San Francisco International
Airport/Community Roundtable

455 County Center, 2nd Floor
Redwood City, CA 94063
T (650) 363-1853
F (650) 363-4849
www.sforoundtable.org

REGULAR MEETING PACKET

Meeting No. 296

Wednesday, June 3, 2015 - 7:00 p.m.

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

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

AGENDA

1. **Call to Order / Roll Call / Declaration of a Quorum Present** ACTION
Cliff Lentz, Roundtable Chairperson / James A. Castaneda, AICP, Roundtable Coordinator

2. **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.

3. **Adoption of a Resolution Recognition Julian Chang** ACTION
Cliff Lentz, Roundtable Chairperson

CONSENT AGENDA ITEMS

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

4. **Review of Airport Director's Reports for:** ACTION
March 2015 pg. 11
April 2015 pg. 19

5. **Review of Roundtable Regular Meeting Overview for February 4, 2015 and April 1, 2015** ACTION
pg. 27

REGULAR AGENDA

6. **Review of SFO FlyQuiet Report for Q2 2015** INFORMATION
Bert Ganoung, Manager - Aircraft Noise Abatement Office pg. 39

7. **Airport Director's Comments** INFORMATION
John Martin, Director – San Francisco International Airport

REGULAR AGENDA – WORK PROGRAM ITEMS

8. Report, Departure and Arrivals Technical Working Groups INFORMATION pg. 53
Cindy Gibbs, Roundtable Aviation Technical Consultant

9. Update, FAA's PORTE Departure Analysis INFORMATION
Bert Ganoung, Manager - Aircraft Noise Abatement Office

10. Update, Oceanic Arrivals Over the Woodside VOR INFORMATION
Bert Ganoung, Manager - Aircraft Noise Abatement Office

11. Update, Metroplex ACTION pg. 57
Cindy Gibbs, Roundtable Aviation Technical Consultant

OTHER MATTERS

12. Upcoming Work Program Subcommittee tasks INFORMATION
James Castañeda, Roundtable Coordinator

13. Airport Noise Briefing INFORMATION
Cindy Gibbs, Roundtable Aviation Technical Consultant

14. Member Communications / Announcements INFORMATION
Roundtable Members and Staff

15. Adjourn ACTION
Cliff Lentz, Roundtable Chairperson

Airport Noise Industry News pg. 59
Glossary of Common Acoustic & Air Traffic Control Terms pg. 67

Next Regular Roundtable Meeting Date: Wednesday, October 7, 2015

Note: Public records that relate to any item on the open session Agenda (Consent and Regular Agendas) for a Regular Airport/Community Roundtable Meeting are available for public inspection. Those records that are distributed less than 72 hours prior to a Regular Meeting are available for public inspection at the same time they are distributed to all Roundtable Members, or a majority of the Members of the Roundtable. The Roundtable has designated the San Mateo County Planning & Building Department, at 455 County Center, 2nd Floor Redwood City, California 94063, for the purpose of making those public records available for inspection. The documents are also available on the Roundtable website at: www.sforoundtable.org.

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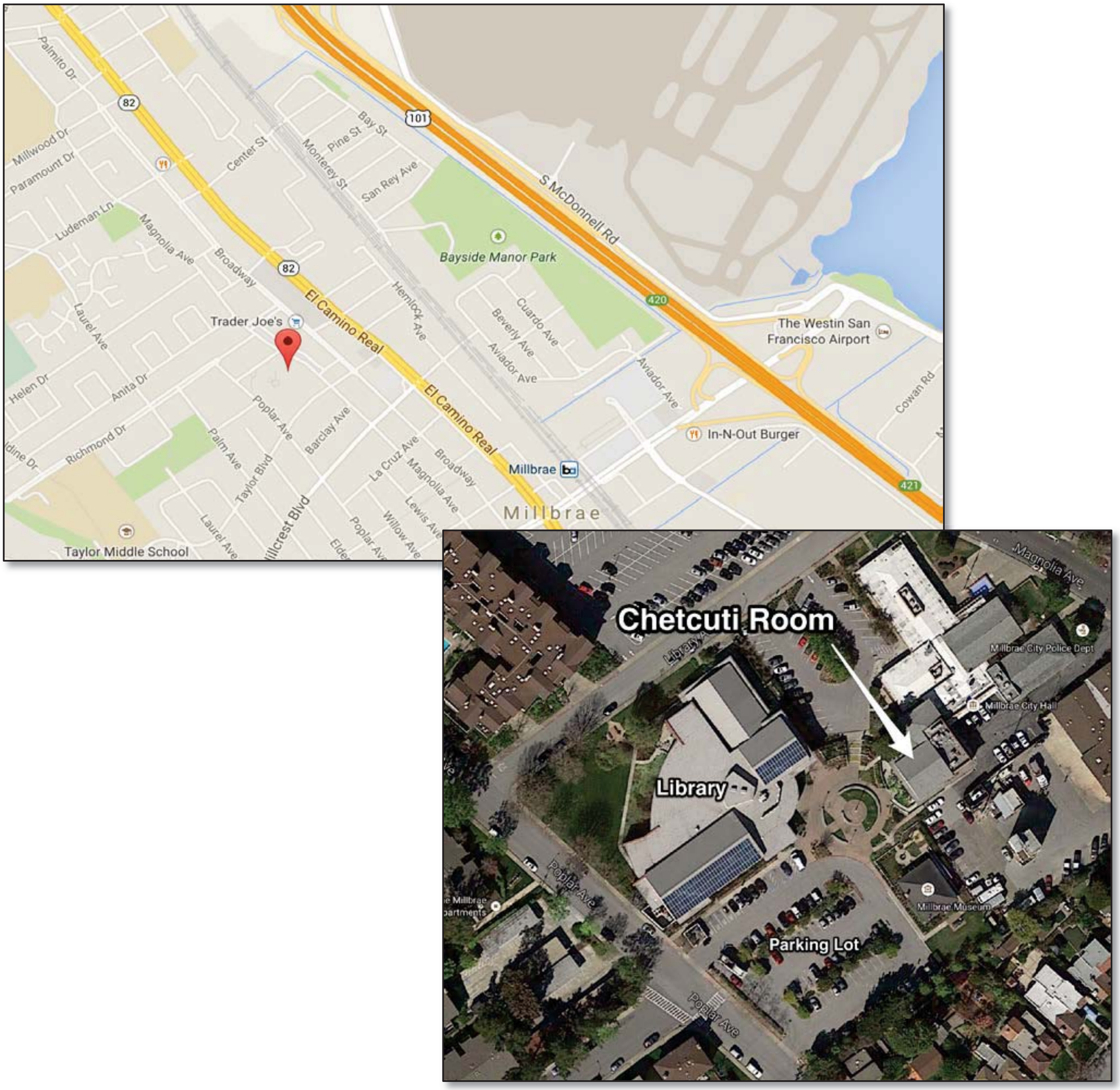
REGULAR MEETING LOCATION

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

Access through Millbrae Library parking lot on Poplar Avenue


Palmito Dr
82
Millwood Dr
Paramount Dr
Center St
Bay St
Pine St
Monterey St
San Rey Ave
101
S McDonnell Rd
Ludeman Ln
Magnolia Ave
Broadway
Bayside Manor Park
82
Hemlock Ave
Cuardo Ave
Beverly Ave
Aviador Ave
420
Laurel Ave
Trader Joe's
El Camino Real
The Westin San Francisco Airport
Helen Dr
Anita Dr
Aviador Ave
Cowan Rd
Poplar Ave
Barclay Ave
In-N-Out Burger
Richmond Dr
Palm Ave
Taylor Blvd
La Cruz Ave
Broadway
Magnolia Ave
Millbrae
421
Lewis Ave
Willow Ave
Millbrae
Taylor Middle School
Laurel Ave
Hillcrest Blvd
Poplar Ave
Chetcuti Room
Library
Magnolia Ave
Millbrae City Police Dept
Millbrae City Hall
Library
Poplar Ave
Millbrae Apartments
Millbrae Museum
Parking Lot
Poplar Ave

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ABOUT THE AIRPORT/COMMUNITY ROUNDTABLE

OVERVIEW

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. The Roundtable is scheduled to meet on the first Wednesday of the following months: February, April, June, September and November. **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. 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."* (49 U.S.C. A. Section 1302(a)(1)).

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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, Agenda 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:
CLIFF LENTZ
Representative, City of Brisbane
clifflentz@ci.brisbane.ca.us

Vice-Chairperson:
ELIZABETH LEWIS
Representative, Town of Atherton
elewis@ci.atherton.ca.us

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

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MEMBERSHIP ROSTER JUNE 2015
REGULAR MEMBERS

CITY AND COUNTY OF SAN FRANCISCO
BOARD OF SUPERVISORS
Representative: Vacant
Alternate: Vacant

CITY AND COUNTY OF SAN FRANCISCO
MAYOR'S OFFICE
Vacant, (Appointed)
Alternate: Edwin Lee, Mayor

CITY AND COUNTY OF SAN FRANCISCO
AIRPORT COMMISSION REPRESENTATIVE
John L. Martin, Airport Director (Appointed)
Alternate: Doug Yakel, Acting Airport Spokesperson

COUNTY OF SAN MATEO BOARD OF SUPERVISORS
Dave Pine, Supervisor
Alternate: Don Horsley, Supervisor

CITY/COUNTY ASSOCIATION OF GOVERNMENTS OF SAN MATEO COUNTY (C/CAG)
AIRPORT LAND USE COMMITTEE (ALUC)
Richard Newman, ALUC Chairperson (Appointed)
Alternate: Carol Ford, Aviation Representative (Appointed)

TOWN OF ATHERTON
Elizabeth Lewis, Council Member/**Roundtable Vice-Chairperson**
Alternate: Bill Widmer, Council Member

CITY OF BELMONT
Representative: Cathy Wright
Alternate: Vacant

CITY OF BRISBANE
Cliff Lentz, Council Member/**Roundtable Chairperson**
Alternate: Lori Liu, Council Member

CITY OF BURLINGAME
Ricardo Ortiz, Council Member
Alternate: Vacant

MEMBERSHIP ROSTER JUNE 2015

Page 2 of 3

CITY OF DALY CITY
Raymond Buenaventura, Mayor
Alternate: Vacant

CITY OF FOSTER CITY
Steve Okamoto, Council Member
Alternate: Vacant

CITY OF HALF MOON BAY
Deborah Ruddock, Council Member
Alternate: Marina Fraser, Council Member

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

CITY OF MENLO PARK
Peter Ohtaki, Council Member
Alternate: Vacant

CITY OF MILLBRAE
Robert Gottschalk, Council Member
Alternate: Marge Colapietro, Council Member

CITY OF PACIFICA
Sue Digre, Council Member
Alternate: Vacant

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

CITY OF REDWOOD CITY
Rosanne Foust, Council Member
Alternate: Vacant

CITY OF SAN BRUNO
Ken Ibarra, Council Member
Alternate: Rico Medina, Council Member

CITY OF SAN CARLOS
Bob Grassilli: Council Member
Alternate: Ron Collins, Council Member

MEMBERSHIP ROSTER JUNE 2015

Page 3 of 3

CITY OF SAN MATEO
David Lim, Council Member
Alternate: Vacant

CITY OF SOUTH SAN FRANCISCO
Mark Addiego, Council Member
Alternate: Pradeep Gupta, Council Member

TOWN OF WOODSIDE
David Burow, Council Member
Alternate: Thomas Shanahan, Council Member

ROUNDTABLE ADVISORY MEMBERS

AIRLINES/FLIGHT OPERATIONS
Captain Andy Allen, United Airlines
Glenn Morse, United Airlines
Michael Jones, United Airlines

FEDERAL AVIATION ADMINISTRATION
Andy Richards, SFO Air Traffic Control Tower
Don Kirby, Northern California Terminal Radar Approach Control (NORCAL TRACON)
Tony DiBernardo, FAA District Manager – Sierra-Pacific District

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ROUNDTABLE STAFF/CONSULTANTS

James A. Castañeda, AICP, Roundtable Coordinator
Cynthia Gibbs, Roundtable Aviation Technical Consultant (BridgeNet International)
Harvey Hartman, Roundtable Aviation Technical Consultant (Hartman & Associates)

SAN FRANCISCO INTERNATIONAL AIRPORT NOISE ABATEMENT STAFF

Bert Ganoung, Noise Abatement Manager
David Ong, Noise Abatement Systems Manager
Ara Balian, Noise Abatement Specialist
John Hampel, Noise Abatement Specialist
Joyce Satow, Noise Abatement Office Administration Secretary

CONSENT AGENDA

Regular Meeting # 296
June 3, 2015

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San Francisco International Airport

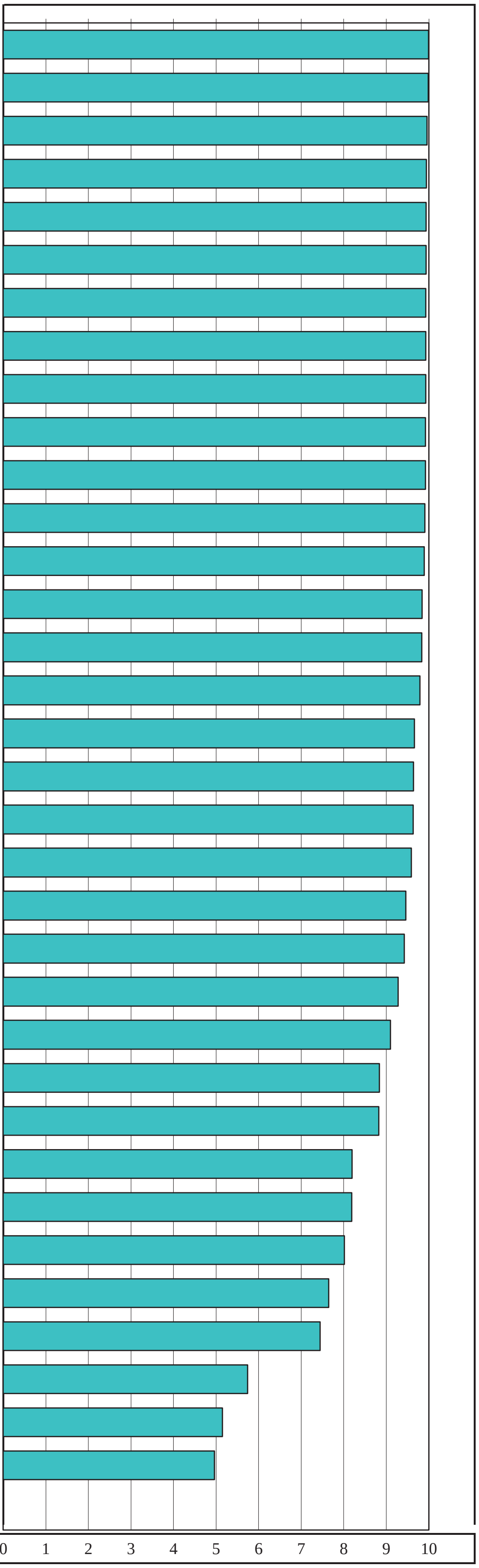
Airport Director's Report

Presented at the June 3, 2015
Airport Community Roundtable Meeting
SFO Aircraft Noise Abatement Office
March 2015

Monthly Noise Exceedance Report
San Francisco International Airport -- Director's Report
Period: **March 2015**

Airline		*Total Noise Exceedances*	*Total Operations per Month*	*Exceedances per 1,000 Operations*	***Score***
AIR CANADA	ACA	1	423	2	9.99
SkyWest AIRLINES	SKW	22	7,367	3	9.99
FRONTIER AIRLINES	FFT	3	286	10	9.95
Compass Airlines	CPZ	14	1,119	13	9.94
Virgin america	VRD	40	2,750	15	9.93
DELTA	DAL	21	1,413	15	9.93
Southwest	SWA	40	2,520	16	9.93
jetBlue	JBU	14	878	16	9.93
SWISS	SWR	1	61	16	9.93
American Airlines	AAL	30	1,740	17	9.92
suncountry airlines	SCX	1	58	17	9.92
Alaska Airlines	ASA	23	1,095	21	9.91
MESA AIRLINES	ASH	4	169	24	9.89
UNITED	UAL	319	9,181	35	9.84
US AIRWAYS	AWE	31	826	38	9.83
AEROMEXICO.	AMX	8	173	46	9.79
virgin atlantic	VIR	5	66	76	9.66
ETIHAD AIRWAYS	ETD	5	62	81	9.64
Lufthansa	DLH	10	121	83	9.63
Avianca	TAI	8	87	92	9.59
BRITISH AIRWAYS	BAW	15	124	121	9.46
ABX AIR	ABX	7	54	130	9.42
FedEx	FDX	11	68	162	9.28
HAWAIIAN AIRLINES	HAL	25	124	202	9.10
NCA Nippon Cargo Airlines	NCA	14	54	259	8.84
ATLAS AIR	GTI	10	38	263	8.82
JAPAN AIRLINES	JAL	25	62	403	8.20
SINGAPORE AIRLINES	SIA	49	121	405	8.19
CATHAY PACIFIC	CPA	55	124	444	8.02
EVA AIR	EVA	71	135	526	7.65
Philippines	PAL	32	56	571	7.44
KOREAN AIR	KAL	117	123	951	5.74
KALITTA AIR	CKS	26	24	1,083	5.15
ASIANA AIRLINES	AAR	108	96	1,125	4.97
CHINA AIRLINES	CAL	219	98	2,235	0.00
TOTAL		**1,384**	**31,696**	**9,514**	

