

SCSC Roundtable All Correspondence
February 21, 2020 – May 22, 2020

February 24, 2020

From

Tony Sloss

To

SCSC Roundtable

Message

New submission from Feedback

The website has a nice clean look and usability. One thing I would find helpful is to get a quick view of an upcoming agenda without having to download the entire packet file. Thank you, Tony Sloss

February 24, 2020

From

Jan King

To

SCSC Roundtable

Message

Flight Path Change

Dear Gentleman/Madams –

Our purpose in writing to you is to voice our concern over your decision to move the flight path into San Francisco International Airport from its current SERFR path to one that flies directly over the San Lorenzo Valley (known as "legacy BSR"). As indicated in a 2019 article in our local paper, and backed by several aviation experts, it has been acknowledged that implementing this change will "concentrate all flight traffic over a narrower area of the county and shift flight noise over more county residents." Living directly under the proposed path, you can certainly understand why we have a vested interest in this decision.

Currently, the FAA acknowledges that the SERFR path vectors planes west and, as a result, distribution of the traffic is approximately 50-50 with those under the SERFR path receiving 50% of the noise. Under the proposed shift, 100% of the flight traffic/noise will result in those under SERFR receiving no traffic/noise and those under the new path (the San Lorenzo Valley) receiving 100% of the traffic/noise. Considering there are more citizens impacted affected this change, how does this make sense? While we acknowledge that the few that are adversely affected by the current path, e.g., those living near the summit to the south, should receive some type of relief, is it fair to put 100% of the burden over those living at the summit farther north, say near Lompico? We say no, it's not.

Having been involved in the meetings and discussions with Supervisors, etc., for a few years, we certainly understand the frustration of those under the SERFR path who are bombarded with excessive air traffic noise. In fact, we have, on several occasions, driven up to the summit areas of the Santa Cruz Mountains and heard, first-hand, the noise. However, we have also visited areas that claim to be adversely affected by this noise and found little if any discernable noise, even during times when air traffic should be at its peak. Thus, our conclusion is that a very vocal minority is driving this change and, from discussions at meeting where they didn't realize who we were, is actually being fueled by a fear of declining property values rather than actual noise disruptions.

We know for a fact that some changes have already been made to the SERFR flight path as we have seen and heard a marked increase in overhead traffic and noise (nothing like being awakened by the rumbling of a plane coming in low and slow to SFO at 11:00 pm). A significant uptick in noise in the future is, to us, unacceptable and we urge the Board to rethink their proposed plan to move all the noise to the 'new' path.

Janice & John King
Felton, CA

February 24, 2020

From

- SCSC Roundtable - RESPONSE

To

Tony Sloss

Message

New submission from Feedback

Good Afternoon Tony,

Thank you for letting us know about the issue in viewing the agenda packet. As this particular agenda packet is a larger sized file, the preview option is not available at this time. However, we have remedied the situation by providing links to sections of the agenda packet (with previews available) [at this location on our website](#).

We hope you find this information helpful,

SCSC Roundtable Staff

February 24, 2020

From

- SCSC Roundtable - RESPONSE

To

Jan King

Message

Flight Path Change

Dear Mr. and Mrs. King,

Thank you for contacting the Santa Clara/Santa Cruz Counties Airport/Community Roundtable (SCSC Roundtable) regarding your concern about potential changes in aircraft flight tracks. Specifically, your February 24, 2020 email refers to an article you read in the local paper, the Roundtable's role, and the idea of moving flight paths into San Francisco International Airport airspace from current SERFR paths to one that flies directly over the San Lorenzo Valley.

Just to be clear, during its 10 meetings to date, the SCSC Roundtable has made no recommendations to change the location of aircraft flight tracks. Therefore, the Roundtable is not moving aircraft noise from one location to another. In fact, the SCSC Roundtable has no authority whatsoever to implement such a change. The responsibility for the use and management of the National Airspace System rests solely with the Federal Aviation Administration (FAA).

