

ROUNDTABLE REGULAR MEETING

Meeting No. 288

Wednesday, November 6, 2013 - 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
Jeff Gee, 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.

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.

3. **Review of Airport Director's Reports for:** ACTION
August 2013 pg. 9
September 2013 pg. 17
4. **Review of Roundtable Regular Meeting Overview for September 4, 2013** ACTION
pg. 25

REGULAR AGENDA – PRESENTATION ITEMS

5. **Review of SFO FlyQuiet Report for Q3 2013** ACTION
Bert Ganoung, Manager - Aircraft Noise Abatement Office pg. 33
6. **Airport Director's Comments** INFORMATION
John Martin, Director – San Francisco International Airport



REGULAR AGENDA – WORK PROGRAM ITEMS

- | | |
|--|------------------|
| 7. SFO Construction Update Bert Ganoung, Manager – Aircraft Noise Abatement Office | INFORMATION |
| 8. Update on FAA’s PORTE Departure Analysis Jeff Gee, Roundtable Chairperson | INFORMATION |
| 9. Work Program Subcommittee recommendations: Oceanic Arrivals Over the Woodside VOR Cindy Gibbs, Roundtable Aviation Technical Consultant | ACTION pg. 47 |
| 10. Report, Optimization of Airspace & Procedures in the Metroplex (OAPM) Environmental Review Jeff Gee, Roundtable Chairperson | INFORMATION |
| 11. Website Update James Castañeda, Roundtable Coordinator Cindy Gibbs, Roundtable Aviation Technical Consultant | INFORMATION |
| 12. TRACON Trip Recap James Castañeda, Roundtable Coordinator | INFORMATION |

OTHER MATTERS

- | | |
|--|-------------|
| 12. Airport Noise Briefing Cindy Gibbs, Roundtable Aviation Technical Consultant | INFORMATION |
| 13. Member Communications / Announcements Roundtable Members and Staff | INFORMATION |
| 14. Adjourn Jeff Gee, Roundtable Chairperson | ACTION |

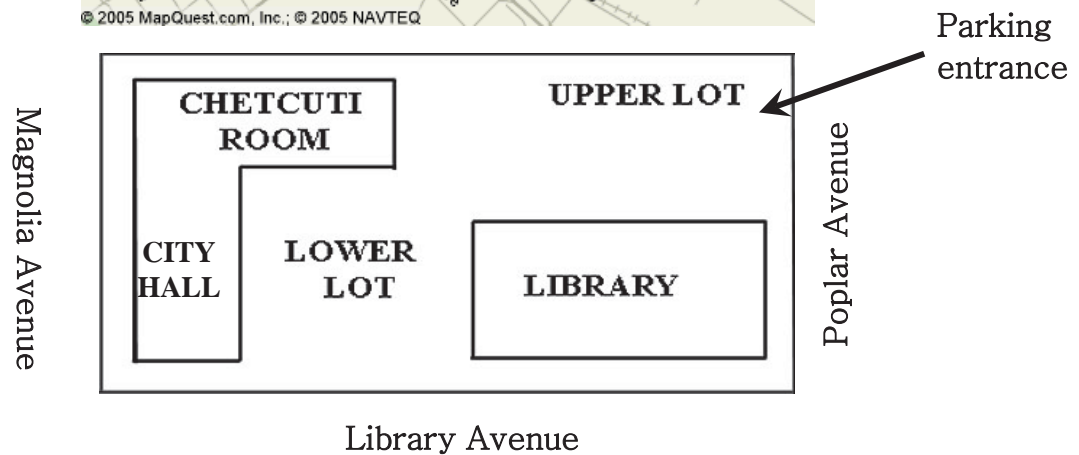
| | |
|--|---------|
| Correspondences | pg. 77 |
| Airport Noise Industry News | pg. 103 |
| Glossary of Common Acoustic & Air Traffic Control Terms | pg. 125 |

Next Regular Roundtable Meeting Date: Wednesday, February 5, 2014

ROUNDTABLE REGULAR MEETING LOCATION

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

Access through Millbrae Library parking lot on Poplar Avenue





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)).



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 November 2013

Chairperson:
JEFFREY GEE

Representative, City of Redwood City
(650) 780-7221

Vice-Chairperson:
NAOMI PATRIDGE

Representative, City of Half Moon Bay
(650) 726-8270

Roundtable Coordinator:
JAMES A. CASTAÑEDA, AICP

County of San Mateo
Planning & Building Department
(650) 363-1853 / jcastaneda@sforoundtable.org

CONSENT AGENDA

Regular Meeting # 288
November 6, 2013

Agenda Items 3 & 4

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airport director's report

Presented at the November 6, 2013

Airport Community Roundtable Meeting

SFO Aircraft Noise Abatement Office

August 2013



Monthly Noise Exceedance Report

San Francisco International Airport -- Director's Report

Period: **August 2013**



| Airline | Noise Exceedances | | | | Noise Exceedance Quality Rating |
|--------------|-------------------------|----------------------------|----------------------------------|-------|---------------------------------|
| | Total Noise Exceedances | Total Operations per Month | Exceedances per 1,000 Operations | Score | |
| SKW | 28 | 8758 | 3 | 9.99 | |
| AFR | 1 | 124 | 8 | 9.97 | |
| AAL | 28 | 1874 | 15 | 9.94 | |
| VRD | 48 | 3115 | 15 | 9.93 | |
| CES | 1 | 62 | 16 | 9.93 | |
| WJA | 2 | 123 | 16 | 9.93 | |
| SWA | 53 | 2567 | 21 | 9.91 | |
| ASA | 19 | 874 | 22 | 9.91 | |
| DLH | 3 | 124 | 24 | 9.90 | |
| FFT | 6 | 246 | 24 | 9.90 | |
| AMX | 3 | 118 | 25 | 9.89 | |
| DAL | 49 | 1884 | 26 | 9.89 | |
| AWE | 26 | 947 | 27 | 9.88 | |
| JBU | 21 | 758 | 28 | 9.88 | |
| CCA | 2 | 62 | 32 | 9.86 | |
| TRS | 7 | 184 | 38 | 9.84 | |
| LPE | 1 | 25 | 40 | 9.83 | |
| ACA | 28 | 663 | 42 | 9.82 | |
| UAL | 486 | 11014 | 44 | 9.81 | |
| BAW | 7 | 124 | 56 | 9.76 | |
| TAI | 11 | 117 | 94 | 9.60 | |
| GTI | 1 | 7 | 143 | 9.40 | |
| ABX | 29 | 84 | 345 | 8.54 | |
| NCA | 19 | 51 | 373 | 8.43 | |
| HAL | 24 | 62 | 387 | 8.37 | |
| FDX | 18 | 45 | 400 | 8.31 | |
| EVA | 51 | 124 | 411 | 8.26 | |
| SIA | 52 | 124 | 419 | 8.23 | |
| KAL | 65 | 124 | 524 | 7.79 | |
| CPA | 73 | 129 | 566 | 7.61 | |
| AAR | 111 | 115 | 965 | 5.93 | |
| PAL | 87 | 62 | 1,403 | 4.08 | |
| CAL | 150 | 98 | 1,531 | 3.54 | |
| ANZ | 128 | 54 | 2,370 | 0.00 | |
| TOTAL | 1,638 | 34,842 | 10,457 | | |

Source: SFO Noise Abatement Office

Historical Significant Exceedances Report

San Francisco International Airport -- Director's Report

Period: **August 2013**



San Francisco International Airport

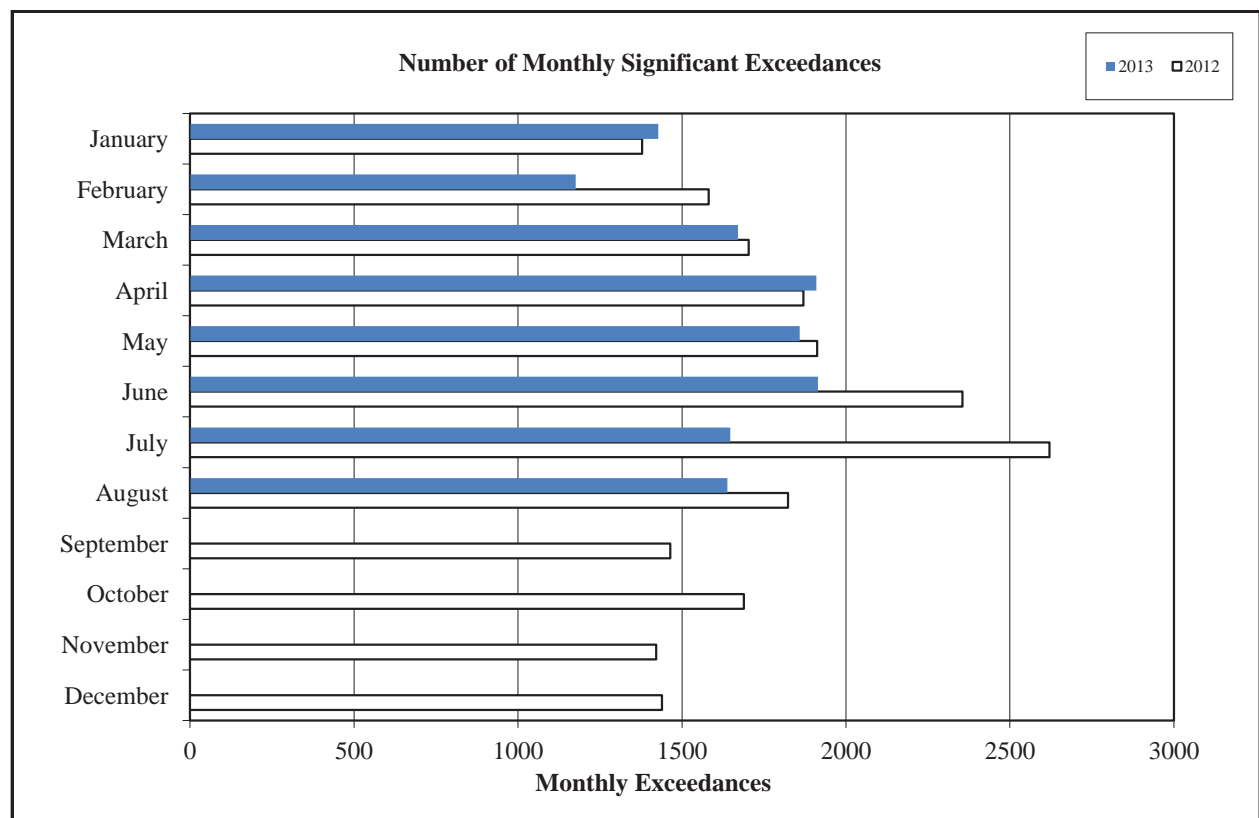
| Month | Number of Monthly Significant Exceedances | | | | | Change from Last Year |
|--------------------|---|-------|-------|-------|---------|-----------------------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | |
| January | 1459 | 1312* | 1580 | 1378 | 1428 | 50 |
| February | 1161 (2) | 1297* | 1429 | 1581 | 1176 | -405 |
| March | 1991 | 1778 | 1681 | 1703 | 1671 | -32 |
| April | 2258 | 1449 | 1900 | 1870 | 1910** | 40 |
| May | 1917 | 2042 | 2024 | 1912 | 1859** | -53 |
| June | 2428 | 2177 | 1947 | 2355 | 1915 | -440 |
| July | 2039 | 1743 | 2017 | 2621 | 1647 | -974 |
| August | 1725 | 2090 | 1847 | 1823 | 1638*** | -185 |
| September | 1554 | 1636 | 1609 | 1464 | | 0 |
| October | 1724 | 1537 | 1572 | 1689 | | 0 |
| November | 1400* | 1599 | 1575 | 1421 | | 0 |
| December | 1494* | 1411 | 1447 | 1439 | | 0 |
| Annual Total | 21150 | 20071 | 20628 | 21256 | 13244 | |
| Year to Date Trend | 21150 | 20071 | 20628 | 21256 | 13244 | -1999 |

(#) Number of new noise monitors - EMUs

* Revised with correct amount of exceedance - 4/30/10

** 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

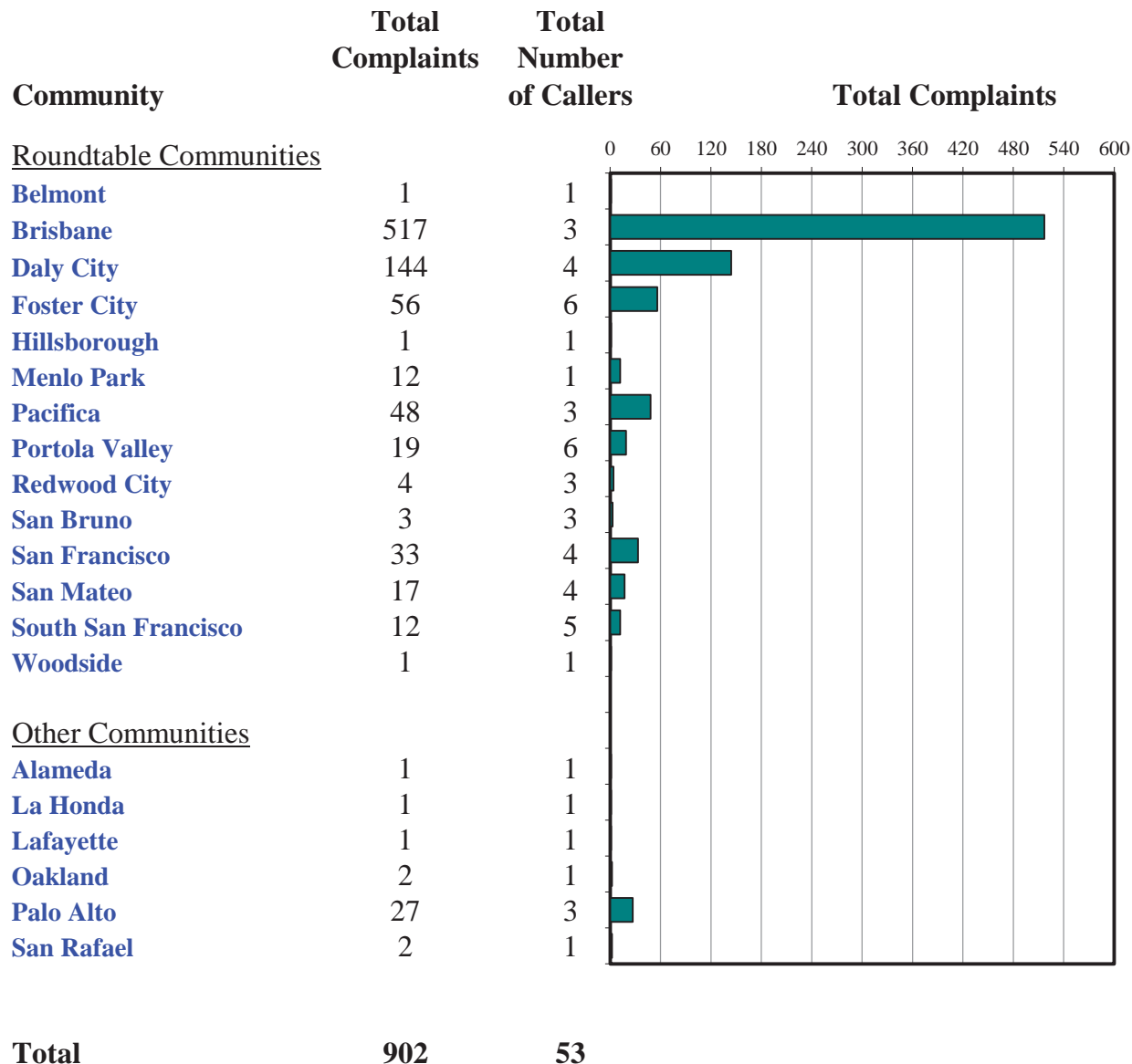
Period: **August 2013**



San Francisco International Airport

Monthly Calls by Community

Source: Airport Noise Monitoring System



This is a detailed map of the San Francisco Bay Area. The map shows the San Francisco Bay, San Rafael Bay, and San Pablo Bay. Major cities and towns are labeled, including San Francisco, Oakland, Berkeley, Alameda, Emeryville, Piedmont, Fremont, Hayward, San Jose, and San Mateo. The map also shows major highways such as I-80, I-880, I-580, I-8, I-205, and I-680. The Pacific Ocean is to the west, and the San Francisco Peninsula is to the south. The map includes various geographical features like hills, valleys, and parks. The map is color-coded with green for land, blue for water, and brown for mountains/hills. The map is oriented with North at the top.

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Monthly Nighttime Power Runups Report (85-06-AOB)

San Francisco International Airport -- Director's Report

Period : **August 2013**

Time of Day : From 10 pm through 7 am



| Airline Code | | Number of Runups | Runups Per 1,000 Departures | Percentage of Runups | |
|---|-----|------------------|-----------------------------|----------------------|---|
| American Airlines  | AAL | 11 | 11.7 | 35% |  |
| UNITED  | UAL | 20 | 3.6 | 65% |  |
| Total | | 31 | | | |

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.



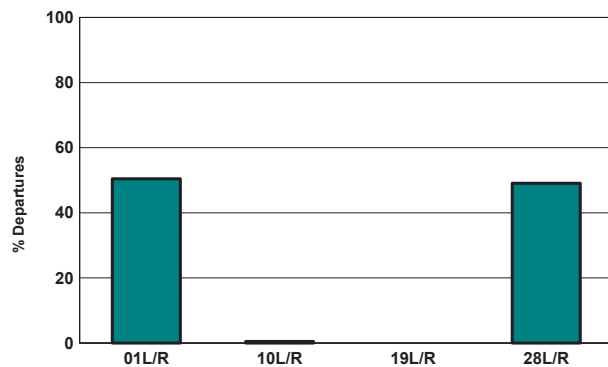
San Francisco International Airport

Runway Utilization (1 am to 6 am)

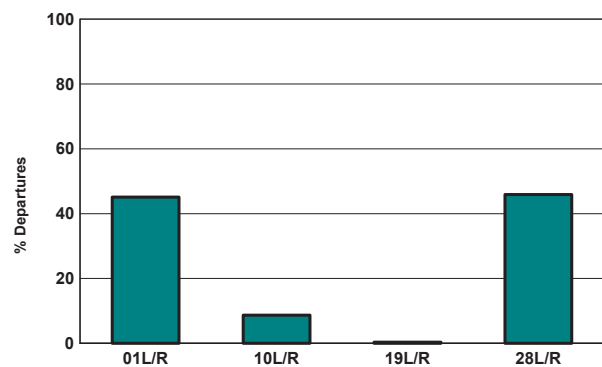
Monthly Jet Departures

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YTD |
|--------------|------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|----------|----------|--------------|
| 01L/R | 77 | 82 | 126 | 124 | 122 | 173 | 275 | 214 | - | - | - | - | 1,193 |
| 10L/R | 42 | 37 | 48 | 18 | 36 | 36 | 10 | 2 | - | - | - | - | 229 |
| 19L/R | - | - | 4 | - | - | - | 5 | - | - | - | - | - | 9 |
| 28L/R | 30 | 29 | 90 | 185 | 215 | 270 | 188 | 208 | - | - | - | - | 1,215 |
| Total | 149 | 148 | 268 | 327 | 373 | 479 | 478 | 424 | - | - | - | - | 2,646 |
| 01L/R | 52% | 55% | 47% | 38% | 33% | 36% | 58% | 50% | 0% | 0% | 0% | 0% | 45% |
| 10L/R | 28% | 25% | 18% | 6% | 10% | 8% | 2% | 0% | 0% | 0% | 0% | 0% | 9% |
| 19L/R | 0% | 0% | 1% | 0% | 0% | 0% | 1% | 0% | 0% | 0% | 0% | 0% | 0% |
| 28L/R | 20% | 20% | 34% | 57% | 58% | 56% | 39% | 49% | 0% | 0% | 0% | 0% | 46% |

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: August 2013

Time of Day : All Hours



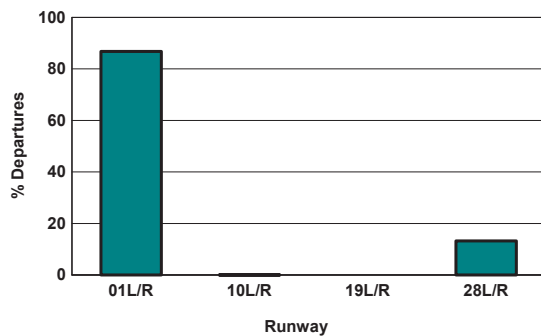
San Francisco International Airport

Runway Utilization (All Hours)

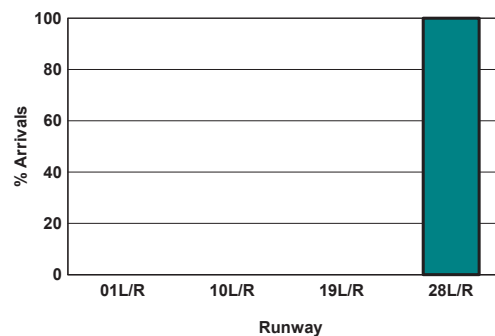
Source: Airport Noise Monitoring System

| | Runway Utilization | | | | Total |
|--------------------------|--------------------|-------|-------|--------|--------|
| | 01L/R | 10L/R | 19L/R | 28L/R | |
| Total Monthly Operations | | | | | |
| Departures | 15,726 | 4 | 0 | 2,395 | 18,125 |
| Arrivals | 0 | 0 | 0 | 17,790 | 17,790 |
| Percentage Utilization | | | | | |
| Departures | 86.8% | 0.0% | 0.0% | 13.2% | 100% |
| Arrivals | 0.0% | 0.0% | 0.0% | 100.0% | 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

airport director's report

Presented at the November 6, 2013

Airport Community Roundtable Meeting

SFO Aircraft Noise Abatement Office

September 2013



Monthly Noise Exceedance Report

San Francisco International Airport -- Director's Report

Period: **September 2013**



| Airline | Noise Exceedances | | | | Noise Exceedance Quality Rating |
|--------------|-------------------------|----------------------------|----------------------------------|-------|---------------------------------|
| | Total Noise Exceedances | Total Operations per Month | Exceedances per 1,000 Operations | Score | |
| SKW | 27 | 7841 | 3 | 9.98 | |
| CPZ | 5 | 847 | 6 | 9.97 | |
| DAL | 11 | 1527 | 7 | 9.96 | |
| BAW | 1 | 121 | 8 | 9.96 | |
| AWE | 8 | 853 | 9 | 9.95 | |
| FFT | 3 | 265 | 11 | 9.94 | |
| VRD | 32 | 2816 | 11 | 9.94 | |
| CCA | 1 | 60 | 17 | 9.91 | |
| SWA | 41 | 2410 | 17 | 9.91 | |
| AAL | 31 | 1799 | 17 | 9.91 | |
| ACA | 14 | 596 | 23 | 9.88 | |
| JBU | 17 | 700 | 24 | 9.87 | |
| ASA | 22 | 797 | 28 | 9.85 | |
| TRS | 5 | 177 | 28 | 9.85 | |
| AMX | 4 | 116 | 34 | 9.82 | |
| LPE | 1 | 25 | 40 | 9.79 | |
| UAL | 407 | 10005 | 41 | 9.79 | |
| WJA | 5 | 120 | 42 | 9.78 | |
| HAL | 5 | 60 | 83 | 9.56 | |
| TAI | 11 | 84 | 131 | 9.31 | |
| ABX | 16 | 80 | 200 | 8.95 | |
| FDX | 9 | 41 | 220 | 8.84 | |
| NCA | 15 | 48 | 313 | 8.35 | |
| SIA | 38 | 121 | 314 | 8.35 | |
| CPA | 40 | 124 | 323 | 8.30 | |
| KAL | 48 | 116 | 414 | 7.82 | |
| EVA | 50 | 119 | 420 | 7.79 | |
| GTI | 7 | 8 | 875 | 5.39 | |
| AAR | 120 | 118 | 1,017 | 4.64 | |
| CAL | 150 | 105 | 1,429 | 2.47 | |
| ANZ | 96 | 60 | 1,600 | 1.57 | |
| PAL | 112 | 59 | 1,898 | 0.00 | |
| TOTAL | 1,352 | 32,218 | 9,604 | | |

Source: SFO Noise Abatement Office

Historical Significant Exceedances Report
San Francisco International Airport -- Director's Report
Period: **September 2013**