Noise Exceedance Quality Rating



Source: SFO Noise Abatement Office

Historical Significant Exceedances Report

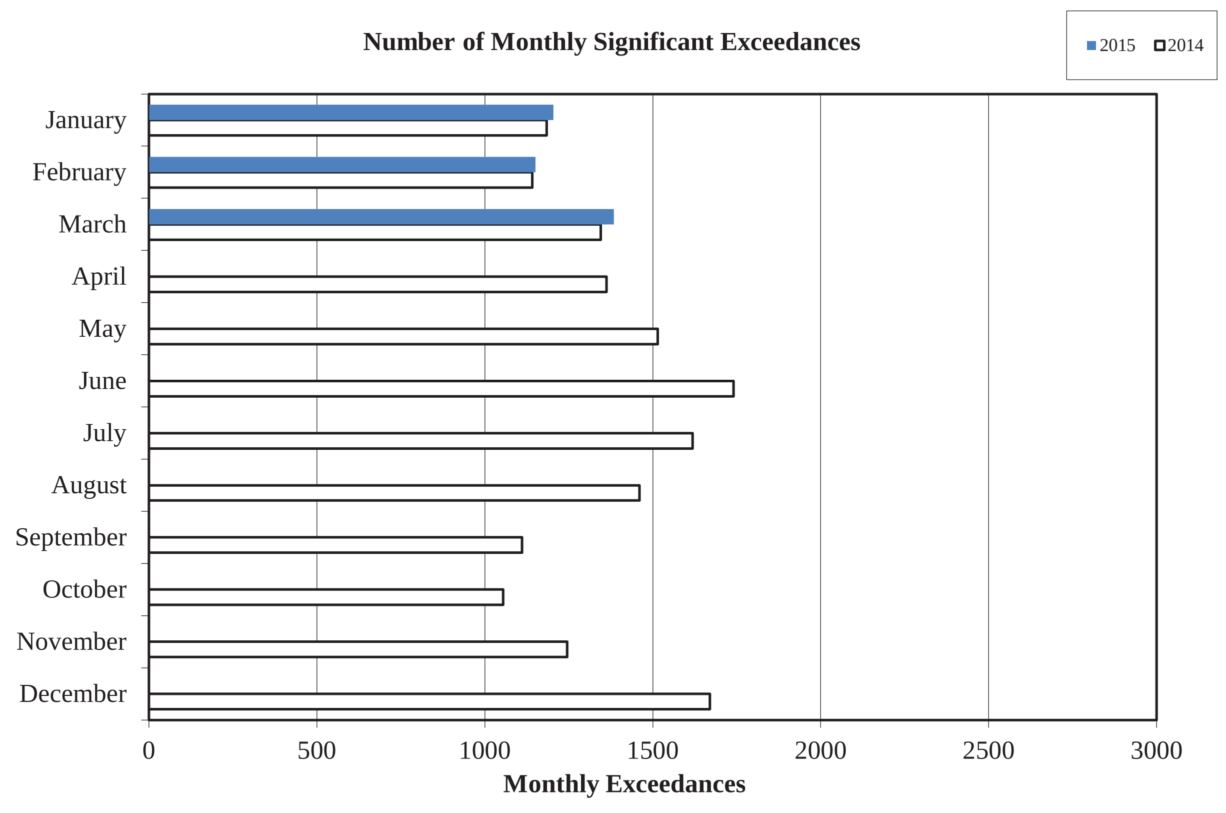
San Francisco International Airport -- Director's Report
Period: **March 2015**

San Francisco International Airport

Month	Number of Monthly Significant Exceedances					Change from Last Year
	2011	2012	2013	2014	2015	
January	1,580	1,378	1,428	1,184	1,204	**20**
February	1,429	1,581	1,176	1,141	1,151	**10**
March	1,681	1,703	1,671	1,345	1,384	**39**
April	1,900	1,870	1,910*	1,362		**0**
May	2,024	1,912	1,859*	1,515		**0**
June	1,947	2,355	1,915	1,740		**0**
July	2,017	2,621	1,647	1,619		**0**
August	1,847	1,823	1,638**	1,460		**0**
September	1,609	1,464	1,352	1,111		**0**
October	1,572	1,689	1,277	1,055		**0**
November	1,575	1,421	1,262	1,245		**0**
December	1,447	1,439	1,160	1,670		**0**
Annual Total	20,628	21,256	18,295	16,447	3,739	
Year to Date Trend	**20,628**	**21,256**	**18,295**	**16,447**	**3,739**	**69**

* Revised with correct amount of exceedance - 8/5/13

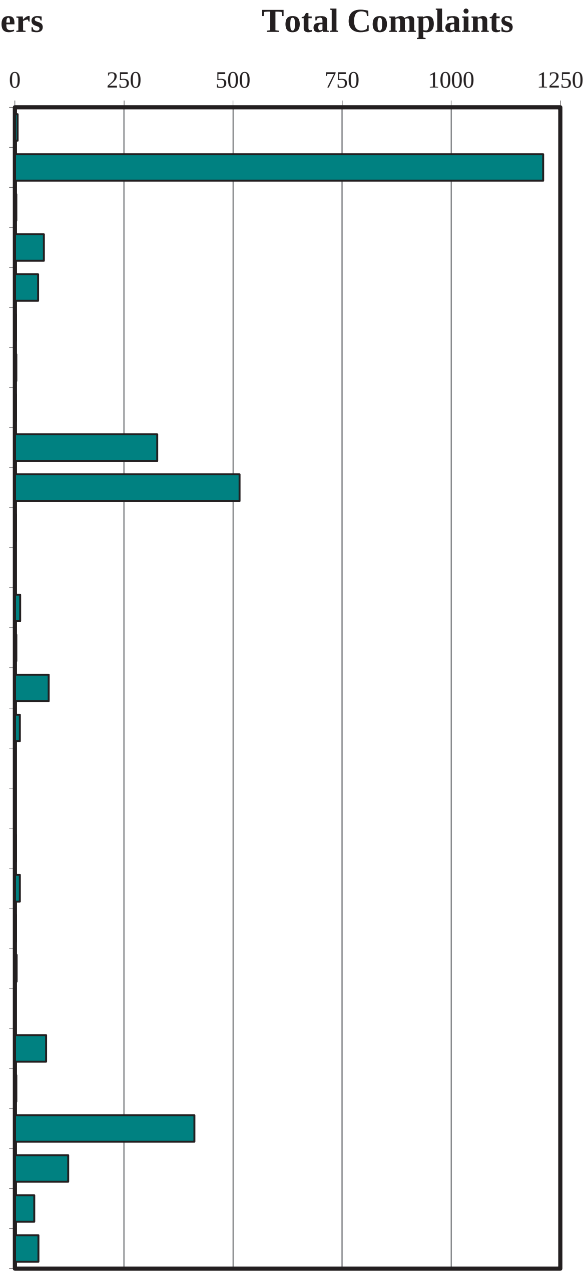
** No data available from Site 7, August 1-26



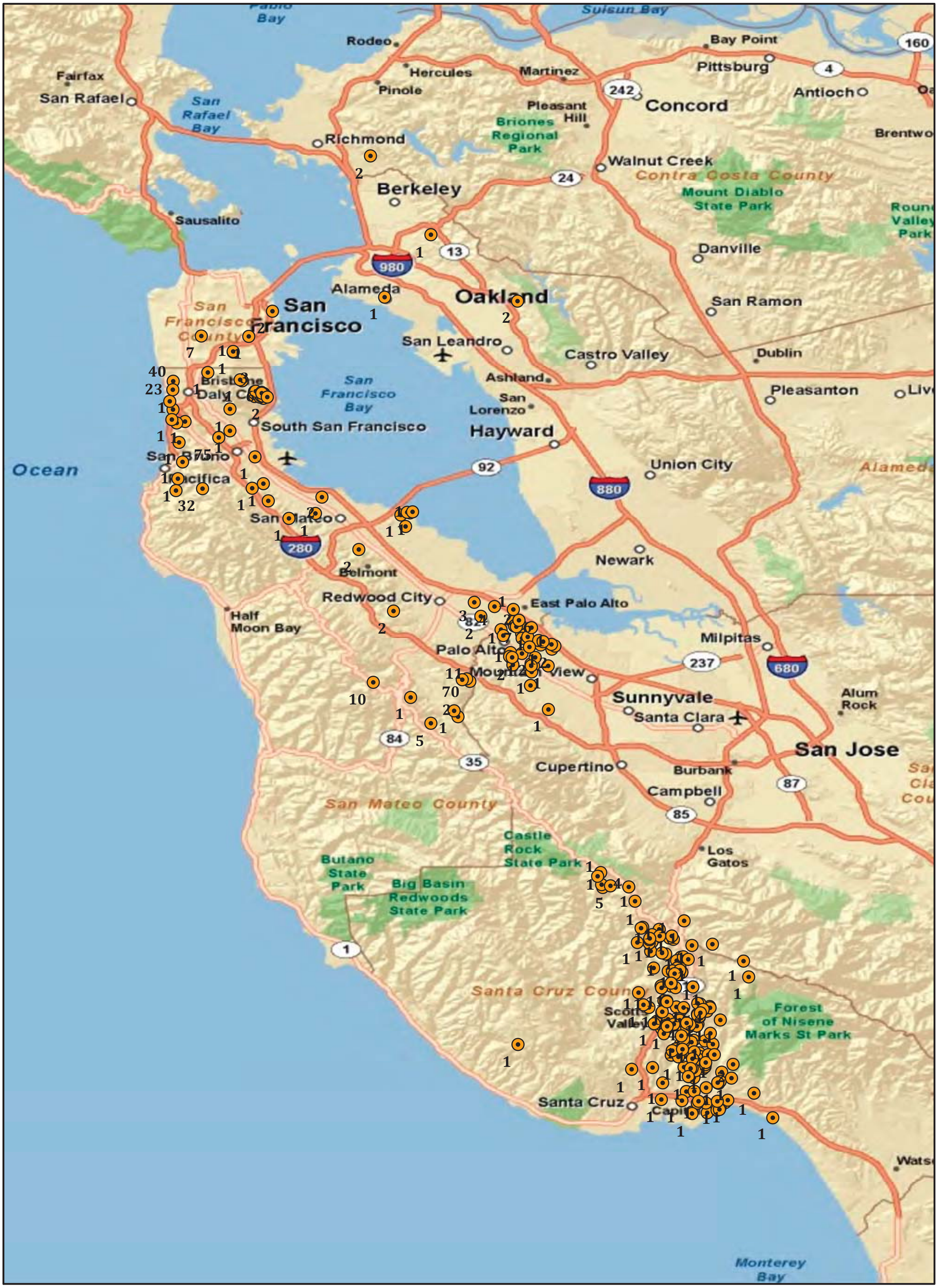
Monthly Calls by Community

Source: Airport Noise Monitoring System

Community	Total Complaints	Total Number of Callers
Roundtable Communities		
Atherton	6	2
Brisbane	1,211	21
Burlingame	3	2
Daly City	66	5
Foster City	53	4
Hillsborough	2	2
Menlo Park	3	1
Millbrae	2	2
Pacifica	326	8
Portola Valley	515	6
Redwood City	2	1
San Bruno	1	1
San Francisco	12	5
San Mateo	3	2
South San Francisco	77	3
Woodside	11	2
Other Communities		
Alameda	1	1
Aptos	2	2
Capitola	11	11
El Cerrito	2	1
Felton	4	3
Los Altos	1	1
Los Gatos	71	39
Oakland	3	2
Palo Alto	411	37
Santa Cruz	122	73
Scotts Valley	44	37
Soquel	54	36
Total	**3,019**	**310**



Monthly Noise Complaint Summary Map March 2015

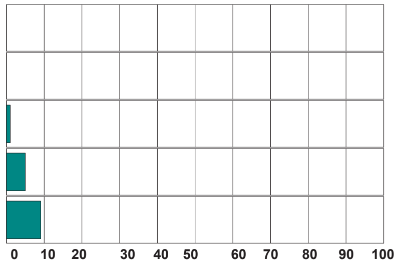

Pablo Bay
Suisun Bay
Rodeo
Hercules
Pinole
Martinez
Bay Point
Pittsburg
Antioch
Fairfax
San Rafael
San Rafael Bay
Concord
Pleasant Hill
Briones Regional Park
Richmond
Walnut Creek
Contra Costa County
Mount Diablo State Park
Berkeley
Round Valley Park
Sausalito
Danville
Alameda
San Francisco
San Francisco County
Oakland
San Ramon
San Leandro
Castro Valley
Dublin
Ashland
San Lorenzo
Brisbane
Daly City
San Francisco Bay
Pleasanton
South San Francisco
Hayward
Ocean
San Bruno
Pacifica
Union City
San Mateo
Newark
Belmont
Redwood City
East Palo Alto
Half Moon Bay
Milpitas
Palo Alto
Mountain View
Sunnyvale
Santa Clara
Alum Rock
San Jose
Cupertino
Burbank
Campbell
San Mateo County
Castle Rock State Park
Los Gatos
Butano State Park
Big Basin Redwoods State Park
Santa Cruz County
Scotts Valley
Forest of Nisene Marks St Park
Santa Cruz
Capitola
Monterey Bay
160
4
242
24
980
13
92
880
280
237
680
84
35
87
85
1
40
23
32
7
70
10
5

● Caller Location and Amount of Complaints

Monthly Nighttime Power Runups Report (85-06-AOB)
San Francisco International Airport -- Director's Report
Period : **March 2015**
Time of Day : From 10 pm through 7 am

SFO
San Francisco International Airport

Airline	**Code**	**Number of Runups**	**Runups Per 1,000 Departures**	**Percentage of Runups**
DELTA	DAL	1	1.4	5%
NETJETS	EJA	1	4.4	5%
flightOptions	OPT	2	42.6	10%
UNITED	UAL	6	1.3	30%
American Airlines	AAL	10	11.4	50%
Total		**20**		



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 power settings tested range from idle to full power and may vary in duration.

Late Night Preferential Runway Use Report
San Francisco International Airport -- Director's Report
Period: March 2015
Time of Day: Late Night (1 am to 6 am)

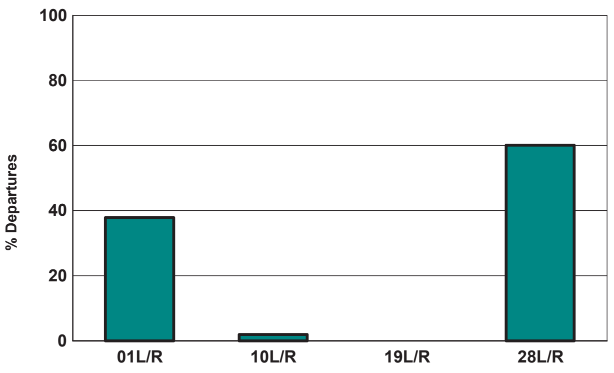
San Francisco International Airport

Runway Utilization (1 am to 6 am)

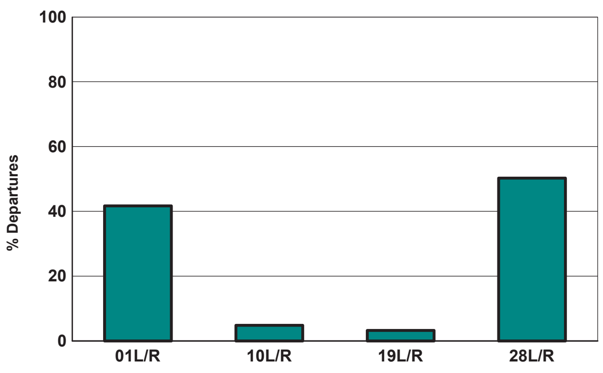
Monthly Jet Departures

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
01L/R	99	72	114	-	-	-	-	-	-	-	-	-	285
10L/R	5	22	6	-	-	-	-	-	-	-	-	-	33
19L/R	-	22	-	-	-	-	-	-	-	-	-	-	22
28L/R	81	82	181	-	-	-	-	-	-	-	-	-	344
Total	**185**	**198**	**301**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**684**
01L/R	54%	36%	38%	0%	0%	0%	0%	0%	0%	0%	0%	0%	42%
10L/R	3%	11%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%
19L/R	0%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
28L/R	44%	41%	60%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%

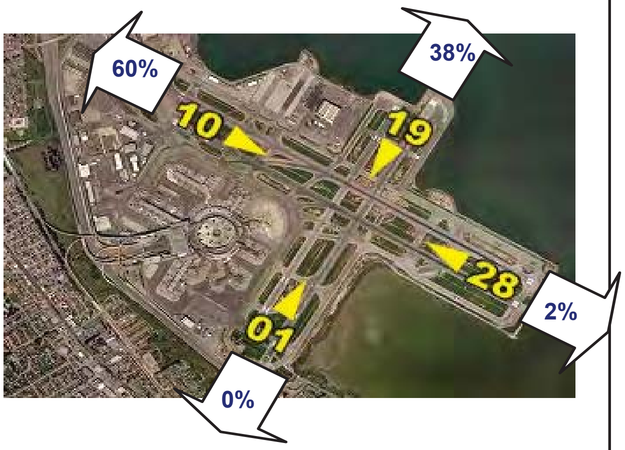
Current Month (1 am to 6 am)



Year-to-Date (1am to 6 am)

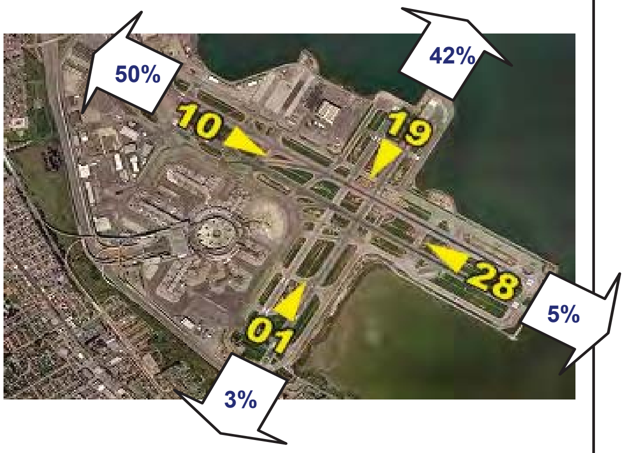


Current Month (1 am to 6 am)



Numbers rounded to nearest whole percentages

Year-to-Date (1am to 6am)



Numbers rounded to nearest whole percentages

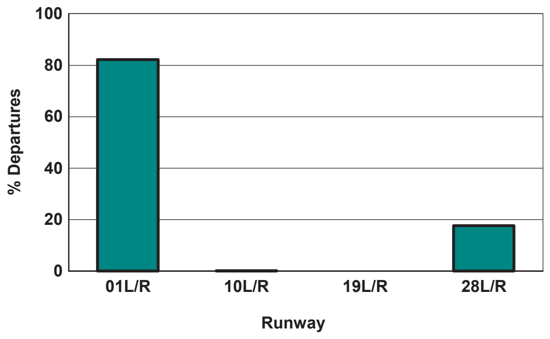
Air Carrier Runway Use Summary Report
San Francisco International Airport -- Director's Report
Period: March 2015
Time of Day : All Hours

Runway Utilization (All Hours)

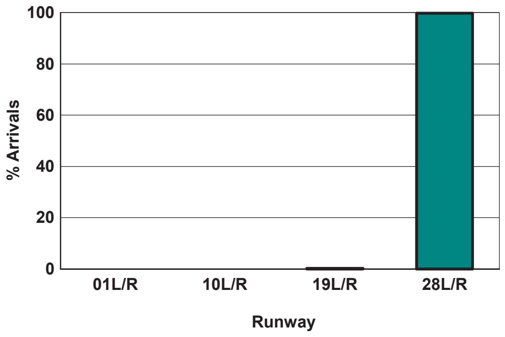
Source: Airport Noise Monitoring System

	Runway Utilization				Total
	01L/R	*10L/R*	*19L/R*	*28L/R*	
Total Monthly Operations					
Departures	13,480	35	0	2,894	16,409
Arrivals	0	0	31	15,713	15,744
Percentage Utilization					
Departures	82.2%	0.2%	0.0%	17.6%	100%
Arrivals	0.0%	0.0%	0.2%	99.8%	100%

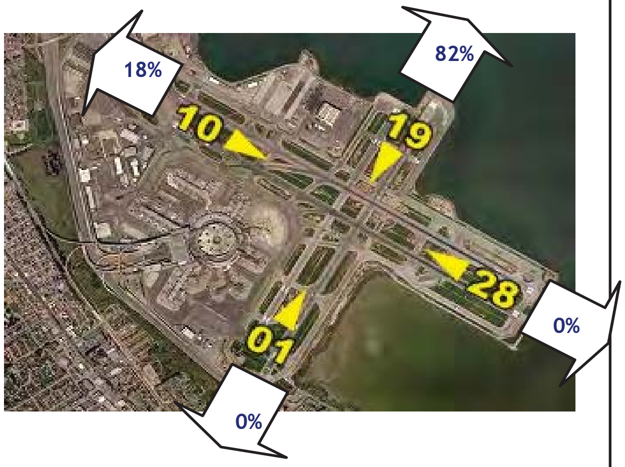
Departures (All Hours)