The flight track changes that have been the subject of community interest were recommendations from the Select Committee on South Bay Arrivals (Select Committee) not the SCSC Roundtable. After considering changes that had been made by the FAA to the locations of aircraft flight tracks over Santa Cruz and Santa Clara counties as a part of the FAA's Northern California Metroplex process, the Select Committee recommended that a new arrival route called SERFR be reverted to its previous arrival route known as Big Sur arrival route, which had been used for decades. The SCSC Roundtable did not exist at the time of this recommendation, but rather, was created after the Select Committee's sunset to monitor the FAA's implementation of the Select Committee's recommendations and to provide for public input to the process. The Select Committee made its recommendations to the FAA in November 2016. Since that time, the FAA has been evaluating the recommendations. A link to FAA's most recent responses to the Select Committee Recommendations can be found here on the [SCSC Roundtable website](#).

The FAA has indicated that it is performing an initial review of returning the SERFR arrival route to its previous (Big Sur) location. Should the FAA decide to move forward with developing the Big Sur arrival route, it indicated it would be an 18 to 24 month process to implement such a change. The FAA also indicated that it would conduct public outreach as a part of its process and will conduct a review of the potential environmental impacts of the replacement route. The FAA indicated that it would reach out to the SCSC Roundtable for suggestions on appropriate locations to conduct these outreach meetings.

Like you, the SCSC Roundtable will be watching this process closely and will serve as a conduit for public input on this matter.

We trust this information is helpful to you.

Regards,

SCSC Roundtable Staff

February 25, 2020

From

Jan King

To

SCSC Roundtable

Message

Flight Path Change

Dear SCSC Roundtable Staff –

Thank you very much for your response and for your clarification as to the Roundtable's responsibility. From your own web site, it is clear that the Roundtable's mission is to "address community noise concerns and make recommendations to the Regional Airports and FAA on noise related issues". Thus, while we are acutely aware that it is the FAA who will make the final decision, it is our understanding that the Roundtable was open to receiving input from concerned citizens since, by their Mission Statement, they are able to make recommendations to the FAA. To this end, for those not able to attend the meeting on the 26th, the Roundtable would be the conduit to let the FAA know why we are understandably concerned with the potential outcome of their decisions.

This was our purpose in sending you the message and we trust, as representatives of the various counties involved, you will pass along our concerns to the appropriate representatives of the Regional Airports and FAA Board Members.

Sincerely,

Jan & John King

Felton, CA

February 25, 2020

From

Greg Carlson

To

SCSC Roundtable

Message

Opposition to Proposed Flight Path Change

We are writing to express our opposition to the proposed flight plan shift for the SERFR route which would result in all air traffic following the west route of the current 50/50 split (over Santa Cruz following Graham Hill Road and over Loch Lomond Recreation Area). Our home is just outside Loch Lomond Recreation Area's public entrance gate. Even with only half of the current air traffic, airplane noise is frequent and at times irritating.

Loch Lomond is precious, not only because it is a water reservoir, but a destination many people visit in order to appreciate nature's pristine beauty and relax in its peaceful tranquility. The proposed flight plan change would result in an increase of detrimental noise pollution over Loch Lomond. The sounds heard within this gem of a park should be natural ones, like feathered birds singing, not mans' metal birds polluting the air above. Even the sight of planes can interfere with the enjoyment of a natural setting. Please protect this valuable reservoir/recreation area by minimizing overhead flights.

Thank you for your consideration of our views,

Greg & Julie Carlson

February 26, 2020

From

- SCSC Roundtable - RESPONSE

To

Greg Carlson

Message

Subject

Dear Mr. and Mrs. Carlson,

Thank you for contacting the Santa Clara/Santa Cruz Counties Airport/Community Roundtable (SCSC Roundtable) regarding your concern about potential changes in aircraft flight tracks. Specifically, your February 25, 2020 email refers to the SERFR procedure, and opposition to routing over the Loch Lomon Recreational Area.