San Francisco International Airport

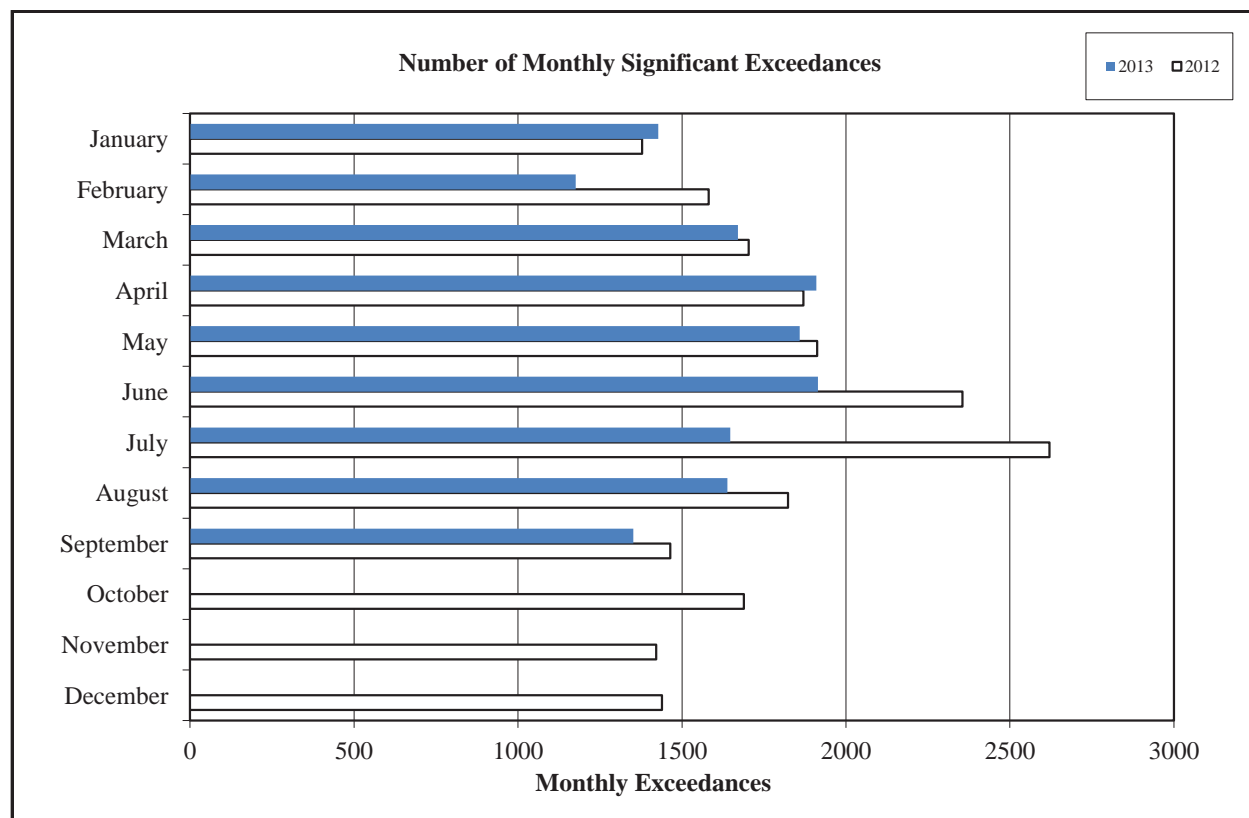
| Month | Number of Monthly Significant Exceedances | | | | | Change from Last Year |
|---------------------------|---|--------------|--------------|--------------|--------------|-----------------------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | |
| January | 1459 | 1312* | 1580 | 1378 | 1428 | 50 |
| February | 1161 (2) | 1297* | 1429 | 1581 | 1176 | -405 |
| March | 1991 | 1778 | 1681 | 1703 | 1671 | -32 |
| April | 2258 | 1449 | 1900 | 1870 | 1910** | 40 |
| May | 1917 | 2042 | 2024 | 1912 | 1859** | -53 |
| June | 2428 | 2177 | 1947 | 2355 | 1915 | -440 |
| July | 2039 | 1743 | 2017 | 2621 | 1647 | -974 |
| August | 1725 | 2090 | 1847 | 1823 | 1638*** | -185 |
| September | 1554 | 1636 | 1609 | 1464 | 1352 | -112 |
| October | 1724 | 1537 | 1572 | 1689 | | 0 |
| November | 1400* | 1599 | 1575 | 1421 | | 0 |
| December | 1494* | 1411 | 1447 | 1439 | | 0 |
| Annual Total | 21150 | 20071 | 20628 | 21256 | 14596 | |
| Year to Date Trend | 21150 | 20071 | 20628 | 21256 | 14596 | -2111 |

(#) Number of new noise monitors - EMUs

* Revised with correct amount of exceedance - 4/30/10

** 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

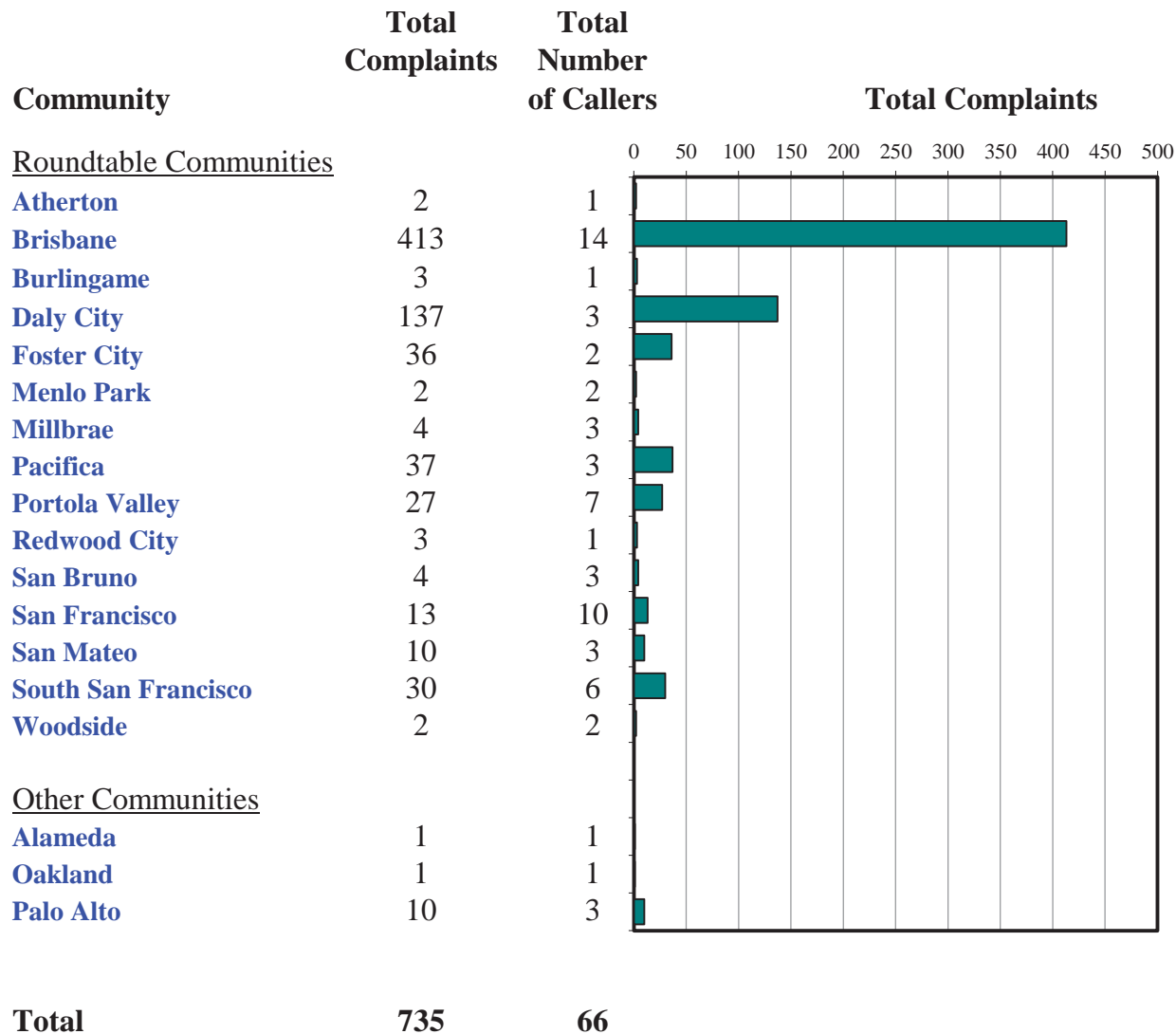
Period: **September 2013**



San Francisco International Airport

Monthly Calls by Community

Source: Airport Noise Monitoring System



Monthly Noise Complaint Summary Map September 2013



● Caller Location and Amount of Complaints

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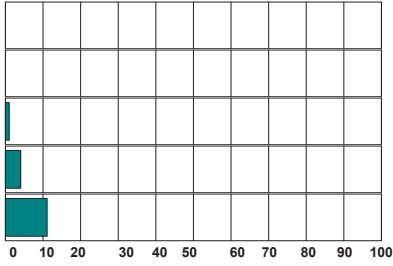




Monthly Nighttime Power Runups Report (85-06-AOB)

San Francisco International Airport -- Director's Report

Period : **September 2013**

Time of Day : From 10 pm through 7 am



| Airline Code | | Number of Runups | Runups Per 1,000 Departures | Percentage of Runups | |
|---|-----|------------------|-----------------------------|----------------------|---|
|  | SWA | 1 | 0.8 | 5% |  |
|  | VRD | 1 | 0.7 | 5% | |
|  | DAL | 2 | 2.6 | 10% | |
|  | AAL | 5 | 5.5 | 24% | |
|  | UAL | 12 | 2.4 | 57% | |
| Total | | 21 | | | |

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.



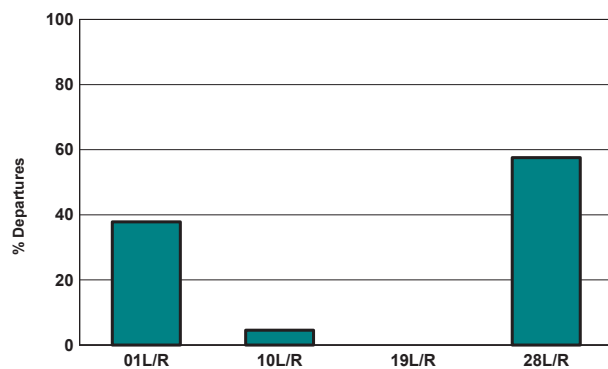
San Francisco International Airport

Runway Utilization (1 am to 6 am)

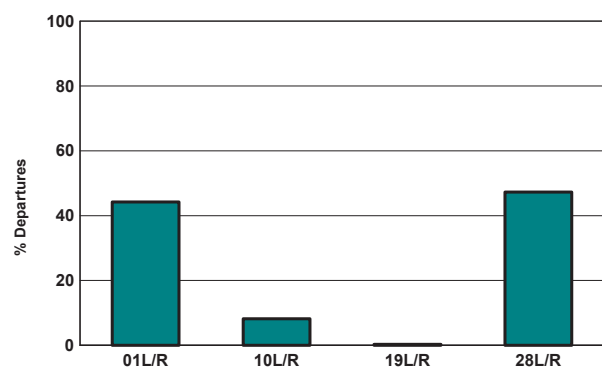
Monthly Jet Departures

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YTD |
|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----------|----------|----------|--------------|
| 01L/R | 77 | 82 | 126 | 124 | 122 | 173 | 275 | 214 | 132 | - | - | - | 1,325 |
| 10L/R | 42 | 37 | 48 | 18 | 36 | 36 | 10 | 2 | 16 | - | - | - | 245 |
| 19L/R | - | - | 4 | - | - | - | 5 | - | - | - | - | - | 9 |
| 28L/R | 30 | 29 | 90 | 185 | 215 | 270 | 188 | 208 | 201 | - | - | - | 1,416 |
| Total | 149 | 148 | 268 | 327 | 373 | 479 | 478 | 424 | 349 | - | - | - | 2,995 |
| 01L/R | 52% | 55% | 47% | 38% | 33% | 36% | 58% | 50% | 38% | 0% | 0% | 0% | 44% |
| 10L/R | 28% | 25% | 18% | 6% | 10% | 8% | 2% | 0% | 5% | 0% | 0% | 0% | 8% |
| 19L/R | 0% | 0% | 1% | 0% | 0% | 0% | 1% | 0% | 0% | 0% | 0% | 0% | 0% |
| 28L/R | 20% | 20% | 34% | 57% | 58% | 56% | 39% | 49% | 58% | 0% | 0% | 0% | 47% |

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: September 2013

Time of Day : All Hours



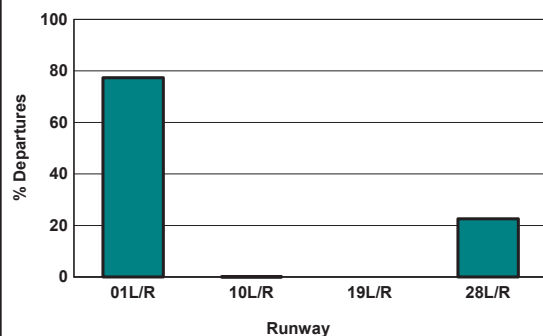
San Francisco International Airport

Runway Utilization (All Hours)

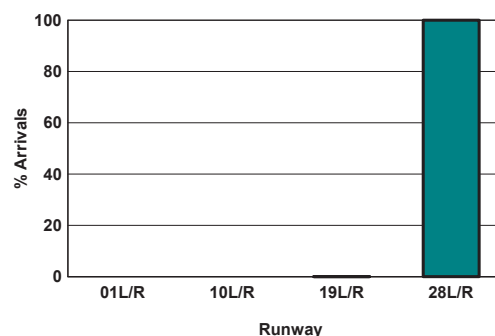
Source: Airport Noise Monitoring System

| | Runway Utilization | | | | Total |
|--------------------------|--------------------|-------|-------|--------|--------|
| | 01L/R | 10L/R | 19L/R | 28L/R | |
| Total Monthly Operations | | | | | |
| Departures | 13,112 | 13 | 0 | 3,829 | 16,954 |
| Arrivals | 0 | 0 | 4 | 16,542 | 16,546 |
| Percentage Utilization | | | | | |
| Departures | 77.3% | 0.1% | 0.0% | 22.6% | 100% |
| Arrivals | 0.0% | 0.0% | 0.0% | 100.0% | 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. 287 Overview
Wednesday, September 4, 2013

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

Roundtable Vice-chairperson Naomi Partridge called the Regular Meeting of the SFO Airport/Community Roundtable to order, at approximately 7:04 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

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)
Cliff Lentz - City of Brisbane
Michael Brownrigg - City of Burlingame
Steve Okamoto - City of Foster City
Naomi Partridge, Roundtable Vice-chairperson - City of Half Moon Bay
Alvin Royse - Town of Hillsborough
Sue Digre - City of Pacifica
Ken Ibarra - City of San Bruno
Maureen Freschet - City of San Mateo
Pradeep Gupta - City of South San Francisco
David Burow - Town of Woodside

REGULAR MEMBERS ABSENT

City and County of San Francisco Board of Supervisors (Vacant)
City and County of San Francisco Mayor's Office
Town of Atherton
City of Belmont
City of Daly City
City of Menlo Park
City of Millbrae
Town of Portola Valley
City of Redwood City
City of San Carlos

ADVISORY MEMBERS PRESENT

Don Kirby - Northern California TRACON
Dave Foyle - Federal Aviation Administration, Sierra-Pacific District
Glen 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
David Ong, Noise Abatement Systems Manager
John Hampel, Noise Abatement Specialist

2. Public Comments on Items NOT on the Agenda

Foster City resident Derrick Chua discussed the impacts to his family from an arriving aircraft over his home in Foster City. Mr. Chua pointed out fines and sanctions that exist for noise offending airlines and asked that this be looked into.

David Butler, a resident of San Bruno, expressed concern over increased vibration and noise as a result of aircraft over flight. With the upcoming closures of runways for the continuing safety improvements, it was requested that this matter be placed on the agenda to investigate mitigation measures related to noise, vibration and pollution prior to the next closures.

CONSENT AGENDA

3. Review of Airport Director's Report for May 2013, June 2013 and July 2013

4. Review of Roundtable Regular Meeting Overview for June 5, 2013

DISCUSSION: None

ACTION: Rich Newman MOVED the approval of the Consent Agenda items. The motion was seconded by Michael Brownrigg and CARRIED, unanimously.

REGULAR AGENDA – PRESENTATION ITEMS

5. Review of SFO FlyQuiet Report for Q2 2013

Bert Ganoung, Noise Abatement Manager, provided an overview of the SFO FlyQuiet Report for the second quarter of 2013, which was included in the meeting packet. Mr. Ganoung pointed out the airlines who are showing improving scores, and those who the Noise Abatement Office is working with to achieve quieter profiles.

DISCUSSION: Foster City representative Steve Okamoto asked what kind of penalty is given for airlines with poor ratings. Mr. Ganoung responded by saying that the Noise Abatement Office work with the airlines to rectify the problems related to noise abatement procedures. San Mateo representative Maureen Freschet inquired about repeat offenders and if airlines are fined. Mr. Ganoung indicated that SFO is a non-fining airport, but that the Noise Abatement Office aggressively pursues offending airlines in order to work with them to address the problem. Woodside representative David Burow suggested having a future agenda item to review the legal context and limits of existing federal regulations regarding noise.

ACTION: Ken Ibarra MOVED the approval of the SFO FlyQuiet Report for Q2 2013. The motion was seconded by Cliff Lentz and CARRIED, unanimously.

6. Airport Director's Comments

Airport Director John Martin expressed thanks for all those involved in responding and aiding SFO during the Asiana Airlines flight 214 incident in July. Mr. Martin indicated slow growth in airline traffic, approximately 1%, with the leveling off of domestic traffic. It was reported that portable noise monitors were recently deployed in Belmont and San Carlos and preparations were being made to deploy additional portable monitors in Woodside. It was indicated, also, that the Oakland Airport Noise Abatement Office would be participating in a joint deployment effort in Woodside. Mr. Martin then presented a draft PSA video to provide an overview of the upcoming runway safety area work to start in the coming year.

DISCUSSION: Brisbane representative Cliff Lentz asked about the impacts associated with the runway closures discussed in the video. Mr. Martin responded that the airport during closure periods will operate with only Runways 28L and 28R, and areas commonly impacted by departures on those runways can expect increased traffic, with Brisbane possibly seeing a reduction with good execution of the Shoreline departure procedure. Airport Noise Abatement Manager Bert Ganoung provided additional details on the expected departure profiles during the closures. Mr. Lentz also inquired about the efforts SFO will be taking to notify and reach out regarding the construction and impacts. Airport Public Information Officer, Doug Yakel, explained the airport will be reaching out to cities, and prepared to present the video at a variety of forums.

REGULAR AGENDA – WORK PROGRAM ITEMS

7. SFO Construction Update and Departure/Arrival affects

Updates and discussion on this item occurred in the previous item.

8. Update on FAA's PORTE Departure Analysis

Bert Ganoung, Airport Noise Abatement Manager, reported on airlines flying the PORTE departure and indicated the nighttime flights have been performing well, but continue to work with airlines for isolated incidents to avoid significant noise impacts over Brisbane.

DISCUSSION: Brisbane resident Peter Grace expressed that flights over Brisbane have become worse, and indicated that the FAA is running aircrafts in groups. He has given up writing and filing complains as there has been no progress. It was also expressed that the data provided be given earlier, and to be provided to include what next steps will be taken as the FAA continues to investigate.

9. Work Program Subcommittee recommendations, Oceanic Arrivals Over the Woodside VOR

Roundtable technical consultant Cindy Gibbs provided a brief overview of the June 25, 2013 Work Program subcommittee meeting. The subcommittee agreed to recommend having aircraft monitored on a quarterly basis with deployed semi-portable noise monitors, and establish a

noise decibel base level of 52 dB for daytime (7:00 a.m. to 10:00 p.m.) and 42 dB for nighttime readings. The subcommittee also agreed to present to the Roundtable noise analysis of different arrival profiles over the Woodside VOR to compare and evaluate.

DISCUSSION: Woodside resident Jim Lyons wished to make three points regarding the memorandum included in the meeting packet. First, it was unclear what flights are being monitored, and Mr. Lyons indicated that all flights should be included. Secondly, there is a concern in the subcommittee utilizing the data collected last summer by the Airport Noise Abatement Office monitors, as this data is considered corrupted. If CNEL will be utilized as part of the data analysis, a premium should be included for the time period between 7:00 p.m. to 10:00 p.m. Finally, Mr. Lyons expressed that a portable noise monitor be deployed in Portola Valley for ongoing reporting and analysis.

Portola Valley resident Patrick Schnabel expressed concern with increased traffic noise over the community, as well air pollution. Tina Nguyen, also a Portola Valley resident, echoed Jim Lyons point regarding the deployment of a noise monitor in Portola Valley. Concern was also expressed in regard to the Airport Director's report in reference to the number of filed complaints in Portola Valley being not accurate. It was indicated that there is a significantly higher number of complaints than what is reflected in the report. Ms. Nguyen concluded by sharing comments from an online community forum and survey regarding noise impacts to residences.

Portola Valley resident Victor Schachter reiterated the concerns previously made by Mr. Lyons and Ms. Nguyen. It was expressed that the current efforts through the Roundtable have been too slow and too late, and that the community will be proceeding in a different direction by meeting directly with Congresswoman Eshoo and Spears in a meeting to be conducted on September 23, 2013. Mr. Schachter voiced that he felt the FAA, through the Roundtable, inadvertently, is legitimizing that the communities are being heard. While understanding that it is not the intent of the Roundtable, he urged members to consider the use of their time serving on the Roundtable. Jan Schachter, also a Portola Valley resident, reiterated the importance of this conversation with the Roundtable, as the noise this summer has been horrible and remains to be a major problem. She concluded by asking that if airlines decide how many flights to conduct, is there ever an end point to the amount of flights to add.

10. Report, Optimization of Airspace & Procedures in the Metroplex (OAPM) Environmental Review

Vice-chairperson Patridge pointed out a draft letter included in the meeting packet from Chairman Gee, expressing the Roundtable's ongoing interest in discussions regarding the OAPM Environmental Review, and, with the Roundtable's approval, will finalize the letter to be sent.

DISCUSSION: None.

ACTION: Sue Digre MOVED the approval of the draft letter. The motion was seconded by Rich Newman and CARRIED, unanimously.

11. Website Update

Roundtable technical consultant Cindy Gibbs and Roundtable Coordinator James Castañeda provided an overview of the forthcoming website update. Ms. Gibbs indicated that the site will go live before the next Roundtable Regular Meeting, and will take any immediate feedback members may have.

DISCUSSION: Woodside representative David Burrow suggested to incorporate navigation through anticipated common inquires (i.e., "I want to..."). Mr. Castañeda agreed it would be helpful, and would be looked into. Members suggested that staff reach out to a few Roundtable members to get feedback prior to the site going live.

12. Airport Noise Briefing

Roundtable technical consultant Cindy Gibbs reported on current and anticipated impacts of sequestration, aircraft delivery trends and benefits, the first ADSB gate-to-gate satellite navigation performed by JetBlue this summer, and ongoing monitoring of SB15 regarding UAV uses.

13. Member Communications / Announcements

Rich Newman learned of the passing of Herb Foreman who served on the Roundtable for many years. It was requested that the meeting adjourn in memory of Mr. Foreman, and that his family be notified of such, expressing the Roundtable's condolences.

Roundtable Coordinator James Castañeda reminded members of the upcoming joint TRACON tour on September 19, 2013 with the Oakland Noise Forum.

Airport Noise Abatement Manager Bert Ganoung announced the upcoming annual SFO FOD (Foreign Object Debris) Walk on September 25, 2013.

Vice-chairperson Patridge invited people to attend the Half Moon Bay Pumpkin festival October 19 and 20, 2013.

14. Adjourn

The meeting was adjourned in memory of Herb Foreman at approximately 8:56 p.m.