Arrivals (All Hours)

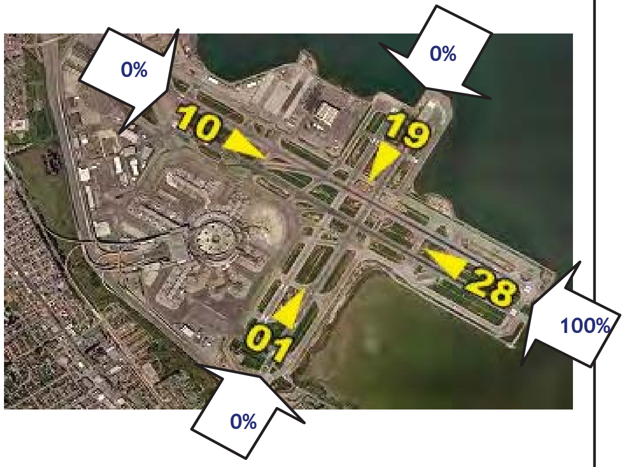


Percentage Departure Utilization



Numbers rounded to nearest whole percentages

Percentage Arrival Utilization



Numbers rounded to nearest whole percentages

San Francisco International Airport

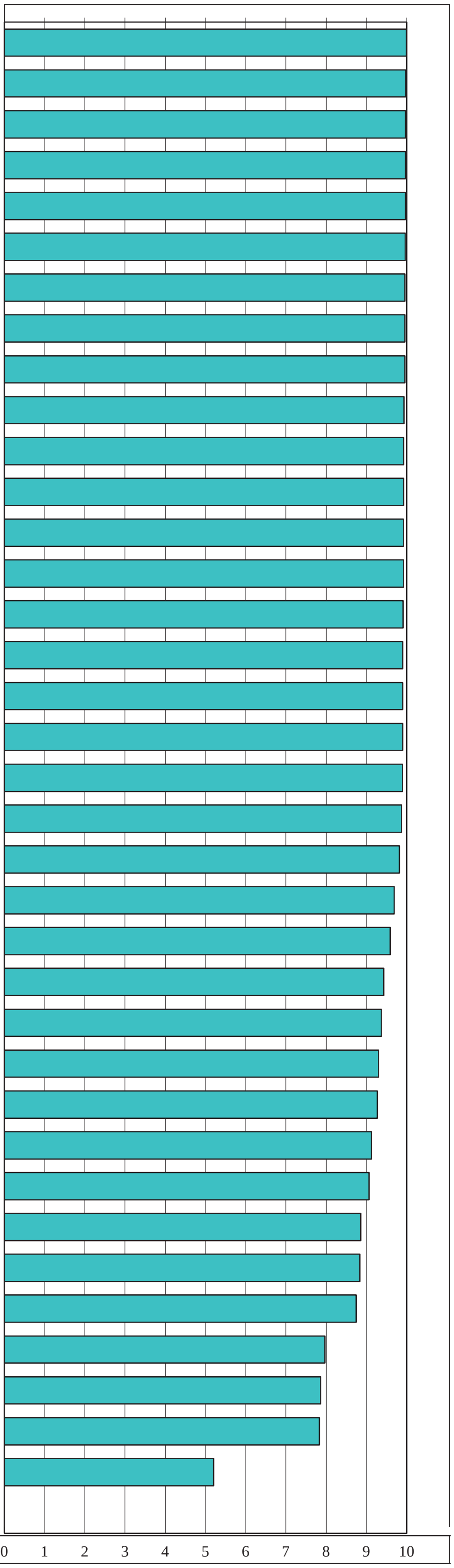
Airport Director's Report

Presented at the June 3, 2015
Airport Community Roundtable Meeting
SFO Aircraft Noise Abatement Office
April 2015

Monthly Noise Exceedance Report
San Francisco International Airport -- Director's Report
Period: **April 2015**

Airline		Noise Exceedances *Total Noise Exceedances*	*Total Operations per Month*	*Exceedances per 1,000 Operations*	*Score*
SkyWest Airlines	SKW	19	6,667	3	9.99
British Airways	BAW	1	120	8	9.98
Air Canada	ACA	4	409	10	9.97
Virgin America	VRD	28	2,771	10	9.97
Compass Airlines	CPZ	14	1,180	12	9.97
Frontier Airlines	FFT	4	291	14	9.96
ANA	ANA	1	62	16	9.96
Etihad Airways	ETD	1	60	17	9.95
KLM Royal Dutch Airlines	KLM	1	60	17	9.95
Alaska Airlines	ASA	27	1,077	25	9.93
jetBlue	JBU	22	836	26	9.93
Southwest	SWA	69	2,496	28	9.92
AeroMexico	AMX	5	167	30	9.92
virgin atlantic	VIR	3	97	31	9.92
中國東方航空 China Eastern	CES	2	60	33	9.91
US Airways	AWE	7	195	36	9.90
Mesa Airlines	ASH	4	108	37	9.90
Delta	DAL	54	1,448	37	9.90
United	UAL	348	9,149	38	9.90
American Airlines	AAL	108	2,355	46	9.87
Swiss	SWR	4	60	67	9.82
ABX Air	ABX	5	44	114	9.69
Avianca	TAI	13	86	151	9.59
FedEx	FDX	19	91	209	9.43
NCA Nippon Cargo Airlines	NCA	12	52	231	9.37
Singapore Airlines	SIA	30	118	254	9.30
Hawaiian Airlines	HAL	32	120	267	9.27
Atlas Air	GTI	14	44	318	9.13
EVA Air	EVA	47	137	343	9.06
Air New Zealand	ANZ	25	60	417	8.86
Japan Airlines	JAL	25	59	424	8.84
Cathay Pacific	CPA	54	118	458	8.75
Philippines	PAL	52	70	743	7.96
Asiana Airlines	AAR	71	91	780	7.86
Korean Air	KAL	102	129	791	7.83
China Airlines	CAL	175	100	1,750	5.21
Kalitta Air	CKS	73	20	3,650	0.00
TOTAL		**1,475**	**31,007**	**11,438**	

Noise Exceedance Quality Rating



Source: SFO Noise Abatement Office

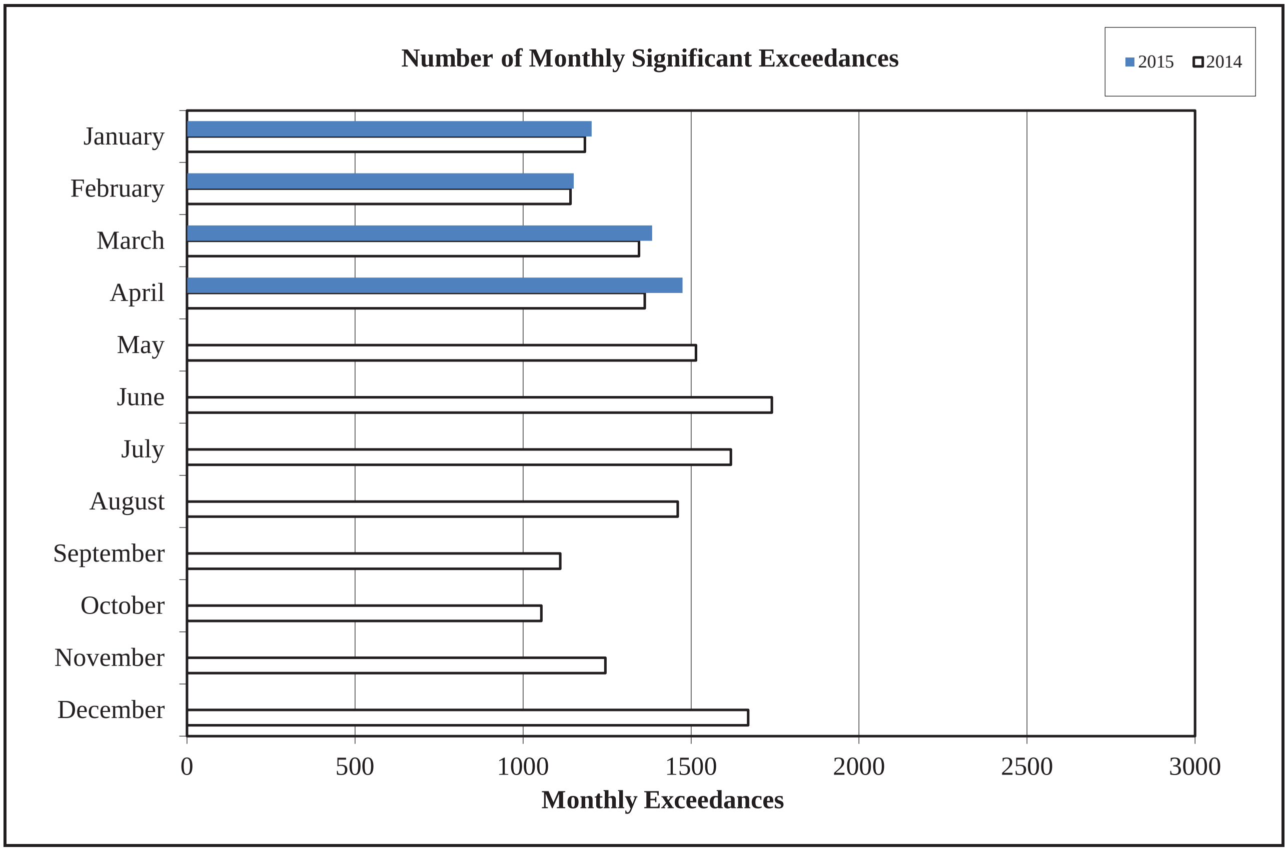
Historical Significant Exceedances Report

San Francisco International Airport -- Director's Report
Period: **April 2015**

Month	Number of Monthly Significant Exceedances					Change from Last Year
	2011	2012	2013	2014	2015	
January	1,580	1,378	1,428	1,184	1,204	**20**
February	1,429	1,581	1,176	1,141	1,151	**10**
March	1,681	1,703	1,671	1,345	1,384	**39**
April	1,900	1,870	1,910*	1,362	1,475	**113**
May	2,024	1,912	1,859*	1,515		**0**
June	1,947	2,355	1,915	1,740		**0**
July	2,017	2,621	1,647	1,619		**0**
August	1,847	1,823	1,638**	1,460		**0**
September	1,609	1,464	1,352	1,111		**0**
October	1,572	1,689	1,277	1,055		**0**
November	1,575	1,421	1,262	1,245		**0**
December	1,447	1,439	1,160	1,670		**0**
Annual Total	20,628	21,256	18,295	16,447	5,214	
Year to Date Trend	**20,628**	**21,256**	**18,295**	**16,447**	**5,214**	**182**

* Revised with correct amount of exceedance - 8/5/13

** No data available from Site 7, August 1-26



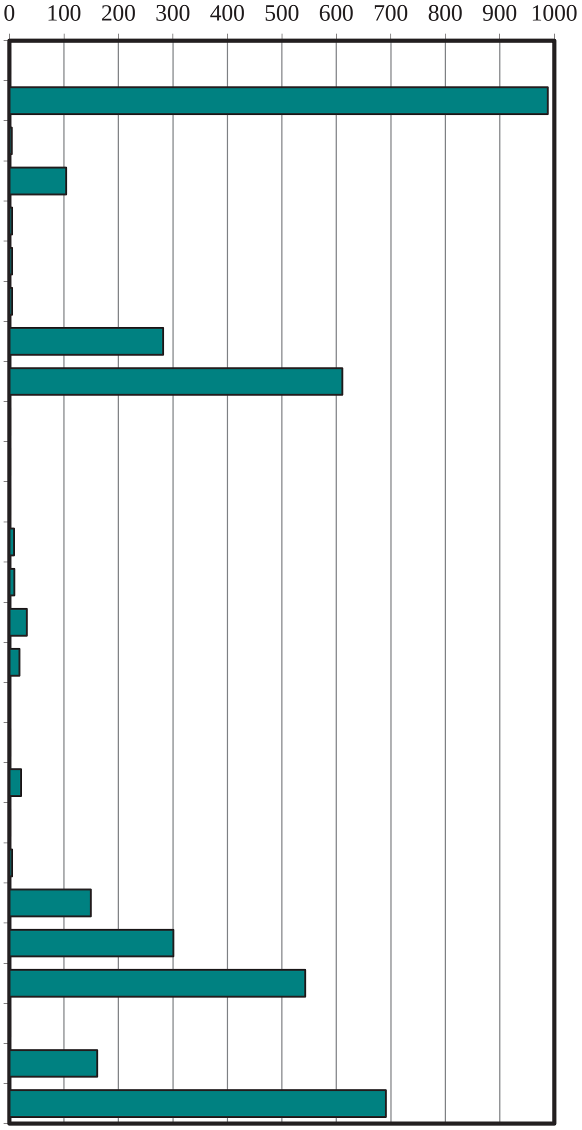
Monthly Noise Complaint Summary
San Francisco International Airport -- Director's Report
Period: **April 2015**

Monthly Calls by Community

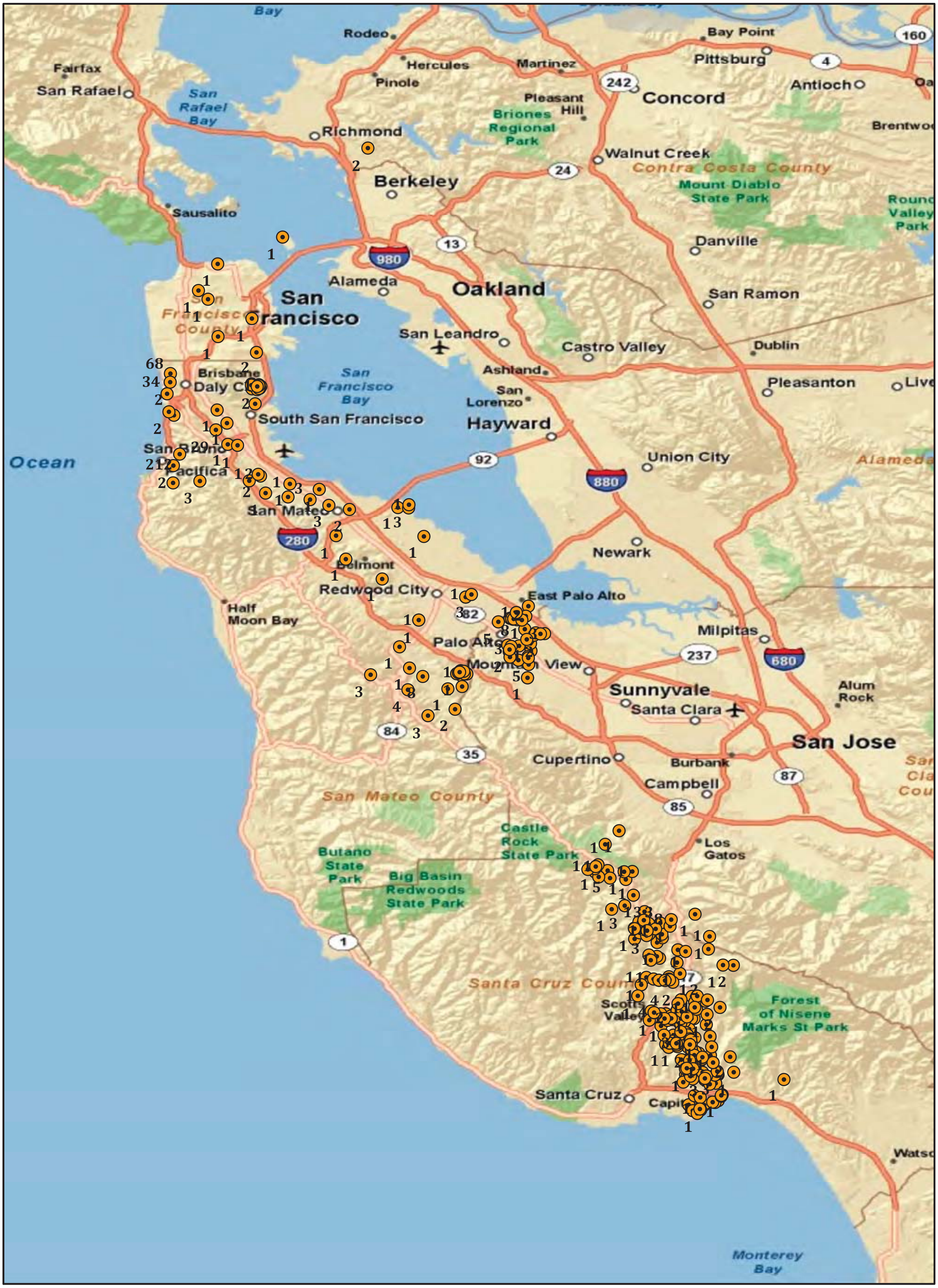
Source: Airport Noise Monitoring System

Community	Total Complaints	Total Number of Callers
Roundtable Communities		
Belmont	1	1
Brisbane	988	13
Burlingame	4	4
Daly City	104	3
Foster City	5	3
Menlo Park	5	3
Millbrae	5	3
Pacifica	282	6
Portola Valley	611	15
Redwood City	2	2
San Bruno	2	2
San Carlos	1	1
San Francisco	8	7
San Mateo	9	4
South San Francisco	32	4
Woodside	18	6
Other Communities		
Aptos	2	2
Capitola	21	9
El Cerrito	2	1
Felton	5	4
Los Gatos	149	43
Palo Alto	301	37
Santa Cruz	543	73
Saratoga	2	2
Scotts Valley	161	29
Soquel	691	51
Total	**3,954**	**328**

Total Complaints



Monthly Noise Complaint Summary Map April 2015

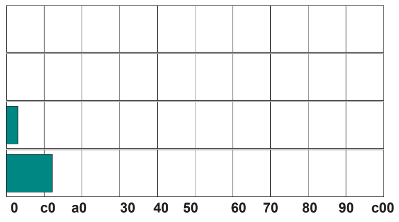

Bay
Rodeo
Bay Point
160
Fairfax
Hercules
Martinez
Pittsburg
4
San Rafael
Pinole
242
Antioch
San Rafael Bay
Pleasant Hill
Concord
Briones Regional Park
Brentwood
Richmond
Walnut Creek
24
Contra Costa County
Berkeley
Mount Diablo State Park
Sausalito
Round Valley Park
13
Danville
980
Alameda
Oakland
San Francisco
San Ramon
San Francisco County
San Leandro
Castro Valley
Dublin
Brisbane
Ashland
Pleasanton
Daly City
San Francisco Bay
San Lorenzo
South San Francisco
Hayward
Ocean
San Bruno
92
Union City
Alameda
Pacifica
880
San Mateo
280
Newark
Belmont
Redwood City
East Palo Alto
Half Moon Bay
82
Milpitas
Palo Alto
237
680
Mountain View
Alum Rock
Sunnyvale
Santa Clara
84
San Jose
35
Cupertino
Burbank
Campbell
87
San Mateo County
85
Castle Rock State Park
Los Gatos
Butano State Park
Big Basin Redwoods State Park
1
Santa Cruz County
Scotts Valley
Forest of Nisene Marks St Park
Santa Cruz
Capitola
Watsonville
Monterey Bay

● Caller Location and Amount of Complaints

Monthly Nighttime Power Runups Report (85-06-AOB)
San Francisco International Airport -- Director's Report
Period : **April 2015**
Time of Day : From 10 pm through 7 am

SFO
San Francisco International Airport

Airline	Code	Number of Runups	Runups Per 1,000 Departures	Percentage of Runups
DELTA	DAL	1	1.4	5%
Virgin america	VRD	1	0.7	5%
UNITED	UAL	4	0.9	21%
American Airlines	AAL	13	11.0	68%
Total		**19**		



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 power settings tested range from idle to full power and may vary in duration.