Just to be clear, during its 10 meetings to date, the SCSC Roundtable has made no recommendations to change the location of aircraft flight tracks. Therefore, the Roundtable is not moving aircraft noise from one location to another. In fact, the SCSC Roundtable has no authority whatsoever to implement such a change. The responsibility for the use and management of the National Airspace System rests solely with the Federal Aviation Administration (FAA). The flight track changes that have been the subject of community interest were recommendations from the Select Committee on South Bay Arrivals (Select Committee) not the SCSC Roundtable.

The SCSC Roundtable was created to monitor the FAA's implementation of the Select Committee's recommendations and to provide for public input to the process. Like you, the SCSC Roundtable will be watching FAA's process closely and will serve as a conduit for public input on this matter. We will relay your message to all members of the SCSC Roundtable, and include in the public agenda packet for the next meeting to be held on April 22, 2020 at the City of Santa Clara.

The Select Committee made its recommendations to the FAA in November 2016. Since that time, the FAA has been evaluating the recommendations. A link to FAA's most recent responses to the Select Committee Recommendations can be found here on the [SCSC Roundtable website](https://scscroundtable.org). The FAA has indicated that it is performing an initial review of returning the SERFR arrival route to its previous (Big Sur) location. Should the FAA decide to move forward with developing the Big Sur arrival route, it indicated it would be an 18 to 24 month process to implement such a change. The FAA also indicated that it would conduct public outreach as a part of its process and will conduct a review of the potential environmental impacts of the replacement route. The FAA indicated that it would reach out to the SCSC Roundtable for suggestions on appropriate locations to conduct these outreach meetings. Our website, and our public meetings are the best locations to gather additional information about the process.

We trust this information is helpful to you.

Regards,

SCSC Roundtable Staff

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SC | SC Roundtable

<https://scscroundtable.org>

March 1, 2020

From

Marie-Jo Fremont

To

SCSC Roundtable

Message

Request to access PIRAT data provided by FAA to the Roundtable on Feb 21, 2020

Mary-Lynne,

In their materials for the Feb 26, 2020 Roundtable meeting, the FAA referenced several PIRAT-related data files that were, according to the FAA, sent to the Roundtable Chair. However these files were not included in the Feb 26, 2020 Meeting packet and do not seem to be posted on the Roundtable website.

I would like to **request that such files be posted on the SCSC Roundtable website, in a csv or excel format, as quickly as possible** to allow community members to access and review the data. If the files are already posted on the website, please provide the links to the materials (I could not find them).

The list of files is on page 4 of the PIRAT-related Feb 21, 2020 letter from Rachel Girvin to the Roundtable (page 12 of the 2-26-2020 packet) as well as on slides 18-19 of the Feb 26, 2020 FAA presentation (pages 30-31 of the 2-26-2020 packet).

Thank you for your prompt attention to this matter.

Marie-Jo Fremont

March 2, 2020

From

Andi Jordan

To

SCSC Roundtable

Message

Correspondence received from FAA/Girvin

Hi all – happy Monday.

Please see attached correspondence from FAA/Raquel Girvin received 3/2/2020 (dated 2/21/2020, postmarked 2/25/2020).

Please confirm receipt.

Thanks,
~Andi

Andi Jordan
Executive Director
Cities Association of Santa Clara County

Attachment Name

20200302_A_Jordan_2020-3-2 received from FAAGirven



U.S. Department
of Transportation

**Federal Aviation
Administration**

Western-Pacific Region
Office of the Regional Administrator

777 S. Aviation Blvd., Suite 150
El Segundo, CA 90245

FEB 21 2020

Mary-Lynne Bernald
Chairperson
Santa Clara/Santa Cruz Counties Airport/Community Roundtable
PO Box 3144
Los Altos, CA 94024

Dear Ms. Bernald:

Thank you for your letter dated January 17, 2020, in which the Santa Clara/Santa Cruz Counties Airport/Community Roundtable (SCSC Roundtable) requests additional information regarding the PIRAT Standard Terminal Approach Route (STAR).