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

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REGULAR AGENDA

Regular Meeting # 288
November 6, 2013

Agenda Items 5 - 14

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Fly Quiet Report

**Presented at the November 6, 2013
Airport Community Roundtable Meeting**
SFO Aircraft Noise Abatement Office
Third Quarter 2013



Fly Quiet Program

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

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

Program Goals

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

Program Reports

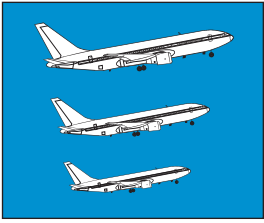
Fly Quiet reports communicate results in a clear, understandable format on a scale of 0-10, zero being poor and ten being good. This allows for an easy comparison between airlines over time. Individual airline scores are computed and reports are generated each quarter. These quantitative scores allow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

Program Elements

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



SFO's Fly Quiet Ratings



Fleet Noise Quality

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



Noise Exceedance

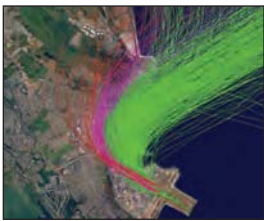
Eliminating high-level noise events is a long-standing goal of the Airport and the Airport Community Roundtable. As a result the Airport has established single event maximum noise level limits at each noise-monitoring site. These thresholds were set to identify aircraft producing noise levels higher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

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



Nighttime Preferential Runway Use

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



Shoreline Departure Quality

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

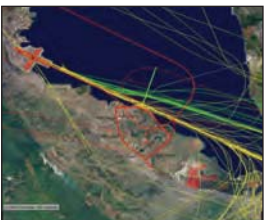
In order to evaluate each airline's performance when flying a Shoreline Departure, a corridor was established using Interstate 101 (green colored flight tracks) as a reference point. The corridor runs north along 101, beginning approximately one-mile north-northwest of the end of Runways 28L and 28R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



Gap Departure Quality

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

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


























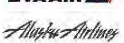











Foster City Arrival Quality

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







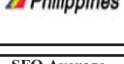
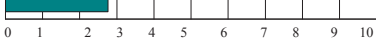


Airline Fly Quiet Summary Report - 3rd Quarter 2013

July 1 to September 30, 2013

| Airline | | Fleet Noise Quality | Noise Exceedance | Nighttime Runway Use | Departures Shoreline Gap | | Arrivals Foster City | Final Score | Airline Fly Quiet Rating | | | |
|---|-----|---------------------|------------------|----------------------|--------------------------|------|----------------------|-------------|--------------------------|-------------|--|--|
|  | CPZ | 10.00 | 9.97 | - | 10.00 | 7.85 | 6.25 | 8.81 | <div><div></div></div> | | | |
|  | SCX | 5.82 | 10.00 | - | 10.00 | - | - | 8.61 | <div><div></div></div> | | | |
|  | DLH | 9.09 | 9.92 | - | 10.00 | 4.74 | - | 8.44 | <div><div></div></div> | | | |
|  | ANA | 7.15 | 9.97 | - | - | 7.84 | - | 8.32 | <div><div></div></div> | | | |
|  | CES | 4.05 | 9.97 | - | - | 9.88 | - | 7.97 | <div><div></div></div> | | | |
|  | ABX | 4.87 | 8.36 | - | 10.00 | 9.58 | 6.35 | 7.83 | <div><div></div></div> | | | |
|  | AFR | 6.37 | 9.86 | - | 10.00 | 4.37 | - | 7.65 | <div><div></div></div> | | | |
|  | SKW | 10.00 | 9.93 | 3.48 | 9.50 | 7.25 | 5.44 | 7.60 | <div><div></div></div> | | | |
|  | SAS | 8.17 | 9.86 | - | - | 4.74 | - | 7.59 | <div><div></div></div> | | | |
|  | WJA | 5.82 | 9.85 | - | 10.00 | 5.83 | 5.77 | 7.45 | <div><div></div></div> | | | |
|  | UAE | 7.15 | 9.97 | - | - | 5.21 | - | 7.44 | <div><div></div></div> | | | |
|  | TRS | 5.82 | 9.82 | 3.33 | 9.29 | 8.44 | 7.93 | 7.44 | <div><div></div></div> | | | |
|  | SWR | 8.17 | 9.94 | - | - | 3.65 | - | 7.25 | <div><div></div></div> | | | |
|  | FDX | 4.09 | 8.32 | - | 10.00 | 7.50 | 6.00 | 7.18 | <div><div></div></div> | | | |
|  | SWA | 5.77 | 9.82 | 3.33 | 9.89 | 7.17 | 6.54 | 7.09 | <div><div></div></div> | | | |
|  | DAL | 6.69 | 9.87 | 3.52 | 9.33 | 5.35 | 7.49 | 7.04 | <div><div></div></div> | | | |
|  | XLF | 4.05 | 10.00 | - | - | - | - | 7.02 | <div><div></div></div> | | | |
|  | VRD | 5.21 | 9.87 | 3.33 | 10.00 | 6.56 | 6.79 | 6.96 | <div><div></div></div> | | | |
|  | FFT | 6.16 | 9.89 | - | 10.00 | 1.25 | 7.41 | 6.94 | <div><div></div></div> | | | |
|  | AWE | 4.79 | 9.86 | 3.45 | 9.23 | 6.28 | 7.72 | 6.89 | <div><div></div></div> | | | |
|  | AAL | 5.73 | 9.90 | 3.58 | 9.65 | 4.30 | 7.69 | 6.81 | <div><div></div></div> | | | |
|  | JBU | 4.85 | 9.85 | 3.33 | 9.14 | 6.05 | 7.42 | 6.78 | <div><div></div></div> | | | |
|  | AMX | 5.82 | 9.59 | 3.19 | 10.00 | 5.58 | 5.80 | 6.66 | <div><div></div></div> | | | |
|  | KLM | 3.43 | 9.91 | - | 8.00 | 5.10 | - | 6.61 | <div><div></div></div> | | | |
|  | TAI | 5.66 | 9.47 | 3.14 | 10.00 | 4.88 | 6.07 | 6.53 | <div><div></div></div> | | | |
|  | ACA | 7.01 | 9.81 | 3.33 | 9.47 | 2.75 | 6.51 | 6.48 | <div><div></div></div> | | | |
| | | | | | | | | | 6.46 | SFO AVERAGE | | |
|  | UAL | 5.82 | 9.73 | 3.38 | 9.07 | 3.65 | 6.68 | 6.39 | <div><div></div></div> | | | |
|  | EVA | 6.53 | 7.71 | 0.00 | 10.00 | 5.55 | 7.50 | 6.21 | <div><div></div></div> | | | |
|  | ASA | 5.37 | 9.87 | 3.33 | 10.00 | 3.47 | 5.00 | 6.17 | <div><div></div></div> | | | |
|  | JAL | 7.09 | 9.97 | 3.33 | - | 4.96 | 5.00 | 6.07 | <div><div></div></div> | | | |
|  | CCA | 3.43 | 9.91 | - | - | 4.88 | - | 6.07 | <div><div></div></div> | | | |
|  | NCA | 5.78 | 8.14 | - | - | 5.00 | 5.00 | 5.98 | <div><div></div></div> | | | |
|  | VIR | 3.43 | 9.97 | - | - | 4.33 | - | 5.91 | <div><div></div></div> | | | |
|  | KAL | 8.27 | 7.02 | 1.46 | - | 4.94 | 5.11 | 5.36 | <div><div></div></div> | | | |
|  | SIA | 7.15 | 7.98 | 0.15 | - | 5.65 | - | 5.23 | <div><div></div></div> | | | |
| | LPE | 3.84 | 9.85 | 3.33 | - | 3.89 | - | 5.23 | <div><div></div></div> | | | |
| | GTI | 4.65 | 8.00 | 0.00 | 6.67 | 5.00 | 6.43 | 5.12 | <div><div></div></div> | | | |
| | BAW | 3.43 | 9.76 | - | - | 2.05 | - | 5.08 | <div><div></div></div> | | | |
| | HAL | 4.05 | 8.35 | - | - | 2.36 | 5.00 | 4.94 | <div><div></div></div> | | | |








































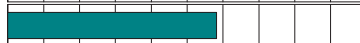
























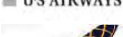







Airline Fly Quiet Summary Report - 3rd Quarter 2013

















July 1 to September 30, 2013

| Airline | | Fleet Noise Quality | Noise Exceedance | Nighttime Runway Use | <u>Departures</u> Shoreline Gap | | <u>Arrivals</u> Foster City | Final Score | Airline Fly Quiet Rating | | | | | | | | | | |
|---|-----|------------------------|---------------------|-------------------------|------------------------------------|------|--------------------------------|----------------|---|--|--|--|--|--|--|--|--|--|--|
|  | CPA | 5.39 | 7.45 | 0.04 | - | 5.85 | 5.53 | 4.85 |  | | | | | | | | | | |
|  | AAR | 4.61 | 5.09 | 0.85 | - | 5.71 | 5.41 | 4.33 |  | | | | | | | | | | |
|  | ANZ | 4.36 | 0.00 | 3.33 | - | 3.41 | 5.00 | 4.03 |  | | | | | | | | | | |
|  | CAL | 3.43 | 1.55 | 0.22 | - | 5.41 | 5.00 | 3.12 |  | | | | | | | | | | |
|  | PAL | 4.49 | 0.31 | 0.00 | - | 4.04 | 5.00 | 2.77 |  | | | | | | | | | | |
| SFO Average | | 5.75 | 8.73 | 2.35 | 9.55 | 5.29 | 6.17 | 6.46 | | | | | | | | | | | |

Fleet Noise Quality - 3rd Quarter 2013







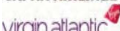
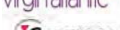

















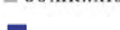












July 1 to September 30, 2013

| Airline | | Nationwide | San Francisco | | Fleet Noise Quality Rating |
|---|--|-------------------------------|------------------------------------|-------|---|
| | | Fleet Noise Quality Rating | Average Daily Jet Operations | Score | |
|  CPZ | | 10.00 | 5 | 10.00 |  |
|  SKW | | 10.00 | 80 | 10.00 |  |
|  DLH | | 6.09 | 2 | 9.09 |  |
|  KAL | | 4.05 | 2 | 8.27 |  |
|  SAS | | 4.96 | 1 | 8.17 |  |
|  SWR | | 5.17 | 1 | 8.17 |  |
|  ANA | | 5.43 | 1 | 7.15 |  |
|  SIA | | 5.93 | 2 | 7.15 |  |
|  UAE | | 7.89 | 1 | 7.15 |  |
|  JAL | | 4.20 | 1 | 7.09 |  |
|  ACA | | 6.75 | 10 | 7.01 |  |
|  DAL | | 4.92 | 29 | 6.69 |  |
|  EVA | | 5.05 | 2 | 6.53 |  |
|  AFR | | 5.49 | 2 | 6.37 |  |
|  FFT | | 6.41 | 4 | 6.16 |  |
|  AMX | | 5.54 | 2 | 5.82 |  |
|  SCX | | 5.82 | 2 | 5.82 |  |
|  TRS | | 6.97 | 3 | 5.82 |  |
|  WJA | | 5.82 | 2 | 5.82 |  |
|  UAL | | 5.83 | 172 | 5.82 |  |
|  NCA | | 3.90 | 1 | 5.78 |  |
|  SWA | | 5.70 | 41 | 5.77 |  |
| | | | | 5.75 | SFO AVERAGE |
|  AAL | | 3.94 | 29 | 5.73 |  |
|  TAI | | 5.18 | 2 | 5.66 |  |
|  CPA | | 4.18 | 2 | 5.39 |  |
|  ASA | | 5.10 | 14 | 5.37 |  |
|  VRD | | 5.31 | 49 | 5.21 |  |
|  ABX | | 1.52 | 1 | 4.87 |  |
|  JBU | | 6.13 | 12 | 4.85 |  |
|  AWE | | 5.67 | 15 | 4.79 |  |
|  GTI | | 0.93 | 0 | 4.65 |  |
|  AAR | | 3.93 | 2 | 4.61 |  |
|  PAL | | 5.09 | 1 | 4.49 |  |
|  ANZ | | 4.00 | 1 | 4.36 |  |
|  FDX | | 2.80 | 1 | 4.09 |  |
|  CES | | 4.63 | 1 | 4.05 |  |

| Airline | | Nationwide | San Francisco | | Fleet Noise Quality Rating |
|---|-----|----------------------------|------------------------------|-------|---|
| | | Fleet Noise Quality Rating | Average Daily Jet Operations | Score | |
|  | HAL | 6.21 | 1 | 4.05 |  |
|  | XLF | 4.05 | 0 | 4.05 |  |
|  | LPE | 4.38 | 0 | 3.84 |  |
|  | BAW | 4.34 | 2 | 3.43 |  |
|  | CAL | 3.62 | 2 | 3.43 |  |
|  | CCA | 3.46 | 1 | 3.43 |  |
|  | KLM | 4.67 | 1 | 3.43 |  |
|  | VIR | 5.84 | 1 | 3.43 |  |
| AVERAGE | | 5.16 | 11 | 5.75 | |


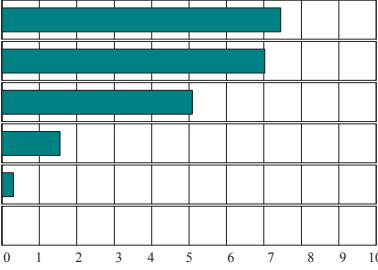





Noise Exceedance Rating Report - 3rd Quarter 2013

July 1 to September 30, 2013

| Airline | Noise Exceedances | | | | Noise Exceedance Quality Rating |
|---|-------------------------|----------------------------|---------------------------------|-------|---------------------------------|
| | Total Noise Exceedances | Total Quarterly Operations | Exceedances per 1000 Operations | Score | |
|  SCX | 0 | 386 | 0 | 10.00 | |
|  XLF | 0 | 36 | 0 | 10.00 | |
|  ANA | 1 | 184 | 5 | 9.97 | |
|  UAE | 1 | 184 | 5 | 9.97 | |
|  CES | 1 | 183 | 5 | 9.97 | |
|  JAL | 1 | 183 | 5 | 9.97 | |
|  VIR | 1 | 183 | 5 | 9.97 | |
|  CPZ | 5 | 846 | 6 | 9.97 | |
|  SWR | 2 | 184 | 11 | 9.94 | |
|  SKW | 173 | 14,719 | 12 | 9.93 | |
|  DLH | 5 | 368 | 14 | 9.92 | |
|  KLM | 3 | 184 | 16 | 9.91 | |
|  CCA | 3 | 183 | 16 | 9.91 | |
|  AAL | 95 | 5,415 | 18 | 9.90 | |
|  FFT | 15 | 747 | 20 | 9.89 | |
|  VRD | 209 | 8,986 | 23 | 9.87 | |
|  DAL | 124 | 5,268 | 24 | 9.87 | |
|  ASA | 60 | 2,513 | 24 | 9.87 | |
|  AFR | 9 | 366 | 25 | 9.86 | |
|  AWE | 68 | 2,730 | 25 | 9.86 | |
|  SAS | 4 | 158 | 25 | 9.86 | |
|  JBU | 58 | 2,172 | 27 | 9.85 | |
|  LPE | 2 | 74 | 27 | 9.85 | |
|  WJA | 10 | 367 | 27 | 9.85 | |
|  TRS | 17 | 540 | 31 | 9.82 | |
|  SWA | 242 | 7,456 | 32 | 9.82 | |
|  ACA | 63 | 1,892 | 33 | 9.81 | |
|  BAW | 16 | 368 | 43 | 9.76 | |
|  UAL | 1,536 | 31,672 | 48 | 9.73 | |
|  AMX | 24 | 329 | 73 | 9.59 | |
|  TAI | 30 | 315 | 95 | 9.47 | |
| | | | | 8.73 | SFO AVERAGE |
|  ABX | 62 | 212 | 292 | 8.36 | |
|  HAL | 54 | 184 | 293 | 8.35 | |
|  FDX | 39 | 130 | 300 | 8.32 | |
|  NCA | 50 | 151 | 331 | 8.14 | |
|  GTI | 21 | 59 | 356 | 8.00 | |
|  SIA | 133 | 369 | 360 | 7.98 | |
|  EVA | 152 | 372 | 409 | 7.71 | |

Noise Exceedance Rating Report - 3rd Quarter 2013

July 1 to September 30, 2013

| Airline | Noise Exceedances | | | | Noise Exceedance Quality Rating |
|---|-------------------------|----------------------------|---------------------------------|-------|---|
| | Total Noise Exceedances | Total Quarterly Operations | Exceedances per 1000 Operations | Score | |
|  CPA | 173 | 381 | 454 | 7.45 |  |
|  KAL | 193 | 364 | 530 | 7.02 | |
|  AAR | 302 | 345 | 875 | 5.09 | |
|  CAL | 456 | 303 | 1505 | 1.55 | |
|  PAL | 316 | 183 | 1727 | 0.31 | |
|  ANZ | 310 | 174 | 1782 | 0.00 | |
| TOTAL | | | | | |
| SFO AVERAGE | | | | | |


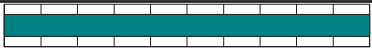








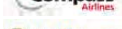






































Nighttime Preferential Runway Use - 3rd Quarter 2013

July 1 to September 30, 2013

| Airline | Nighttime Departures (1:00 am to 6:00 am) | | | | | | Nighttime Runway Use Rating |
|------------------------|---|-------|-----------------|-------|----------------|-------|-----------------------------|
| | Total | 10L/R | 28L/R Shoreline | 01L/R | 28L/R Straight | Score | |
| American Airlines AAL | 68 | 0% | 7% | 93% | 0% | 3.58 | |
| DELTA DAL | 36 | 0% | 6% | 94% | 0% | 3.52 | |
| SkyWest SKW | 23 | 0% | 4% | 96% | 0% | 3.48 | |
| US AIRWAYS AWE | 29 | 0% | 3% | 97% | 0% | 3.45 | |
| UNITED UAL | 207 | 0% | 3% | 93% | 3% | 3.38 | |
| AIR CANADA ACA | 5 | 0% | 0% | 100% | 0% | 3.33 | |
| AIR NEW ZEALAND ANZ | 2 | 0% | 0% | 100% | 0% | 3.33 | |
| Allegiant Airlines ASA | 3 | 0% | 0% | 100% | 0% | 3.33 | |
| JAPAN AIRLINES JAL | 1 | 0% | 0% | 100% | 0% | 3.33 | |
| jetBlue JBU | 30 | 0% | 0% | 100% | 0% | 3.33 | |
| LAN LPE | 1 | 0% | 0% | 100% | 0% | 3.33 | |
| SOUTHWEST AIRLINES SWA | 3 | 0% | 0% | 100% | 0% | 3.33 | |
| AirTran TRS | 14 | 0% | 0% | 100% | 0% | 3.33 | |
| Verde America VRD | 34 | 0% | 0% | 100% | 0% | 3.33 | |
| AEROMEXICO AMX | 71 | 1% | 1% | 89% | 8% | 3.19 | |
| TACA TAI | 119 | 0% | 2% | 91% | 8% | 3.14 | |
| | | | | | | 2.35 | |
| KOREAN AIR KAL | 89 | 15% | 0% | 0% | 85% | 1.46 | |
| ASIANA AIRLINES AAR | 71 | 8% | 0% | 0% | 92% | 0.85 | |
| CHINA AIRLINES CAL | 90 | 2% | 0% | 0% | 98% | 0.22 | |
| SINGAPORE AIRLINES SIA | 90 | 1% | 0% | 1% | 98% | 0.15 | |
| CATHAY PACIFIC CPA | 90 | 0% | 0% | 1% | 99% | 0.04 | |
| EVA AIR EVA | 121 | 0% | 0% | 0% | 100% | 0.00 | |
| ATLAS AIR GTI | 1 | 0% | 0% | 0% | 100% | 0.00 | |
| Philippines PAL | 7 | 0% | 0% | 0% | 100% | 0.00 | |
| TOTAL 1,205 | | | | | | | |
| SFO AVERAGE | | 1% | 1% | 65% | 33% | 2.35 | |

























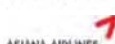



































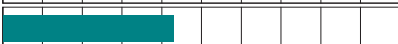










Shoreline Departure Rating - 3rd Quarter 2013

July 1 to September 30, 2013

| Airline | Shoreline Departures | | | | | Shoreline Departure Rating |
|---|----------------------|------------|----------|------|-------|---|
| | Total | Successful | Marginal | Poor | Score | |
|  ABX | 5 | 100% | 0% | 0% | 10.00 |  |
|  AFR | 2 | 100% | 0% | 0% | 10.00 |  |
|  AMX | 1 | 100% | 0% | 0% | 10.00 |  |
|  ASA | 58 | 100% | 0% | 0% | 10.00 |  |
|  CPZ | 17 | 100% | 0% | 0% | 10.00 |  |
|  DLH | 4 | 100% | 0% | 0% | 10.00 |  |
|  EVA | 1 | 100% | 0% | 0% | 10.00 |  |
|  FDX | 9 | 100% | 0% | 0% | 10.00 |  |
|  FFT | 28 | 100% | 0% | 0% | 10.00 |  |
|  SCX | 20 | 100% | 0% | 0% | 10.00 |  |
|  TAI | 2 | 100% | 0% | 0% | 10.00 |  |
|  VRD | 163 | 100% | 0% | 0% | 10.00 |  |
|  WJA | 11 | 100% | 0% | 0% | 10.00 |  |
|  SWA | 47 | 98% | 2% | 0% | 9.89 |  |
|  AAL | 157 | 94% | 4% | 1% | 9.65 |  |
| | | | | | 9.55 |  |
|  SKW | 319 | 92% | 5% | 3% | 9.50 |  |
|  ACA | 57 | 89% | 11% | 0% | 9.47 |  |
|  DAL | 126 | 87% | 12% | 1% | 9.33 |  |
|  TRS | 14 | 86% | 14% | 0% | 9.29 |  |
|  AWE | 52 | 87% | 12% | 2% | 9.23 |  |
|  JBU | 35 | 83% | 17% | 0% | 9.14 |  |
|  UAL | 769 | 84% | 14% | 2% | 9.07 |  |
|  KLM | 5 | 80% | 0% | 20% | 8.00 |  |
|  GTI | 3 | 33% | 67% | 0% | 6.67 |  |
| TOTAL 1,905 | | | | | | |
| SFO AVERAGE | | 92% | 7% | 1% | 9.55 | |














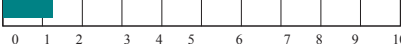
Gap Departure Climb Rating - 3rd Quarter 2013

July 1 to September 30, 2013

| Airline | Gap Departures | | Gap Departure Quality Rating |
|---|----------------|-------|--|
| | Total | Score | |
|  CES | 86 | 9.88 |  |
|  ABX | 3 | 9.58 |  |
|  TRS | 4 | 8.44 |  |
|  CPZ | 57 | 7.85 |  |
|  ANA | 91 | 7.84 |  |
|  FDX | 3 | 7.50 |  |
|  SKW | 207 | 7.25 |  |
|  SWA | 256 | 7.17 |  |
|  VRD | 173 | 6.56 |  |
|  AWE | 73 | 6.28 |  |
|  JBU | 32 | 6.05 |  |
|  CPA | 188 | 5.85 |  |
|  WJA | 3 | 5.83 |  |
|  AAR | 163 | 5.71 |  |
|  SIA | 180 | 5.65 |  |
|  AMX | 13 | 5.58 |  |
|  EVA | 185 | 5.55 |  |
|  CAL | 137 | 5.41 |  |
|  DAL | 175 | 5.35 |  |
| | | 5.29 |  |
|  UAE | 91 | 5.21 |  |
|  KLM | 13 | 5.10 |  |
|  GTI | 5 | 5.00 |  |
|  NCA | 74 | 5.00 |  |
|  JAL | 63 | 4.96 |  |
|  KAL | 166 | 4.94 |  |
|  CCA | 91 | 4.88 |  |
|  TAI | 10 | 4.88 |  |
|  SAS | 76 | 4.74 |  |
|  DLH | 175 | 4.74 |  |
|  AFR | 115 | 4.37 |  |
|  VIR | 76 | 4.33 |  |
|  AAL | 82 | 4.30 |  |
|  PAL | 87 | 4.04 |  |
|  LPE | 36 | 3.89 |  |
|  SWR | 88 | 3.65 |  |


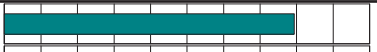
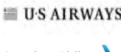






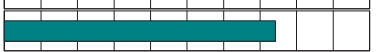

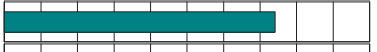

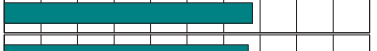





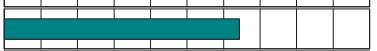



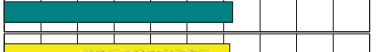




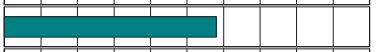









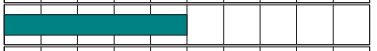









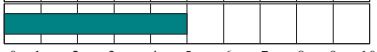
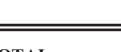
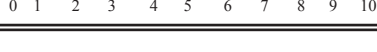



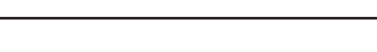




Gap Departure Climb Rating - 3rd Quarter 2013

July 1 to September 30, 2013

| Airline | Gap Departures | | Gap Departure Quality Rating |
|---|----------------|-------|--|
| | Total | Score | |
|  UAL | 2578 | 3.65 |  |
|  ASA | 40 | 3.47 |  |
|  ANZ | 84 | 3.41 |  |
|  ACA | 5 | 2.75 |  |
|  HAL | 9 | 2.36 |  |
|  BAW | 169 | 2.05 |  |
|  FFT | 1 | 1.25 |  |
| TOTAL 6163 | | | |
| SFO Average 5.29 | | | |

Foster City Arrival Rating - 3rd Quarter 2013

July 1 to September 30, 2013

| Airline | Foster City Arrivals | | | | | Foster City Arrival Rating |
|---|----------------------|------------|----------|------|-------|---|
| | Total | Successful | Marginal | Poor | Score | |
|  TRS | 58 | 59% | 41% | 0% | 7.93 |  |
|  AWE | 160 | 54% | 46% | 0% | 7.72 |  |
|  AAL | 199 | 55% | 44% | 1% | 7.69 |  |
|  EVA | 2 | 50% | 50% | 0% | 7.50 |  |
|  DAL | 217 | 50% | 49% | 0% | 7.49 |  |
|  JBU | 196 | 48% | 52% | 0% | 7.42 |  |
|  FFT | 29 | 52% | 45% | 3% | 7.41 |  |
|  VRD | 229 | 36% | 64% | 0% | 6.79 |  |
|  UAL | 1,194 | 35% | 64% | 1% | 6.68 |  |
|  SWA | 269 | 32% | 66% | 1% | 6.54 |  |
|  ACA | 63 | 32% | 67% | 2% | 6.51 |  |
|  GTI | 7 | 29% | 71% | 0% | 6.43 |  |
|  ABX | 48 | 27% | 73% | 0% | 6.35 |  |
|  CPZ | 8 | 25% | 75% | 0% | 6.25 |  |
| | | | | | 6.17 |  |
|  TAI | 117 | 22% | 77% | 1% | 6.07 |  |
|  FDX | 60 | 20% | 80% | 0% | 6.00 |  |
|  AMX | 56 | 18% | 80% | 2% | 5.80 |  |
|  WJA | 13 | 15% | 85% | 0% | 5.77 |  |
|  CPA | 19 | 11% | 89% | 0% | 5.53 |  |
|  SKW | 204 | 12% | 85% | 3% | 5.44 |  |
|  AAR | 73 | 8% | 92% | 0% | 5.41 |  |
|  KAL | 90 | 2% | 98% | 0% | 5.11 |  |
|  ANZ | 1 | 0% | 100% | 0% | 5.00 |  |
|  ASA | 37 | 3% | 95% | 3% | 5.00 |  |
|  CAL | 1 | 0% | 100% | 0% | 5.00 |  |
|  HAL | 2 | 0% | 100% | 0% | 5.00 |  |
|  JAL | 1 | 0% | 100% | 0% | 5.00 |  |
|  NCA | 5 | 0% | 100% | 0% | 5.00 |  |
|  PAL | 1 | 0% | 100% | 0% | 5.00 |  |
| TOTAL | 3,359 | | | | | |
| SFO AVERAGE | | 24% | 75% | 1% | 6.17 | |



November 6, 2013

TO: Roundtable Representatives

FROM: Cindy Gibbs, Roundtable Technical Consultant

SUBJECT: Work Program Subcommittee, Woodside Oceanic Analysis and Action Items

Background

As a follow up to the June 25, 2013 Woodside Subcommittee meeting, the Subcommittee requested additional information be provided including, (1) approval of bi-annual noise monitoring in the vicinity of the Woodside VOR and (2) additional analysis of flights over the Woodside VOR (OSI). Item one was approved by the Roundtable at its September 4, 2013 meeting. This memo focuses on Item Two and will present the analysis and findings.

Additional Analysis of Flights over the Woodside VOR

At the aforementioned Woodside Subcommittee meeting, BridgeNet presented its analysis of flights in the vicinity of the Woodside VOR, which included 29,602 correlated flight tracks and noise data collected from May 10 through July 8, 2012. The existing OSI VORTAC gate was used to identify arriving flights to SFO; this analysis did not include departures or overflights. This is the same gate used by the SFO ANAO for the weekly Woodside VOR report. The gate is 9 nautical miles long and shown in **Figure 1**.

