283
6	15	306
7	14	204
8	17	291
9	17	376
10	16	128
11	15	283
Total	21*	1,977

\*Individual Reporters

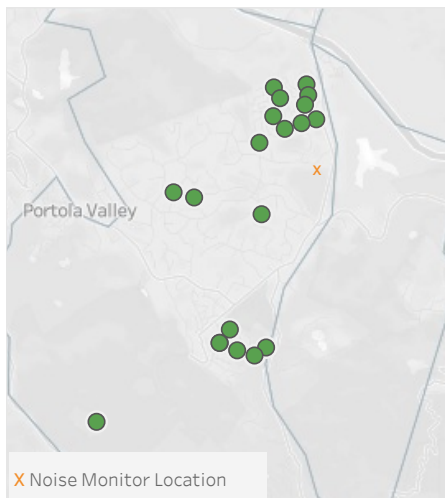
**36%**

of overflights registered a noise event.  
(173 avg daily overflights of which 63 created a noise event)

### Noise Reports vs Aircraft Noise Events



### Noise Reporters Location



### Noise Monitor on Location



## Dave Ong (AIR)

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**From:** Dave Ong (AIR)  
**Sent:** Monday, July 29, 2019 4:30 PM  
**To:** fabrice.beretta@gmail.com; kbr128@gmail.com  
**Cc:** Safai, Ahsha (BOS); McCaffrey, Edward (MYR); Bert Ganoung (AIR); Audrey Park (AIR); NIIRO, NICHOLAS (CAT); Anthony Carpeneti (AIR); Anneliese Taing (AIR); Linda Wu (AIR)  
**Subject:** Short Term Aircraft Noise Monitoring Report for the Outer Sunset Neighborhood of San Francisco  
**Attachments:** SF Portable Noise Monitoring Report.pdf; Supplement Aircraft Noise Terminology Metric.pdf

Dear Mr. and Mrs. Beretta:

Thank you for allowing San Francisco International Airport (SFO) Noise Abatement Office the opportunity to collect aircraft noise measurements at your residence. Please find attached the Short Term Aircraft Noise Monitoring report. This document contains the results of the monitoring performed from Saturday, June 1 to Monday, June 17, 2019. Also attached is an Aircraft Noise Terminology & Metric Supplement to help explain some of the terms used in the report.

I have also copied Airport Roundtable Members Honorable Ahsha Safai, Supervisor and Edward McCaffrey the San Francisco Mayor's Office Representative to share the results with.

SFO will strive to improve aircraft noise abatement procedures to further reduce aircraft noise in your community and are continually developing initiatives to mitigate the impacts of aircraft noise by working with the Airport Community Roundtable, the Federal Aviation Administration, and the airlines operating here at SFO.

Please feel free to call Bert or me at (650) 821-5100 if you have any questions or would like to discuss this information.

Sincerely,



**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](http://flysfo.com)

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



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**MEMORANDUM**

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**TO:** SAN FRANCISCO COMMUNITY  
**FROM:** SAN FRANCISCO INTERNATIONAL AIRPORT AIRCRAFT NOISE  
ABATEMENT OFFICE  
**SUBJECT:** SAN FRANCISCO SHORT-TERM NOISE MONITORING REPORT  
**DATE:** JULY 29, 2019

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The San Francisco International Airport (SFO) Aircraft Noise Abatement Office conducted aircraft noise monitoring in San Francisco to determine the noise levels within the community from aircraft operations at SFO. This measurement period was from June 1, 2019 to June 17, 2019. The monitoring was made possible with the assistance of an Outer Sunset neighborhood resident. The overall average daily noise level from all aircraft was 41dBA CNEL. The Community daily noise level was 50dBA CNEL. Noise from all aircraft over this location increased the total average daily noise level by 1.1dBA. The threshold of 55dBA was used for this measurement period.