We look forward to attending the upcoming SCSC Roundtable meeting on February 26, 2020. In addition to the items outlined in my letter dated January 21, 2020, the Federal Aviation Administration (FAA) will provide a briefing on the San Francisco and Oakland oceanic arrivals and a historical review of the PIRAT STAR, including the following:

- summary information for San Francisco (SFO) and Oakland (OAK) airports to include oceanic and total arrivals;
- track information for oceanic arrivals;
- comparison of the use of Pacific 2 Tailored Arrivals (TA), non-Pacific 2 TAs, and the PIRAT STAR; and
- information on the development and benefit of the PIRAT STAR.

We are also providing electronic files containing a number of data spreadsheets for your review and analysis. The contents of the electronic files are found in the attachment to this letter.

As to the remaining requests in your most recent letter, you are essentially asking the FAA to provide additional environmental analysis beyond that which is required under the National Environmental Policy Act of 1969, 42 U.S.C. § 4321 (NEPA). While the FAA remains committed to providing technical information to the SCSC Roundtable, your three requests with their subparts impose substantially greater requirements than applicable Federal law and FAA policy.

Your letter poses questions about the FAA's noise analysis conducted as part of the categorical exclusion of the proposed amendment of the PIRAT STAR. The FAA Air Traffic Organization established a process to help determine the need for detailed noise analysis of air traffic actions. The FAA conducted a noise screening for this action and determined that

potential impacts were not expected, due to the nature of the action and the amount of change; therefore, further noise screening was not required. The screening was conducted in accordance with FAA Order 1050.1F, and is consistent with both NEPA and the Council of Environmental Quality regulations (40 C.F.R. Parts 1500-1508).

The Federal Aviation Act of 1958, 49 U.S.C. § 40101, recognized that the U.S. Government possesses exclusive sovereignty of U.S. airspace. That Act delegated, to the FAA, control over the use of the nation's navigable airspace and regulation of domestic civilian and military aircraft operations to ensure operations are safe and efficient. Using this authority, the FAA publishes air traffic control procedures for use by aircraft operating at airports in the U.S.

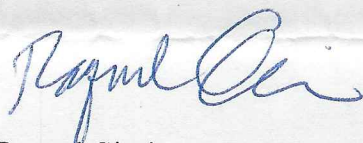
Given that the PIRAT STAR is an airspace procedure within U.S. airspace, the FAA appropriately used the Day-Night Average Sound Level (DNL) noise metric when it analyzed potential noise impacts from aircraft. The standards in *Airport Noise Compatibility Planning*, 14 C.F.R. Part 150, define the levels of noise increase requiring further action under NEPA, using DNL to establish the relevant thresholds. The FAA, therefore, reviewed anticipated noise impacts using the DNL metric through the application of its noise screening tables. You have not identified any error in the methodology used to establish DNL as a metric, nor provided any alternative analysis (besides the Community Noise Equivalent Level [CNEL] noise metric, as discussed below) to establish that the use of DNL somehow understates or misses noise impacts of this project.

You also ask that the FAA conduct noise modeling by applying CNEL. CNEL is required by the State of California for many projects undergoing environmental review under the California Environmental Quality Act (CEQA), the State's analogue to NEPA. Because many airport development projects require approval under both NEPA and CEQA, the FAA may allow the use of CNEL for those airport development projects in California. However, the use of CNEL is never required by the FAA, though the FAA accepts CNEL when the State of California requires that metric to assess noise effects, as stated in FAA Order 5050.4B. With regard to PIRAT STAR, this project took place completely within U.S. airspace and is not an airport development project. Consequently, the FAA did not use CNEL or conduct additional noise analyses for the existing PIRAT STAR.

Your letter also asks the FAA to validate assumptions made in its categorical exclusion of the proposed procedure amendment to ensure the noise analysis conducted matches reality. However, your letter does not identify any FAA assumptions that were unreasonable. The FAA followed the NEPA process, which requires Federal agencies to assess the environmental effects of a proposed action before deciding to proceed. In assessing potential environmental effects, a Federal agency is allowed to make reasonable predictions. This response does not constitute a final agency action or an "order issued by the Secretary of Transportation" under Title 49, United States Code, § 46110.