The Subcommittee members asked that this data be analyzed further to focus on aircraft altitude and noise level over the Woodside VOR for two common arrivals, the Oceanic Arrival and Ocean Tailored Arrival, as well as aircraft on vector headings. Aircraft arriving over the Woodside VOR utilize a procedure or are vectored on approach. Aircraft using a procedure typically use the Oceanic Arrival or Ocean Tailored Arrival (OTA). Currently, there are three aircraft equipped to fly the OTA procedure, the Boeing 747-400, Boeing 777, and Boeing 787. The Boeing 787 was not in service at the time of the data collection, therefore is not part of this analysis. The Oceanic Arrival is the only procedure that requests aircraft do not descend below 8,000 feet until after the Woodside VOR; all other arriving aircraft need to adhere to the minimum vector altitude for the airspace sector. The minimum vector altitude is determined by the use of the airspace, for example, arriving aircraft to SFO. While other aircraft types flew over the Woodside VOR during this time period, this detailed analysis looks at the specific aircraft that can fly the Oceanic and OTA arrivals.

This analysis focused on determining the typical noise levels and altitude of aircraft using these procedures when they are directly over the Woodside VOR. Specifically, BridgeNet used the following parameters to analyze these flights:

- Aircraft flew within 1 NM of the Woodside VOR temporary noise monitor #969,
- Aircraft that had a positive correlation of radar data to a noise event,
- Aircraft utilizing the OTA,
- Aircraft utilizing the Oceanic Arrival, and
- Aircraft vectored over the Woodside VOR.

Data Source

The noise data was derived from temporary noise monitor #969 placed at the Woodside VOR from May 10 through July 8, 2012. Of the 59 days that the noise monitor was at the Woodside VOR, there was approximately seven days in late June that the monitor did not collect data. Since these flights could not be correlated to a noise event, they were not included in this analysis. The portable noise monitor collected 1-second data, which means that noise was recorded every 1-second for the every 24-hour period. The meter captured all noise that rose above the ambient noise level. **Figure 2** shows the aircraft that flew directly over the Woodside VOR. The maximum noise level (Lmax) for aircraft noise events recorded at the monitor ranged from 49 dB to 71 dB for this data set; utilizing the sound exposure level (SEL), these noise events ranged from 61 SEL to 79 SEL. This is the same data used for the recommendation of a lower noise floor for future monitoring at the Woodside VOR.

Findings

There were 316 flights that qualified for analysis under the parameters provided by the Woodside Subcommittee, which is a subset of the original 29,602 correlated flights. The Boeing 777 was responsible for approximately 50% of the aircraft operations, while the Boeing 747-400 comprised the remaining 50% of operations. As the table below shows, operations by the Boeing 777 were quieter overall due to it being a newer aircraft, lighter, and operates two engines. The Boeing 747-400 is older, heavier, and operates four engines. The procedures accounted for operations as follows:

- OTA – 7%
- Partial OTA – 14%
- Oceanic – 35%
- Vector – 43%

Woodside Oceanic Arrivals, Work Program Subcommittee

November 6, 2013

Page 3 of 5

| Procedure | Aircraft | Number of Operations | Average Altitude, Feet | Average SEL |
|------------------|-----------------|-----------------------------|-------------------------------|--------------------|
| OTA | All | 24 | 5,973 | 74 dBA |
| | B777 | 11 | 5,690 | 73 dBA |
| | B747 | 13 | 6,255 | 74 dBA |
| Partial OTA | All | 45 | 7,143 | 72 dBA |
| | B777 | 21 | 7,058 | 71 dBA |
| | B747 | 24 | 7,228 | 72 dBA |
| Oceanic | All | 110 | 7,972 | 71 dBA |
| | B777 | 41 | 7,960 | 69 dBA |
| | B747 | 69 | 7,984 | 73 dBA |
| Vector | All | 137 | 7,253 | 74 dBA |
| | B777 | 84 | 7,449 | 72 dBA |
| | B747 | 53 | 7,056 | 75 dBA |

Next Steps – Meeting Action Items

The Subcommittee approved, and SFO ANAO accepted the task of quarterly noise monitoring in two locations, in Woodside at the Woodside VOR and in Portola Valley at a to-be-determined location. This will allow the SFO ANAO to start collecting data to create a database of noise events for aircraft operations and ambient noise levels. The noise data collected will be the “raw” 1-second noise data using the A-weighted scale.

This data will assist the airport in verifying trends of aircraft arrivals, and can be presented to the Roundtable. In addition to noise monitoring, it is suggested that the SFO ANAO include a verbal report at each Roundtable meeting on the current status of Oceanic and OTA arrivals.

Figure 1 – Woodside Gate

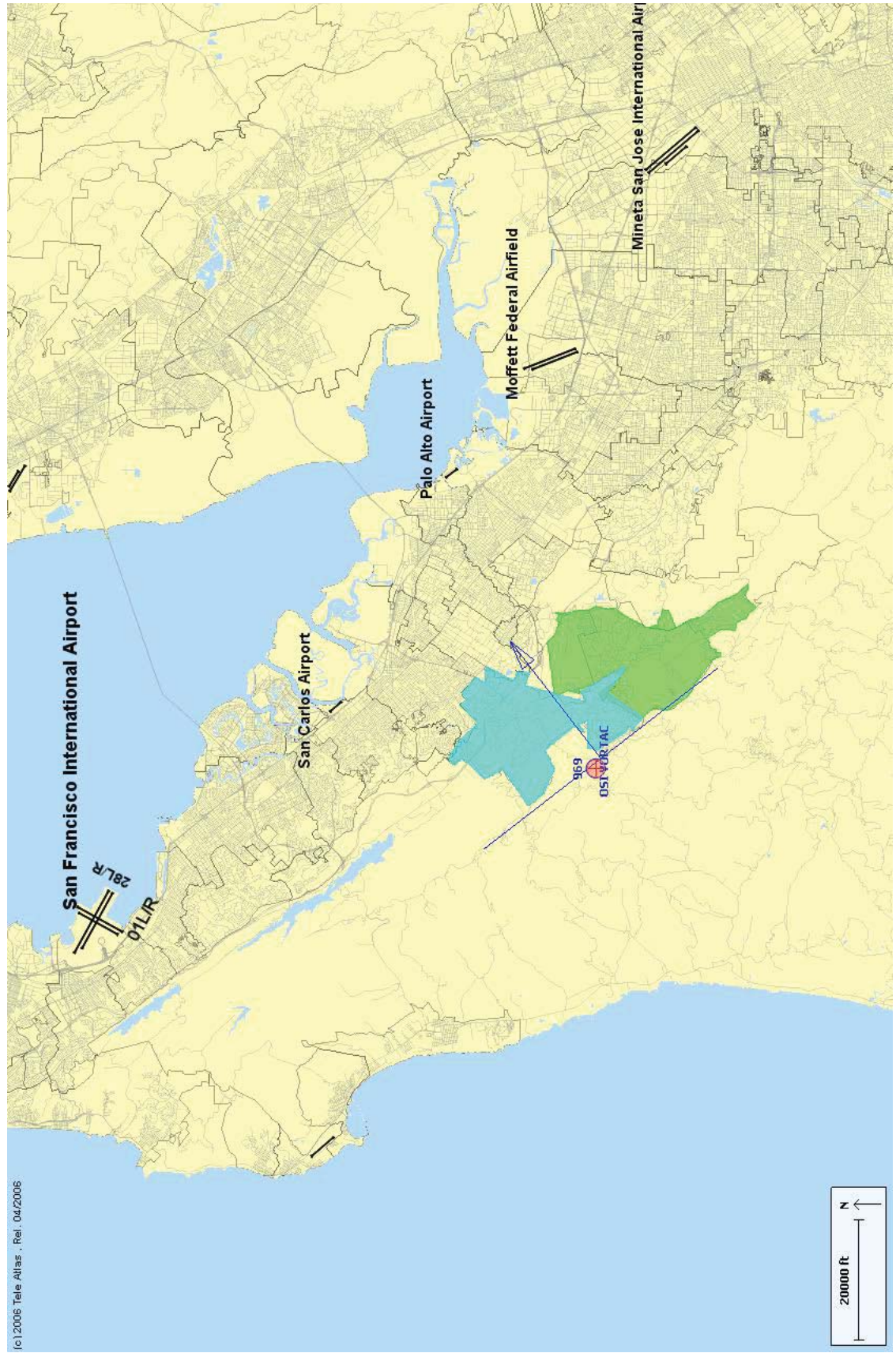
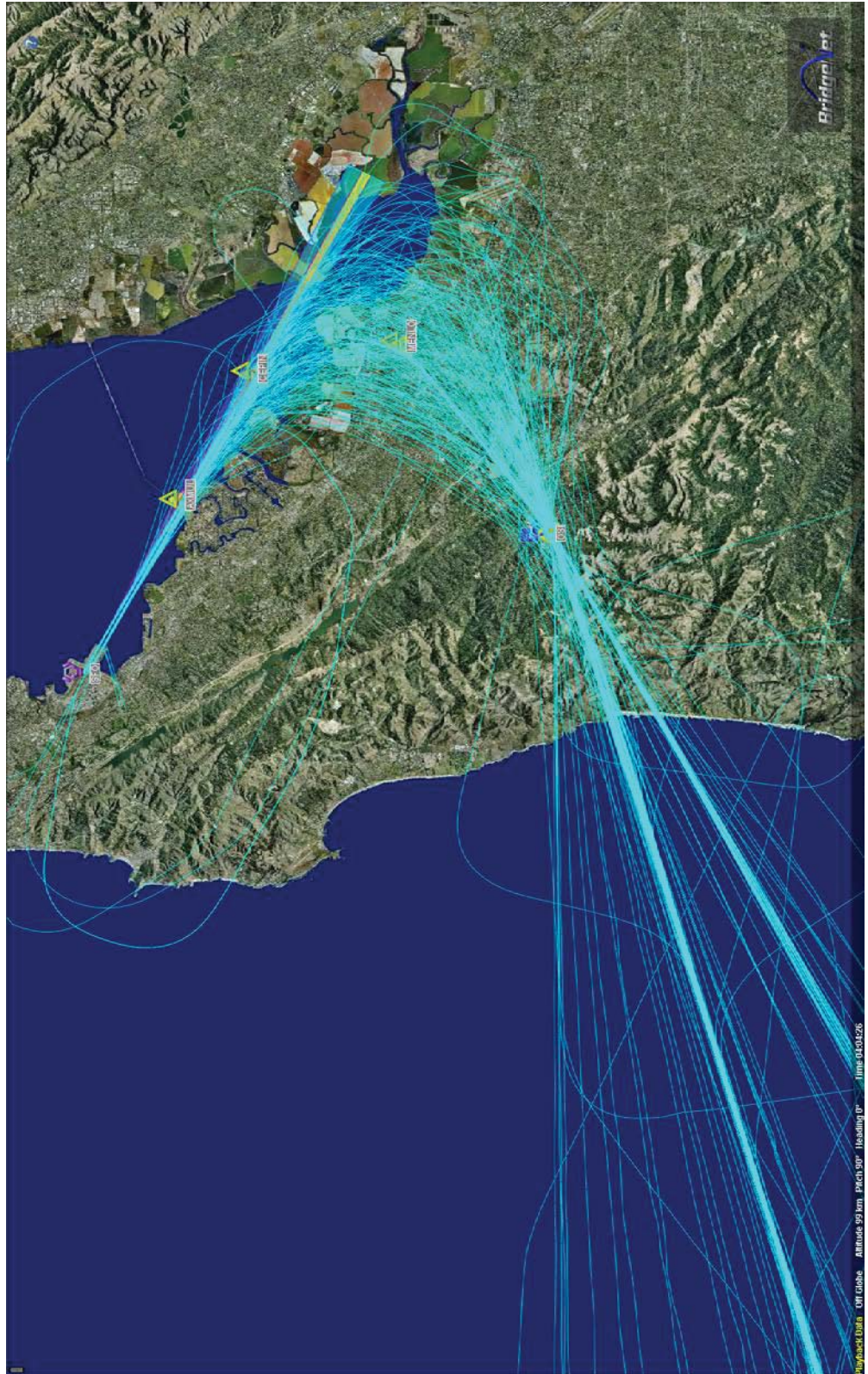


Figure 2 – Flight Track Plot for May 10 – July 8, 2012



SFO Airport/Community Roundtable
Work Program Subcommittee Meeting Overview
Thursday, October 10, 2013

1. Call to Order

Roundtable Coordinator James A. Castañeda, AICP called the Regular Meeting of the SFO Airport/Community Roundtable Work Program Subcommittee to order, at approximately 10:17 a.m., in Conference Room 405 of the San Mateo County Office Building 455 in Redwood City, California.

REGULAR MEMBERS PRESENT

Julian Chang – City and County of San Francisco Mayor’s Office (via teleconference)
Dave Pine – County of San Mateo Board of Supervisors
Cliff Lentz – City of Brisbane
Sue Digre – City of Pacifica
Ann Wengert – Town of Portola Valley
David Burow – Town of Woodside

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

OTHERS PRESENT

Jim Lyons, Woodside resident
Victor Schachter, Portola Valley resident
Tina Nguyen, Portola Valley resident

2. Public Comments on Items NOT on the Agenda

None

3. Public Presentation

Woodside resident Jim Lyons presented on behalf of the Ad Hoc Citizens’ Committee on Noise Abatement. Mr. Lyons outlined the main points of contention being that the SFO arrivals have changed resulting in increased air traffic, violation of minimum altitude requirements, and impacts on health and quality of life in the Woodside and Portola Valley communities. Mr. Lyons expanded on these points with detail and data to supplement, and concluded by presenting an action plan that included arriving aircraft conform to the “west plan” that do not shift into other areas over the community, and that all arriving flights conform to minimum altitude requirements (subject to genuine weather and safety concerns). Portola Valley resident Victor Schachter reiterated the points and concerns made in the presentation and encouraged members to put

thoughtful consideration that gets to the real issue which isn't about measuring level and quantity of noise levels, but focusing on solutions.

DISCUSSION: Roundtable Woodside representative Dave Burrow asked Mr. Lyons if Oceanic Tailored Arrivals (OTA) flights were included as part of their data. Portola Valley resident Tina Nguyen confirmed that it did not due to the complexity of collecting and processing.

Subcommittee Members inquired about the details of the September 23, 2013 meeting with Congresswoman Eshoo and Congresswoman Spears for the benefit of those who did not attend. Mr. Lyons listed those in attendance (FAA staff, SFO Airport Noise Abatement staff, the Roundtable chairperson among those) and recounted the events. The Congresswomen asked the FAA to present proposals to have the matter resolved. Ms. Nguyen indicated she had received a letter from Congresswoman Eshoo's office reaffirming their insistence upon the FAA for a solution. Roundtable Portola Valley representative Ann Wengert asked if Optimization of Airspace and Procedures in the Metroplex (OAPM) was discussed at the meeting. Mr. Lyons confirmed that Patty Daniel of the FAA made a presentation during the meeting, and that Congresswomen Spears didn't agree with the program's timeline as it didn't leave room for local community input prior to the release of the Environmental Assessment (EA).

Roundtable Technical Consultant Harvey Hartmann responded to a few points Mr. Lyons made during his presentation and clarified some technical remarks. Mr. Lyons explained that the subcommittee should be looking at the issues from the non-technical aspects of those people on the ground impacted by the noise. Mr. Burrow indicated that there seems to be two solutions which focus on airplanes maintaining higher altitudes, and proving that OTA reduces noise. Ms. Wengert expressed that the FAA seems to be the missing participating in these meetings, and that their involvement in these discussions is crucial. Airport Noise Abatement Manager Bert Ganoung confirmed that a representative from Norcal TRACON has been present at Roundtable meetings, and it was their intention to participate in the subcommittee meeting, but due to the Federal Government shutdown, they are not able to participate.

Brisbane member Cliff Lentz recounted that at the meeting with the Congresswomen, it was communicated to Patty Daniel that an additional "box" needs to be inserted into the timeline prior to the EA's release to allow for public participation in the planning process. It was suggested at that meeting that an advisory panel be formed to include representation from the Bay Area airport noise groups, as well as county supervisorial and congressional districts to advise the FAA. Mr. Lentz expressed that involvement during the planning process of new satellite accurate flight paths is beneficial to help give feedback to make improvements.

4. Oceanic Arrivals Over Woodside VOR, Presentation and Discussion

Roundtable Technical Consultant Cindy Gibbs provided a brief recap of the June 25, 2013 subcommittee meeting, and proceeded to discuss the findings in her analysis. As part of the presentation, Ms. Gibbs explained the different noise thresholds and noise weighted scales utilized in analyzing noise monitor data, as well as a demonstration of a single noise event and the resulting sound exposure level (SEL). With the analyzed data, Lmax noise ranged from 49 dBA to 71 dBA, SEL noise levels ranged from 61 dBA to 79 dBA, with altitude ranging from 8,400 to 5,800 mean sea level. Ms. Gibbs concluded by outlining the next steps as 1) continuing monitoring the Oceanic Tailored Arrivals (OTA) flights and request that the SFO Airport Noise Abatement Office report the average height of flights, and 2) continue monitoring Oceanic

arrivals for adherence to the 8,000 mean sea level altitude when able and conduct follow-up to flights not adhering to the such when able.

DISCUSSION: Roundtable Woodside representative Dave Burrow ask Jim Lyons to comment on the methods and techniques used by Ms. Gibbs in her analysis. Mr. Lyons indicated that there's a flaw in the data as the ad hoc committee used "A" weighted Lmax and not SEL. Portola Valley resident Tina Nguyen commented that there was no addressing of vectored flights and should have since Portola Valley receives triple the amount of over flights as a result.

Mr. Burrow continued to inquire of Mr. Lyons' concern with the data and methodology utilized in Ms. Gibbs analysis. Mr. Lyons indicated that the data from his sound engineer contradicts the data utilized. Mr. Burrow restated that the methodology used by Ms. Gibbs, which was the raw data from sound monitors and using a floating threshold to accommodate for variables. Mr. Lyons responded that his focus was the peak noise event measurements, and while he's data captured over 60 occurrences of noise events over 80dB, the data from the Noise Abatement Office noise monitors only captured two events, and ultimately do not agree on the fundamental data collected from the airport's noise monitoring equipment (and utilized by Ms. Gibbs' analysis).

Ms. Gibbs explained possible variability that could exist in measuring and recording sound data that could lead to discrepancy between monitors used. She discussed the criteria in site selection and standard methods used for noise monitor deployment for consistency and interference avoidance. Mr. Burrow encouraged that the periodic noise measurements are taken in a manner that everyone agrees on the methodology utilized as part of the ongoing monitoring efforts.

Ms. Nguyen asked if a noise monitor could be deployed in Portola Valley since there are three times the flights at lower altitudes over that community. Mr. Ganoung indicated that it's possible, but a site needs to be selected and evaluated for deployment. Roundtable Portola Valley representative Ann Wengert indicated she would work with Ms. Nguyen and the Noise Abatement Office in sectioning a site. Mr. Ganoung indicated that both Oakland and San Jose Airport Noise Office has offered deployment of their own noise monitoring equipment for independent data collection. Subcommittee members suggested that any additional deployment from Oakland should be done in conjunction with the Woodside monitoring, and any additional deployment from San Jose should be done in conjunction with a Portola Valley monitor.

The group concluded by agreeing that 1) reports will be conducted on a quarterly basis, 2) Woodside monitoring will be conducted at the Woodside VOR navigation aid site (OSI), 3) Ms. Wengert would work with Ms. Nguyen and Noise Abatement Office staff for a monitoring site in Portola Valley, and 4) the Noise Abatement Office will effort to commence data monitoring as early as November 1, 2013 if possible. Mr. Lyons requested that he and his acoustic expert be allowed to examine the noise monitoring installations. Mr. Ganoung indicated there may be an issue with being allowed on FAA property (Woodside VOR site), but would provide photos of the installation. The Portola Valley site, once selected, shouldn't be an issue.

5. Adjourn

The meeting was adjourned at approximately 12 noon.



Woodside Subcommittee Meeting

Cynthia Gibbs, BridgeNet International



Introduction

Woodside Subcommittee

- Last Subcommittee meeting – June 25, 2013
 - Members present: Dave Burrow (Woodside), Dave Pine (County of San Mateo), Sue Dirge (Pacifica), Ann Wengert (Portola Valley) and Cliff Lentz (Brisbane)
 - Discussed consultant analysis of radar and 1-second noise data from May 11, 2012 – July 8, 2012
 - Discussed altitude requirements of aircraft in the vicinity of the Woodside VOR and airspace sector requirements
 - Meeting Follow-Up:
 - Noise monitoring levels for day and nighttime use defined and ready to present to the Roundtable for approval (52 dBA day/42 dBA nt)
 - SFO ANAO to conduct quarterly noise monitoring at OSI VOR
 - Additional analysis of OTA and Oceanic flights versus vector flights above the Woodside VOR
 - ✓ Subcommittee requested the consultant to refine the data analysis
 - ✓ Refinement included monitoring aircraft noise level and altitude close-in to the Woodside VOR



OTA, Oceanic, Vector Flight Analysis

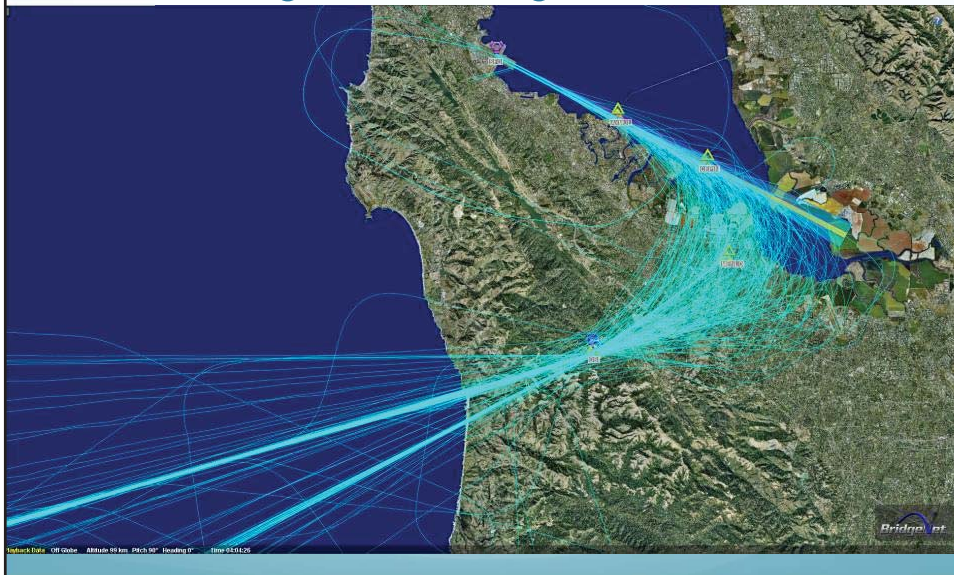
Requirements

- Aircraft flew within 1 NM of the Woodside VOR temporary noise monitor #969
- Aircraft that had a positive correlation of radar data to a noise event from site #969
- Aircraft that are equipped to fly the OTA, or Oceanic Arrival
- Aircraft vectored by ATC over the Woodside VOR that are capable of flying the OTA

Aircraft that meet the requirements: Boeing 777, Boeing 747-400



Flight Tracks: May 10 - July 8, 2012





OTA, Oceanic, Vector Flight Analysis

Data Source

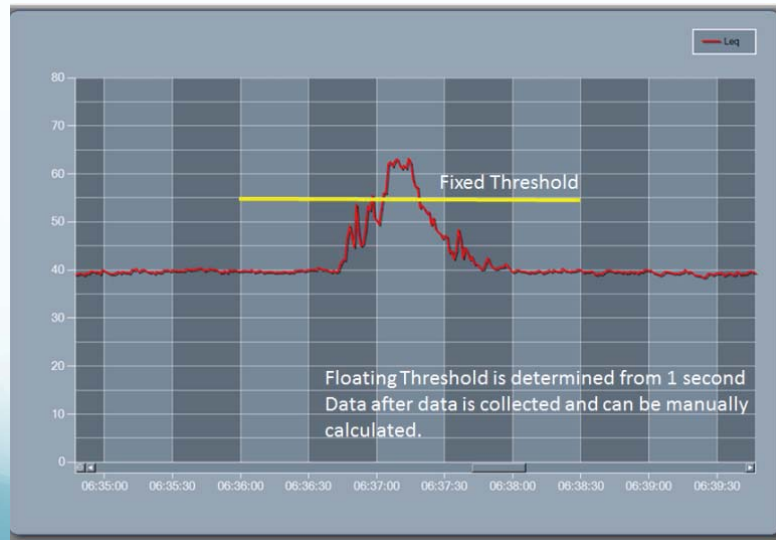
- Noise - 1-second, A-weighted noise data from the monitor used May 11, 2012 – July 8, 2012
- Calculate events after the measurements
- Use floating threshold to adjust to the ambient noise levels
- Radar – ANOMS system maintained by the SFO ANAO, derived from the FAA's radar feed



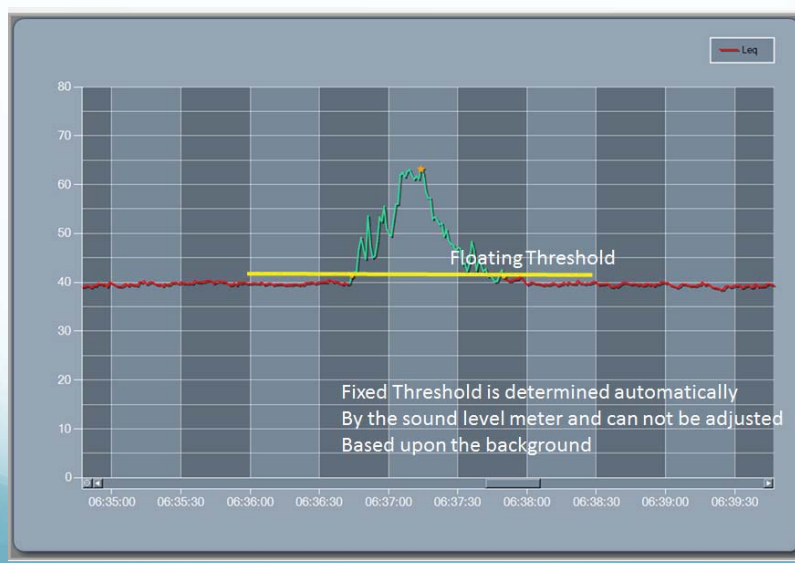
Noise Monitoring

- Noise monitor collects raw noise data known as “unweighted” noise
- Post-process analysis determines the Lmax and SEL for each event

Noise Monitoring – Fixed Threshold



Noise Monitoring – Floating Threshold





Noise Weighting Scales

Why A-weighted?