The monitoring site at the Outer Sunset Neighborhood is relatively quiet with ambient noise levels of 47dBA, considering that most of the Outer Sunset Neighborhood is in an urban community setting. On an average day there were 338 overflights, out of which 39 exceeded the noise monitor threshold and recorded a noise event. Flights departing SFO on Runways 28L/28R use departure procedures through the San Bruno Gap between Daly City and Pacifica. Aircraft taking off on Runways 28L/28R that flew by this monitor were bound for airports in Europe and the Middle East; will fly through the San Bruno Gap, turning right once they reach the Pacific Ocean and turning right again when they reach the Golden Gate Bridge. All aircraft departing SFO that fly through the GAP are using the four following departure procedures, which are; GAP, MOLEN, SNTNA and TRUKN Runway 28L/28R Departure Procedures and/or as directed by Federal Aviation Administration Air Traffic Controllers. These SFO operations represent approximately 75% of aircraft noise events over the Outer Sunset, 16% were attributed to Oakland International Airport (OAK) Departures and the final 9% were attributed to operations from other airports in the area.

During the noise monitoring period, SFO Aircraft Noise Abatement Office received 3,431 noise reports from 31 individuals all across San Francisco. Of these reports, approximately 90% are for SFO and Oakland Airport departures described above (CNDEL and SSTIK) are unrelated to the departures. Of the complaints submitted, 75% (2,570) were in the daytime hours (7am-7pm), 13% (438) for the evening hours (7pm-10pm), and 12% (423) for the nighttime hours (10pm-7am). The majority of SFO Aircraft noise events occurred between 7:00 am and 10:00 pm. On average, there were two nighttime noise events during the duration of the monitoring session.

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**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.



Short Term Noise Monitoring Report - Site 1003

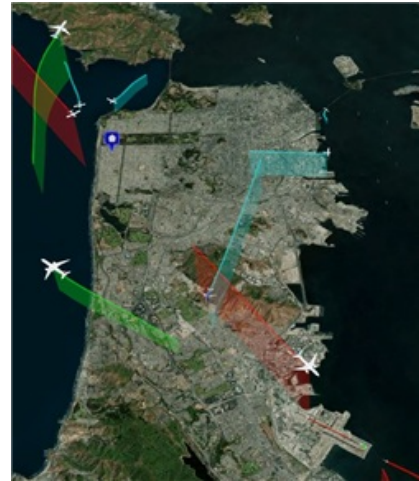
# San Francisco 2019

June 1 - June 17

Aircraft CNEL: 41dBA  
 Community CNEL: 50dBA  
 Total CNEL: 50dBA  
 SEL: 73dBA  
 LMax: 60dBA

Ambient Noise: 47dBA  
 Noise Monitor Treshold: 55dBA  
 SFO Aircraft Noise Events: 27 per day  
 SFO Operations Flow: West Flow

Cause of Aircraft Noise: SFO departures from Runway 28 L/R with destinations in Europe and the Middle East; OAK departures to Hawaii and General Aviation



### 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)
1	25	72	60	6	69	59	85	78	62
2	51	71	60	10	70	60	92	79	63
3	37	71	60	13	69	60	43	73	62
4	26	75	60	13	71	59	19	70	62
5	32	72	60	9	73	62	18	67	59
6	31	75	60	17	72	60	44	69	58
7	37	73	62	18	71	61	26	75	63
8	22	73	60	22	71	60	2	72	61
9	28	72	61	18	74	63	61	86	68
10	24	72	59	17	72	60	6	65	60
11	24	73	60	24	71	59	20	69	60
12	22	71	60	21	71	59	4	69	62
13	18	70	59	8	69	59	3	69	63
14	24	70	60	8	70	59	7	64	60
15	15	72	62	3	71	61	22	66	59
16	11	68	59	9	74	60	25	69	60
17	39	72	59	27	73	60	41	76	61
Daily Average	27	72	60	14	71	60	30	72	62