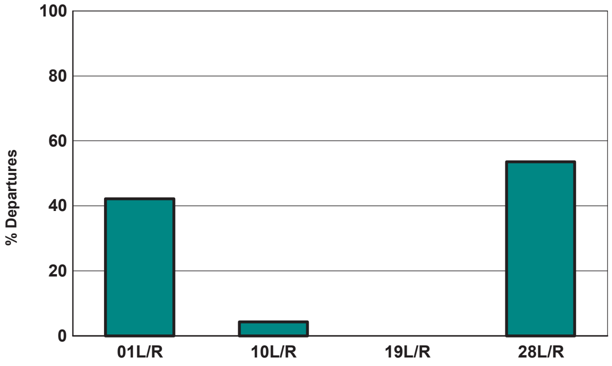
Late Night Preferential Runway Use Report
San Francisco International Airport -- Director's Report
Period: April 2015
Time of Day: Late Night (1 am to 6 am)

Runway Utilization (1 am to 6 am)

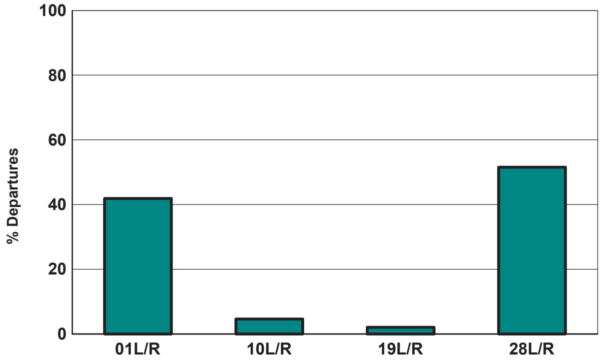
Monthly Jet Departures

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
01L/R	99	72	114	178	-	-	-	-	-	-	-	-	465
10L/R	3	22	6	18	-	-	-	-	-	-	-	-	31
19L/R	-	22	-	-	-	-	-	-	-	-	-	-	22
28L/R	81	82	181	226	-	-	-	-	-	-	-	-	370
Total	**185**	**198**	**301**	**422**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,106**
01L/R	34%	56%	58%	42%	0%	0%	0%	0%	0%	0%	0%	0%	42%
10L/R	5%	11%	2%	4%	0%	0%	0%	0%	0%	0%	0%	0%	3%
19L/R	0%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
28L/R	44%	41%	60%	34%	0%	0%	0%	0%	0%	0%	0%	0%	32%

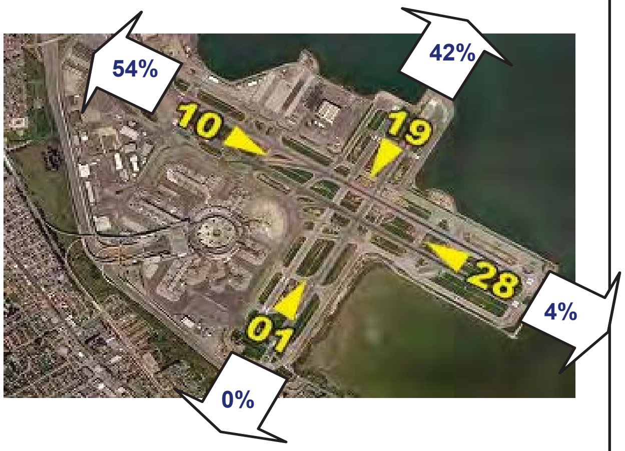
Current Month (1 am to 6 am)



Year-to-Date (1am to 6 am)

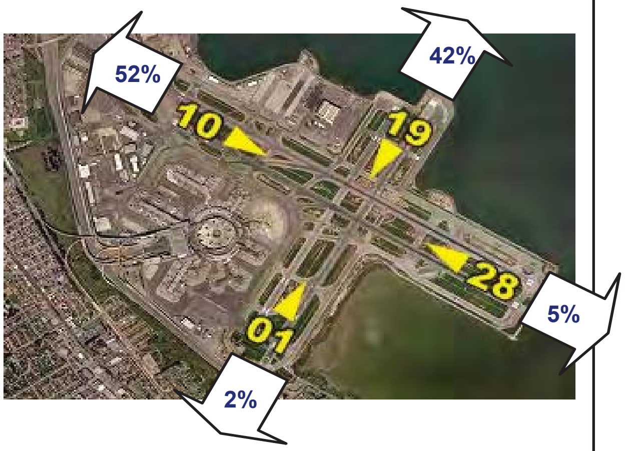


Current Month (1 am to 6 am)



Numbers rounded to nearest whole percentages

Year-to-Date (1am to 6am)



Numbers rounded to nearest whole percentages

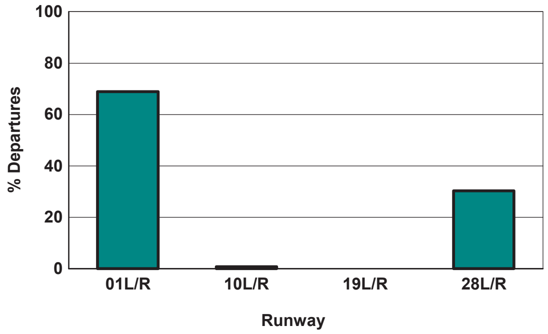
Air Carrier Runway Use Summary Report
San Francisco International Airport -- Director's Report
Period: April 2015
Time of Day : All Hours

Runway Utilization (All Hours)

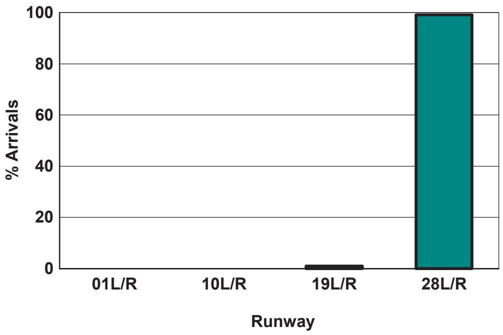
Source: Airport Noise Monitoring System

	Runway Utilization				Total
	01L/R	*10L/R*	*19L/R*	*28L/R*	
Total Monthly Operations					
Departures	11,032	132	0	4,858	16,022
Arrivals	0	0	141	15,256	15,397
Percentage Utilization					
Departures	68.9%	0.8%	0.0%	30.3%	100%
Arrivals	0.0%	0.0%	0.9%	99.1%	100%

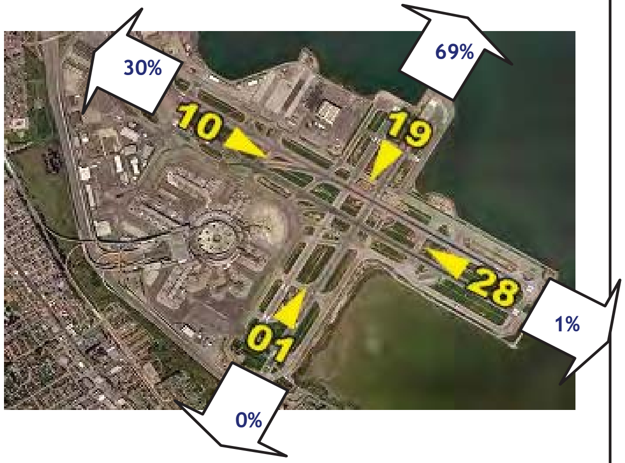
Departures (All Hours)



Arrivals (All Hours)

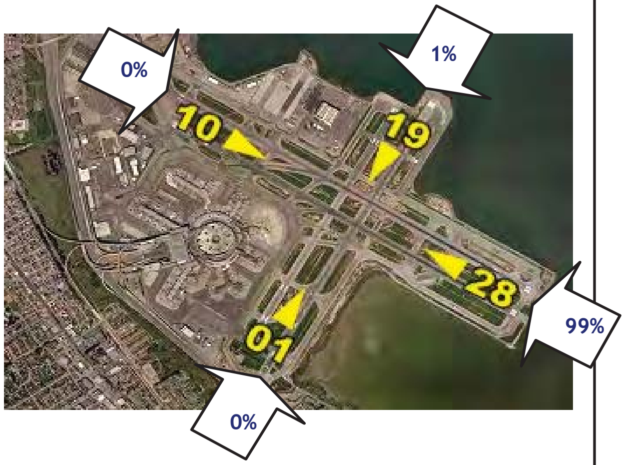


Percentage Departure Utilization



Numbers rounded to nearest whole percentages

Percentage Arrival Utilization



Numbers rounded to nearest whole percentages

SFO Airport/Community Roundtable

Meeting No. 294 Overview

Wednesday, February 4, 2015

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

Roundtable Chairperson, Cliff Lentz, called the Regular Meeting of the SFO Airport / Community Roundtable to order, at approximately 7:07 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
Julian Chang - City and County of San Francisco Mayor's Office
John Martin - City and County of San Francisco Airport Commission
Dave Pine - County of San Mateo Board of Supervisors
Richard Newman - C/CAG Airport Land Use Committee (ALUC)
Elizabeth Lewis - Town of Atherton
Cathy Wright - City of Belmont
Cliff Lentz - City of Brisbane
Ricardo Ortiz - City of Burlingame
Raymond Buenaventura - City of Daly City
Peter Ohtaki - City of Menlo Park
Steve Okamoto - City of Foster City
Sue Digre - City of Pacifica
Ann Wengert - Town of Portola Valley
Rosanne Foust - City of Redwood City
Ken Ibarra - City of San Bruno
Mark Addiego - City of South San Francisco
David Burrow - Town of Woodside

REGULAR MEMBERS ABSENT
City and County of San Francisco Board of Supervisors (Vacant)
City of Half Moon Bay
Town of Hillsborough
City of Millbrae
City of San Carlos
City of San Mateo

ADVISORY MEMBERS PRESENT
Don Kirby - Northern California TRACON
Tony DiBernardo - District Manager, FAA Sierra - Pacific District
Glenn Morse - United Airlines

ROUNDTABLE STAFF
James A. Castañeda, AICP - Roundtable Coordinator
Cindy Gibbs - Roundtable Technical Support (Consultant)
Harvey Hartmann - Roundtable Technical Support (Consultant)

SAN FRANCISCO INTERNATIONAL AIRPORT STAFF
Bert Ganoung, Noise Abatement Manager
Ara Balian, Noise Abatement Specialist
David Ong, Noise Abatement Specialist

2. Adoption of Resolutions Recognition of Departing Representatives

Chairperson Lentz acknowledged the City of Daly City alternate representative Carol Klatt, who had been participating on the Roundtable since 1987, both as a member of the public and representing the City of Daly City.

ACTION: Richard Newman **MOVED** the adoption of the resolution. The motion was seconded by Ricardo Ortiz and **CARRIED**, unanimously.

3. Election of Roundtable Chairperson for Calendar Year 2015

Chairman Lentz opened the floor to nominations for Chairperson.

ACTION: Dave Pine **MOVED** to nominate Brisbane representative and current Roundtable Chairperson Cliff Lentz for the position of Chairperson of the Roundtable. Roseann Foust seconded the nomination. Hearing no additional nominations, a vote was taken and acceptance of Cliff Lentz as Roundtable Chairperson was **CARRIED**, unanimously.

4. Election of Roundtable Vice-Chairperson for Calendar Year 2015

Chairperson Lentz opened the floor to nominations for Vice-Chairperson of the Roundtable.

ACTION: Dave Pine **MOVED** to nominate Town of Atherton representative Elizabeth Lewis for the position of Vice-Chairperson of the Roundtable. Sue Digre seconded the nomination. Hearing no additional nominations, a vote was taken and acceptance of Elizabeth Lewis as Roundtable Vice-Chairperson was **CARRIED**, unanimously.

5. Approval of Resolution 15-01: Designating Roundtable Meeting Dates, Times and Place for Calendar Year 2015

ACTION: Richard Newman **MOVED** the adoption of the resolution. The motion was seconded by Ricardo Ortiz and **CARRIED**, unanimously.

6. Public Comments on Items Not on the Agenda

None

CONSENT AGENDA

7. Review of Airport Director's Reports for November and December 2014 - ACTION

DISCUSSION: None.

ACTION: Vice-Chairperson Lewis **MOVED** the approval of the Consent Agenda. The motion was seconded by Rosanne Foust and **CARRIED**, unanimously.

REGULAR AGENDA

8. Review of SFO Fly Quiet Report for Q4 2014

Bert Ganoung, Noise Abatement Manager, provided an overview of the fourth quarter Fly Quiet report for 2014. Don Kirby from Northern California TRACON provided an update on the opposite direction take-offs at SFO, and indicated they will be re-establishing its use after a brief halt.

DISCUSSION: Town of Woodside representative Dave Burrow asked for clarifications of the trend lines used in the presentation and, if perhaps, there is a different way to visualize the data to account for the various reasons trends vary. Mr. Ganoung indicated they would look into that as part of their write up.

9. Airport Director's Comments

Airport Director John Martin provided a brief update on the airport's current operations. SFO ended the year with a record 47 million passengers which represents an increase of 4.7%. The airport continues to deploy the portable noise monitors in the communities of Woodside and Portola Valley. An update was provided of the recently updated PART 150 Noise Exposure Map. Noise Abatement manager Bert Ganoung took an opportunity to introduce the Noise Abatment Office's new intern Serena Lackey.

REGULAR AGENDA - WORK PROGRAM ITEMS

10. Consideration of Establishing North and South County Roundtable Subcommittees

Roundtable Technical consultant Cindy Gibbs provided an overview of the proposed subcommittees to be established by amending the Roundtable's bylaws. The subcommittees would be charged with looking into the details of noise issues and proposed solutions in their respective areas to present to the Roundtable at their regular meetings. This would allow for more granular, detailed work of the issues impacting those areas that are ongoing topics of discussion at the Roundtable's regular meetings.

DISCUSSION: San Francisco Mayor's Office representative Julian Chang expressed support of the creation of the two proposed subcommittees. C/CAG representative Rich Newman questioned how the information would be reported back to the Roundtable, and expressed concern of duplicate discussions. Ms. Gibbs indicated that staff would report back any findings and recommendations from the subcommittees to the Roundtable for their consideration. She does not anticipate duplicate discussions, but instead a productive discussion that summarizes the working details from the subcommittees. Roundtable Technical consultant Harvey Hartmann explained how the Oakland Noise Forum's North and South Field Technical Working groups function, and indicated that the proposed subcommittees would work similar to those. Town of Portola Valley representative Ann Wengert expressed that, given the complexities and nuances of the Metroplex procedures, both north and south San Mateo County communities will have different impacts. South San Francisco representative Mark Addiego recalled when the Roundtable use to have similar subcommittees in the past, and supports to re-establish them.

ACTION: Mark Addiego **MOVED** to amend the Roundtable bylaws to add north and south county subcommittees. The motion was seconded by Ann Wengert and **CARRIED** with 14 in favor, one not in favor, and two abstentions.

11. Update, PORTE Departure Analysis

Noise Abatement manager Bert Ganoung provided a brief update as to recent aircraft performance utilizing the PORTE departure.

12. Update, Oceanic Arrivals Over the Woodside VOR

Noise Abatement manager Bert Ganoung provided a brief update on oceanic arrival flights over the Woodside VOR.

13. Update, Metroplex

Roundtable Technical consultant Cindy Gibbs provided an overview of the recent Metroplex procedures that has started to be implemented. Noise Abatement manager Bert Ganoung and United Airlines representative Glenn Morse explained the differences between "fly-bys" and "fly-overs" in regard to navigation waypoints.

DISCUSSION: Chairperson Lentz asked what the differences were between the SSTIK and CANDL departure procedures. Ms. Gibbs went into detail and showed via illustration the flight tracks of each. Vice-Chairperson Lewis asked when the new arrivals procedures will come online. Ms. Gibbs indicated it was her understanding that it would be sometime in March.

OTHER MATTERS

14. Upcoming Noise 101, Spring 2015

Roundtable Coordinator James Castañeda and Roundtable Technical Consultant Cindy Gibbs announced an upcoming Noise 101 for Roundtable members. Staff will be coordinating in the coming weeks, but will be sometime in March. The workshop would be conducted at the airport with a tour of the control tower.

15. Airport Noise Briefing

Roundtable Aviation Technical consultant Cindy Gibbs provided a brief industry update.

16. Member Communications / Announcements

None

17. Adjourn

The meeting was adjourned at approximately 9:00 p.m.

* NOTE: Roundtable meeting overviews are considered draft until approved by the Roundtable at a regular meeting.

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SFO Airport/Community Roundtable
Meeting No. 293 Overview
Wednesday, April 1 2015

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

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Richard Newman – C/CAG Airport Land Use Committee (ALUC)
Elizabeth Lewis – Town of Atherton
Cliff Lentz – City of Brisbane
Ricardo Ortiz - City of Burlingame
Raymond Buenaventura – City of Daly City
Steve Okamoto – City of Foster City
Shawn Christianson - Town of Hillsborough
Robert Gottschalk – City of Millbrae
Sue Digre – City of Pacifica
Ann Wengert – Town of Portola Valley
Rosanne Foust - City of Redwood City
Ken Ibarra – City of San Bruno
Mark Addiego - City of South San Francisco
David Burrow – Town of Woodside

REGULAR MEMBERS ABSENT
City and County of San Francisco Board of Supervisors (Vacant)
County of San Mateo Board of Supervisors
City of Belmont
City of Half Moon Bay
City of Menlo Park
City of San Carlos
City of San Mateo

ADVISORY MEMBERS PRESENT
Don Kirby – Northern California TRACON
Andy Richards – San Francisco International FAA Air Traffic Control Tower
Glenn Morse – United Airlines

ROUNDTABLE STAFF
James A. Castañeda, AICP – Roundtable Coordinator
Paul Dunholter – Roundtable Technical Support (Consultant)
Harvey Hartmann – Roundtable Technical Support (Consultant)

SAN FRANCISCO INTERNATIONAL AIRPORT STAFF
Bert Ganoung, Noise Abatement Manager
Ara Balian, Noise Abatement Specialist
David Ong, Noise Abatement Specialist
John Hampel, Noise Abatement Specialist

2. 2013-2014 Jon C. Long Fly Quiet Awards

Bert Ganoung, Noise Abatement Manager, introduced the recipients of 2013-2014 Fly Quiet Awards. Air China received the “Most Improved Airline” award, Compass Airline (who flies regional service for Delta Airlines at SFO) received “Quietest Overall Airline,” and Air New Zealand was awarded the “Chairperson’s Award”. Representatives from Air China and Compass Airlines were present to accept their awards, and Air New Zealand will be receiving theirs at a later date.