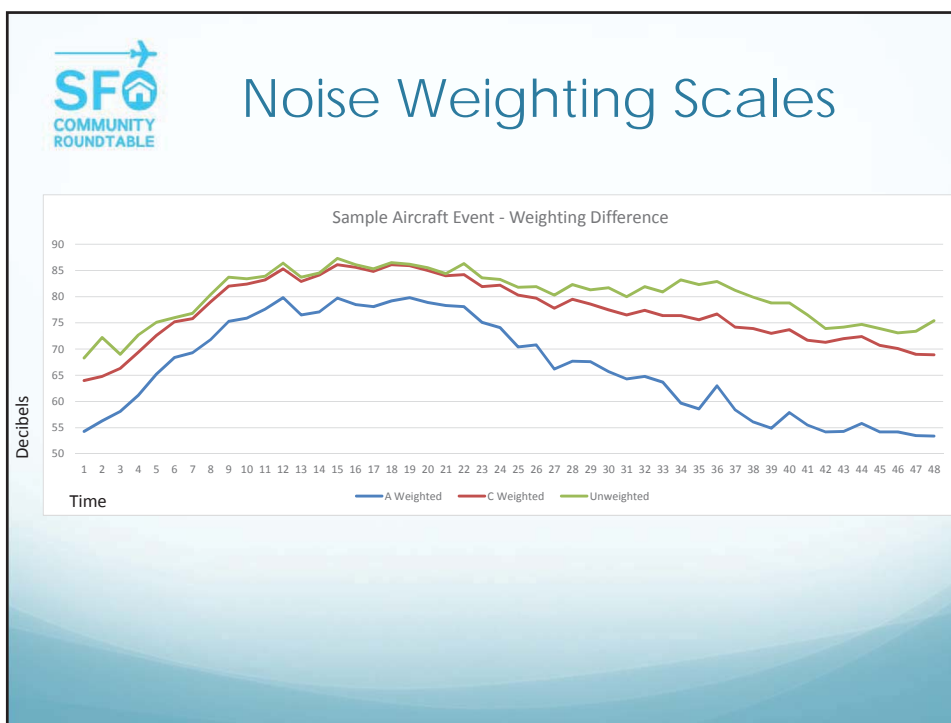
- Most closely mimics how the human ear hears sound
- Noise is “weighted” to favor frequencies of noise heard by the human ear
- Used to measure community noise
- Used by: EPA, FAA, Cal Trans, State of California, County of San Mateo



Noise Weighting Scales

What is C-weighted noise used for?

- Most closely replicates “low frequency noise”, i.e. low rumbling noises such as base speakers
- Not intended to replicate how a human ear interprets sound
- Flattens the noise curve at high frequencies
- Numerically is higher than A-weighted
- Used in industrial applications



SFO COMMUNITY ROUNDTABLE

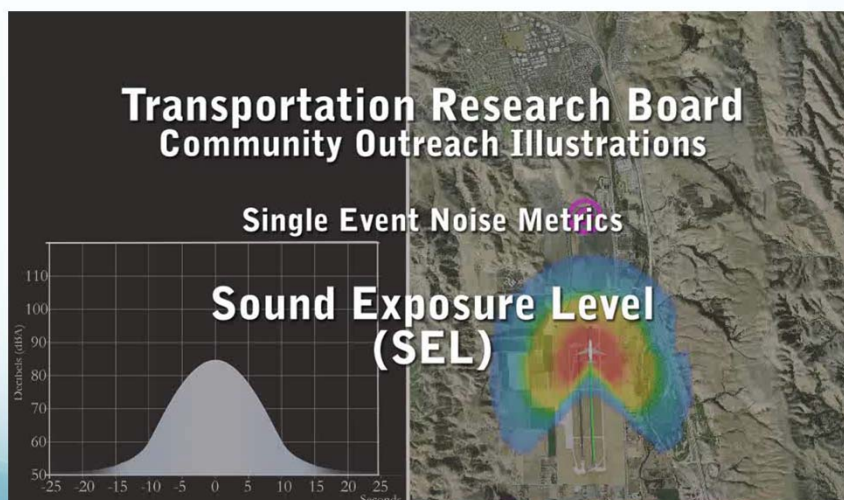
Noise Metric – Sound Exposure Level

Why use SEL?

- Represents the loudest point of the event (Lmax) and duration of the event
- SEL usually +/- 10 dBA louder than the maximum noise level because it accounts for the duration.
- Represents a higher noise value than what the human ear hears



Noise Metric – Sound Exposure Level



OTA, Oceanic, Vector Flight Analysis

Data Analyzed

- 316 radar tracks
- 316 correlated noise events utilizing A-weighted scale represented by Sound Exposure Level (SEL)
- Two aircraft types – Boeing 777 & Boeing 747-400

Data Results

| Procedure | Aircraft | Number of Operations | Average Altitude, Feet | Average SEL |
|-------------|----------|----------------------|------------------------|-------------|
| OTA | All | 24 | 5,973 | 74 dBA |
| | B777 | 11 | 5,690 | 73 dBA |
| | B747 | 13 | 6,255 | 74 dBA |
| Partial OTA | All | 45 | 7,143 | 72 dBA |
| | B777 | 21 | 7,058 | 71 dBA |
| | B747 | 24 | 7,228 | 72 dBA |
| Oceanic | All | 110 | 7,972 | 71 dBA |
| | B777 | 41 | 7,960 | 69 dBA |
| | B747 | 69 | 7,984 | 73 dBA |
| Vector | All | 137 | 7,253 | 74 dBA |
| | B777 | 84 | 7,449 | 72 dBA |
| | B747 | 53 | 7,056 | 75 dBA |

OTA Arrival



Oceanic Arrival





OTA, Oceanic, Vector Flight Analysis

- Data Results
 - Lmax noise levels ranged from 49 dBA to 71 dBA
 - SEL noise levels ranged from 61 dBA to 79 dBA
 - Altitudes ranged from 8,400' to 5,800' MSL
- Next Steps
 - Continue monitoring OTA arrivals and ask the SFO ANAO to verbally report to the Roundtable average height of flights
 - Continue watching Oceanic arrivals for adherence to the 8,000' MSL altitude when able, conduct follow-up to flights not adhering to altitude when able

The Increasing Burden of Commercial Aircraft Noise over the Mid-Peninsula

Ad Hoc Citizens' Committee on Noise Abatement
James E. Lyons
Dr. Tina N. Nguyen

October 10, 2013

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

1

Summary of Complaints

1. The flight paths for arrivals into SFO have changed over our communities, resulting in significantly increased air traffic.
2. These aircraft are extremely loud (averaging ~30 flights per week at >80 decibels), primarily because these aircraft violate minimum altitude requirements set by the Eshoo Agreement and FAA regulations.
3. The noise pollution has a detrimental impact on the health and quality of life of our families and neighbors. It also adversely affects wildlife in the area.
 - The problem can be fixed by conforming to the original flight paths in place until 2007 and respecting the minimum altitude requirements.

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

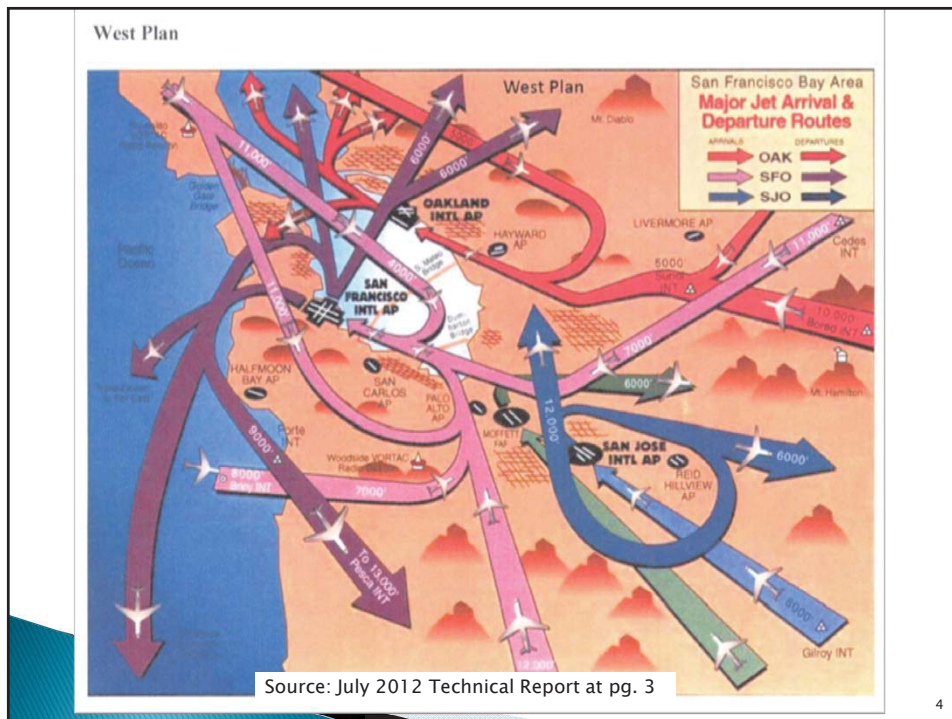
2

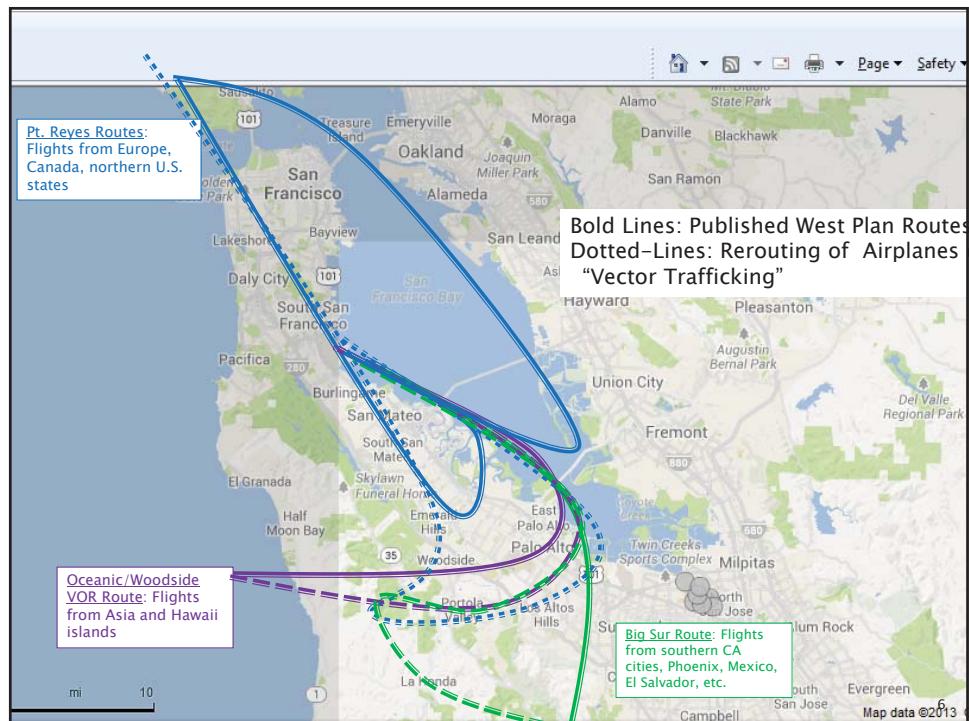
1. The Flight Plan Over Woodside VOR/ Portola Valley Has Changed Significantly

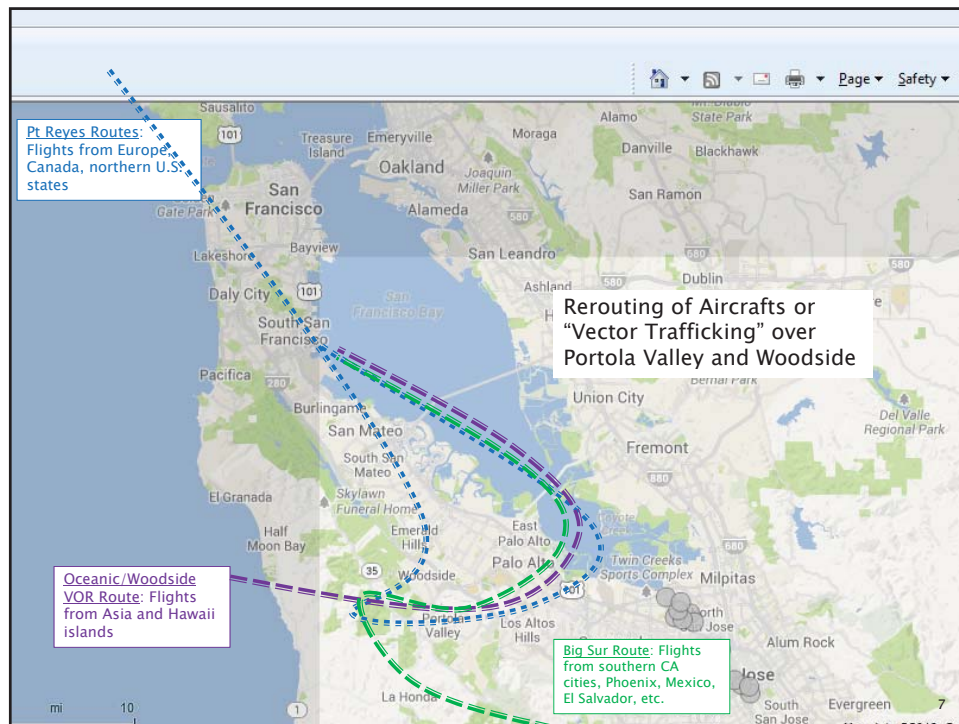
- The Noise Abatement Office (NAO) states that the usual configuration of arrivals at SFO uses Runways 28L and 28R and is known as the “West Plan.”
 - July 2012 Technical Report at pg. 3
- According to the NAO, in 2009 the West Plan was used 85% of the time.
 - Dec. 18, 2009, Letter from SFO Noise Manager David Ong
- Now, this standard arrival procedure is being ignored and traffic has increased dramatically.

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

3

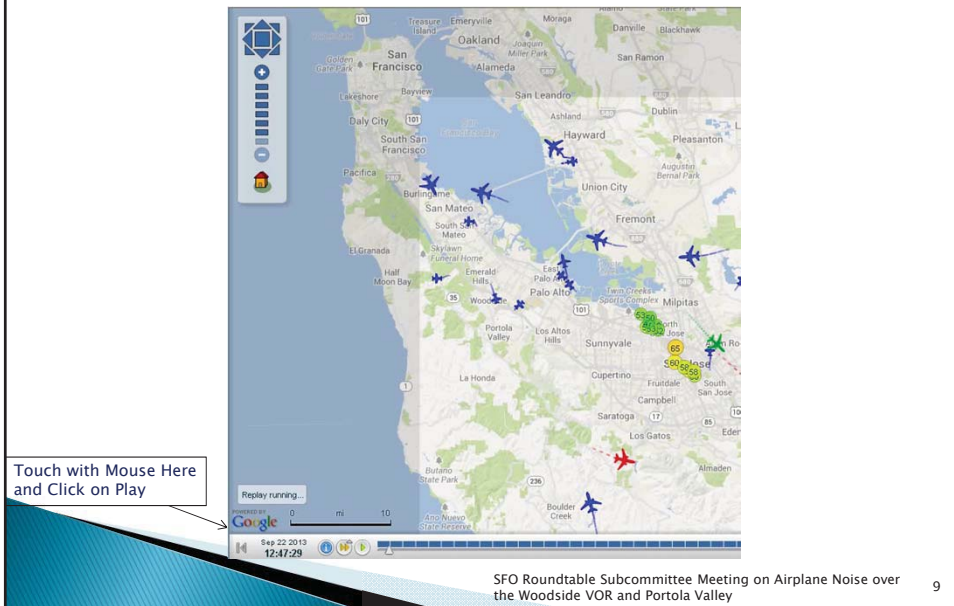






Webtrak Video Capture

Short video covers 22 minutes (9/23/13 12:48–1:10 pm) in which 7 SFO arriving flights were rerouted from Pt Reyes routes into Portola Valley and over the Woodside VOR.



The Increase in Air Traffic over Woodside VOR/ Portola Valley Confirms the Change in Routes

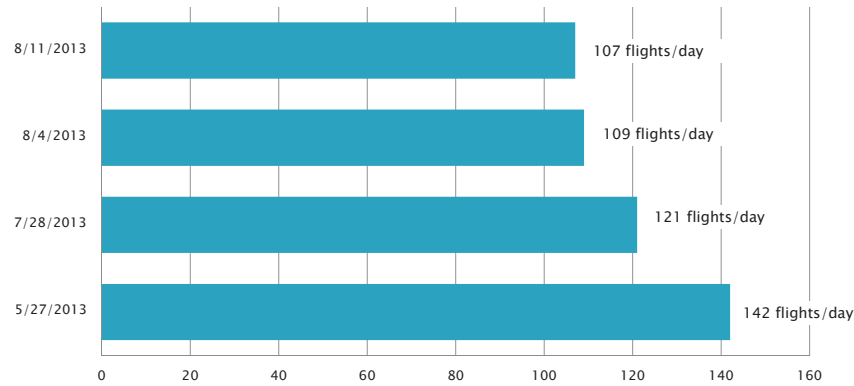
- In May 2000, Representative Eshoo noted that there were about 70 flights per day over her Congressional District into SFO.
 - May 12, 2000, Eshoo Letter
- Only about 50% of these flights (~35 flights) were over Woodside VOR and Portola Valley.
- Based on data recently obtained from the NAO, air traffic over these 2 communities has increased by more than **200 percent** over the past decade, while total SFO fixed-wing arrivals have remained the same.
- The difference must be the result of a decision by the FAA to shift air traffic onto Woodside VOR and Portola Valley.

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

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High Volume of SFO Airplanes over Portola Valley

Number of SFO Arriving Flights over Portola Valley per DAY



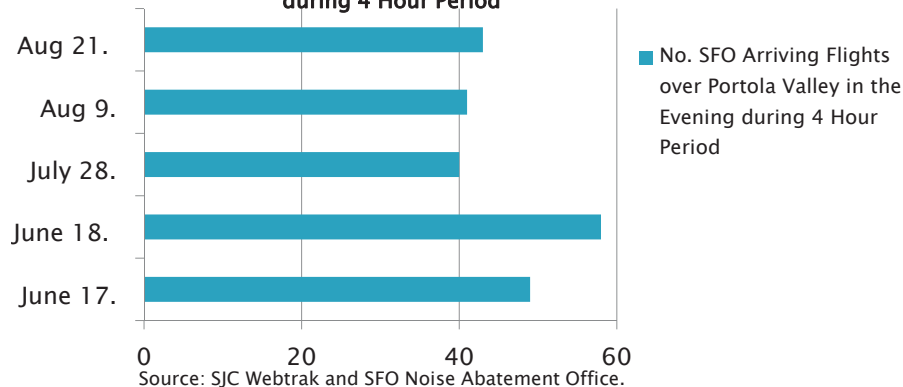
Source: SFO Noise Abatement Office and SJC Webtrak

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

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High Volume of SFO Airplanes over Portola Valley in the Evenings are Especially Disruptive

Number of SFO Arriving Flights over Portola Valley in the Evening during 4 Hour Period



Source: SJC Webtrak and SFO Noise Abatement Office.

- 40 or more flights within 4 hours in the evenings.
- As many as 18 flights over PV per hour and flying well past midnight.

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

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2. The Impact of this Traffic Increase is Exacerbated by the Deafening Noise

- We have heard from the Noise Abatement Office and the consultant to the Airport Roundtable that, “There is no noise problem.”
- This assertion is contrary to our painful experience and contradicted by our sound recordings.
- During a 16 day period in late August and early September this year at the Lyons’s home, there were 60 SFO arrivals generating a peak noise level of at least 80 decibels (dB).

- Source: Bruel & Kjaer 2250E Sound Level Analyzer

- 80 dB is as loud as a freight train at 15 meters and causes sleep disturbance through a closed window.

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

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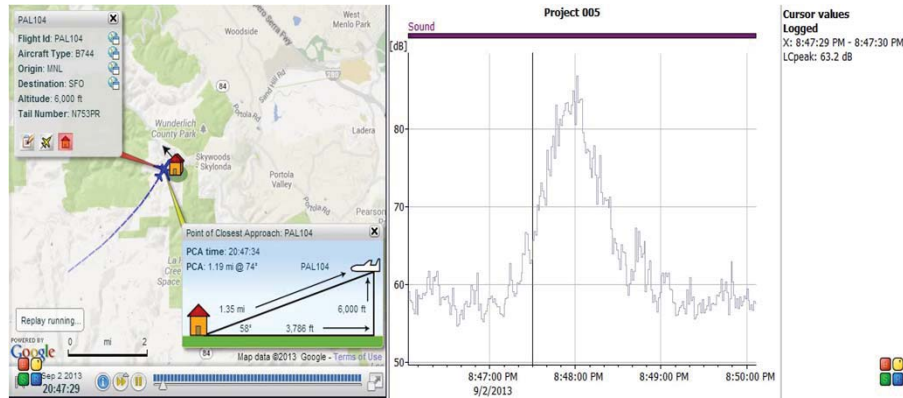
Woodside VOR/Portola Valley is a Noise Sensitive Area

- FAA regulations define a Noise Sensitive Area as one “where noise interferes with normal activities associated with its use” including residential and recreational areas and parks.
 - FAA Order 1050.1E, CHG 1, §11b (8).
- We are in the midst of a rural/semi-rural area, so there is no question that it is “noise sensitive.”
 - Patty Daniel, former Operations Support Manager of TRACON, called the Woodside VOR an “EXTREMELY NOISE SENSITIVE area”.
 - Patty Daniel e-mail on February 22, 2010.
- Impact: Loud noise has a much more disruptive impact in our noise sensitive environment.

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

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Sound Recording Data of Flight PAL 104 Over Lyons's Home Reaching 86.8 dB



To play short video, move mouse, bar will appear, and press play.

Source: SJC Webtrak and Bruel & Kjaer 2250E Sound Level Analyzer.

SFO Roundtable Subcommittee Meeting on Airplane Noise over
the Woodside VOR and Portola Valley

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Our Concern About the Subcommittee's Use of Sound Data from the NAO

- At the Subcommittee meeting on June 25, 2013, the Subcommittee discussed the analysis of noise monitoring conducted by the NAO at the VOR for May–July 2012.
- We assume this refers to the NAO's Technical Report of July 2012, which conducted a noise analysis for the Woodside VOR and Portola Valley for March 6 to July 8, 2012.
- In the Report, the NAO calculated that CNEL for SFO-bound aircraft ranged from 37.5 dB to 41.3 dB at the Woodside VOR and 32.5 dB to 36.2 dB for Portola Valley. (Report at 6.)
- This permitted the NAO to conclude that the daily average CNEL was “well below” state and federal limits. (Report at 2.)

SFO Roundtable Subcommittee Meeting on Airplane Noise over
the Woodside VOR and Portola Valley

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The NAO's Measurements and Conclusions are Flawed and Unreliable

- In our memo to the Roundtable of Nov. 23, 2012, we explained the numerous defects in the NAO's methodology and questioned the accuracy of its measurements.
- Our recent sound data illustrate another serious flaw in the NAO's sound measurements, which recorded only **two** instances in a four-month period in which arriving aircraft generated a peak noise level of more than 80 dB at the VOR. (Report at 16 and 17.)
 - This is in sharp contrast to our data showing **60** peak noise events from arriving aircraft greater than 80 dB in a 16 day period.
- Our recent measurements show either: (1) the NAO's measurements were wildly off base or (2) the number of noise events of 80 dB or greater from SFO arriving aircraft at the VOR has increased **23,250 percent** since last year.
- The Subcommittee should not credit the NAO's Report in reaching its conclusions.

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

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A Reason for the Excruciating Noise: Violation of Altitude Regulations

- The FAA has an agreement with Representative Eshoo and has adopted regulations requiring minimum altitudes over the Woodside VOR and Portola Valley.
- Recent data from the FAA and the NAO show that SFO arriving aircraft routinely violate these requirements.
- Note that Portola Valley is at 700 feet and the Woodside VOR is at 2,300 feet above sea level.

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

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The Eshoo Agreement



As you know, between 1998 and 2001 the Federal Aviation Administration approved the requirement that aircraft approaching San Francisco International Airport fly at a higher altitude over several communities on the Peninsula. We agreed then that the minimum altitude for aircraft flying over Skyline would be 8,000 feet, that the minimum altitude for aircraft flying over Menlo Interchange would be 5,000 feet, and that air traffic controllers would enforce these regulations for approaching flights into San Francisco and Oakland Airports.

Thank you for your attention to this matter and I look forward to your timely response.

Sincerely,

Anna G. Eshoo
Member of Congress
Endorse

SFO Roundtable Subcommittee Meeting on Airplane Noise over
the Woodside VOR and Portola Valley

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The FAA Regulates Minimum Altitude Over the Woodside VOR

➤ FAA Facility Order NCT 7110.65U provides:

"Traffic permitting, control room personnel shall apply the following Noise Abatement Procedures:

... 5-8. SFO

a. Arrivals...

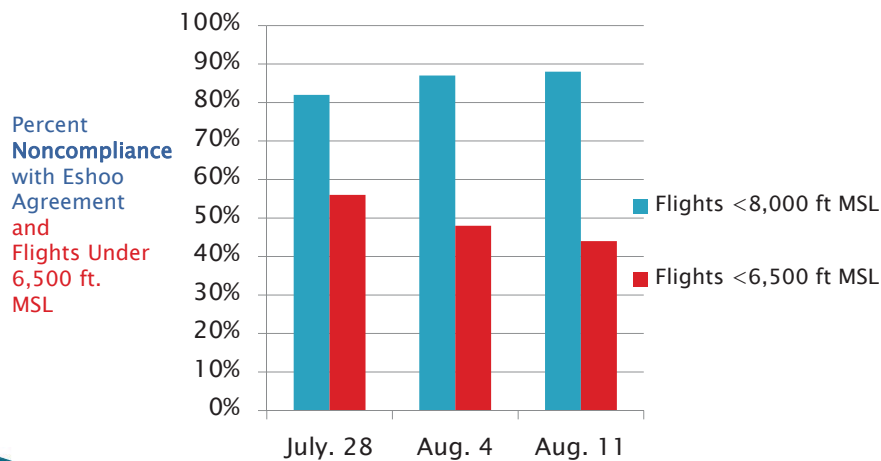
(2) Runways 28: ...