We remain committed to addressing community concerns and working collaboratively with all stakeholders to improve the safety and efficiency of the National Airspace System. We look forward to the upcoming February 26, 2020, SCSC Roundtable meeting and providing a briefing regarding the PIRAT STAR and the SUNNE ONE Standard Instrument Departure procedures.

Sincerely,

A handwritten signature in blue ink, appearing to read "Raquel Girvin", written in a cursive style.

Raquel Girvin
Regional Administrator

Attachment:
List of Items Provided Via Electronic Transfer

Items Provided to SCSC Chairperson via Electronic Transfer

Oakland (OAK) and San Francisco (SFO) Traffic count for years 2013 -2019
Oakland (OAK) and San Francisco (SFO) Traffic count for May-August 2013 -2019
OAK Oceanic arrivals for May-August 2013-2019
SFO Oceanic arrivals for May-August 2013-2019
**List of OAK and SFO aircraft that pass with 1 Mile and 3 miles of Woodside VOR (OSI)
for dates requested**
**List of OAK and SFO aircraft that pass with 1 Mile and 3 miles of ARGGG waypoint for
dates requested**
List of aircraft that pass within 1, 3, and 5 miles of MENLO and SIDBY waypoint
Weight Class of Oceanic arrivals into OAK and SFO
**Flight Tracks from ARGGG waypoint to ILS at OAK and SFO for the years of 2013,
2018, 2019 spectrumized by altitude**

March 3, 2020

From

Bert Ganoung

To

Steve Alverson

Message

SUNNE ONE Conventional Departure Procedure Data Request

Hello Steve,

I would be happy to speak with you regarding the request. Do have some time this afternoon?

Thank you,

Bert

March 3, 2020

From

Steve Alverson - SCSC Roundtable - RESPONSE

To

Bert Ganoung

Message

SUNNE ONE Conventional Departure Procedure Data Request

Bert,

I am writing to you at the direction of Mary-Lynne Bernald, Chairperson of the SCSC Roundtable.

At the February 26, 2020 SCSC Roundtable meeting, you said that the SFO Airport Noise Abatement Office would be willing to track and report on the use of the SUNNE ONE Conventional Departure Procedure out of Oakland International Airport (OAK). The purpose of this email is to 1) memorialize your commitment and 2) provide some of the specific information that the SCSC Roundtable is interested in receiving.

The SCSC Roundtable understands that the FAA implemented the new SUNNE ONE Conventional Departure Procedure on January 30, 2020. The procedure has raised a number of concerns for some Roundtable members as well as members of the community. In particular, the members and residents are concerned that the new ground track is different than the previous OAK 120 ground track. They are also concerned about the impact of the SUNNE ONE procedure on BDEGA East arrivals over the San Francisco Bay and arrivals on the PIRAT TWO STAR. Finally, they are concerned that aircraft will continue to and beyond the SUNNE fix rather than turning eastbound over the San Francisco Bay.

To understand these effects, it would be great to have one year of historical flight tracks of aircraft flying the OAK 120 departure at night then, separately, flight tracks for aircraft following the SUNNE ONE departure procedure in one-month batches. We can accept these as GIS files, but we need the altitude attributes turned on. We would like to develop a comparison between the historical OAK 120 flight tracks and the new SUNNE ONE flight tracks. For example, are the flight tracks in the same location or have they shifted in some way? Are aircraft turning to the east in generally the same location or has the turn shifted? Are the numbers of aircraft

flying beyond the SUNNE fix staying the same, increasing or decreasing? Are the aircraft at the same altitudes when overflying residential areas or are they higher or lower than before?

We would also want to know if the use of the SUNNE ONE is impacting the aforementioned arrivals at SFO. This may require the establishment of gates within your ANOMS system, so I would like to discuss this with you at your convenience.

Please let me know if you have any questions regarding this request. Thank you.

Regards,

Steve

Steven R. Alverson

Senior Vice President

ESA | Environmental Science Associates

March 4, 2020

From

Bert Ganoung

To

Steve Alverson

Message

SUNNE ONE Conventional Departure Procedure Data Request

Hello Steve,

Depending on how long you believe that we will need I have a window from 2:00 PM to 3:00 PM and another from 4:30 PM to 6:30 PM.