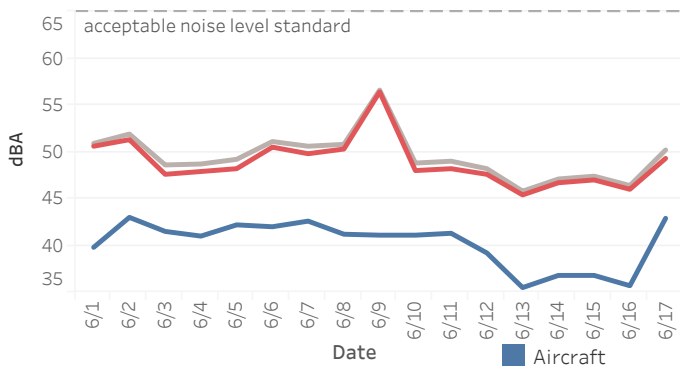
**SFO Events** are: Single SFO Aircraft, Multiple SFO Aircraft, Simultaneous SFO and Non-SFO Aircraft, and Simultaneous Community and SFO Aircraft.

**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.

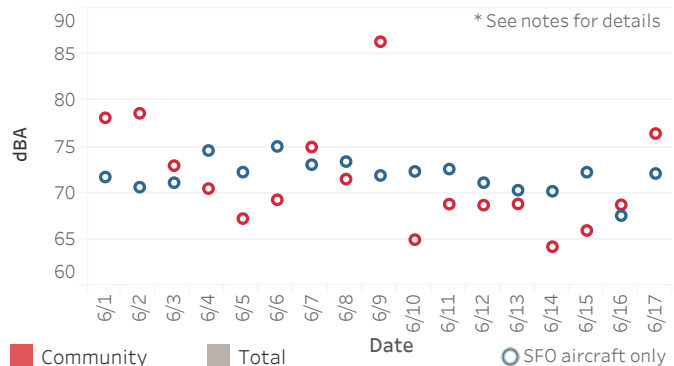
**Lmax** - The maximum noise level is a measurement of the peak level of a noise event.

**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 Equivalent Level (CNEL)



Sound Exposure Level (SEL) Comparison



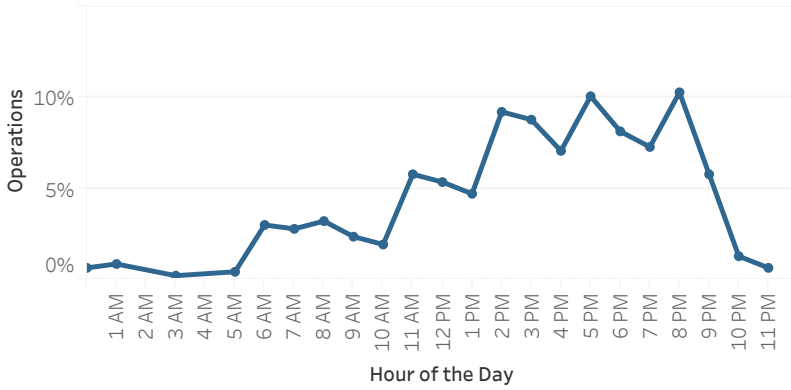
\*Notes: 6/1 Compressor noise from 4:30 pm to 5:30 pm; 6/2 Pump and hammering noise from 10 am to 11 am; 6/3 Floor sander noise or automobile engine from 5:30 pm to 6 pm; 6/6 Compressor noise; 6/9 Buzz saw/chainsaw noise from 2:25 pm to 4:30 pm; 6/16 Bird cawing sounds; 6/17 Fireworks, birds cawing, and ambulance sirens

### 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	324	70%	73	60	85	60	54	79	20	5	60
Evening	109	23%	71	62	78	60	55	72	20	5	47
Night	33	7%	69	62	75	58	55	64	16	5	46

### SFO Noise Events by Hour of the Day

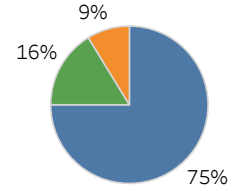
Only aircraft that registered a noise event on the monitor are considered.