(f) All oceanic jet arrivals inbound from the west shall cross OSI at or above 8,000 feet MSL. Do not descend this traffic below 6,000 feet until east of V25 centerline."

SFO Roundtable Subcommittee Meeting on Airplane Noise over
the Woodside VOR and Portola Valley

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A Typical Sunday at the VOR: More than 80% of Flights are Under 8,000 Feet MSL



Source: SFO Noise Abatement Office

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

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Oceanic Arrivals Also Violate the Rules


- In response to a FOIA request, the FAA supplied a list of all “oceanic arrivals” over the Woodside VOR bound for SFO for the period January 1, 2013 to May 31, 2013. This was a total of more than 4,700 flights.
- During these 5 months:
 - 60.4 % of all flights were below 8,000 feet MSL.
 - 40.3 % of all flights were at or below 6,500 feet MSL.
 - 30.8 % of all flights were at or below 6,000 feet MSL.

• Source: Aug. 30 letter and CD-ROM from FAA

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

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Oceanic Arrivals Also Violate the Rules

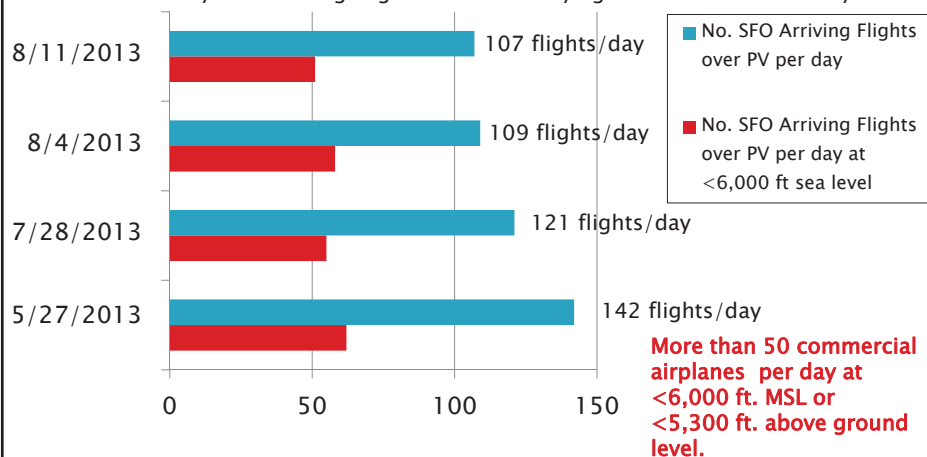
- One example:  **Philippine Airlines Flight 104** from Manila
 - Since January 1, 2012, 82% of the time PAL Flight 104 has crossed the Woodside VOR at <8,000 feet MSL (304 out of 370 flights)
 - 18% (or 68 flights) were at $\leq 6,000$ feet MSL.
 - The lowest flight was at 4,842 feet MSL, or 2,542 feet above ground level.
 - Source: SFO Noise Abatement Office

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

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Portola Valley: Low-Altitude Flights are Especially Disruptive

Number of Daily SFO Arriving Flights and Those Flying Low over Portola Valley



Source: SJC Webtrak and SFO Noise Abatement Office.

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

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3. Residents are Deeply Concerned

- We have received complaints on the airplane noise from more than 75 Portola Valley residents.
- Highlights:
 - One neighbor complained that the noise from low-flying aircraft “causes me literal pain” and another noted that the planes have caused “a real degradation in my quality of life.”
 - Several noted that they “noticed a lot more noise and low flying planes in the last few years.” One said, “I cannot ever remember so many planes!!! And so constant.”
 - The noise is described as “surprising loud and frequent” and “loud enough as to drown out conversation, radio, etc.”

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

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Action Plan

- We refuse to believe that nothing can be done to alleviate our burdensome noise problem.
- On behalf of the residents near the Woodside VOR and in Portola Valley, we ask for the following:
 - Arriving aircraft conform to the “West Plan” and that flights no longer be shifted from other areas onto our communities out of “convenience.”
 - All arriving flights conform to minimum altitude requirements, subject to genuine weather and safety concerns.

SFO Roundtable Subcommittee Meeting on Airplane Noise over the Woodside VOR and Portola Valley

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CORRESPONDENCES

Regular Meeting # 288
November 6, 2013

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Fwd: Commercial Airlines Flying too low

Susanne <susanne4028@earthlink.net>

Mon, Sep 16, 2013 at 6:52 PM

To: "info@sforoundtable.org" <info@sforoundtable.org>

Dear Mr. Castaneda:

I have attached the following email messages I've sent to the SFO Noise Abatement office complaining about the extreme Airline noise & safety issues. I live next to Canada College right off Hwy 280 and I've lived here for 20yrs.

The past (2) years the Airliners' are flying too low and the noise and vibration is much worse. I have recently retired and I'm at home more so that's one reason I've noticed the noise/vibrations.

The reply that I received from Mr. Hampel is really unacceptable. There must be something the residents' in Woodside, Redwood City and Atherton can do about the bothersome noise issues.

The Airliners used to fly over the mountains along Half Moon Bay and now they fly along Hwy 280. Why??

A response would be appreciated.

Thank you

Sent from my iPhone

Begin forwarded message:

From: SFO Noise <SFONoise@flysf.com>
Date: September 16, 2013 2:29:52 PM PDT
To: Susanne <susanne4028@earthlink.net>
Subject: RE: Commercial Airlines Flying too low

Ms. Escano,

I don't know if anything can or will be done regarding aircraft noise, at least in the short term. Airlines schedule flights to meet market demand. The first priority of the Federal Aviation Administration (FAA) Air Traffic Controllers is the safe and efficient movement of air traffic. Long term, engine and airframe manufacturers continue to improve on their designs, newer aircraft are quieter than previous generations. If/when the FAA implements new technologies (Performance-based Navigation) aircraft will fly more precisely and that may bring relief to some areas. The paragraphs below and two attachments make-up our "first time callers" packet. Please let us know if you have additional questions.

Thank you for contacting us via SFO's noise complaint e-mail. This e-mail address was established so residents in the community can register complaints about aircraft noise and request information regarding noise events and air traffic procedures. Your complaint information will be

entered into our computer system and reflected in the upcoming monthly Airport Director's Report.

Attached are the current Fly Quiet Report and Director's Report, which are presented at the Airport Community Roundtable meeting. The Roundtable meets once a quarter at Millbrae's City Hall, in the Chetcuti Room, 450 Poplar Avenue (map), at 7:00 P.M. The next scheduled meeting is on Wednesday, November 6, 2013 and the public is welcome to attend and participate.

Launched in 2012, SFO is proud to offer 3-D flight tracking to the public. Please visit the Aircraft Noise Abatement page at www.flysfo.com and click the live flight tracking tab to the right of the page to launch the program. The web page also provides additional information regarding the Noise Abatement Office, which includes quarterly, monthly, and weekly reports as well as an online form to file your complaint directly with our office.

The preferred method to file a noise complaint is via our online complaint form. If the online complaint form is unreachable, you may file a noise complaint by email to sfo.noise@flysfo.com or by calling the noise complaint hotline at (650) 821-4736. While filing a complaint by email or complaint hotline please make sure to reference your caller code: ESC011

Regards,

John Hampel SFO
Noise Abatement Specialist | Noise Abatement Office
San Francisco International Airport | P.O. Box 8097 | San Francisco 94128
Tel 650-821-5100 | www.flysfo.com | www.flyquietsfo.com

-----Original Message-----

From: Susanne [mailto:susanne4028@earthlink.net]
Sent: Friday, September 13, 2013 4:42 PM
To: SFO Noise
Subject: Re: Commercial Airlines Flying too low

I live at Farm Hill Blvd & Edenbower in Redwood City, CA 94061

So, what can be done about the air traffic noise. Are these large 747's, 380's, etc?

Thank you,

Sent from my iPhone

On Sep 13, 2013, at 3:00 PM, SFO Noise <SFONoise@flysfo.com> wrote:

Ms. Escano,

We'll still need your address if you wish to register a complaint. Regarding air traffic this summer, here's a link to a recent news report <http://abclocal.go.com/kgo/story?section=news/local/peninsula&id=9246538>. It concerns the impact of weather and runway closures on operations at San Francisco International Airport (SFO). When delays occur, aircraft are sometimes routed over the peninsula, it's called "delay vectoring". Air Traffic Controllers use this tool to maintain separation between aircraft and sequence them for approach into SFO. This year has been one of the busiest for SFO in terms of passengers/flights. Also, summer is the peak travel season and

airlines tend to schedule more flights adding to the aircraft overhead. The routes aircraft use have not changed but more aircraft are now using them. A typical altitude of arriving aircraft over your neighborhood is 7,000 feet (roughly 6,500 feet above ground level) though that can vary. Some of the smaller, prop driven commercial aircraft may be as low as 3,000 feet, jet traffic is usually higher. Fixed wing aircraft are supposed to maintain an altitude 1,000 feet above the highest obstruction in populated areas, unless involved in taking off or landing. Helicopters are allowed to fly at any altitude that allows for a safe landing in the event of an emergency, essentially, pilot discretion. As far as I know, there are no "Noise Abatement Laws" to break. Hope this helps. Please let us know if you have additional questions.

Regards,

John Hampel SFO

Noise Abatement Specialist | Noise Abatement Office San Francisco

International Airport | P.O. Box 8097 | San Francisco 94128 Tel

650-821-5100 | www.flysfo.com | www.flyquietsfo.com

-----Original Message-----

From: Susanne [mailto:susanne4028@earthlink.net]

Sent: Thursday, September 12, 2013 4:20 PM

To: SFO Noise

Subject: Commercial Airlines Flying too low

I've lived in the Woodside-Redwood City area for 20 years. The airline traffic noise has become much worse in the past year. I was gardening in my backyard and sitting on my patio when I looked up and could actually see the bottom of a commercial airline flying overhead. I live right off Hwy 280 & Farm Hill Blvd.

The noise and airline traffic is annoying and hard on the nervous system.

I don't ever remember hearing terrible airliner noise before? What has

changed in the last (2) years?

Why are these aircrafts flying so low?I'm sure the pilots are breaking some noise abatement laws.

Sincerely,

Need quiet in Woodside

Sent from my iPhone

2 attachments



SFO Fly Quiet Report 2Q2013.pdf
1309K



SFO DR 201307.pdf
711K

**Rich and Sandy Shapero
P. O. Box 620431
Woodside, CA 94062**

September 9, 2013

Congresswoman Jackie Speier
211 Cannon House Office Building
Washington, D.C. 20515

Dear Congresswoman Speier,

Our family lives in the Skyline area, near the intersection of Skyline Blvd. and Kings Mountain Road. We have lived in the same house for 22 years. As you know, this area is a community resource. Surrounded by redwoods, parks and open space preserves, people from all over the Bay Area come to hike, bike and appreciate the wilderness. The peace and seclusion of our area was shattered a few years ago by an action of the FAA, and I am writing on behalf of my family, my neighbors and the Bay Area at large to ask for your help.

The FAA has a flight path to SFO which is directly over us. In the past few years, the usage of this flight path has increased dramatically. At times, the noise is non-stop—no sooner has the noise from one aircraft ceased, than the noise from another starts up. Because we are at 2,300 feet elevation, aircraft passes close to us. Smaller aircraft often come within a thousand feet of the treetops.

While the organization, “SFO Noise Abatement Office,” is mostly in the business of deflecting complaints, they have provided us enough information to validate the problem. In Attachment A, you can see weekly traffic to SFO during the first week in May, spanning a fifteen year period. Arrivals at SFO have been constant, varying between 3-4,000. In May of 1999, at the peak of the tech bull market, there were 4,015 landings at SFO. This year, there were 3,975. But for the same two years, the flights over our residence increased from 32 to 193, or 603%.

Attachment B provides a visual of the flight path itself. Attachment C and D show the density of flight arrivals using this path.

Like many Bay Area residents, we use SFO and we realize that aircraft noise comes with that convenience. But the noise should be spread around. At the levels we experienced prior to 2008, noise was no problem. In the past few years, however, with the increasing use of the flight path directly over us, the noise has been constant and unabating.

SFO says they’re responsible for the airport’s flight paths. This is the FAA’s responsibility. We have joined with many of our neighbors to get the FAA’s attention.

We need your help. Our objective is to reduce the air traffic directly over us. We'll take our share. But the situation as it stands is inequitable.

Thanks for your attention,



Rich and Sandy Shapero

enclosures

cc:

Brian Perkins
Senior Advisor
Office of Congresswoman Jackie Speier
Via Email

Supervisor David Pine
San Mateo County
Via Email

E.R. Ganoung, Jr.
Manager, Aircraft Noise Abatement Office
San Francisco International Airport
Via Email

Jim Lyons
Ad Hoc Citizens Committee on Noise Abatement in the South Bay
Via Email

Vic Schachter
Ad Hoc Citizens Committee on Noise Abatement in the South Bay
Via Email

Tina Nguyen
Ad Hoc Citizens Committee on Noise Abatement in the South Bay
Via Email

SUMMARY

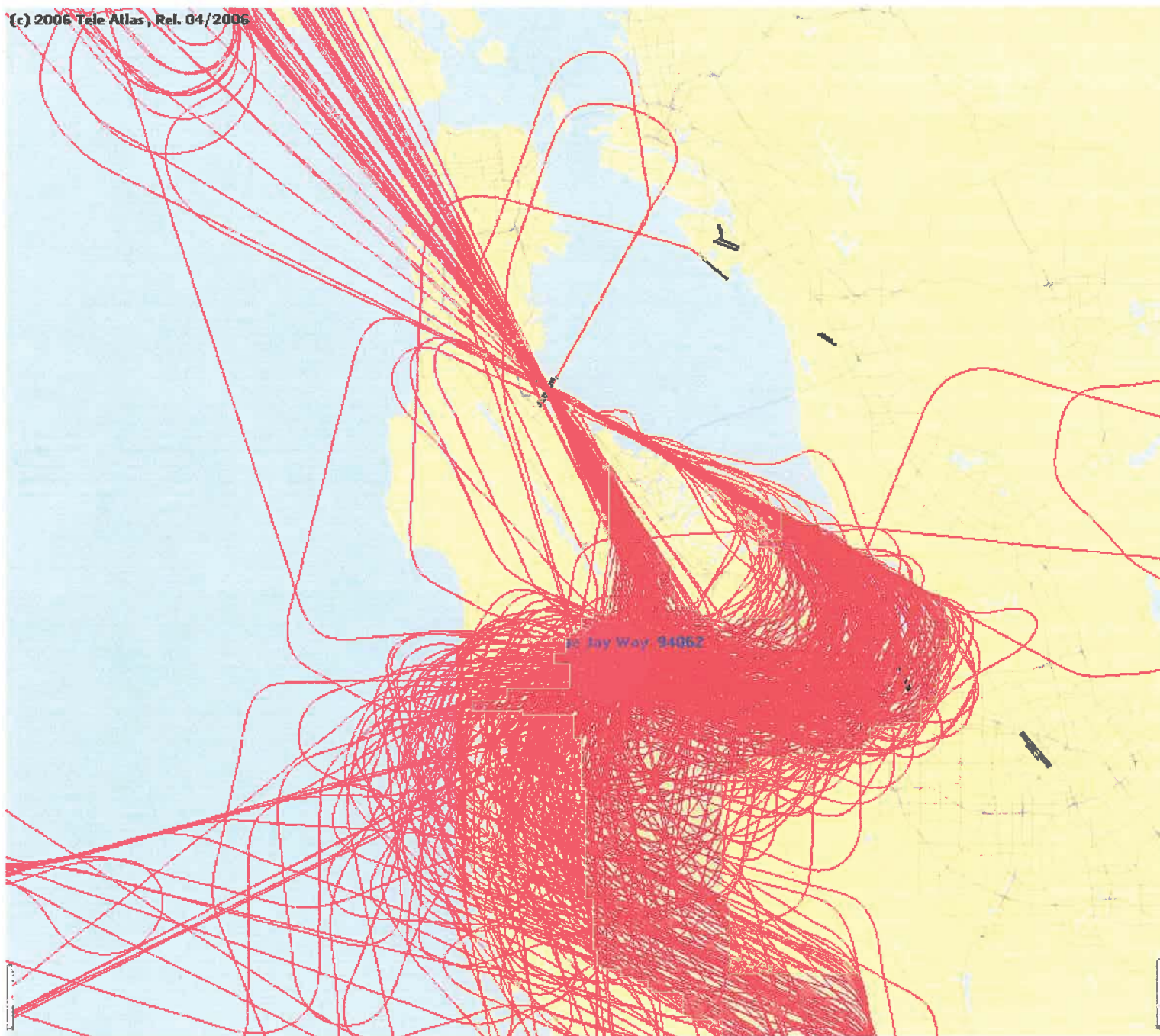
| 1st Full Week in May | Starting Monday | Fixed Wing arrivals at SFO | Within 2 miles & 10,000 feet in altitude of 14 Blue Jay Way |
|-------------------------|--------------------|-------------------------------|--|
| 1999 | 3-May | 4015 | 32 |
| 2000 | 1-May | 4003 | 85 |
| 2001 | 7-May | 3623 | 24 |
| 2002 | 6-May | 3369 | 22 |
| 2003 | 5-May | 2959 | 47 |
| 2004 | 3-May | 3343 | 31 |
| 2005 | 2-May | 3278 | 82 |
| 2006 | 1-May | 3293 | 88 |
| 2007 | 7-May | 3583 | 75 |
| 2008 | 5-May | 3614 | 72 |
| 2009 | 4-May | 3547 | 258 |
| 2010 | 3-May | 3644 | 111 |
| 2011 | 2-May | 3770 | 156 |
| 2012 | 7-May | 4047 | 62 |
| 2013 | 6-May | 3975 | 193 |

Attachment A



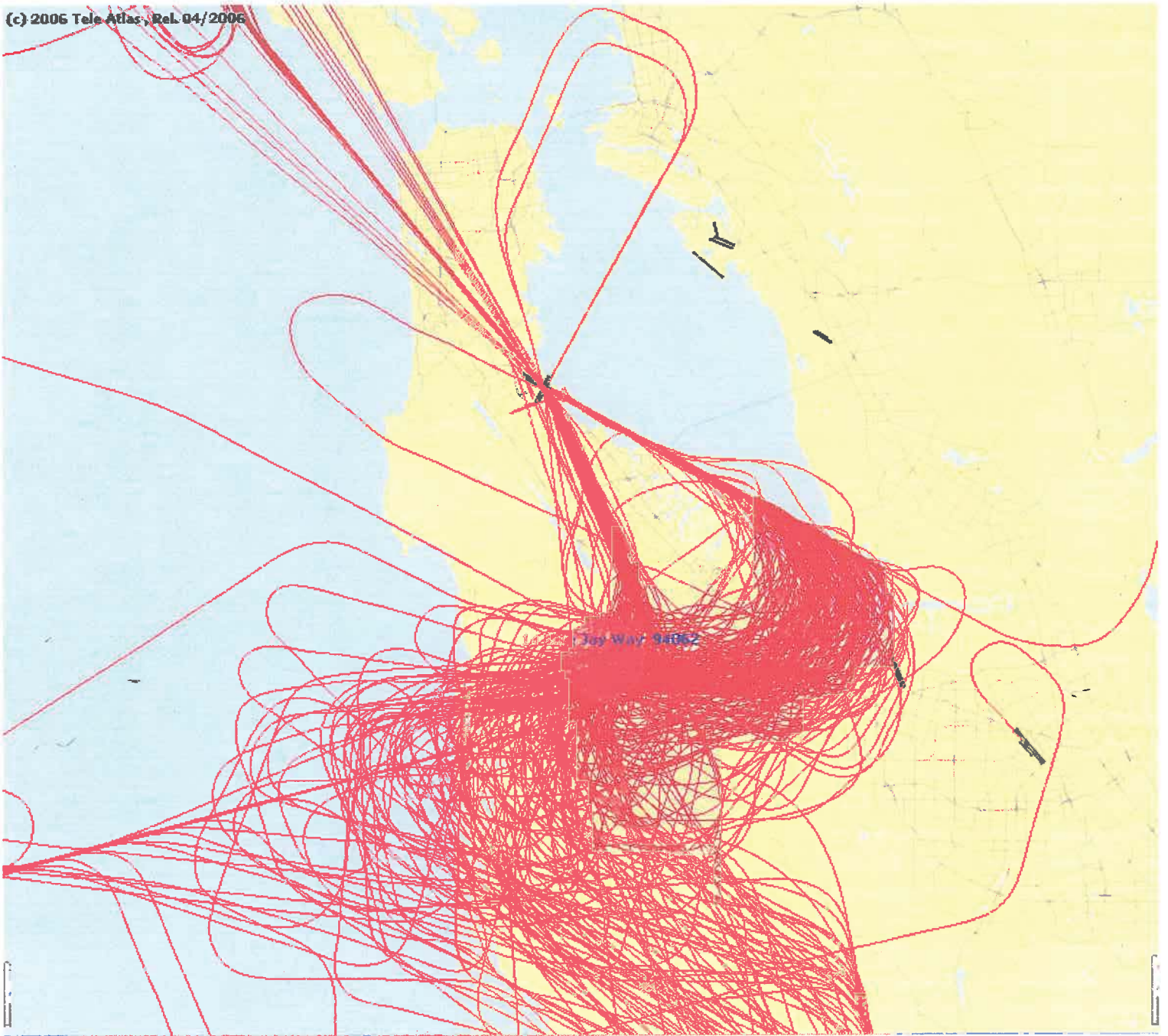
Saturday May 4, 2013; 39 SFO flight tracks within 2 miles and 10,000 feet in altitude of 4 Sierra Morena, Woodside. The red circle centered on 4 Sierra Morena is 4 miles in diameter. PCA = Point of Closest Approach.

Attachment B



Week of May 4th, 2009; 258 fixed wing arrivals at SFO flying within 2 miles and 10,000 feet in altitude of 14 Blue Jay Way.

Attachment C



Week of May 6th, 2013; 193 fixed wing arrivals at SFO flying within 2 miles and 10,000 feet in altitude of 14 Blue Jay Way.

Attachment D

FW: FW: North Fair oaks airline noise

Council-Jeff Gee <jgee@redwoodcity.org>

Mon, Sep 30, 2013 at 1:35 PM

To: "James A. Castañeda" <jcastaneda@sforoundtable.org>

Cc: Cynthia Gibbs <cindyg@airportnetwork.com>

James:

Roundtable correspondence.

Jeff

Jeff Gee

Vice Mayor

City of Redwood City

(c) [650-483-7412](tel:650-483-7412)

1017 Middlefield Road

Redwood City, CA 94063

From: Gretchen Kelly [gkelly@smcgov.org]**Sent:** Monday, September 30, 2013 11:50 AM**To:** Don Horsley**Cc:** Council-Jeff Gee; Warren Slocum**Subject:** Re: FW: North Fair oaks airline noise

Supervisors Horsley and Slocum, and Vice-Mayor Gee:

As a follow up to my previous email, I would like to provide additional information regarding Surf Air's operations at the San Carlos Airport (Airport).

Surf Air is a membership-based scheduled charter service that provides its members unlimited flying between San Carlos, Burbank, and Santa Barbara. Surf Air currently has 300 members, comprised mostly of business travelers. In June 2013, Surf Air began service at the Airport with four flights per day, and recently increased operations to six flights per day. Surf Air has indicated they have future plans to expand service to a variety of locations; including Monterey, Napa, South Lake Tahoe and San Diego. Businesses at the Airport, and in the local area, have reported an increase in business activity due to Surf Air's operations as their passengers visit restaurants; reserve hotel rooms and rental cars; and use other services in the County. As an aeronautical business, Surf Air is permitted by the Federal Aviation Administration (FAA) to pick-up and drop-off passengers without written permission from the Airport. That said, Surf Air agreed to sign an Aeronautical Operating Permit with the Airport. This Permit requires Surf Air to comply with all applicable rules and regulations, including our long established noise abatement procedures. This Permit is similar to those already in place with existing charter operators that provide service at the Airport.

The Airport's airspace is a 3-mile radius surrounding the Airport to an altitude of 1,500 feet, and is controlled by the San Carlos Air Traffic Control Tower in accordance with Federal Aviation Regulations. Outside of that 3-mile radius, including the airspace over Menlo Park and Atherton, the FAA Northern California Terminal Approach Control (NORCAL TRACON) Facility in Sacramento, has the sole authority to assign course, speed, and altitude for all air traffic. One of the primary safety responsibilities of the NORCAL TRACON is to maintain an altitude separation between small low flying aircraft, like those on approach to San Carlos Airport, and higher flying large aircraft on approach to San Francisco International Airport.

Airport staff has received calls from a handful of residents in Menlo Park and Atherton who are concerned about Surf Air aircraft flying over their homes. Airport staff has investigated each complaint and conducted on-site monitoring to observe aircraft altitude and to video the Surf Air over flights from the ground. From those observations, Airport staff determined that the air traffic includes more than Surf Air aircraft; and that Surf Air aircraft are flying over the concerned residents' homes at, or slightly above, 1,500 feet with a low power setting, which is consistent with FAA flight guidelines on approach to the Airport. Residents have requested that Surf Air fly higher to reduce noise impacts; however this is not possible due to safe altitude separation requirements. In discussions about this matter, Surf Air expressed great interest in building good relationships with the community, offered to review their operational standards to reduce noise impacts, and to attend meetings with the public in an effort to resolve these issues. Airport staff and Surf Air executive management will be meeting with concerned residents, including Ms. Books, at the Airport on Friday, October 11th from 8:00am to 10:00am.

Although federal law does not allow the County or Airport to regulate individual aircraft in flight and precludes the County from issuing citations for particular noise events caused by individual aircraft flights, Airport Staff is committed to working closely with Surf Air and our residents to resolve this issue. We will keep you informed as to our progress.