Best,

Bert

March 4, 2020

From

Steve Alverson

To

Bert Ganoung

Message

SUNNE ONE Conventional Departure Procedure Data Request

Hi Bert,

Thanks for the prompt response.

I was tied up with the UC Davis Noise Symposium yesterday, but will be back in Sacramento this afternoon. What does your afternoon look like for a call?

Regards,

Steve

Steven R. Alverson
Senior Vice President
ESA | Environmental Science Associates

March 4, 2020

From

Steve Alverson - SCSC Roundtable - RESPONSE

To

Bert Ganoung

Message

SUNNE ONE Conventional Departure Procedure Data Request

Greetings all,

Bert and I spoke this afternoon. He agreed to provide the flight track data identified below in the format requested. He is also going to set up a gate within ANOMS to try to identify if the SUNNE ONE departures are disrupting the SRFER and BDEGA arrivals.

We are looking forward to getting a sample of the data to review/test.

Regards,

Steve

Steven R. Alverson
Senior Vice President
ESA | Environmental Science Associates

March 4, 2020

From

Mike McClintock

To

SCSC Roundtable

Message

Fwd: ALERT -- Upcoming N.O.I.S.E. Legislative Summit Agenda

FYI for anyone attending the National League of Cities conference in D.C. next week

Mike McClintock

Forum Facilitator

Attachment Name

20200304_M_McClintok_Fwd_ALERT -- Upcoming NOISE Legislative Summit Agenda

Subject: ALERT -- Upcoming Legislative Summit Agenda



ALERT -- Legislative Summit Agenda

Dear N.O.I.S.E. Members:

We wanted to send out a reminder to join us this Monday for this year's upcoming N.O.I.S.E. Legislative Summit on **Monday March 9th from 12:30pm-3:00pm** at the Marriott Wardman Park in Washington, DC! The complete agenda for this event can be found by clicking [here](#).

This Summit will present attendees with a unique opportunity to discuss FAA policy and share local perspectives with other community leaders effected by airport noise. Our agenda will also include presentations by N.O.I.S.E. staff and stakeholders on proposed legislative priorities for 2020 and an overview of developments in health-impact studies of aviation noise. We will be sending out the agenda for this years summit including the guest speakers for the event shortly.

Join us and make sure that your voice is heard!

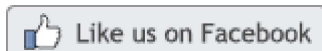
The event will be on Monday March 9th from **12:30pm to 3:00pm** in the **Taylor room** at the Marriott Wardman Park in Washington D.C. This is a free event. Then join us afterward for an Airport N.O.I.S.E. reception from **5:00pm to 6:00pm** in the **Truman room** of the Marriott Wardman Park for appetizers and refreshments.

Please feel free to bring additional guests and colleagues.

Please RSVP to our N.O.I.S.E. Communications Director Vince Spinner (vmspinner@locklaw.com) to register.

We look forward to seeing you all there!

Visit the N.O.I.S.E Website



March 5, 2020

From

Julie Mascarenhas

To

SCSC Roundtable

Message

New submission from Contact us

I am writing in regards to jet overflight noise. This negatively impacts me and my family, particularly me, day in and day out, for a disproportionate number of hours since I work in my home office.

I am very concerned that the roundtable has seemed to be listening mostly to a vocal minority of residents (in the SERFR flight path).

Those of us in the BSR overlay are seeking relief of jet noise.

A 100% flight path unfair (as opposed to the previous 50-50% split); we ALL want relief of jet noise. Please do NOT support a 100% BSR flight path.

Additionally, please demand that the FAA mandate other measures to reduce noise (such as higher flights, no braking, etc.)

I would appreciate a response on this issue.

Sincerely,

Julie Mascarenhas

March 5, 2020

From

SCSC Roundtable

To

Julie Mascarenhas

Message

New submission from Contact us

Dear Ms. Mascarenhas,

Thank you for contacting the Santa Clara/Santa Cruz Counties Airport/Community Roundtable (SCSC Roundtable) regarding your concern of jet overflight noise and about potential changes in aircraft flight tracks. Specifically, your March 5, 2020 email refers to the Roundtable's role in influencing flight path decisions, and the insinuation that the Roundtable is influenced by vocal members of the public.