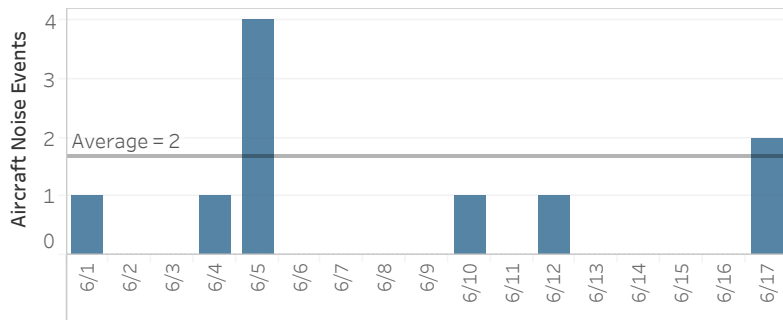
### SFO Aircraft Altitude

	≤4000	≤5,000	≤6,000	≤7000	≤8000	>8000
Arrivals						15%
Departures	6%	19%	33%	16%	8%	3%

Airport  
 ■ SFO  
 ■ OAK  
 ■ Other



### SFO Nighttime (midnight-6am)



Operation Type	Arrivals	Departures
	18%	82%

### Aircraft Type

Airbus A320-A319, A320, A321		10%
Boeing B737-700, 800, 900		18%
Boeing B777-200, 300		18%
Other 66 Aircraft Types		54%

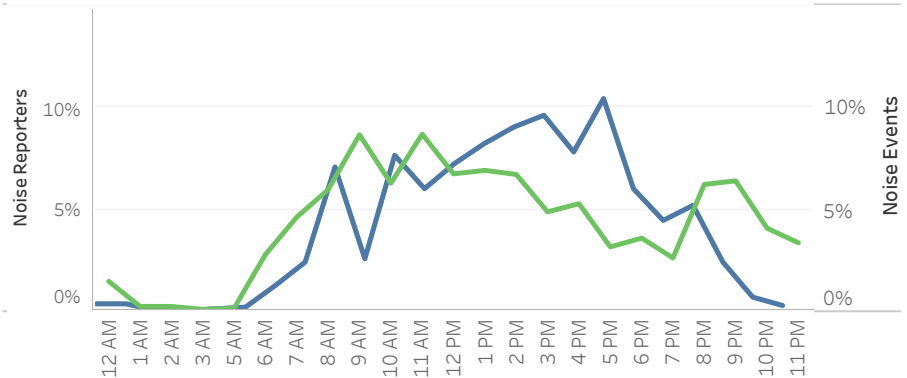
### Noise Reporters

	Noise Reporters	Noise Reports
1	17	119
2	22	337
3	16	236
4	15	177
5	19	215
6	12	116
7	18	173
8	12	138
9	15	146
10	14	184
11	17	277
12	14	227
13	15	158
14	15	218
15	12	101
16	12	191
17	17	418
<b>Total</b>	<b>31*</b>	<b>3,431</b>

12%

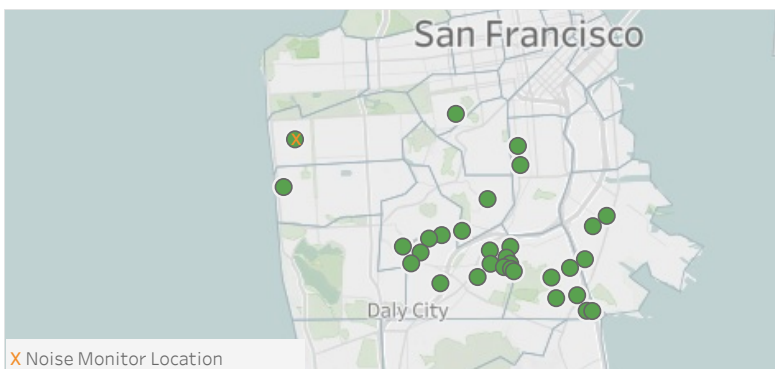
of flights registered a noise event.  
 (338 avg daily flights of which 39 created a noise event)

### Noise Reporters vs Noise Events



\*Individual Reporters

### Noise Reporters Location



### Noise Monitor on Location





July 22, 2019

TO: Roundtable Members and Interested Parties

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

SUBJECT: Federal Aviation Administration (FAA) Instrument Flight Procedures (IFP) Information Gateway Review

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At the request of the Roundtable, Harris Miller Miller & Hanson Inc. (HMMH) is monitoring and reviewing updates to procedures published onto the FAA's IFP Information Gateway in the regions of San Francisco International Airport (SFO), Metropolitan Oakland International Airport (OAK), and Norman Y. Mineta San Jose International Airport (SJC).