In the meantime, please let me know if you have questions or if you require additional information.

Regards,
Gretchen

Gretchen Kelly

Airports Manager

[San Mateo County Airports](#)

620 Airport Drive, Suite 10

San Carlos, California 94070

[650.573.3700](#) Office

>>> Don Horsley 9/26/2013 1:46 PM >>>

More on Surf Air

>>> Council-Jeff Gee <jgee@redwoodcity.org> 9/25/2013 10:57 AM >>>

Don, Warren:

More on the issue.....

Thanks,

Jeff

Jeff Gee

Vice Mayor

City of Redwood City

(c) [650-483-7412](tel:650-483-7412)

1017 Middlefield Road

Redwood City, CA 94063

From: Gwen Books [gwen@gwenbooks.com]

Sent: Wednesday, September 25, 2013 8:30 AM

Regular Meeting No. 288

Packet Page 90

To: Council-Jeff Gee

Subject: Re: North Fair oaks airline noise

hi,
Yes, we are aware of Surf Air and after talking to a local pilot who flies out of San Carlos airport frequently, we believe there is a legal solution- however, the CEO of Surf Air has ignored our conclusions. We have a meeting with him and the San Carlos airport representatives at San Carlos airport Oct 1, @ 8 am- we need local help in this effort. We hope to have a small community meeting to discuss next week, prior to the airport meeting. This is affecting Lindenwood, Felton Gables, North Fair Oaks neighborhoods. **How can we get some local representatives involved asap?**

FROM AN EXPERIENCED SAN CARLOS PILOT THERE IS A SOLUTION

Surf Air CEO says that his pilots are required to follow the IFR landing pattern which apparently routes the aircraft over Felton Gables, Lindenwood, North Fair Oaks and Redwood City.

WE suggested that the planes alter their routes East and West within the parameters of permitted flights adjoining the SFO corridor. You said you would have to consult with your Chief Pilot to determine if that is possible. To educate myself with the help of an experienced pilot, I consulted with a private pilot, owner of two aircraft at San Carlos who has flown out of San Carlos for over 35 years. I related our discussion points and asked him to explain the rules, regulations and safety aspects of IFR and visual approaches.

PILOT advised that under IFR rules, SURF AIR aircraft in good weather, could request a "visual approach" which is still an IFR approach. As I understood his explanation, this would allow the aircraft, with the airport in sight, some leeway to vary their repetitive, straight line approach and thus vary the landing routes, thus eliminating daily approaches in the exact same landing pattern.

Extraordinary Journeys

www.gwenbooks.com

p 650.364.5820

m 650.996.2343

f 650.299.1191

562 Placitas Avenue

Atherton, CA 94025 USA

On Sep 24, 2013, at 4:13 PM, Council-Jeff Gee <jgee@redwoodcity.org> wrote:

Gwen:

Thank you for your note. I believe that this is a new, private, membership service that flies into San Carlos Airport.

I will share your note with Supervisors Slocum and Horsley. San Carlos Airport is under the authority of the County of San Mateo.

Regards,

Jeff

Jeff Gee

Vice Mayor

City of Redwood City

(c) [650-483-7412](tel:650-483-7412)

1017 Middlefield Road

Redwood City, CA 94063

From: Gwen Books [gwen@gwenbooks.com]

Sent: Wednesday, September 18, 2013 3:34 PM

To: Council-Jeff Gee

Subject: North Fair oaks airline noise

Can you help with the battle of the low flying Surf Air and other small charter firms who literally dive bomb and strafe the north Fair Oaks neighborhood all day long?

Extraordinary Journeys

www.gwenbooks.com

p [650.364.5820](tel:650.364.5820)

m [650.996.2343](tel:650.996.2343)

f [650.299.1191](tel:650.299.1191)

562 Placitas Avenue

Atherton, CA 94025 USA

<gwenbooks_email_sig_small.tiff>

RE: San Carlos Airport Noise over Atherton

Bert Ganoung <Bert.Ganoung@flysfo.com>

Tue, Oct 1, 2013 at 4:15 PM

To: Elizabeth Lewis <lizlew08@gmail.com>

Cc: Doug Yakel <Doug.Yakel@flysfo.com>, Jeffrey Gee <jgee@redwoodcity.org>, "James A. Castañeda" <jcastaneda@sforoundtable.org>, "CindyG@AirportNetwork.com" <CindyG@airportnetwork.com>, Gretchen Kelly <gkelly@smcgov.org>, James Wadleigh <jwadleigh@smcgov.org>

Hello Mayor Lewis:

Thank you for considering the SFO Airport/Community Roundtable as a source of expertise for the noise issue at the San Carlos Airport. While we would be happy to provide contacts to assist you, the SFO Round Table is chartered as a forum for noise concerns related to the San Francisco International Airport, and it is our duty to ensure that the resources are applied appropriately towards this purpose. Thank you for your understanding.

Best,

Bert

Bert Ganoung SFO

Manager | Aircraft Noise Abatement

San Francisco International Airport | P.O. Box 8097 | San Francisco 94128

Tel +1.650-821-5100 | www.flysfo.com | www.flyquietsfo.com

From: Elizabeth Lewis [mailto:lizlew08@gmail.com]**Sent:** Tuesday, October 01, 2013 11:44 AM**To:** Bert Ganoung**Subject:** San Carlos Airport Noise over Atherton

Hi Bert,

I just received this email regarding aircraft noise over Atherton coming from San Carlos Airport. Is this something the Roundtable would look at?

Apparently, there is a new airline (Surf Air) that is flying into San Carlos airport. They fly in very low and are extremely noisy. This is bothering the residents in this community, so they reached out to me and want to confront Surf Air and the airport. They mentioned an organization (I think TRACOR) that they want to reach out to, although they seem to believe that the real decisions about flight patterns are with the FAA.

They are in the process of putting together a petition that they want residents to sign before they meet with Surf Air and the airport on October 11. It seems to me that this is something that might be good to bring up on Athertonian once they have the petition or a consolidated set of information. Have you heard anything about this?

Sincerely,
Elizabeth Lewis
Mayor
Town of Atherton
650-533-8830 cell



U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of the Air Traffic Organization
Western Service Area

RECEIVED
1601 Lind Avenue Southwest
Renton, Washington 98057

2013 AUG 29 A 11:33

SAN MATEO COUNTY
PLANNING & BUILDING
DEPARTMENT

August 27, 2013

Mr. Jim Eggemeyer
Director
San Mateo County Planning & Building Department
455 County Center, 2nd Floor
Redwood City, CA 94063

Dear Mr. Eggemeyer:

Subject: Environmental Assessment – Northern California Optimization of Airspace and Procedures in the Metroplex (NorCal OAPM) Project Meeting Notification

The Federal Aviation Administration (FAA) is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (42 U.S.C. § 4321 et seq.) for the above-titled project. The FAA cordially invites you to attend an informational meeting to discuss the EA currently being prepared for this project. This meeting is intended to provide an overview of the project and project timelines. The FAA anticipates issuing a draft EA for public review and comment, and conducting public meetings in 2014.

The EA will consider the potential impacts of the implementation of revised air traffic routes and procedures in the Northern California region. The air traffic routes and procedures serve the San Francisco International Airport (SFO), Oakland Metropolitan International Airport (OAK), Norman Y. Mineta San José International Airport (SJC), and Sacramento International Airport (SMF). Please see the enclosed brief description of the project.

For your convenience, informational meetings have been scheduled at four locations:

September 16, 2013
10:00 a.m. – 12:00 p.m.

California State Capitol Building
Governor's Council Room
Sacramento, CA 95814

September 17, 2013
12:30 p.m. – 2:30 p.m.

City of San Mateo Main Library
Oak Meeting Room
55 West 3rd Avenue
San Mateo, CA 94402

September 18, 2013
9:30 a.m. – 11:30 a.m.

San José City Hall
Meeting Room W-118
200 E. Santa Clara St.
San José, CA 95113

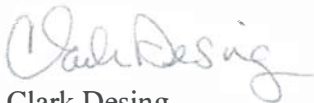
**September 18, 2013
1:30 p.m. – 3:30 p.m.**

**Oakland Main Library
Meeting Room
125 14th Street
Oakland, CA 94612**

We request that you confirm your attendance via email to cas@casprograms.com no later than September 10, 2013.

If you have any questions about the information provided or if you are not able to attend this meeting and need to make other arrangements, please contact Ryan Weller at (425) 203-4544; or email at 7-ANM-NorCalOAPM@faa.gov; or facsimile at (425) 203-4505.

Sincerely,



Clark Desing
Manager, Operations Support Group
Western Service Center

Enclosure

NorCal OAPM Environmental Assessment Overview

This document provides a brief description of the Environmental Assessment (EA) being prepared by the Federal Aviation Administration (FAA) for the Northern California Optimization of Airspace and Procedures in the Metroplex (NorCal OAPM) project. The following sections describe the Proposed Action, its Purpose and Need, Alternatives, and the Affected Environment. The Environmental Consequences of the Proposed Action will be evaluated as project planning commences.

1 Background

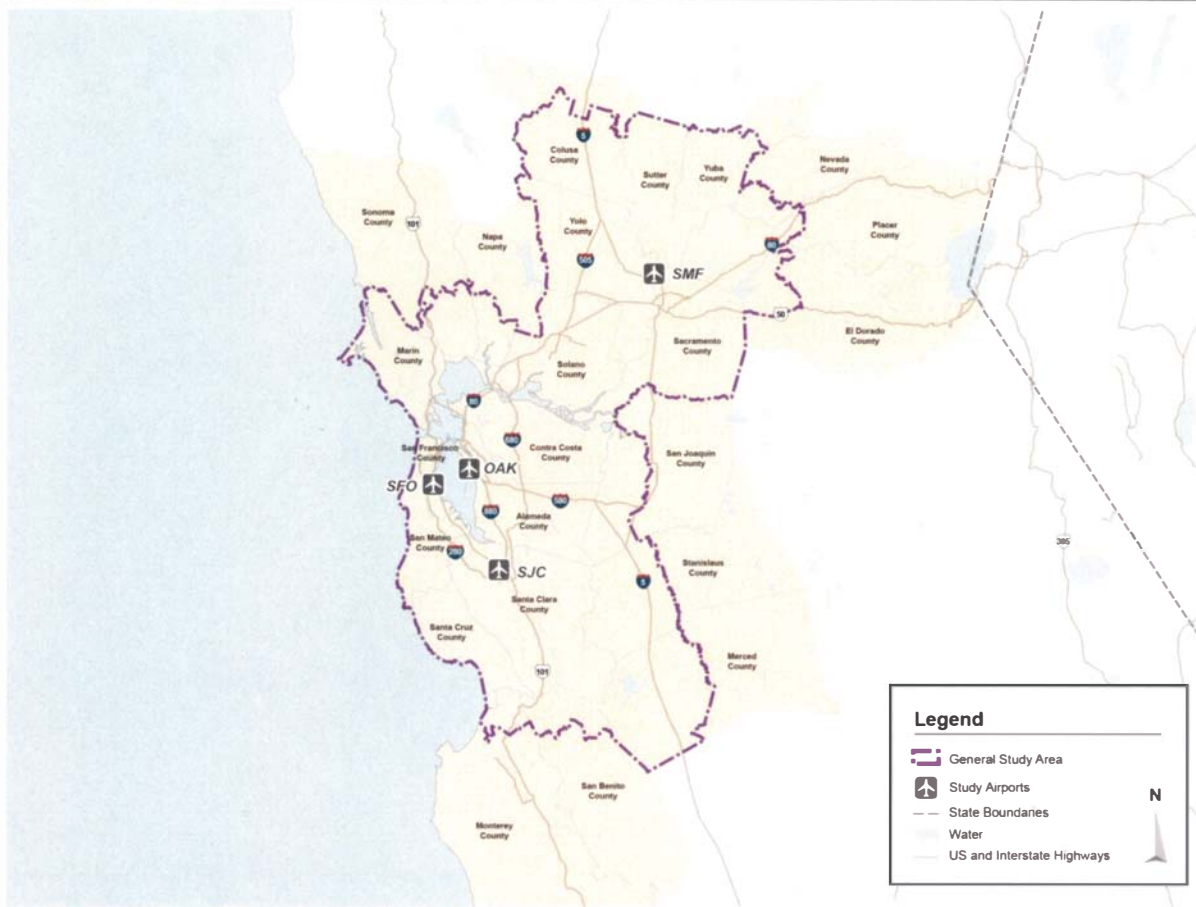
The FAA is preparing an EA pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [U.S.C.] § 4321 et seq.) to assess the potential environmental effects associated with the optimization of aircraft routes serving aircraft operating under instrument flight rules (IFR) in the Northern California Metroplex (the Proposed Action). A Metroplex is a geographic area covering several airports, serving major metropolitan areas and a diversity of aviation stakeholders. The majority of IFR flights in the Northern California area operate at San Francisco International Airport (SFO), Oakland Metropolitan International Airport (OAK), Norman Y. Mineta San José International Airport (SJC), and Sacramento International Airport (SMF). For purposes of the EA, these four airports are referred to as the Study Airports. The Proposed Action is referred to as the NorCal OAPM.

Analysis and documentation for an EA is similar to that of an Environmental Impact Statement (EIS) but requires less detail and less intensive coordination than is required for an EIS. Depending upon whether certain environmental thresholds of significance are exceeded, an EA will either lead to a Finding of No Significant Impact (FONSI) or to the subsequent preparation of an EIS.

The FAA will make the Draft EA available to the public for review and comment. After consideration of any public comments, a Final EA will be produced, which will include responses to the public comments. The federal decision-makers will use the Final EA in their determination to approve or disapprove the Proposed Action.

The format and content of the EA conforms to the regulations of the Council on Environmental Quality (CEQ) implementing the procedural provisions of NEPA (Title 40 Code of Federal Regulations [C.F.R.] Parts 1500-1508). The document also conforms to the environmental orders of the U.S. Department of Transportation (DOT), DOT Order 5610.1C, *Procedures for Considering Environmental Impacts*, and FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*.

The General Study Area for this EA is depicted in **Exhibit 1**. The General Study Area was defined based on FAA's previous experience with similar air traffic actions. The extent of the General Study Area allows for a reasonable evaluation of potential impacts associated with aircraft flight path changes under the Proposed Action, which involves flight route modifications. The Airspace structure in the Northern California Metroplex is controlled by the Northern California Terminal Radar Approach Control (TRACON), referred to as NCT, as well as the Oakland Air Route Traffic Control Center (ARTCC), referred to as ZOA or Oakland Center.

Exhibit 1 NorCal OAPM General Study Area

Source: National Atlas of the United States of America: U.S. County Boundaries, 2005; ATAC Corporation, August 2012.

Prepared by: ATAC Corporation, August 2013.

2 Purpose and Need

In the context of an EA, “need” refers to the problem that the Proposed Action is intended to resolve. The problem in this case is the inefficiency of the existing aircraft flight procedures (i.e., the routes along which aircraft operate) in the Northern California Metroplex. This is due to a variety of factors, including aircraft using outdated Standard Instrument Departure (SID) and Standard Terminal Arrival Route (STAR) procedures to and from the Study Airports that were designed based on point-to-point ground-based navigational aids (NAVAIDs). Procedures that are based on ground-based NAVAIDs, referred to as conventional procedures, limit the efficiency of the Northern California Metroplex airspace. Data indicates that a majority of aircraft operating in the Metroplex are not following the published SID and STAR procedures because the procedures are outdated and inefficient.

Currently, over 95 percent of commercial aircraft are equipped with the technology to use Area Navigation (RNAV). RNAV-based procedures are free of the limitations inherent in conventional procedures and allow for the development of procedures with more direct routings than is practical with conventional procedures. Accordingly, more efficient routes

supporting the Study Airports can be developed. RNAV technology can add efficiency to an air traffic system with enhanced predictability, flexibility, and route segregation. The purpose of the FAA's Proposed Action is to improve the efficiency of the routes serving the Study Airports and reduce the complexity of the routes while maintaining a safe air traffic system.

3 Alternatives

The EA will consider reasonable alternatives in compliance with FAA Order 1050.1E and the CEQ regulations (40 C.F.R. § 1502.14). Alternatives will include the Proposed Action and the No Action Alternative (the latter was examined in accordance with CEQ [40 C.F.R. § 1502.14d]). The No Action Alternative would maintain existing procedures, in other words, aircraft routing would not change. The Proposed Action would result in changes to aircraft routes by defining new procedures and modifying the supporting airspace management system to fulfill, to the extent possible, the defined objectives to assess the ability of the alternatives to meet the FAA's Purpose and Need for the Proposed Action.

4 Affected Environment

The primary function of the Affected Environment chapter of an EA is to describe pre-project conditions, not the action-induced impacts. The chapter provides a baseline description of the existing environment's biological, economic, physical, and social conditions within the General Study Area. **Table 1** identifies the counties that fall within or are intersected by the General Study Area boundary. The General Study Area includes 11 full counties and portions of 11 additional counties.

Table 1 Counties in the General Study Area

| | | | | |
|-------------------------------|----------------------------|---------------------------------|--------------------------------|--------------------------|
| Alameda County | Merced County ¹ | San Benito County ¹ | Santa Cruz County | Yolo County ¹ |
| Colusa County | Napa County ¹ | San Francisco County | Solano County | Yuba County ¹ |
| Contra Costa County | Nevada County ¹ | San Joaquin County ¹ | Sonoma County ¹ | |
| El Dorado County ¹ | Placer County ¹ | San Mateo County | Stanislaus County ¹ | |
| Marin County | Sacramento County | Santa Clara County | Sutter County | |

Notes:

¹ Only a portion of the county falls within the General Study Area

Source: National Atlas of the United States of America: U.S. County Boundaries, 2005; ATAC Corporation, August 2012.

Prepared by: ATAC Corporation, August 2013.

5 Environmental Consequences

The EA will evaluate the potential for the alternatives to result in environmental impacts to relevant resource categories defined in FAA Order 1050.1E. This information will enable the reader to clearly understand the environmental resources that would be affected by the Proposed Action and the No Action Alternative.



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

September 30, 2013

Ms. Patty Daniel
Federal Aviation Administration
Project Manager
Northern California OAPM Design & Implementation

Re: OAPM Environmental Assessment Public Involvement Process

Dear Ms. Daniel:

The Roundtable has been monitoring the OAPM EA process and looks forward to the publication of the Environmental Assessment, hopefully early in 2014. As a well-established airport community group in San Mateo County, we'd like to extend our assistance with your public involvement process; the Roundtable and its membership welcome the opportunity to partner with the FAA to arrange for a comprehensive public outreach process.

We encourage the FAA to hold meetings in multiple locations on the peninsula, including north peninsula near Brisbane, mid-peninsula at a Roundtable meeting, and south peninsula near Menlo Park. We would be happy to assist your team in locating facilities large enough to accommodate your public meetings in these locations, as well as ensure your mailing list covers the appropriate agencies in San Mateo County. Given the high involvement of stakeholders in the Bay Area, we encourage the FAA to expand the public process from the minimum required by the EA to a public process that is inclusive of the stakeholders, such as holding meetings during evening hours and providing adequate time for the public to comment on the draft document.

On behalf of the SFORT, I look forward to assisting you as we can to make the OAPM public process successful. If you have any questions, please do not hesitate to let me know; I may be reached directly at 650-483-7412.

Regards,

Jeffrey Gee, Vice Mayor
City of Redwood City
Chair, San Francisco Airport/Community Roundtable

Cc: Senator Boxer
Congresswoman Eshoo
Congresswoman Speier

Working together for quieter skies



State Senator Hill
Assemblyman Gordon
Assemblyman Mullin
San Francisco Airport/Community Roundtable

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AIRPORT NOISE NEWS

Regular Meeting # 288
November 6, 2013

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How Bombardier's CSeries is ushering in a new era of super quiet jets | Financial Post

business.financialpost.com ⓘ · by Scott Deveau · September 21, 2013

Amid all the fanfare and celebration earlier this week at Bombardier Inc.'s Mirabel, Que., plant for the first flight of the CSeries, something very unusual happened.

Despite nearly 3,000 employees, guests and media in attendance, a large portion of the crowd almost missed the new plane's takeoff after it crept up the runway unbeknownst to many before it was almost in the sky.

It wasn't until a reporter pointed out the CSeries' fin moving behind a grassy knoll seconds before takeoff that it caught the eyes of most of those assembled.

"It is extremely, extremely quiet. Some of the people actually missed the beginning of the flight because we took off a little early," admitted Rob Dewar, Bombardier vice-president and general manager of the CSeries program, after the flight.

"I think it was the first time we've been early in the program," he joked.

While it will take weeks for Bombardier to assess the data from the CSeries' maiden voyage, and months to prove out the plane's promises, one thing did

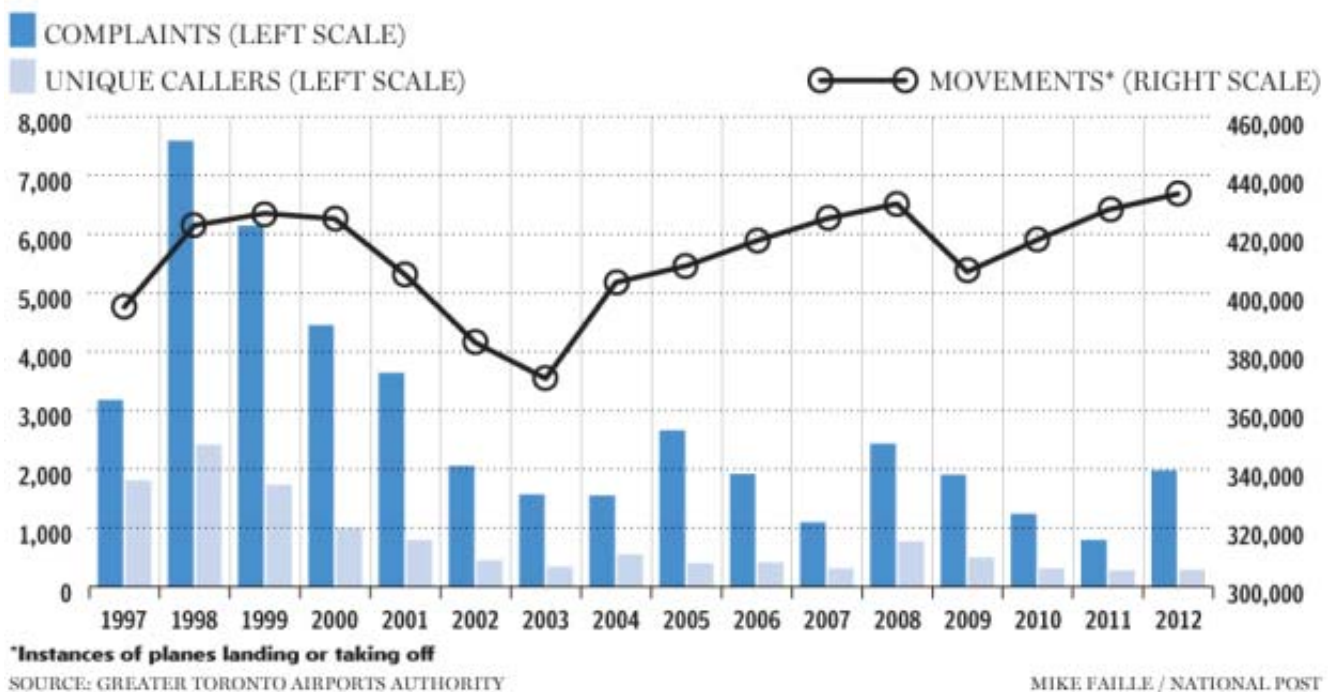
become clear Monday at first flight — the C Series is the quietest commercial jet in the sky.

The plane is part of a new generation of aircraft — which began with the Airbus A380 and Boeing 787 — that harness the most advanced technologies to dramatically mitigate noise. The hope is to allow even more takeoffs and landings at existing airports and potentially open access to smaller, noise-restricted ones.

The changes are even letting some municipalities rezone areas as residential neighborhoods. In the past, screaming jets overhead had kept these areas unsuitable for everyday living.

But overcoming the noisy legacy of older jet engines is not without its challenges. There are ongoing battles being waged at airports around the globe, including Toronto's Billy Bishop City Airport and London's Heathrow and City airport.

NOISE COMPLAINTS PLUMMET



FP021_TorontoAirportNoiseComplaints_C_MF.jpg

efforts to mitigate noise through soundproofing and redesigning flight paths, helped reduce the number of people exposed to significant aircraft noise in the U.S. by about 90% between 1974 to 2000.

Toronto's Pearson International, the country's largest airport, has also seen a steady decline in complaints since the late 1990s, when older aircraft started to be phased out of the global fleet. The drop in complaints comes despite a significant increase in aircraft traffic in and out of Pearson.

The only major blips occur when NAV Canada adjusts the flight paths of aircraft, like it did last year by adding a route between Toronto and Montreal. That saw the number of noise complaints jump from 793 in 2011 to 1978 in 2012. The near 1,200 additional complaints came with just 18 more unique callers than the previous year, according to the Greater Toronto Airport Authority. Pearson saw a similar spike in complaints in 2007 when it altered the flight paths from Vancouver, impacting a new group of residents.

Trish Krale, GTAA spokesperson, said, in fact, the area affected by aircraft noise around the airport has shrunk over the past 15 years thanks, in part, to new aircraft. That footprint is, however, expected to increase slightly as part of the airport's long-term plan, which among other things, calls for yet another runway to be built there.

Alan Epstein, Pratt & Whitney vice-president of technology and environment, said there will always be those who will remain unconvinced. He said he recently had a conversation the head of the Port Authority of New York and New Jersey, which oversees the operations of the major airports around New York City.

"I'm a technical person, so I asked him how quiet would airplanes have to be before you stopped getting complaints? He looked at me like I was nuts," Mr. Epstein recalled. "He said, 'This is New York you're talking about. If they know the

aircraft is there, they're going to complain about it."

He added that there is a lady who calls in every day to complain when an airplane goes over her house.

"On days the flight is cancelled, she still complains," Mr. Epstein said.

This isn't to say those living near airports might not have legitimate beefs; it simply illustrates the challenges the industry faces interacting with the communities surrounding airports.

"My guess will be that that will never change," Mr. Epstein said.