3. Public Comments on Items Not on the Agenda

Several residents from the Santa Cruz area were present to express concern over new aircraft noise over their communities. Eric Rupp reported a constant stream of aircraft overhead on March 5, 2015, and expressed general concern over this new impact that was not present before. Sylvia Skefich indicated that the noise experienced from overhead flights is disruptive for meditating in the forest areas. Grant Weseman and Jo Ellen Smith also reported heavy aircraft overflights on March 5, 2015, and expressed concern of the new flight paths over those who live on the hilltop areas of Santa Cruz. Doreen Gotelli, a South San Francisco resident, reported issues with the noise insulated windows that were installed as part of the noise insulation program, that have failed. She indicated that there should be a fund established for the upkeep of windows installed as a result of the noise insulation program.

CONSENT AGENDA

4. Review of Airport Director’s Reports for January and February 2015

5. Review of Roundtable Regular Meeting Overview for December 3, 2014

DISCUSSION: None.

ACTION: Rich Newman **MOVED** the approval of the Consent Agenda. The motion was seconded by Julian Chang and **CARRIED**, unanimously.

REGULAR AGENDA

6. Airport Director’s Comments

Airport Public, John Martin, provided a brief update on the airport’s current operations. Passenger traffic at SFO continues to grow at approximately 5% in the last month. The airport is continuing to put emphasis in the Fly Quiet program, specifically in the night time procedures. Portable noise monitors are currently deployed in the communities of Portola Valley and Woodside.

DISCUSSION: Town of Atherton Representative and Roundtable Vice-Chairperson, Elizabeth Lewis, asked how many noise monitoring stations exist. Bert Ganoung, Noise Abatement

Manager, indicated that a total of 29 permanent noise monitors exist, and four portable monitors exist to be deployed. At the request of Chairperson Lentz, Mr. Ganoung explained the procedures of requesting deployment of portable noise monitors in a community.

REGULAR AGENDA – WORK PROGRAM ITEMS

7. Update, FAA's PORTE Departure Analysis

Roundtable Coordinator, James Castañeda, provided an update on the formation of the two new standing subcommittees and indicated they are now referred as "Departures Technical Working Group" for communities impacted by departing flights from SFO, and "Arrivals Technical Working Group" for communities impacted by arriving flight traffic. Mr. Castañeda asked for Roundtable members to volunteer to serve on these two working groups. City of Pacifica Representative, Sue Digre; City of South San Francisco Representative, Mark Addiego; City of Brisbane Representative and Roundtable Chairperson Lentz; and City of Daly City Representative, Raymond Buenaventura, volunteered to serve on the Departures Technical Working Group. Town of Atherton Representative and Roundtable Vice-Chairperson Lewis; Town of Portola Valley Representative, Ann Wengert; Town of Woodside Representative, Dave Burrow; and City of Foster City Representative, Steve Okamoto, volunteered to serve on the Arrivals Technical Working Group.

8. Update, PORTE Departure Analysis

Noise Abatement Manager Bert Ganoung provided a brief update as to recent aircraft performance utilizing the PORTE departure.

9. Update, Oceanic Arrivals over the Woodside VOR

Noise Abatement Manager Bert Ganoung provided a brief update on oceanic arrival flights over the Woodside VOR.

10. Update, Metroplex

Roundtable Technical Consultant, Paul Dunholter, provided an overview of the recent Metroplex procedures that has started to be implemented, specifically the SERFR, SSTIK, and NIITE.

DISCUSSION: Burlingame Representative, Ricardo Ortiz, asked how vectoring will be reduced as part of Time Based spacing as explained as part of Mr. Dunholter's overview. Mr. Dunholter explained that spacing occurs enroute and should eliminate vectoring once within the airport's vicinity at a specified time. Pacifica Representative, Sue Digre, requested that future maps have cities outline for easier identification. Town of Hillsborough Representative, Shawn Christianson, asked how the FAA will go about making refinements to the procedures and taking feedback. Mr. Dunholter indicated that it is likely that the FAA will evaluate the performance of the procedures that were rolled out, and make modifications where necessary based on their evaluations. Chairperson Lentz asked to have further explanation of the SURFR procedure over Santa Cruz, and what the difference is from the past. Mr. Dunholter explained with some illustrations showing the paths of both before and after implementation of the SURFR procedure, and indicated that it is possible that the FAA rational for implementation was considered to be an optimized path to reduce radar vectoring.

Town of Woodside Representative, Dave Burrow, asked if any measures to fan out traffic as part of Metroplex procedures have been implemented. Roundtable Technical Consultant, Harvey Hartmann, indicated that he was not aware of such, yet. Vice-Chairperson Lewis expressed that issues with NextGen/Metroplex procedures are being dealt with across the country and that adjustments need to be made based on the performance of the new implemented procedures. Brian Perkins, of Congresswoman Jackie Speier's Office, expressed support on modifications and changes to be considered with the new procedures, and encouraged Santa Cruz residents to reach out to members of congress and participate in public forums. Mr. Perkins is looking forward to more involvement in the Roundtable through the Technical Working Groups.

OTHER MATTERS

11. Discussion, Noise Symposium Wrap-up

Chairperson Lentz and Vice-Chair Lewis shared their experiences in attending this year's Noise Symposium. Both expressed enthusiasm in having discussions with other community forums across the country, and were grateful for the working relationship the Roundtable has with the FAA and SFO.

12. Airport Noise Briefing

Roundtable Aviation Technical Consultant, Paul Dunholter, provided a brief industry update, including a forthcoming evaluation of on how noise values are measured. Roundtable Aviation Technical Consultant, Harvey Hartmann, indicated the latest development in virtual control towers and their benefits.

13. Member Communications / Announcements

City and County of San Francisco Mayor's Office Representative, Julian Chang, indicated this would be his last meeting. He expressed appreciation for serving with the group, and wished the Roundtable good luck on its continuing mission.

14. Adjourn

The meeting was adjourned at approximately 9:01 p.m.

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* NOTE: Roundtable meeting overviews are considered draft until approved by the Roundtable at a regular meeting.

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REGULAR AGENDA

Regular Meeting # 296
June 3, 2015

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San Francisco International Airport

Fly Quiet Report

Presented at the June 3, 2015
Airport Community Roundtable Meeting
SFO Aircraft Noise Abatement Office
First Quarter 2015

SFO

San Francisco International Airport

Fly Quiet Program

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

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

Program Goals

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

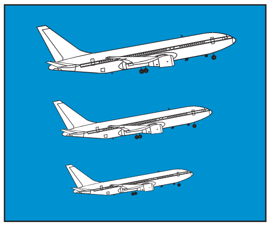
Program Reports

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

Program Elements

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

SFO's Fly Quiet Ratings



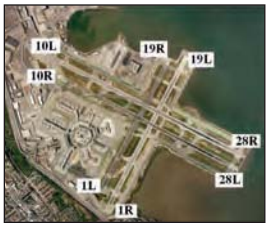
Fleet Noise Quality

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

Noise Exceedance

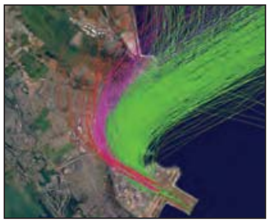
Eliminating high-level noise events is a long-standing goal of the Airport and the Airport Community Roundtable. As a result the Airport has established single event maximum noise level limits at each noise-monitoring site. These thresholds were set to identify aircraft producing noise levels higher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

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



Nighttime Preferential Runway Use

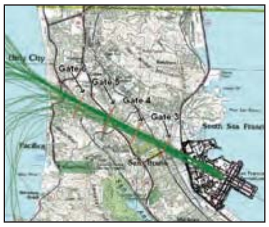
SFO's Nighttime Preferential Runway Use program was developed in 1988. Although the program cannot be used 100% of the time because of winds, weather, and other operational factors, the Airport, the Community Roundtable, the FAA, and the Airlines have all worked together to maximize its use when conditions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



Shoreline Departure Quality

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

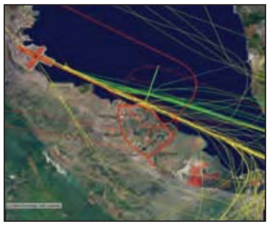
In order to evaluate each airline's performance when flying a Shoreline Departure, a corridor was established using Interstate 101 (green colored flight tracks) as a reference point. The corridor runs north along 101, beginning approximately one-mile north-northwest of the end of Runways 28L and 28R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



Gap Departure Quality

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

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



Foster City Arrival Quality

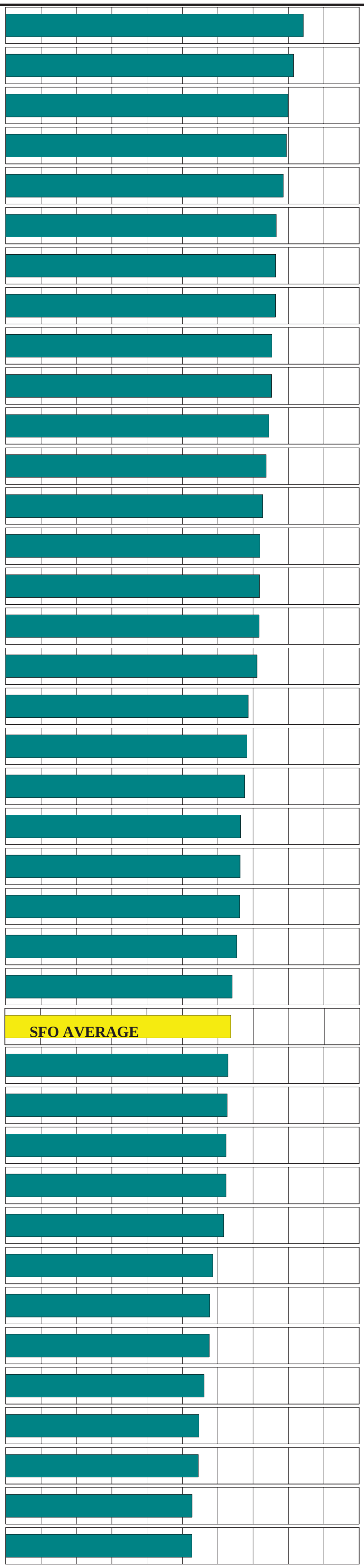
The Arrival Quality Rating is the latest addition to the Fly Quiet Program. In an effort to further reduce nighttime noise in neighboring communities, this rating is designed to maximize over-bay approaches to Runways 28 between 11:00 p.m. and 6:00 a.m. Airlines arriving to Runways 28 during these hours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

Revised date: 5/15/09

Airline Fly Quiet Summary Report - 1st Quarter 2015

January 1 to March 31, 2015

Airline	*Fleet Noise Quality*	*Noise Exceedance*	*Nighttime Runway Use*	*Departures Shoreline*	*Departures Gap*	*Arrivals Foster City*	*Final Score*	**Airline Fly Quiet Rating**
ASH	10.00	9.89	-	-	7.64	6.13	8.42	
DLH	9.07	9.84	-	8.75	4.92	-	8.15	
CCA	7.15	10.00	-	-	6.81	-	7.99	
VRD	5.14	9.94	-	9.93	6.11	8.61	7.95	
ANA	7.15	10.00	-	-	6.42	-	7.86	
SKW	10.00	9.99	3.33	9.74	7.12	5.75	7.65	
CPZ	10.00	9.94	3.33	10.00	6.42	6.15	7.64	
SCX	5.82	9.98	6.67	10.00	5.00	8.33	7.63	
FFT	6.43	9.90	3.33	10.00	6.25	9.29	7.53	
ABX	4.80	9.48	-	10.00	6.14	7.21	7.52	
ACA	5.52	9.98	5.56	9.23	5.94	8.46	7.45	
ANZ	6.61	9.96	-	-	5.55	-	7.37	
FDX	3.42	9.22	10.00	10.00	4.38	6.63	7.27	
EIN	4.05	10.00	-	10.00	4.72	-	7.19	
SWA	5.72	9.92	3.33	10.00	6.00	8.14	7.18	
SWR	8.17	9.94	-	-	3.39	-	7.17	
AFR	5.77	10.00	-	5.00	7.67	-	7.11	
GTI	4.72	8.69	-	-	7.03	7.00	6.86	
AAL	5.64	9.90	3.89	9.34	3.22	8.96	6.83	
JBU	4.81	9.90	3.33	8.85	5.27	8.40	6.76	
AWE	4.75	9.86	4.44	7.37	6.06	7.39	6.65	
DAL	6.55	9.94	4.55	8.18	2.22	8.33	6.63	
NCA	9.81	7.95	-	-	2.50	6.22	6.62	
CES	4.08	9.97	-	-	5.57	-	6.54	
KLM	4.02	9.97	-	8.00	3.64	-	6.41	
							6.37	SFO AVERAGE
VIR	3.51	9.77	-	-	5.58	-	6.29	
UAL	5.81	9.84	3.64	8.02	3.06	7.24	6.27	
HAL	4.05	9.46	-	-	6.43	5.00	6.23	
ASA	5.16	9.93	3.33	9.91	4.06	5.00	6.23	
CSN	10.00	10.00	0.00	-	4.68	-	6.17	
AMX	5.82	9.66	3.24	-	4.63	5.95	5.86	
SAS	8.17	9.97	-	0.00	4.96	-	5.77	
UAE	10.00	9.97	-	0.00	3.05	-	5.76	
TAI	4.93	9.29	3.19	-	4.00	6.64	5.61	
ETD	7.15	9.39	-	2.50	2.82	-	5.47	
JAL	7.15	7.90	0.98	-	5.79	-	5.45	
CPA	7.15	7.80	0.00	-	6.42	5.00	5.27	
BAW	3.48	9.50	-	-	2.82	-	5.27	

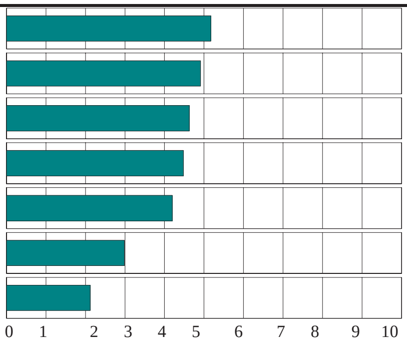


Airline Fly Quiet Summary Report - 1st Quarter 2015

January 1 to March 31, 2015

Airline		*Fleet Noise Quality*	*Noise Exceedance*	*Nighttime Runway Use*	*Departures*		*Arrivals*	*Final Score*
					Shoreline	*Gap*	*Foster City*	
KOREAN AIR	**KAL**	**7.66**	**6.41**	**1.01**	**-**	**5.78**	**5.00**	*5.17*
EVA AIR	**EVA**	**6.79**	**7.34**	**0.23**	**5.00**	**3.70**	**6.43**	*4.91*
SINGAPORE AIRLINES	**SIA**	**7.15**	**7.73**	**0.00**	**-**	**3.63**	**-**	*4.63*
Philippines	**PAL**	**7.24**	**7.72**	**0.00**	**-**	**2.94**	**-**	*4.48*
ASIANA AIRLINES	**AAR**	**4.46**	**4.06**	**0.71**	**-**	**6.41**	**5.36**	*4.20*
KALITTA AIR	**CKS**	**3.24**	**4.36**	**0.00**	**-**	**1.33**	**6.00**	*2.99*
CHINA AIRLINES	**CAL**	**3.43**	**0.00**	**0.34**	**-**	**4.71**	**-**	*2.12*
SFO Average		**6.26**	**8.98**	**2.74**	**7.82**	**4.95**	**6.87**	**6.37**

Airline Fly Quiet Rating

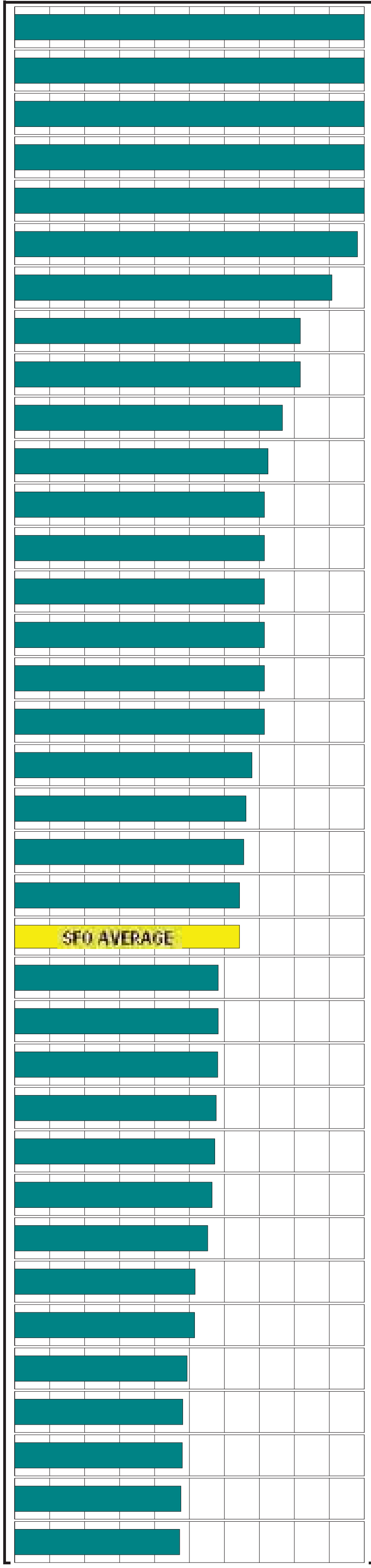


Fleet Noise Quality - 1st Quarter 2015

January 1 to March 31, 2015

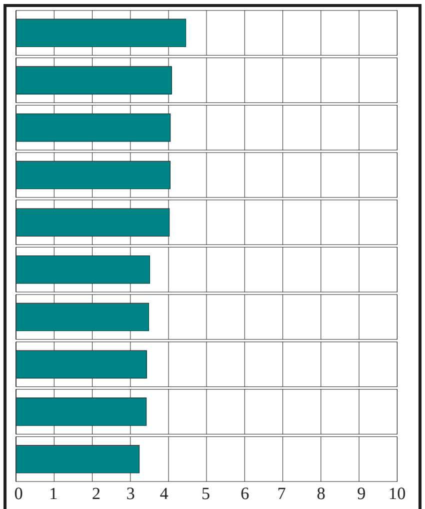
Airline	Nationwide Fleet Noise Quality Rating	San Francisco Average Daily Jet Operations	Score
CSN	5.64	0	10.00
UAE	7.89	1	10.00
ASH	10.00	3	10.00
CPZ	10.00	19	10.00
SKW	10.00	89	10.00
NCA	3.90	1	9.81
DLH	6.09	2	9.07
SAS	4.96	1	8.17
SWR	5.17	1	8.17
KAL	4.05	2	7.66
PAL	5.09	1	7.24
ANA	5.43	1	7.15
CCA	3.46	1	7.15
CPA	4.18	2	7.15
ETD	0.00	1	7.15
JAL	4.20	1	7.15
SIA	5.93	2	7.15
EVA	5.05	2	6.79
ANZ	4.00	1	6.61
DAL	4.92	21	6.55
FFT	6.41	5	6.43
			6.26
AMX	5.54	3	5.82
SCX	5.82	1	5.82
UAL	5.83	142	5.81
AFR	5.49	1	5.77
SWA	5.70	38	5.72
AAL	3.94	27	5.64
ACA	6.75	6	5.52
ASA	5.10	17	5.16
VRD	5.31	43	5.14
TAI	5.18	1	4.93
JBU	6.13	13	4.81
ABX	1.52	1	4.80
AWE	5.67	13	4.75
GTI	0.93	0	4.72