After analyzing the documents posted, HMMH determines proposed changes and the reason for the changes. The FAA IFP Information Gateway published updates on June 20<sup>th</sup> and 28<sup>th</sup> of 2019. All four (4) changes were identified to be of low importance. The next publication is expected on August 15, 2019.

#### **Important Terms and Items:**

- FAA Stage Definitions
  1. FPT: Procedures are coordinated with Air Traffic, Tech Ops and Airports for feasibility, preparation and priority (FPO)
  2. DEV: Development of the procedures
  3. FC: FAA Flight Inspection of the developed procedures
  4. PIT: Production Integration Team (TS)
  5. CHARTING: Procedures at AeroNav Products Charting for publication (NACO)
- FAA Status Definitions
  1. At Flight Check: At Flight Inspection for procedure validation
  2. Awaiting Publication: At AeroNav Products Charting for publication
  3. Complete: Procedure development action finished
  4. On Hold: Procedure waiting data/information to allow it to proceed/continue to next stage
  5. Pending: Procedure development work on-going
  6. Published: Procedure charted and published
  7. Under Development: Procedure is being worked on by the FAA
  8. Terminated: Procedure/project terminated
- Glossary

## HMMH FAA IFP Information Gateway Review

July 22, 2019

Page 2 of 3

- RNAV: Area Navigation
- IAP: Instrument Approach procedure
- STAR: Standard Terminal Arrival Route
- SID: Standard Instrument Departure
- GPS: Global Positioning System
- ILS: Instrument Landing System
- LOC: Localizer

### Low Importance:

- June 20, 2019
  - SID AFIVA (RNAV) ONE at SFO status change to Published
    - Status is “Cancelled”
  - STAR GOLDEN GATE SEVEN at SFO status change to Published
    - Status is “Cancelled”
  - ILS OR LOC RWY 19L AMDT 22A at SFO status change to Published
    - Status is “Published”
- June 28, 2019
  - STAR PANOCHE SIX at OAK stage change to Charting with a scheduled publish date of August 15, 2019
    - Status is “Awaiting Publication (NFDC)”

### High Importance:

- None

### Open Comment Periods:

- STAR PANOCHE SIX at OAK comment period ends: July 29, 2019
  - Email concerns can be sent here:  
[https://www.faa.gov/air\\_traffic/flight\\_info/aeronav/procedures/application/?event=procedure.results&tab=coordination&nasId=SJC#searchResultsTop](https://www.faa.gov/air_traffic/flight_info/aeronav/procedures/application/?event=procedure.results&tab=coordination&nasId=SJC#searchResultsTop)

### Next Publication:

We expect to see updates for the following on the August 15, 2019 publication:

- SFO
  - STAR MODESTO NINE
    - Currently “Awaiting Publication (NFDC)”
- SJC
  - SID SAN JOSE THREE
    - Currently “Awaiting Publication (NFDC)”
  - SID SUNOL ONE
    - Currently “Awaiting Publication (NFDC)”

**HMMH FAA IFP Information Gateway Review**

July 22, 2019

Page 3 of 3

- STAR ROBIE FIVE
  - Currently "Awaiting Publication (NFDC)"
- OAK
  - SID OAKLAND FOUR
    - Currently "Awaiting Publication (NFDC)"
  - SID SKYLINE ONE
    - Currently "Awaiting Publication (NFDC)"
  - STAR PANOCHE SIX
    - Currently "Awaiting Publication (NFDC)"