But he said the reality is that modern engines, like the Pratt & Whitney PurePower geared turbofan engine that powers the CSeries, have dramatically reduced the noise emission of aircraft. Oddly, reducing noise wasn't a primary goal for engine manufacturers in designing these new engines but instead was a happy byproduct of the efforts to improve fuel-efficiency, Mr. Epstein said.

Pratt & Whitney's PurePower geared turbofan engine that will be used in the CSeries, Embraer's E2, and be an option in the A320neo. Mr. Epstein said the noise reductions from the engines were a byproduct of significantly increasing the size of the engines fan size to allow it to turn slower and improve its efficiency while improving thrust.

"It's a very slow fan, which makes it very efficient and very low noise," he said. "Think of a window fan, you have three speeds, at the highest speed it's much noisier than the lower speed."

The result is an engine with higher thrust, at least 15% less fuel burn, and about 17 to 20 decibels quieter than existing aircraft engines, Mr. Epstein said.

“It’s the difference between a rock concert and a busy street,” he added.

In fact, the engine is so quiet, manufacturers like Bombardier are having to start thinking about the noise the rest of the plane makes for the first time.

“We’re getting to the point where the airframe is getting really important,” he said. “In the past, the airplane’s noise could hide behind the engines. It can’t anymore.

“You can only hear the loudest thing.”

The CSeries’ Pratt & Whitney geared turbofan engine is a big reason why the plane is so quiet. Pratt promises the noise footprint from the PurePower geared turbofan engine is about 75% smaller than existing aircraft engines.

The 737MAX, which is a re-engined version of Boeing’s popular narrow-body using a CFM International Leap-1B engine, promises a 40% reduction in noise. CFM International is a 50-50 joint venture company between GE Aviation in the U.S. and France’s Snecma. The Leap engine will also be offered as an option on the A320neo.

But Gareth Richards, program manager for the Leap engine, said the actual noise footprint of the engine itself will be reduced by 75% as well, primarily by slowing down the speed of the air exiting the engine.

“That is good for efficiency because when you have a very high speed of air coming out of the engine at the back, that’s one of the major contributors to noise,” he said.

He said that is achieved by getting more of the thrust coming from the fan, which uses 18 blades instead of 36 on older engines. The air that goes through the core is also used more efficiently, and therefore extracting more energy out of the air and

results in less speed out of the back.

The first Leap engines are to be certified in 2015, he said.



Handout/Bombardier

At the same time, newer technologies in the navigation systems of modern aircraft have also allowed NAV Canada to change the flight paths for aircraft into airports that allows them to slowly descend into the airport using minimal engine power, which in turn greatly reduces the noise footprint on descent, said Michelle Bishop, NAV Canada director of government and public affairs.

Airlines around the globe are hoping all of this will be sufficient to lift the ban on jets at certain airports and increase frequencies at some noise-restricted ones.

Porter Airlines, for example, has been making a push to extend the runway at its base at Billy Bishop Toronto City Airport and gain an exemption on the ban on jets

there to accommodate the CSeries when it enters service.

Robert Deluce, Porter chief executive, has even gone so far as to market the CSeries to those who oppose it flying to Toronto Island as the “Whisper Jet,” a moniker that was used in the past by much noisier planes.

Mr. Deluce said the CSeries exceeded his expectations in terms of noise during an interview after the planes’ first flight in Mirabel, Que., Monday.

Bombardier has promised that the CSeries will be within a decibel difference of the Q400 turboprops that currently fly to Billy Bishop, he noted.

“Bombardier will be able to produce the required data in sufficient time for city staff to include that data in their reports that are obviously going to be needed for executive committee and council,” Mr. Deluce said.

But those who oppose the introduction of jets at Billy Bishop say their stance is about more than just noise. Anshul Kapoor, chair of NoJets, the grassroots group opposing Porter’s proposal, even acknowledged the noise argument is one Porter may actually win.

“Noise is a minor issue. It is an issue. But not THE issue,” he said.

Mr. Kapoor said the broader issues are the added cars, traffic, emissions, bird strikes and other safety concerns that has his group opposing the plan.

“The concerns are multiple,” he said. “Robert Deluce wants to make it about noise. That’s why they want to focus on it because that may be the only [argument] that they will win.”

At the same time, a request for an exemption for a specific type of aircraft, in this

case the CSeries, is a bit of an anomaly. It runs counter to the positions of both the International Civil Aviation Organization and the International Air Transport Association, the industry group representing more than 240 airlines globally.

It is because of this, that Toronto's city staff has indicated that it will not likely be able to allow just one type of jet to fly to Billy Bishop. If jets were allowed to fly to the Island, it would likely include any type of jet that fits the noise parameters there.

Andreas Hardeman, IATA assistant director of environmental policy, said he believes that's a better approach and the industry would prefer that airports adhere to ICAO's so-called "balanced approach" to noise mitigation strategies.

"We don't believe knee-jerk reactions in terms of noise charges or operational bans are the right way forward," he said.

The cornerstone of ICAO's noise reduction strategies has been the phasing out older aircraft and implementing lower noise emission standards for newly certified ones.

The UN agency has established specific categories for aircraft based on when they were certified, and requires that manufacturers meet those standards when building new aircraft.

In turn, it urges its member states, including Canada, to adopt policies that do not limit the specific type of aircraft that can fly in and out of airports but, rather, the broader categories. Planes that were certified prior to 1977, the so-called Chapter 2 aircraft, have already been largely phased out of the fleet in Canada, and those still operating are required to have a hush kit put in place that reduces their noise.

New aircraft, so-called Chapter 4 aircraft, are required to be 10 decibels quieter

than the previous generation. ICAO is also in the middle of drafting the next category, which aims to have a 7-decibel improvement over Chapter 4 aircraft.

Despite these efforts, Mr. Hardeman said there has been some trends in recent years for local governments and airport authorities to impose their own noise emission standards, including most recently parts of Italy that have unilaterally imposed noise charges on certain categories that are acceptable by ICAO standards. Others, have been using the reduced noise footprint around the airports to allow for residential development, which IATA also opposes because it limits the growth potential of the hubs, Mr. Hardeman said.

“Those kind of restrictions should not be used as a first resort, or ideally should only be used as a last resort,” Mr. Hardeman said. “It affects the operations of airlines in many ways.”

If airlines, for example, are being forced to pay noise charges that impedes their ability to reinvest in other avenues, including the purchase of less-noisy aircraft, he said.



Handout



Handout/Bombardier

business.financialpost.com ⓘ · by Scott Deveau · September 21, 2013

Long Beach makes noisy pilots — and airlines — pay

presstelegram.com · September 22, 2013



By [Brian Sumers](#), Daily Breeze



Once each quarter, JetBlue Airways writes a hefty check to the Friends of the Long Beach Public Library. But the reason is not necessarily altruism.

Among major commercial airports, Long Beach Airport is unique in its noise policies. The airport and the city require airplanes to operate unusually quietly — day and night. While cities can no longer enact new noise ordinances under federal law, Long Beach has a long-standing exemption carved out by Congress.

When aircraft operators break the rules, measured at two monitoring stations near the airport, pilots or their employers must pay fees on a per infraction basis. While operators are hit with only a warning on their first transgression, fines can rise up to \$300 after that. JetBlue, the airport's main commercial tenant, actually pays considerably more, a result of a legal agreement reached between the airline and the city about a decade ago.

The system works by measuring decibel levels. During the day, arriving aircraft must make no more than 101.5 decibels, as measured by a monitoring station near the runway, an airport official said. Departing aircraft can make up to 102.5

decibels. Between 6 and 7 a.m. and between 10 and 11 p.m., the decibel maximum drops to around 90. In the overnight hours, the decibel limit drops to 79.

Noise violations rarely occur during the day — pilots in modern, efficient aircraft can meet those limits without difficulty — but at other times it is much trickier, aviation experts say.

Between 6 and 7 a.m. and 10 and 11 p.m. some pilots can maneuver aircraft to make them quieter, but in the overnight hours, the limit is nearly impossible to meet, experts say. That means operators have to decide whether to pay the fine or go elsewhere.

Three noise specialists work in the airport operations center tracking decibel levels. Eric Sheng, a noise specialist, monitors flights and take phone calls — sometimes angry ones — from residents. He said the difference between 90 decibels and 100 decibels is considerable and that neighbors tend to know when a violation has occurred.

“A 90 is like a blender in your house and a 100 is like a diesel truck going by your house,” Sheng said. “I think when it goes to 100 it makes a difference. You feel it.”

Most scheduled airlines and charter operators try to avoid rule-breaking. On a recent Wednesday for example, JetBlue’s final arrival was scheduled for 9:17 p.m., a short flight from Sacramento. But occasionally, often due to weather or mechanical difficulties, planes must land later.

According to airport data, JetBlue operated 22 times between 10 and 11 p.m. in June. In 13 of those instances, the carrier’s pilots violated the noise ordinance. Overall, in the first six months of the year, JetBlue had 50 violations. Between January and June, US Airways and UPS were the only other major carriers to have a violation. Each had one.

Overall in June, only about 0.1 percent of all operations (28 of 26,379) resulted in a noise violation, according to airport officials. That number includes private jets.

Under municipal law, the city can criminally prosecute the aircraft's owner and the pilots for breaking the noise ordinance, City Prosecutor Douglas P. Haubert said.

"To my knowledge, criminal charges have been filed only three times in the history of the ordinance," Haubert said in an email.

In 2003, Haubert said, the city and JetBlue reached an agreement that JetBlue would not be prosecuted criminally for noise ordinance violations. In return, the airline would pay more than other operators for each transgression. In 2011, JetBlue paid \$555,000 to the Long Beach Public Library foundation, according to a recent internal airline report. The agreement, called a consent decree, must be renewed every year, but Haubert said he expects it will continue for the foreseeable future.

Other Long Beach operators pay relatively little in fines, but that does not mean the noise rules do not affect operations, especially for private jet companies. Their clients often want to fly at night or in the early morning. But generally, the passengers must go elsewhere, like Los Angeles International Airport or Van Nuys Airport.

"We hold a policy that if you are going to land after 10 p.m. don't land, go somewhere else," said Damon Danneker, director of operations at Long Beach Airport-based charter operator JFI Jets. "It hurts business sometimes. Two nights ago one of our rich and famous people wanted to go to Florida but due to noise constraints we had to pass on the business."



o.m. and 6 and 7
reluctant to try.

While the first noise infraction carries only a warning, future mistakes can cost operators and pilots.

“Nobody in aviation wants to break a rule ever,” Danneker said. “When you do break those rules, it’s kind of a badge of dishonor.”

Kerry Gerot, spokeswoman for Long Beach Airport, said first-time offenders usually take the transgression seriously.

“They get a warning letter and generally they do their best to comply,” she said. “It’s really a matter of education. It’s our job to help educate them especially if it’s a new pilot.”

Not every type of plane is covered by the noise limits, however. Gerot said government jets are exempt, and they can use the airport whenever they want.

Thomas Landefeld, who lives in Long Beach about two miles west of the airport, called military jets a major inconvenience. He said planes such as the F-18 are considerably louder than commercial jets.

“The regular carriers, we hear some, but it’s not that annoying,” Landefeld said. “The ones we have heard lately, especially on the weekends, are the military-type jets. If you’re talking, you can hardly hear the person you are talking to. It almost eliminates conversation.”

But Gerot said most residents, once they learn of military training flights, are generally OK with them.

“It’s a very small percentage that complains about them,” she said.

Airport Noise Report



A weekly update on litigation, regulations, and technological developments

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O'Hare Int'l

CHICAGO MAYOR PROMISES TO SUPPORT NOISE ABATEMENT FOR NEW RUNWAY

Chicago Mayor Rahm Emanuel promised that he will support noise abatement for neighborhoods that are hit by noise from the new \$1.28 billion fourth parallel runway that opened at O'Hare International Airport on Oct. 17.

Emanuel said he would "make sure the residents around the airport get the resources and support they need for noise abatement."

The opening of the new runway, which marks the end of the first phase of the massive \$8 billion O'Hare Modernization Program, was accompanied by a major shift in airport operations to a predominantly east-west flow, which sends aircraft over communities that never had overflights before and are now demanding that they have seat at the table in mitigating noise impact and making decisions about the modernization project as it moves forward.

The 2005 Environment Impact statement on the O'Hare Modernization Project estimated that the new traffic pattern at O'Hare would result in 15,991 people being newly added to the 65 DNL contour.

(Continued on p. 143)

Ft. Lauderdale-Hollywood Int'l

DANIA TENTATIVELY APPROVES REVISED SETTLEMENT OVER RUNWAY EXTENSION

The Dania Beach Commissioners gave tentative approval on Oct. 22 to a revised settlement agreement with Broward County, FL, that would end decades of litigation over the extension of the south runway at Ft. Lauderdale-Hollywood International Airport, which is currently under construction.

The city Commissioners voted 4-0 on a first reading to approve the new settlement but must vote on it again on Nov. 12 to finalize the city's approval. Broward County Commissioners and the Federal Aviation Administration also must approve the agreement.

The settlement agreement includes a unique voluntary program under which the County will pay each of the 857 homeowners who live in the airport's 65 dB DNL contour 21.9 percent of the fair market value (FMV) of their home if it is not sound insulated and 14.4 percent of the FMV of their home if it is sound insulated in exchange for their signing a Conveyance and Release Agreement (C&R), which is similar to an avigation easement but more encompassing and conveys with the deed.

The average home value in Dania Beach is \$325,000, according to the FAA's

(Continued on p. 144)

In This Issue...

O'Hare Int'l ... Chicago Mayor Rahm Emanuel promises that residents hit by the noise from a new runway that opened Oct. 17 and a major shift in airport operations to east-west flow will get resources they need for noise abatement - p. 142

Ft. Lauderdale ... Dania Beach tentatively approves a revised legal settlement agreement with Broward County over runway extension. It includes a novel program that Dania's former mayor calls "precedent-setting" and will pay homeowners in 65 DNL contour significantly more than an avigation easement - p. 142

Billy Bishop Airport ... Porter Airlines has contracted with Tetra Tech to conduct an RNP feasibility study and noise footprint analysis in what is likely an effort to ensure that the new Bombardier CS100 jets it has ordered, but are not yet noise certificated, meet stringent noise limits at Toronto city-center airport - p. 143.

O'Hare, from p. 142

Under the new flight pattern for O'Hare, about 75 percent of all flights arriving during the daytime will be split almost evenly among three parallel east-west runways, including the new one. But night flights will be concentrated onto only one parallel runway 70 percent of the year in order to allow them to come in over a noise abatement path, the Kennedy Expressway.

A coalition of 10 civic organizations representing thousands of neighborhoods in northwest Chicago neighborhoods and the northwest suburbs, who will get the brunt of the new noise impact, have formed an organization called Fair Allocation of Runways (FAIR), which wants the night traffic also split among the parallel runways.

FAIR is led by a group of 35 people with broad experience in civic groups and deep roots in local politics. They are imbued in the ethos of civics (the rights and duties of citizenship) where all parties come to the table as equals. They appear adept at getting support for their goals from local congressional representatives and Chicago's mayor and are not afraid of hard work. FAIR members dropped 17,000 door hangers in communities near O'Hare prior to the new runway opening seeking support for their goals.

Under pressure from FAIR and others, Ill. Reps. Mike Quigley (D) and Jan Schakowsky (D), who represent communities hit by O'Hare noise, have asked the Federal Aviation Administration to lower the 65 dB DNL noise metric for determining eligibility for residential sound insulation to allow more residents to qualify for the O'Hare Residential Sound Insulation Program and to examine other ways to mitigation the noise impact of the new runway.

They also asked the Chicago Department of Aviation to consider expanding its Fly Quiet Program.

At the runway opening ceremony, Rep. Tammy Duckworth (D-IL) reportedly told reporters that she would take a look at dividing night runway use more evenly. "Everything is on the table as far as I am concerned to alleviate the noise," Duckworth said, according to the *Chicago Sun-Times*.

Want Seat at the Table

Jacques Charlier, one of the leaders of FAIR, told ANR that he was pleased that Mayor Emanuel addressed noise in his speech opening the new runway but stressed that the mayor had not responded to FAIR's letters, telephone calls, and e-mails prior to that.

He said the Rep. Quigley has moved from a position of not supporting residents' concerns about noise impact to now asking what they want him to do.

In mid-November, FAIR plans to tell Mayor Emanuel specifically what they want him to do to address the noise impact from the new runway and airspace configuration.

Charlier declined to discuss the specifics with ANR but said, "We are not going away regardless of the outcome and regardless that the runway opened. We want a real seat at a new table where a noise-based plan is a collaborate effort

with the airport ... We want the airport to show all its plans now so there are no more surprises."

In dropping the 17,000 door hangers, the message FAIR heard from residents was that they were not against aviation or the airport but wanted a say in how O'Hare runways were operated. "We want a say in how this will happen is a real way. People got it; the message resonated," he told ANR.

The build out of O'Hare will continue and FAIR does not oppose that, Charlier stressed. "But we want a say on the future impact; how runways will be used and flights allocated." He believes such an effort can result in a "win-win" for the airport and community.

New Runway Will Cut Delays

The new 10,800-foot Runway 10C-28C at O'Hare is the first Group VI capable runway, built to accommodate the largest aircraft flying today, such as the Boeing 747-8 and Airbus A380.

The addition of the new runway and orientation of the airport to a primarily east-west flow pattern is expected to reduce delays by 50 percent and allow for nearly 90,000 additional annual flights while still reducing delays.

Opening of the new runway is expected to create \$4 billion in new economic activity annually and nearly 50,000 jobs, the City of Chicago Mayor's Office said.

Billy Bishop Airport**PORTER GETTING NOISE FOOTPRINT ANALYSIS OF NEW CS100**

The Canadian regional carrier Porter Airlines has contracted with the aerospace firm Tetra Tech to conduct a "Required Navigation Performance (RNP) solutions feasibility study" for its fleet at Billy Bishop Toronto City Airport and to provide expertise in the development of noise footprint analysis.

Porter likely wants this analysis to make sure that the new Bombardier CS100 jets it has ordered meet the stringent noise limits imposed at the airport, which is located on a small island just offshore from the city center. In April, Porter placed a conditional order for 12 CS100s with an option for 18 more.

Porter Airlines currently operates a fleet of medium-range Bombardier Q400 turboprops at the airport, which is its principal hub.

In April, Porter also requested that the City of Toronto, Government of Canada, and Toronto Port Authority amend a 1983 Tripartite Agreement – which bans the operation of jet aircraft at Billy Bishop – to allow the airline to operate the new Bombardier CS100 jet there. The jet aircraft would allow Porter to fly destinations farther away from Toronto, such as Florida and California.

Porter also wants the runway at Billy Bishop extended by at least 168 meters on both ends to accommodate the CS100.

That would result in the runway extending as far as 400 meters into Lake Ontario. The Q400 aircraft have extreme short take-off and landing performance and can operate on shorter runways.

The Tripartite Agreement runs for 50 years and imposes stringent noise limits on aircraft: a 25 NEF (Noise Exposure Forecast) noise footprint for the airport as well as takeoff, approach, and flyover certificated aircraft noise levels that aircraft must meet. It also bans night flights.

Bombardier reportedly assured Porter Airlines that the new CS100, which took its maiden flight on Sept. 16 (25 ANR 129) and has not yet been noise certificated, will meet the Billy Bishop cumulative noise levels set in the Tripartite Agreement. Bombardier says the aircraft, powered by Pratt & Whitney's new geared turbofan engine, slashes noise footprints by up to 75 percent compared to existing turbofan engines.

In December, the Toronto City Council will consider Porter Airline's request to begin jet service at Billy Bishop and extend the runway – both of which are controversial with city residents.

Port Says Noise Limits Must Be Met

On Oct. 21, the Port of Toronto outlined the key parameters by which it will assess Porter Airline's proposal. Port Chairman Mark McQueen stressed that, should the Toronto City Council vote to allow jet aircraft to fly into Billy Bishop Airport, the aircraft must meet the airport's existing noise restrictions.

"The Tripartite Agreement limits the amount of noise the airport can generate each year. The 1983 NEF 25 noise contour and the ICAO noise ceiling make up the strictest noise regime in Canada, and one of the most stringent globally. These noise limitations have been in place since 1983 for the benefit of every Torontonians. Our job is to ensure that the airport's operations fit into, and not dominate, Toronto's lively Waterfront and South Core area," McQueen said.

Tetra Tech's press release, which came out the same day that the Port of Toronto said that CS100s would have to meet the Tripartite Agreement noise limits, mentioned only Porter's current fleet of Q400s and not the new CS100s on order. But a company spokesman said the RNP study also will include the CS100s.

In its announcement, Tetra Tech said Porter Airlines "wants to investigate improvements to procedural efficiencies, with the primary focus of RNP procedure design to gain both safety and environmental operational benefits.

"The RNP project will be instrumental in creating a more effective operational network for Porter Airlines. The study will also advance the development of more efficient procedures to reduce emissions and aircraft noise, while improving weather-related delays, an enhancement that is critical to the growth of the community."

Ft. Lauderdale, from p. 142

2008 Record of Decision on the runway project. That means an owner of a home appraised at \$325,000 would receive \$46,800 or \$71,175 for signing the C&R, depending on whether the house was already soundproofed.

That is much more generous than most homeowners receive for signing aviation easements. That is because the C&R is based on the value of the diminution in value of the home from the increased noise impact. Aviation easements are based only on the value of the easement itself.

"The proposed settlement puts real value in the pockets of people hurt the most by the runway extension," said Neal McAliley of the Miami law firm White & Case, who represents the City of Dania Beach in settlement negotiations.

Jacques Beaumier, noise program manager for Ft. Lauderdale-Hollywood International and airport expansion program manager, believes that other airports will be interested in Broward County's C&R program.

He said it will be discussed at next year's Airport Noise Mitigation Symposium sponsored by the American Association of Airport Executives. The symposium will be held in Ft. Lauderdale next fall.

Asked why airports would pay so much more to homeowners under the C&R than they pay for an aviation easement, Beaumier said that the C&R program in the proposed settlement grew out of the politics involved in the negotiations between the County and Dania Beach.

'Fair and Right Thing to Do'

Former Dania Beach Mayor Anne Castro, who participated in the negotiations that produced the C&R, believes the concept will be precedent-setting.

The original idea for the C&R came from Dania Beach after realizing that it would take 40 years to sell homes in the 65 DNL contour through the sales assistance program, she said.

A market absorption study done by the County showed that only about 22 homes per year could participate in the standard sales assistance program due to local market conditions.

The C&R gives homeowners the option of not enduring this decades long wait.

Asked why other airports would want to follow in Broward County's footsteps and offer more money to homeowners than would be required to purchase an aviation easement, the former mayor shot back, "Because it is the fair and right thing to do. Homeowners need to get fair value for what they are giving up, especially in Florida where there is great value to outdoor spaces, which are used a lot."

The C&R gives airports more in terms of protection from lawsuits and provides an incentive for homeowners not to file lawsuits on their own, she said. Even though the C&R payouts to homeowners are larger than those for aviation easements, they amount to less than what an airport would have to pay fighting thousands of individual lawsuits.

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Program Cost

The proposed settlement also includes a residential sound insulation program and a sales assistance program under which the County will compensate homeowners up to 25 percent of the FMV of their home if it sells for less than full value.

The entire C&R program is estimated to cost \$175 million and includes compensating homeowners for signing the C&R documents, the sound insulation program, buying out two mobile home parks, and the sales assistance program.

The airport already has banked the \$35 million that constitutes its 20 percent share of the program cost. The FAA will fund the rest and has already given the airport \$48 million in AIP grants.

The residential sound insulation program, which 1,700 homes are eligible for, is already underway. The 2008 ROD approved sound insulation for the 65 DNL contour, plus the adjacent houses in the same neighborhoods out to the next natural boundary.

Dania Beach voided a similar settlement agreement in 2012 (24 ANR 62) after the FAA refused to allow Airport Improvement Program funds to be used for the C&R. The agency said the County could not justify how it arrived at the 20 percent of fair market figure for compensating homeowners proposed in the initial settlement agreement.

So, the Broward County hired Randall Bell of the Laguna, CA, firm Bell Anderson & Sanders, who is a leading expert in determining diminution of home value. He conducted a study of homes around the airport and calculated the noise from the runway extension would reduce the value of homes that were not sound insulated by 21.9 percent and those that were insulated by 14.4 percent.

The FAA was satisfied that there was some rational basis for those figures and is expected to approve the revised settlement agreement.

Pending Litigation Would Be Dropped

Under the proposed settlement, Dania Beach would drop two pending lawsuits over the runway expansion. One lawsuit is in U.S. District Court for the Southern District of Florida challenging the U.S. Army Corps of Engineers' permit for filling the wetlands where the extended south runway will be located.

Dania Beach also filed a separate motion in Broward County Circuit Court asking it to hold Broward County in contempt for not abiding by the terms of a 1996 Final Stipulated Judgment under which the County agreed to operational restrictions (limits on night flights, the size of aircraft, and the direction of takeoffs and landings as part of a 1995 Interlocal Agreement between the County and City.

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Glossary of Common Acoustic and Air Traffic Control Terms

A

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

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

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

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

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

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

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

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

Arrival – The act of landing at an airport.

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

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

ARTCC – Air Route Traffic Control Center - A facility providing air traffic control to aircraft on an IFR flight plan

within controlled airspace and principally during the enroute phase of flight.

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

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

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

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

B

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

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

C

Center – See ARTCC.

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



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4.77 and 10 decibel 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 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.

dB(C) - C-weighted decibels adjust sound pressure towards the low frequency end of the spectrum. Although less consistent with human hearing than A-weighting, dB(C) 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.

F

FAA - The Federal Aviation Administration is the agency responsible for aircraft safety, movement and controls. FAA also administers grants for noise mitigation projects and approves

certain aviation studies including FAR Part 150 studies, Environmental Assessments, Environmental Impact Statements, and Airport Layout Plans.

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

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

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

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

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

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

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

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

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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 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

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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

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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.

Significant Exceedance – As defined by the Airport Community Roundtable, is a noise event more than 100 dB SENEL outside of the 65 CNEL contour.

SOIA – Simultaneous Offset Instrument Approach ^是 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 ^是 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.

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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