Fleet Noise Quality Rating



Airline		Nationwide Fleet Noise Quality Rating	San Francisco Average Daily Jet Operations	Score
ASIANA AIRLINES	AAR	3.93	2	***4.46***
中國東方航空 CHINA EASTERN	CES	4.63	1	***4.08***
Aer Lingus	EIN	4.05	1	***4.05***
HAWAIIAN AIRLINES	HAL	6.21	2	***4.05***
KLM Royal Dutch Airlines	KLM	4.67	1	***4.02***
virgin atlantic	VIR	5.84	1	***3.51***
BRITISH AIRWAYS	BAW	4.34	2	***3.48***
CHINA AIRLINES	CAL	3.62	2	***3.43***
FedEx.	FDX	2.80	1	***3.42***
KALITTA AIR	CKS	0.60	0	***3.24***
AVERAGE		**5.02**	**11**	**6.26**

Fleet Noise Quality Rating

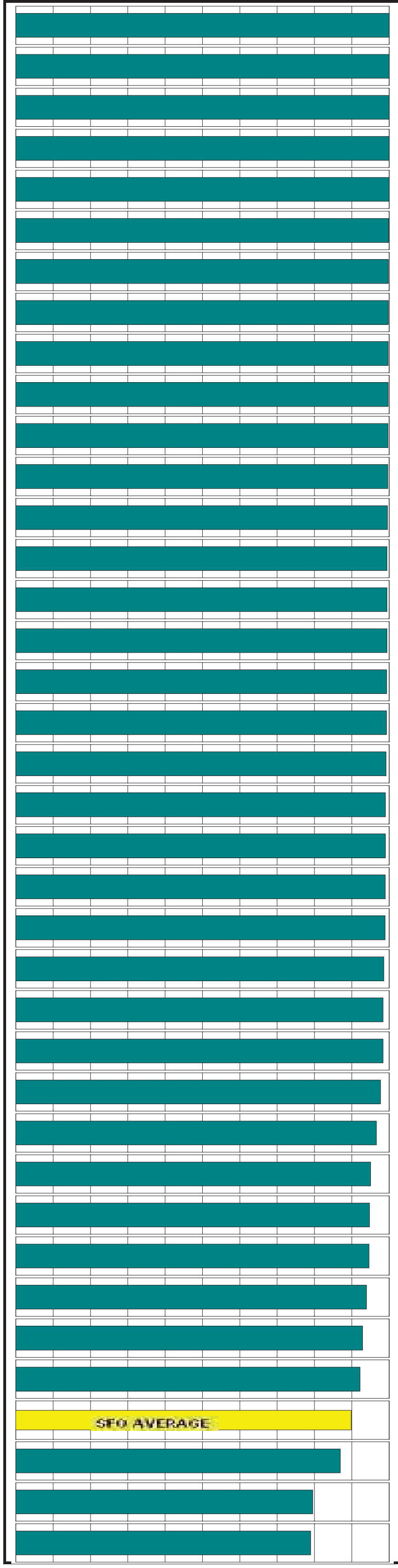


Noise Exceedance Rating Report - 1st Quarter 2015

January 1 to March 31, 2015

Airline		Total Noise Exceedances	Total Quarterly Operations	Exceedances per 1000 Operations	Score
AIRFRANCE	AFR	0	166	0	10.00
ANA	ANA	0	182	0	10.00
AIR CHINA	CCA	0	171	0	10.00
中国南方航空 CHINA SOUTHERN AIRLINES	CSN	0	77	0	10.00
Aer Lingus	EIN	0	103	0	10.00
SkyWest AIRLINES	SKW	31	15,999	2	9.99
AIR CANADA	ACA	5	1,167	4	9.98
suncountry airlines	SCX	1	211	5	9.98
中國東方航空 CHINA EASTERN	CES	1	180	6	9.97
Emirates	UAE	1	179	6	9.97
KLM Royal Dutch Airlines	KLM	1	156	6	9.97
SAS Scandinavian Airlines	SAS	1	144	7	9.97
AIR NEW ZEALAND	ANZ	2	233	9	9.96
SWISS	SWR	2	179	11	9.94
virgin america	VRD	89	7,797	11	9.94
DELTA	DAL	43	3,763	11	9.94
Compass Airlines	CPZ	43	3,335	13	9.94
Alaska Airlines	ASA	42	3,018	14	9.93
Southwest	SWA	117	6,899	17	9.92
American Airlines	AAL	99	4,923	20	9.90
jetBlue	JBU	48	2,380	20	9.90
FRONTIER AIRLINES	FFT	17	822	21	9.90
MESA AIRLINES	ASH	10	468	21	9.89
US AIRWAYS	AWE	67	2,386	28	9.86
UNITED	UAL	838	25,542	33	9.84
Lufthansa	DLH	11	333	33	9.84
virgin atlantic	VIR	8	174	46	9.77
AEROMEXICO	AMX	36	524	69	9.66
BRITISH AIRWAYS	BAW	36	360	100	9.50
ABX AIR	ABX	23	218	106	9.48
HAWAIIAN AIRLINES	HAL	39	361	108	9.46
ETIHAD AIRWAYS	ETD	22	180	122	9.39
Avianca	TAI	38	265	143	9.29
FedEx	FDX	31	198	157	9.22
					8.98
ATLAS AIR	GTI	10	38	263	8.69
NCA Nippon Cargo Airlines	NCA	56	136	412	7.95
JAPAN AIRLINES	JAL	76	180	422	7.90

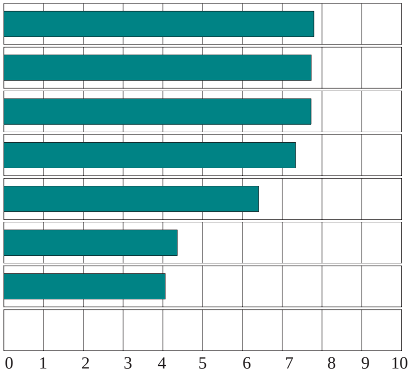
Noise Exceedance Quality Rating



Noise Exceedance Rating Report - 1st Quarter 2015

January 1 to March 31, 2015

Airline		Noise Exceedances				Noise Exceedance Quality Rating
		Total Noise Exceedances	*Total Quarterly Operations*	*Exceedances per 1000 Operations*	***Score***	
CATHAY PACIFIC	CPA	160	361	443	***7.80***	
SINGAPORE AIRLINES	SIA	163	357	457	***7.73***	
Philippines	PAL	86	188	457	***7.72***	
EVA AIR	EVA	212	396	535	***7.34***	
KOREAN AIR	KAL	252	349	722	***6.41***	
KALITTA AIR	CKS	34	30	1133	***4.36***	
ASIANA AIRLINES	AAR	375	314	1194	***4.06***	
CHINA AIRLINES	CAL	599	298	2010	***0.00***	
TOTAL		**3,725**	**85,740**			
SFO AVERAGE				**204**	**8.98**	



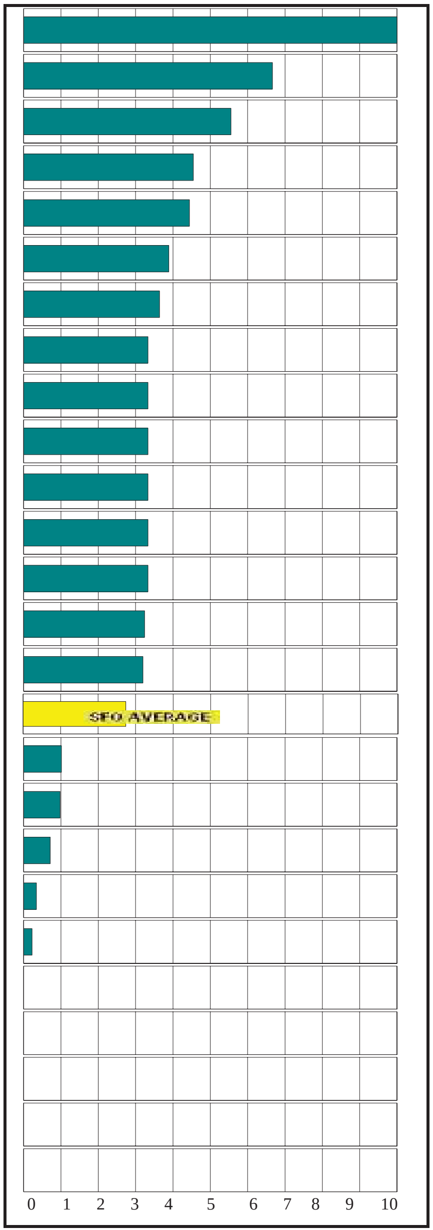
Nighttime Preferential Runway Use - 1st Quarter 2015

January 1 to March 31, 2015

Nighttime Departures (1:00 am to 6:00 am)

Airline	*Total*	*10L/R*	*28L/R Shoreline*	*01L/R*	*28L/R Straight*	***Score***
FDX	**1**	100%	0%	0%	0%	*10.00*
SCX	**1**	0%	100%	0%	0%	*6.67*
ACA	**3**	33%	0%	67%	0%	*5.56*
DAL	**11**	18%	9%	64%	9%	*4.55*
AWE	**3**	0%	33%	67%	0%	*4.44*
AAL	**24**	4%	8%	88%	0%	*3.89*
UAL	**152**	4%	6%	86%	5%	*3.64*
ASA	**2**	0%	0%	100%	0%	*3.33*
CPZ	**1**	0%	0%	100%	0%	*3.33*
FFT	**12**	0%	0%	100%	0%	*3.33*
JBU	**5**	0%	0%	100%	0%	*3.33*
SKW	**3**	0%	0%	100%	0%	*3.33*
SWA	**4**	0%	0%	100%	0%	*3.33*
AMX	**36**	3%	0%	89%	8%	*3.24*
TAI	**48**	4%	0%	83%	13%	*3.19*
						2.74
KAL	**79**	10%	0%	0%	90%	*1.01*
JAL	**58**	5%	0%	14%	81%	*0.98*
AAR	**56**	7%	0%	0%	93%	*0.71*
CAL	**29**	3%	0%	0%	97%	*0.34*
EVA	**44**	2%	0%	0%	98%	*0.23*
CKS	**3**	0%	0%	0%	100%	*0.00*
CPA	**7**	0%	0%	0%	100%	*0.00*
CSN	**1**	0%	0%	0%	100%	*0.00*
PAL	**2**	0%	0%	0%	100%	*0.00*
SIA	**22**	0%	0%	0%	100%	*0.00*
TOTAL	**607**					
SFO AVERAGE		**8%**	**6%**	**46%**	**40%**	**2.74**

Nighttime Runway Use Rating

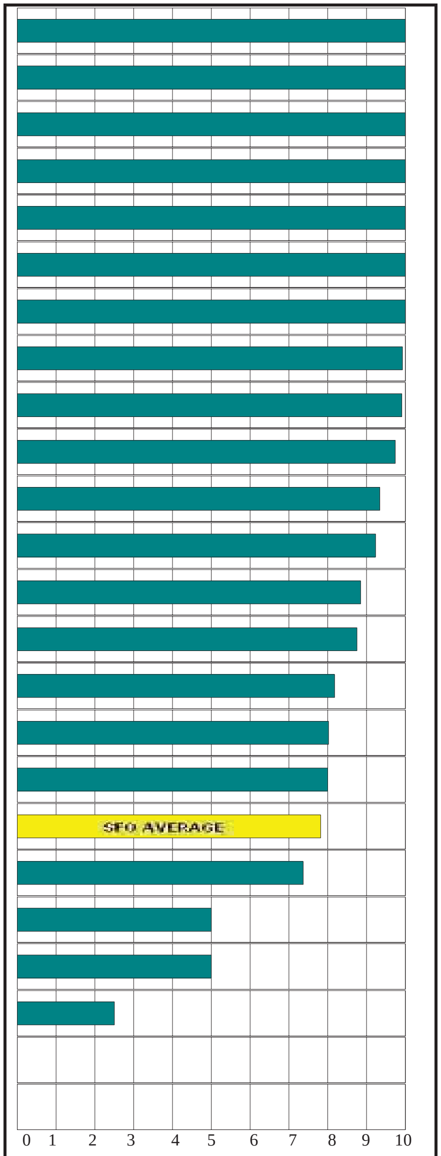


Shoreline Departure Rating - 1st Quarter 2015

January 1 to March 31,2015

Airline		Shoreline Departures				
		Total	Successful	Marginal	Poor	Score
ABX AIR	ABX	5	100%	0%	0%	10.00
Compass Airlines	CPZ	27	100%	0%	0%	10.00
Aer Lingus	EIN	1	100%	0%	0%	10.00
FedEx	FDX	5	100%	0%	0%	10.00
FRONTIER AIRLINES	FFT	10	100%	0%	0%	10.00
sun country airlines	SCX	5	100%	0%	0%	10.00
Southwest	SWA	25	100%	0%	0%	10.00
Virgin america	VRD	68	99%	1%	0%	9.93
Alaska Airlines	ASA	54	98%	2%	0%	9.91
SkyWest AIRLINES	SKW	229	96%	3%	1%	9.74
American Airlines	AAL	68	90%	7%	3%	9.34
AIR CANADA	ACA	26	88%	8%	4%	9.23
jetBlue	JBU	26	77%	23%	0%	8.85
Lufthansa	DLH	4	75%	25%	0%	8.75
DELTA	DAL	74	69%	26%	5%	8.18
UNITED	UAL	333	67%	26%	7%	8.02
KLM Royal Dutch Airlines	KLM	5	60%	40%	0%	8.00
						7.82
US AIRWAYS	AWE	38	50%	47%	3%	7.37
AIRFRANCE	AFR	1	0%	100%	0%	5.00
EVA AIR	EVA	1	0%	100%	0%	5.00
ETIHAD AIRWAYS	ETD	2	0%	50%	50%	2.50
Scandinavian Airlines	SAS	1	0%	0%	100%	0.00
Emirates	UAE	2	0%	0%	100%	0.00
TOTAL		**1,010**				
SFO AVERAGE			**68%**	**20%**	**12%**	**7.82**

Shoreline Departure Rating

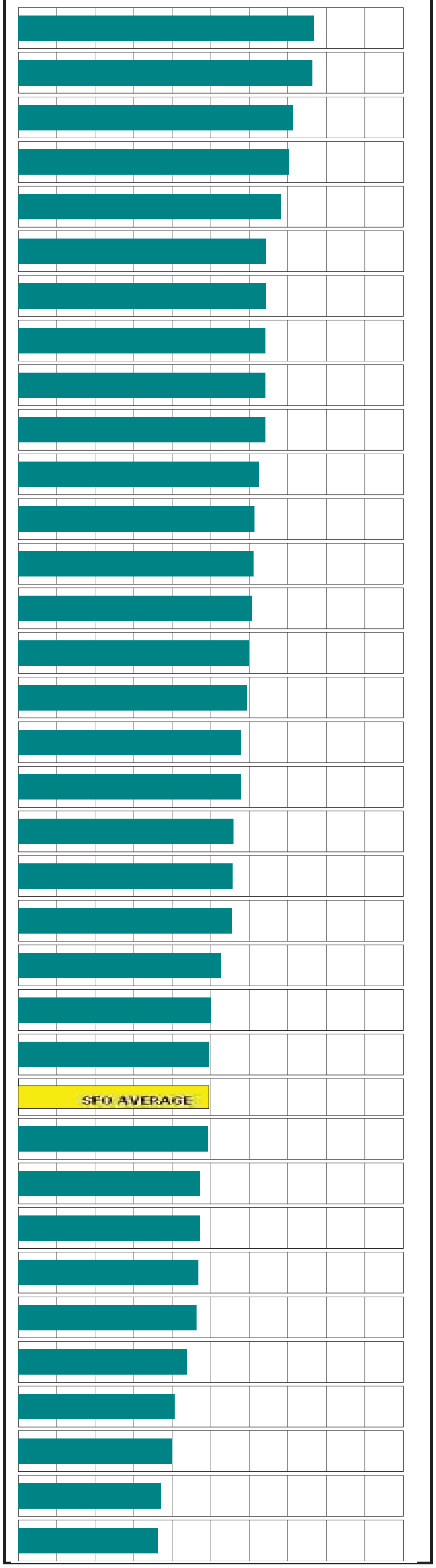


Gap Departure Climb Rating - 1st Quarter 2015

January 1 to March 31, 2015

Airline		Gap Departures Total	Gap Departures Score
AIRFRANCE	AFR	44	7.67
MESA	ASH	9	7.64
SkyWest AIRLINES	SKW	221	7.12
ATLAS AIR	GTI	8	7.03
AIR CHINA	CCA	82	6.81
HAWAIIAN AIRLINES	HAL	7	6.43
ANA	ANA	88	6.42
CATHAY PACIFIC	CPA	173	6.42
Compass Airlines	CPZ	68	6.42
ASIANA AIRLINES	AAR	148	6.41
FRONTIER AIRLINES	FFT	10	6.25
ABX AIR	ABX	11	6.14
virgin america	VRD	139	6.11
US AIRWAYS	AWE	54	6.06
Southwest	SWA	162	6.00
AIR CANADA	ACA	4	5.94
JAPAN AIRLINES	JAL	70	5.79
KOREAN AIR	KAL	161	5.78
virgin atlantic	VIR	58	5.58
中國東方航空 CHINA EASTERN	CES	86	5.57
AIR NEW ZEALAND	ANZ	112	5.55
jetBlue	JBU	33	5.27
suncountry airlines	SCX	1	5.00
SAS Scandinavian Airlines	SAS	68	4.96
			4.95
Lufthansa	DLH	156	4.92
Aer Lingus	EIN	45	4.72
CHINA AIRLINES	CAL	145	4.71
中国南方航空 CHINA SOUTHERN AIRLINES	CSN	35	4.68
AEROMEXICO	AMX	10	4.63
FedEx	FDX	10	4.38
Alaska Airlines	ASA	36	4.06
Avianca	TAI	10	4.00
EVA AIR	EVA	190	3.70
KLM Royal Dutch Airlines	KLM	11	3.64

Gap Departure Quality Rating

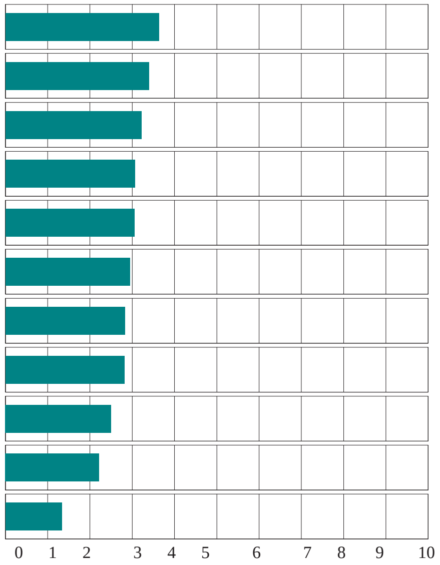


Gap Departure Climb Rating - 1st Quarter 2015

January 1 to March 31, 2015

Airline		Gap Departures Total	Gap Departures Score
SINGAPORE AIRLINES	SIA	**170**	***3.63***
SWISS	SWR	**84**	***3.39***
American Airlines	AAL	**52**	***3.22***
UNITED	UAL	**2233**	***3.06***
Emirates	UAE	**84**	***3.05***
Philippines	PAL	**91**	***2.94***
ETIHAD	ETD	**81**	***2.82***
BRITISH AIRWAYS	BAW	**165**	***2.82***
NCA Nippon Cargo Airlines	NCA	**64**	***2.50***
DELTA	DAL	**44**	***2.22***
KALITTA AIR	CKS	**15**	***1.33***

Gap Departure Quality Rating



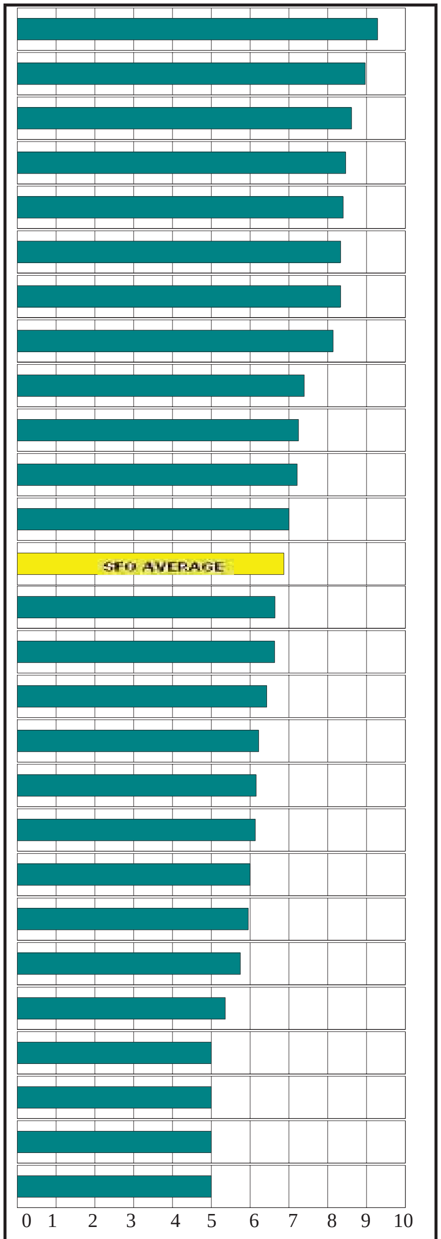
TOTAL	**5548**
SFO Average	**4.95**

Foster City Arrival Rating - 1st Quarter 2015

January 1 to March 31,2015

Airline	Foster City Arrivals				
	Total	*Successful*	*Marginal*	*Poor*	*Score*
FFT	42	86%	14%	0%	9.29
AAL	169	80%	20%	1%	8.96
VRD	54	72%	28%	0%	8.61
ACA	26	69%	31%	0%	8.46
JBU	162	69%	31%	1%	8.40
DAL	132	67%	33%	0%	8.33
SCX	3	67%	33%	0%	8.33
SWA	153	63%	37%	0%	8.14
AWE	46	48%	52%	0%	7.39
UAL	791	47%	51%	2%	7.24
ABX	43	44%	56%	0%	7.21
GTI	5	40%	60%	0%	7.00
					6.87
TAI	58	34%	64%	2%	6.64
FDX	49	33%	67%	0%	6.63
EVA	7	29%	71%	0%	6.43
NCA	41	24%	76%	0%	6.22
CPZ	26	23%	77%	0%	6.15
ASH	84	26%	70%	4%	6.13
CKS	5	20%	80%	0%	6.00
AMX	21	24%	71%	5%	5.95
SKW	67	18%	79%	3%	5.75
AAR	56	9%	89%	2%	5.36
ASA	39	0%	100%	0%	5.00
CPA	1	0%	100%	0%	5.00
HAL	2	0%	100%	0%	5.00
KAL	80	0%	100%	0%	5.00
TOTAL	**2,162**				
SFO AVERAGE		**38%**	**61%**	**1%**	**6.87**

Foster City Arrival Rating



SFO COMMUNITY ROUNDTABLE

San Francisco International
Airport/Community Roundtable

455 County Center, 2nd Floor
Redwood City, CA 94063
T (650) 363-1853
F (650) 363-4849
www.sforoundtable.org

May 18, 2015

TO: Roundtable Representatives, Alternatives, and Interested Persons

FROM: Cindy Gibbs, Roundtable Aviation Technical Consultant

SUBJECT: Technical Working Group Summary, Arrival and Departure Meetings

---

On April 29, 2015, the Departure and Arrival Technical Working Groups (Working Groups) held their first meetings at the San Mateo County Planning and Building Department offices in Redwood City. These meetings served as kick-off meetings for the newly-formed Working Groups to define their purpose, goals, and next steps. The overall goals of both Working Groups include:

- Create a knowledge base among the Roundtable membership
- Enhance and strengthen stakeholder relationships to help mitigate noise issues in San Francisco and San Mateo Counties, and
- Use as forums to discuss Work Program items in depth.

The purpose of the Working Groups is to serve as a forum for stakeholders to deal with specific issues in greater detail. Members will learn about specific issues of concern within San Mateo County and City and County of San Francisco.

The next working group meetings will be held in summer 2015.

Departure Technical Working Group

The departure technical working group met to discuss current departure issues.

Members Present	
Cliff Lentz	City of Brisbane
Mark Addiego	City of South San Francisco
Rich Newman	C/CAG
Sue Digre	City of Pacifica

Staff Present	
James Castañeda	Roundtable Coordinator, County of San Mateo
Cindy Gibbs	Roundtable Technical Consultant, BridgeNet International
Harvey Hartmann	Roundtable Technical Consultant

Bert Ganoung	Noise Abatement Office, San Francisco International Airport
Kathleen Wentworth	Senator Jackie Speier's Office

Public Present

Beth Grossman	Brisbane resident
Peter Grace	Brisbane resident

Meeting Summary

The meeting focused on the purpose and current state of departures in San Mateo and San Francisco Counties. Cindy Gibbs, Roundtable technical consultant, provided an overview of current departure procedures, including satellite- and legacy-based procedures. This was followed up by a lengthy and productive discussion between the Roundtable members and staff regarding which procedures should be focused on and next steps of the departure working group. The discussion centered on how aircraft depart, why they choose a certain route, and interaction with other airports. This discussion helped each of the attendees to understand basics of aircraft departures; additional, in depth technical information on departures will be presented at the next working group meeting.

It was determined that the working group should focus on:

- Review of existing noise abatement procedures at SFO for departures,
- Review of aircraft departure procedures at the next subcommittee, "Departure 101",
- Review of noise abatement standard operating procedures used at NorCal TRACON for departures,
- Conduct outreach to ensure technical stakeholders are represented at subsequent meetings, and
- Research late night and early morning departures, called "shoulder hour" operations.

Arrival Technical Working Group

Members Present

Cliff Lentz	City of Brisbane
Elizabeth Lewis	Town of Atherton
Dave Burow	Town of Woodside
Ann Wengert	Town of Portola Valley

Staff Present

James Castañeda	Roundtable Coordinator, County of San Mateo
Cindy Gibbs	Roundtable Technical Consultant, BridgeNet International
Harvey Hartmann	Roundtable Technical Consultant
Bert Ganoung	Noise Abatement Office, San Francisco International Airport
Kathleen Wentworth	Senator Jackie Speier's Office
Andy Swanson	City of Palo Alto

Public Present

Eric Rupp	City of Santa Cruz area resident
Grant Weseman	City of Santa Cruz area resident
David Austin	City of Santa Cruz area resident
Jon Zweig	City of Palo Alto resident
Jennifer Landesmann	City of Palo Alto resident

Meeting Summary

The meeting started with a presentation by Cindy Gibbs, Roundtable technical consultant that provided an overview of arrival procedures, both satellite- and legacy-based procedures. This included basic information on how aircraft navigate from en route to landing at an airport.

The presentation was followed by discussion regarding aircraft arrival routes and why aircraft fly in certain locations. It was emphasized by the Roundtable members that a key part of the Roundtable's mission is to not shift noise.

It was determined that the arrivals working group should focus on:

- Reviewing existing noise abatement procedures at SFO for arrivals,
- Review noise abatement standard operating procedures used at NorCal TRACON for arrivals,
- Continue research on the Airbus fuel vent mitigation,
- Review past noise monitoring at the Menlo intersection and Woodside/Portola Valley noise events

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June 1, 2015

Mr. Glen A. Martin
Regional Administrator
Western-Pacific Region
Federal Aviation Administration
P.O. Box 92007
Los Angeles, CA 90009

Re: Northern California Metroplex SERFR ONE Area Navigation (RNAV) Standard Terminal Arrival Route (STAR) Implementation

Dear Mr. Martin:

The San Francisco International Airport/Community Roundtable has tracked progress of the Northern California Metroplex (Metroplex) satellite-based procedure implementation since November 2014, as well as the preceding Metroplex Environmental Assessment (EA) process. On March 5, 2015, the SERFR STAR was implemented, one of the numerous Metroplex procedures shown in draft form in the final Metroplex EA. The SERFR STAR waypoints published in March 2015 did not reflect information regarding this procedure in the Metroplex EA. Citizens from the Santa Cruz area have voiced their concerns about the SERFR STAR flight path shifting laterally, most recently at our April 1, 2015 regular meeting and the Roundtable’s Arrivals Technical Working Group on April 29, 2015.

The Roundtable supports the San Francisco International Airport in its efforts to optimize the SERFR and BIG SUR routes in the greater Santa Cruz and Capitola areas. As a noise abatement stakeholder in the Bay Area, we look forward to working with the airport and FAA to find a solution for these routes.

Regards,

Cliff Lentz, Councilmember
City of Brisbane
Chair, San Francisco Airport Community Roundtable

Cc: Congresswoman Speier
John Martin, San Francisco International Airport

SFO COMMUNITY ROUNDTABLE

San Francisco International
Airport/Community Roundtable

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June 1, 2015

Mr. Glen A. Martin
Regional Administrator
Western-Pacific Region
Federal Aviation Administration
P.O. Box 92007
Los Angeles, CA 90009

Re: Northern California Metroplex Departure Procedure Implementation

Dear Mr. Martin:

The San Francisco International Airport/Community Roundtable has tracked progress of the Northern California Metroplex (Metroplex) satellite-based procedure implementation since November 2014, as well as the preceding Metroplex Environmental Assessment (EA) process. The Roundtable would like to express our appreciation for NorCal TRACON's adherence to one of the first procedures implemented, the NIIGHT departure from San Francisco International Airport. Since November 2014, we have found a general improvement in flights during late night hours remaining over compatible land uses. For communities that historically have experienced these loud, late night flights, use of the NIIGHT procedure is appreciated and noticed.

The Roundtable supports the implementation of the Metroplex procedures that provide increased efficiency and safety while not shifting noise. We look forward to continued communication with TRACON regarding operations at SFO.

Regards,

Cliff Lentz, Councilmember
City of Brisbane
Chair, San Francisco Airport Community Roundtable

AIRPORT NOISE NEWS

Regular Meeting # 296
June 3, 2015

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Airport Noise Report

A weekly update on litigation, regulations, and technological developments

Volume 27, Number 18 May 15, 2015

FAA

FAA CHIEF SAYS AGENCY WILL EXPEDITE SURVEY OF AIRCRAFT NOISE ANNOYANCE

[With public anger over NextGen noise impact boiling over and community groups around major airports in New York, Chicago, and Phoenix demanding the rollback of PBN procedures, the FAA issued the following press release on May 7.]

The U.S. Department of Transportation's Federal Aviation Administration (FAA) will soon begin work on the next step in a multi-year effort to update the scientific evidence on the relationship between aircraft noise exposure and its effects on communities around airports.

"The FAA is sensitive to public concerns about aircraft noise. We understand the interest in expediting this research, and we will complete this work as quickly as possible," said FAA Administrator Michael Huerta.

"This Administration takes its responsibility to be responsive to communities' concerns over air noise seriously. Our work is intended to give the public an opportunity to provide perspective and viewpoints on a very important issue."

Beginning in the next two to three months, the FAA will contact residents

(Continued on p. 71)

Research

FIRST AERONAUTICS ROADMAP LAYS OUT NASA RESEARCH GOALS FOR NEXT 20 YEARS

In its first-ever research roadmap for its Aeronautics Program, the National Aeronautics and Space Administration plans over the next 20 years to develop technologies that will allow:

- Private industry to develop a viable commercial supersonic aircraft that will reduce sonic boom by 25 perceived level decibels (PLdB) and reduce the community noise level to 10 dB below ICAO and FAA Stage 4 noise standards with a 50 percent improvement in fuel efficiency;
- Development of ultra-efficient subsonic commercial aircraft that will enable the simultaneous attainment of NASA's subsonic fixed-wing transport 2035 goals of a 52 dB (cumulative) reduction in community noise relative to ICAO and FAA stage 4 levels, an 80 percent reduction in emissions of nitrogen oxides (NOx) relative to Committee on Aviation Environmental Protection (CAEP6) standards, and a 60 percent reduction in fuel burn compared with 2005 best-in-class aircraft levels; and;
- Mature engine and drive system concepts for improved vertical lift aircraft to enable a 14 dB perceived noise level reduction in noise and a 60 percent reduction

(Continued on p. 71)

In This Issue…

FAA ... Administrator Huerta says FAA will expedite its airport noise annoyance survey, which will determine whether sound insulation programs will be expanded beyond the 65 DNL contour boundary - p. 70

NASA ... In a 20-year research roadmap for its Aeronautics Program, NASA defines environmental and technology goals for supersonic, subsonic, and vertical lift aircraft - p. 70

Sound Insulation ... ACRP report providing guidance to airports on evaluating methods for determining compliance with FAA's new 45 dB DNL interior noise level requirement for SIPs will not be issued until late Dec. or early Jan. 2016 - p. 72

AEDT ... FAA announces that, effective on May 29, AEDT 2b replaces AEDT 2a, INM, and EDMS as the required tool for noise, fuel burn, and emissions modeling of FAA actions - p. 73

FAA, from p. 70

around selected U.S. airports through mail and telephone to survey public perceptions of aviation noise throughout the course of a year. This will be the most comprehensive study using a single noise survey ever undertaken in the United States, polling communities surrounding 20 airports nationwide. To preserve the scientific integrity of the study, the FAA cannot disclose which communities will be polled.

The FAA obtained approval from the Office of Management and Budget last week to conduct the survey and hopes to finish gathering data by the end of 2016. The agency will then analyze the results to determine whether to update its methods for determining exposure to noise.

The framework for this study was developed through the Airports Cooperative Research Program (ACRP), which is operated by the Transportation Research Board of the National Academies of Sciences. This methodology will be used to determine whether to change the FAA's current approach, as well as consideration of compatible land uses and justification for federal expenditures for areas that are not compatible with airport noise.

Aircraft noise is currently measured on a scale that averages all community noise during a 24-hour period, with a tenfold penalty on noise that occurs during night and early morning hours. The scientific underpinnings for this measurement, known as the Day-Night Average Sound Level (DNL), were the result of social surveys of transportation noise in the 1970s.

In 1981, the FAA established DNL 65 decibels as the guideline at which federal funding is available for soundproofing or other noise mitigation. This method was reaffirmed in studies conducted during the late 1980s and early 1990s.

During the ensuing years, aircraft manufacturers incorporated technologies that resulted in dramatically quieter aircraft. However, residents around many of the largest U.S. airports have expressed concerns about aircraft noise associated with the continuing growth of the aviation industry. The FAA is taking an updated look at its approach for measuring noise as part of an ongoing dialogue with stakeholders, including communities and leaders of a number of cities across the nation.

If changes are warranted, the FAA will propose revised policy and related guidance and regulations, subject to interagency coordination, as well as public review and comment.

Expansion of Sound Insulation Eligibility

Chicago Mayor Rahm Emanuel called FAA's survey "a major step forward that can benefit thousands of residents struggling with jet noise while also maintaining a driver of Chicago's economy. While we have made important investments in soundproofing homes near O'Hare over the past four years, this study has the potential to expand that opportunity to more homeowners in more Chicago neighborhoods," Emanuel said in a statement.

While Mayor Emanuel believes that the expansion of sound insulation is the solution the noise impact of a major east-west runway realignment at O'Hare and opening of a new runway in 2013, the community coalition fighting the change in flight paths rejects that idea.

"The true path to meaningful relief for residents is an equitable distribution of air traffic and that can only happen if all of the existing diagonal runways are preserved and used. Legislation currently in the Illinois House would do that," the Fair Allocation in Runways (FAiR) community coalition said in a statement issued in response to Emanuel's comments.

IL State Sen. John Mulroe (D) introduced legislation in early April that would increase the total permitted number of runways at O'Hare from eight to 10 and would prohibit the destruction of any diagonal runways so that they may be used to equitably distribute air traffic.

The two bills, SB 636 and SB 637, have passed the Illinois Senate and were the subject of a May 13 hearing by the IL House Transportation Committee.

The bills' chief sponsor in the state House, Rep. Barbara Flynn Currie (D), said she will allow the Committee to vote on the bills but has not said when that vote will occur "because conversations are still happening to try to balance competing interests, one of which allegedly is the FAA," FAiR told its members in an e-mail sent following the hearing.

"The window to take decisive action that would preserve options for both short- and long-term solutions [to the noise problem] is closing fast," said Jac Charlier, cofounder of FAiR. "If the diagonals are decommissioned, the noise and pollution are going to be concentrated in the same narrow areas where we all already know – without a lengthy study and at no cost to taxpayers – there is an enormous problem.

"The legislators who allow that to happen are going to have to own that just as Mayor [Emanuel] owns this issue. Soundproofing and noise studies mean nothing to people whose quality of life has been taken from them."

NASA, from p. 70

in fuel consumption over 2005 levels.

On May 11, NASA released 15 technology roadmaps laying out the promising new technologies that will help the agency achieve its aeronautics, science, and human exploration missions for the next 20 years (2015-2035). The Aeronautics roadmap was part of that release.

The agency is seeking public comment on its draft roadmaps. Public input will be accepted until June 10. To submit a comment, go to

https://2015nasatechroadmaps.taurigroup.com

The draft 2015 roadmaps expand and update NASA's 2012 roadmaps. They are a key part of NASA's Strategic Technology Investment Plan and lay out the strategy, guiding principles, and priorities for developing technologies that are essential to NASA's mission and help achieve national goals.

To read the draft 2015 NASA technology roadmaps, go to http:go.nasa.gov/1KmX5qg.

Supersonic Overland Noise Standards

"Viability of commercial supersonic service depends on permissible supersonic flight overland and meeting the environmental constraints imposed on subsonic aircraft," NASA said in its Aeronautics roadmap.

The agency said its technical focus, therefore, "is on determining the sonic boom level acceptable to the public, enabling vehicle designs that achieve it, and delivering methods and technologies that industry could use to produce a viable supersonic transport."

Over the next decade (2015-2025), NASA said its research will focus on development of supersonic overland certification standards based on acceptable sonic boom noise levels.

The agency will develop and validate methodologies for a field study of community response to sonic boon to enable the development of overland sonic boom standards. It also will develop and validate analysis tools and technologies that will enable the low sonic boom design of supersonic aircraft.

In the subsequent decade (2025- 2035), building on success in 2015-2025, NASA said its research will focus on the additional challenges of landing and take-off noise, high-altitude emissions, and fuel efficiency that will enable affordable, low-boom, low-noise, and low-emission supersonic transportation that will be accessible to a broader range of the traveling public.

Introduction of supersonic civil air transportation in 2025-2035 timeframe will provide the impetus for further research and development that can ultimately yield additional benefits for air travelers, the U.S. economy, and global connectivity, NASA said.

Ultra-Efficient Commercial Aircraft

This strategic research thrust aims primarily at the generations of aircraft that will follow those now being developed, NASA explained.

"The community vision for this Strategic Thrust is based primarily on improved environmental performance to address growing public concerns over environmental sustainability, as well as increased efficiency and flexibility of future air vehicles to achieve better economics and reduced fuel use.

"These goals will be pursued through wing aspect ratio optimization, advanced composite research, advanced engine component development, improvement in computation fluid dynamics (CFD) modeling, and advanced configuration studies.

"These future vehicles will enable worldwide growth in aviation while providing lower noise and diminished impact on air quality and climate change, " the roadmap notes.

ACRP

REPORT ON INT. NOISE LEVEL DETERMINATION PUSHED BACK

The completion date for Airport Cooperative Research Program Project 02-51, "Evaluating Methods for Determining Interior Noise Levels Used in Airport Sound Insulation Programs," has been pushed back to late December or early January 2016.

The original completion date for the project was next month.

A draft report will likely be submitted at the end of June for project panel review, Joseph Navarrete, ACRP senior program officer, told ANR. "The panel has a month to review it; then the contractor [CSDA Design Group] has two months to submit the final version. It is at that point that it goes into the editing/publication phase, which takes a few months."

Airports are eagerly awaiting the report which will help them comply with Federal Aviation Administration Program Guidance Letter (PGL) 12-09, "Eligibility and Justification Requirements for Noise Insulation Projects," issued in August 2012.

The PGL imposes a new two-step eligibility requirement for airport sound insulation programs (SIPs) funded by Airport Improvement Program grants or Passenger Facility Charge (PFC) revenue (24 ANR 98).

In addition to being within an airport's 65 dB DNL noise contour to be eligible for inclusion in an airport SIP, homes now also must have interior noise levels of 45 dB DNL or greater to be eligible for AIP/PFC-funded SIPs.

The goals of ACRP Project 02-51 are to:

- Identify and evaluate the accuracy of noise level reduction (NLR) measurement methods for non-compatible structures;
- Propose procedures to minimize the measurement inaccuracies of each method; and
- Develop a matrix to help program sponsors identify the most appropriate methodology for determining interior noise levels for their airport sound insulation program.

"In the past, various acoustical methods for measuring noise level reduction have been used to ensure that acoustical treatments met the FAA's noise reduction requirements," the project summary notes.

It said that issuance of PGL 12-09 "has required a re-examination of the methods used to determine whether existing interior noise levels are greater or less than 45 dB DNL.

"Although the criteria for the design of dwelling modifications are fairly well-defined, there is no industry standard to guide measurement procedures to confirm a dwelling's eligibility, which can result in inconsistencies when implementing airport sound insulation programs.

"Research is needed to gain a better understanding of the factors that lead to differences among measurement methods and to understand and minimize inaccuracies in estimating interior noise levels."

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FAA Policy

ON MAY 29, AEDT 2b WILL BE REQUIRED FOR NOISE, EMISSIONS, FUEL MODELING

Effective May 29, Aviation Environmental Design Tool (AEDT) version 2b will replace AEDT 2a, the Integrated Noise Model (INM), and the Emissions and Dispersion Modeling System (EDMS) as the required tool for noise, fuel burn, and emissions modeling of Federal Aviation Administration actions, FAA announced today in a policy statement.

Following is FAA's May 15 policy statement:

"Effective May 29, 2015, AEDT 2b replaces AEDT 2a, INM, and EDMS as the required tool for noise, fuel burn, and emissions modeling of FAA actions. Consistent with current FAA policy and practice, the use of AEDT 2b is not required for projects whose analysis began before the effective date of this policy. In the event AEDT 2b is updated after the environmental analysis process is underway, the updated version may, but need not, be used to provide additional disclosure concerning noise, fuel burn, and emissions. This policy statement is issued to ensure consistency and quality of analysis performed to comply with requirements under the National Environmental Policy Act of 1969 (NEPA), as amended, 42 U.S.C. 4321 et seq."

For further information on the policy statement, contact Fabio Grandi, Office of Environment and Energy (AEE), Federal Aviation Administration, 800 Independence Ave. SW., Washington, DC 20591; Telephone: (202) 267–9099.

FAA Order 1050.1, Environmental Impacts: Policies and Procedures, describes FAA policies and procedures for compliance with the National Environmental Policy Act (NEPA), FAA explained in its policy announcement.

Aircraft noise, air pollutant emissions, and fuel burn are interdependent and occur simultaneously throughout all phases of flight. AEDT 2b is a comprehensive software tool that provides information to FAA stakeholders on each of these specific environmental impacts, the agency said. AEDT 2b facilitates environmental review activities required under NEPA by consolidating the modeling of these environmental impacts in a single tool.

For air traffic airspace and procedure actions, AEDT 2b replaces AEDT 2a, which was released by the FAA in March 2012. For other FAA actions, AEDT 2b replaces the Integrated Noise Model (INM) for analyzing aircraft noise and the Emissions and Dispersion Modeling System (EDMS) for developing emissions inventories and modeling emissions dispersion. AEDT 2b applies to analyses initiated after May 29, 2015.

AIRPORT NOISE REPORT

Anne H. Kohut, Publisher

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FAA to re-evaluate method for measuring effects of aircraft noise

By *eTN Global Editor*
Created *8 May 2015 - 1:45am*

FEDERAL AVIATION ADMINISTRATION

WASHINGTON, DC – The US Department of Transportation's Federal Aviation Administration (FAA) will soon begin work on the next step in a multi-year effort to update the scientific evidence on the relationship between aircraft noise exposure and its effects on communities around airports.

"The FAA is sensitive to public concerns about aircraft noise. We understand the interest in expediting this research, and we will complete this work as quickly as possible," said FAA Administrator Michael Huerta. "This Administration takes its responsibility to be responsive to communities' concerns over air noise seriously. Our work is intended to give the public an opportunity to provide perspective and viewpoints on a very important issue."

Beginning in the next two to three months, the FAA will contact residents around selected U.S. airports through mail and telephone to survey public perceptions of aviation noise throughout the course of a year. This will be the most comprehensive study using a single noise survey ever undertaken in the United States, polling communities surrounding 20 airports nationwide. To preserve the scientific integrity of the study, the FAA cannot disclose which communities will be polled.

The FAA obtained approval from the Office of Management and Budget last week to conduct the survey and hopes to finish gathering data by the end of 2016. The agency will then analyze the results to determine whether to update its methods for determining exposure to noise.

The framework for this study was developed through the Airports Cooperative Research Program (ACRP), which is operated by the Transportation Research Board of the National Academies of Sciences. This methodology will be used to determine whether to change the FAA's current approach, as well as consideration of compatible land uses and justification for federal expenditures for areas that are not compatible with airport noise.

Aircraft noise is currently measured on a scale that averages all community noise during a 24-hour period, with a ten-fold penalty on noise that occurs during night and early morning hours. The scientific underpinnings for this measurement, known as the Day-Night Average Sound Level (DNL), were the result of social surveys of transportation noise in the 1970s.

In 1981, the FAA established DNL 65 decibels as the guideline at which federal funding is available for soundproofing or other noise mitigation. This method was reaffirmed in studies conducted during the late 1980s and early 1990s.

During the ensuing years, aircraft manufacturers incorporated technologies that resulted in dramatically quieter aircraft. However, residents around many of the largest U.S. airports have expressed concerns about aircraft noise associated with the continuing growth of the aviation industry. The FAA is taking an updated look at its approach for measuring noise as part of an ongoing dialogue with stakeholders, including communities and leaders of a number of cities across the nation.

If changes are warranted, the FAA will propose revised policy and related guidance and regulations, subject to interagency coordination, as well as public review and comment.

USA & Canada

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SFO

San Francisco International Airport

Aircraft Noise Abatement Office

Glossary of common Acoustic and Air Traffic Control terms

A

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

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

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

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

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

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

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

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

Arrival – The act of landing at an airport.

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

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

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

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

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

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

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

B

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

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

C

Center – See ARTCC.

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

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

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

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

D

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

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

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

Decision Height – The height at which a decision must be made during an instrument approach either to continue the approach or to execute a missed approach.

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

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

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

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

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

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

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

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

E

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

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

F

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

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

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

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

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

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

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

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

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

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

G

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

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

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

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

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

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

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

H

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

I

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

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

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

IMC – Instrument Meteorological Conditions - Weather conditions expressed in terms of visibility, distance from clouds, and cloud ceilings during which all aircraft are required to operate using instrument flight rules.

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

J

K

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

L

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

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

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

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

M

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

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

N

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

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

Navaid – Navigational Aid.

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

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

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

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

NMS – See RMS

Noise Contour – See CNEL and DNL Contour.

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

O

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

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

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

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

P

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

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

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

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

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

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

Q

R

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

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

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

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

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

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

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

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

S

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

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

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

Single Event – Noise generated by a single aircraft overflight.

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

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

T

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

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

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

Threshold – Specified boundary.

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

U

V

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

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

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

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

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

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

W

X

Y

Z

how to reach us

SFO Aircraft Noise Abatement Office mailing address is:
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Airport Web Page:	**www.flysfo.com**
Noise Abatement Web Page:	**http://www.flysfo.com/community-environment/noise-abatement**
Roundtable Web Page:	**www.sforoundtable.org**

SFO

San Francisco International Airport

May 12, 2015

Mr. Glen A. Martin
Regional Administrator
Western-Pacific Region
Federal Aviation Administration
P.O. Box 92007
Los Angeles, CA 90009

Subject: Routing of SERFR ONE Area Navigation (RNAV) Standard Terminal Arrival Route (STAR)

Dear ~~Mr. Martin~~Glen

The San Francisco International Airport (SFO or the Airport) has been tracking the implementation of new arrival and departure procedures that FAA developed through the Northern California Optimization of Airspace Procedures in the Metroplex (NorCal OAPM) project. Most recently, on March 5, 2015, the FAA implemented the SERFR ONE RNAV STAR.

Since March 5, when FAA implemented the new SERFR ONE RNAV STAR, the Airport's Aircraft Noise Abatement Office has noted a significant increase in complaints from the communities of Aptos, Capitola, Felton, Los Gatos, Santa Cruz, Scotts Valley and Soquel. In the six weeks prior to March 5, the Airport received two complaints from two complainants from these areas. In the six weeks following March 5, the Airport received 497 complaints from 237 complainants. These complaints and an analysis of flight tracks and the procedures by the Airport indicate that the new SERFR ONE RNAV STAR may not be fully optimized north of the STOKD waypoint.

We have some ideas which may further optimize the SERFR ONE RNAV STAR on the BIG SUR Arrival between existing fix, ANJEE, and the MENLO waypoint. This could result in a reduction in noise complaints in the area beneath the SERFR ONE RNAV STAR. We will reach out to your staff to discuss further.

Thank you for your consideration of this matter.

Very truly yours,

John L. Martin
Airport Director

Attachment

cc: Cliff Lentz, Chairman, San Francisco International Airport/Community Roundtable
John Bergener, Planning Director, SFO Bureau of Planning and Environmental Affairs
Bert Ganoung, Manager, SFO Aircraft Noise Abatement Office

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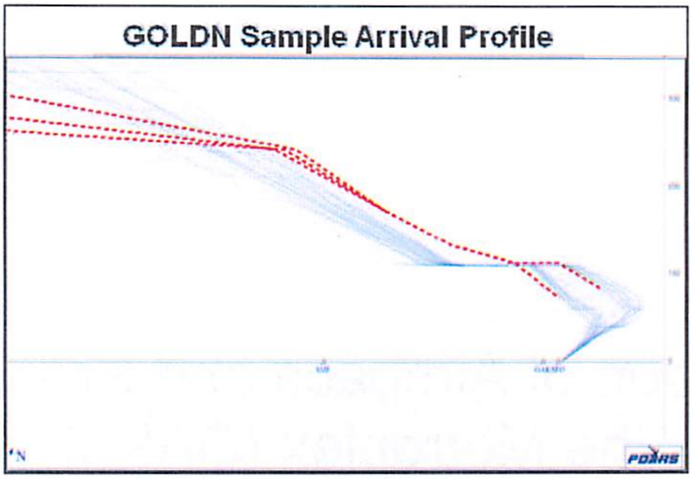
Federal Aviation
Administration

Optimization of Airspace and Procedures in the Metroplex (OAPM)

Study Team Final Report

Northern California Metroplex

The figure below illustrates the mitigation of the level segments seen in current tracks (blue) in the proposed procedure (dashed red).

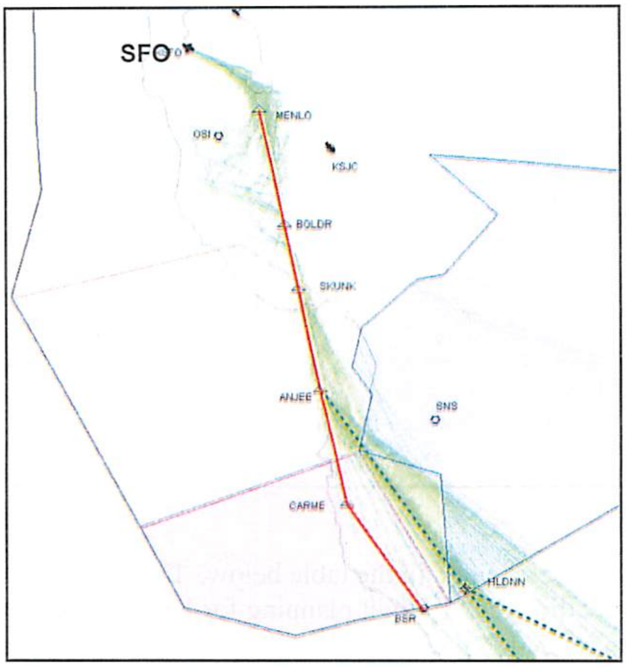


Projected annual savings are estimated in the table below. Distance savings are associated with a reduction in excess fuel loading due to flight planning for legacy procedures. Profile savings are associated with fuel burn reduction due to the removal of level segments along the flight path.

Estimated Annual Fuel Savings	Distance	$65,000
	Profile	$111,000 - $332,000
Estimated Annual Fuel Savings (Gallons)	Distance	24,000
	Profile	40,000 - 120,000
Estimated Annual Carbon Savings (Metric Tons)	Distance	240
	Profile	400 - 1,200

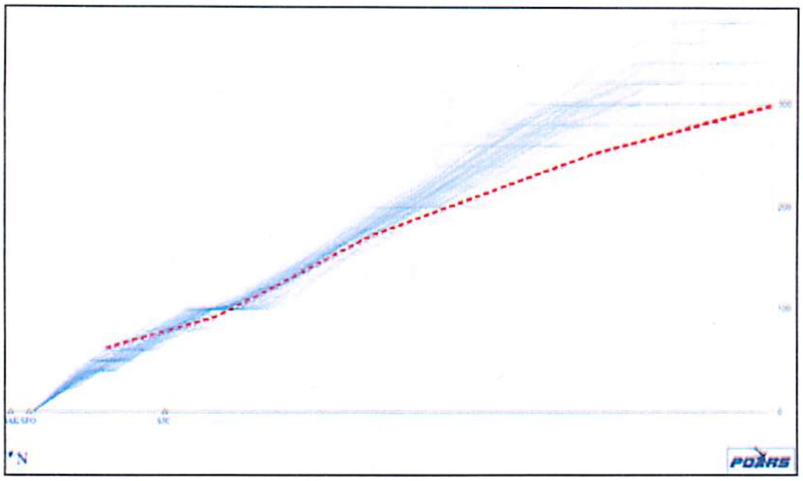
4.5.2.3 Big Sur (BSR) STAR

The BSR STAR is a procedure from the southeast for SFO, accounting for 29% of all SFO arrivals. The current transition from BSR to ANJEE is unused with aircraft vectored off of the published procedure for more direct routing. The procedure has an inefficient vertical profile with long level-offs. Extensive delay vectoring occurs to accommodate sequencing for the runway. The following figure illustrates the published procedure (solid red) and the proposed routes (dashed green), as well as current tracks (green).



The proposed procedure offers OPD benefits and will align with the current flight paths, by shifting the procedure eight miles to the east. The BSR RNAV STAR will accommodate multiple approach procedures and have optimized lateral and vertical profiles. The Study Team recommendation is to alleviate the extensive delay vectoring by creating conditional use airspace for holding at the NCT/ZOA boundary. The Design and Implementation Team will need to evaluate possible resectorization within NCT and conditional use airspace in the vicinity of ANJEE to accommodate holding.

The figure below illustrates the mitigation of the level-offs seen in current tracks (blue) in the proposed procedure (dashed red).



Projected annual savings are estimated in the table below. Distance savings are associated with a reduction in excess fuel loading due to flight planning for legacy procedures. Profile savings are associated with fuel burn reduction due to the removal of level segments along the flight path.

Estimated Annual Fuel Savings	Distance	$138,000
	Profile	$387,000 - $1.16M
Estimated Annual Fuel Savings (Gallons)	Distance	50,000
	Profile	140,000 - 419,000
Estimated Annual Carbon Savings (Metric Tons)	Distance	500
	Profile	1,400 - 4,190

4.6 Oakland (OAK) Arrivals

OAK arrivals were analyzed largely in the West Plan configuration. Ninety-three of OAK operations occur in this configuration. End waypoints of the STARs were designed with common points to join published approaches. One arrival procedure (ECA STAR) used during East Plan was evaluated for enhancements. The assumption from the Study Team is that the Development and Implementation Team will attempt to redesign approaches to merge with all proposed STARs.