Just to be clear, the SCSC Roundtable is dedicated to receiving input from all members of the public, and is an impartial body dedicated to meeting the needs of all member communities. Further, during its 11 meetings to date, the SCSC Roundtable has made no recommendations to change the location of aircraft flight tracks. Therefore, the Roundtable is not moving aircraft noise from one location to another. In fact, the SCSC Roundtable has no authority whatsoever to implement such a change. The responsibility for the use and management of the National Airspace System rests solely with the Federal Aviation Administration (FAA).

The flight track changes that have been the subject of community interest were recommendations from the Select Committee on South Bay Arrivals (Select Committee) not the SCSC Roundtable. After considering changes that had been made by the FAA to the locations of aircraft flight tracks over Santa Cruz and Santa Clara counties as a part of the FAA's Northern California Metroplex process, the Select Committee recommended that a new arrival route called SERFR be reverted to its previous arrival route know as Big Sur arrival route, which had been used for decades. The SCSC Roundtable did not exist at the time of this recommendation, but rather, was created after the Select Committee's sunset to monitor the FAA's implementation of the Select Committee's recommendations and to provide for public input to the process. The Select Committee made its recommendations to the FAA in November 2016. Since that time, the FAA has been evaluating the recommendations. A link to FAA's most recent responses to the Select Committee Recommendations can be found here on the SCSC Roundtable website.

The FAA has indicated that it is performing an initial review of returning the SERFR arrival route to its previous (Big Sur) location. Should the FAA decide to move forward with developing the Big Sur arrival route, it indicated it would be an 18 to 24 month process to implement such a change. The FAA also indicated that it would conduct public outreach as a part of its process and will conduct a review of the potential environmental impacts of the replacement route. The FAA indicated that it would reach out to the SCSC Roundtable for suggestions on appropriate locations to conduct these outreach meetings.

Like you, the SCSC Roundtable will be watching this process closely and will serve as a conduit for public input on this matter.

We trust this information is helpful to you.

Regards,

SCSC Roundtable Staff

March 5, 2020

From

Lydia Kou

To

Mary-Lynne Bernald

Message

URGENT - PIRAT follow up questions for the FAA

Dear Mary-Lynne,

I hope you had a productive time at the ANE conference. It was impressive to see the SCSC-RT members and community attendance.

Given the new 45-day requirement by the FAA to receive questions before they present, the SCSC RT questions **must be sent by March 7th** at the latest for the April 22nd meeting.

I request that you send the following 3 questions to the FAA regarding the Big Sur Overlay and include the attached document obtained through a FOIA request of the Full Work Group Meeting. Unfortunately, I could not send them until today because of the ANE conference.

NOTE: My questions are not about reopening the Select Committee recommendation 1.2R1. All the questions are related to the differences between the partial overlay versus the full overlay and complying with recommendation 1.2R1.

Questions to the FAA on the BSR Overlay

1. **Explain why the proposed BSR overlay** (as described in the FOIA information) **is a partial overlay and not a full overlay between EPICK and MENLO as was recommended, voted on, and approved by the Select Committee in recommendation 1.2 R1.** In particular, please address the following points:
 - a. Can the FAA replace SERFR with an OPD procedure **along the entire BSR ground track prior to EPICK** as recommended, voted on, and approved by the Select Committee? In other words, is recommendation 1.2 R1 feasible or not?
 - b. Explain the statement made by Derek Wolfe (PBN Co-lead) at the June 4-5, 2019 Full Work Group meeting, which was “Our goal was the green line -- which is doable -but we have other goals too.” In particular, please explain what the “green line” is (see item 6 c 3 on page 4 of the FOIA document).
 - i. Note that the FAA presented a green line for the BSR route on slide 11 of the [FAA presentation to the Select Committee on Oct 13, 2016](#). See screenshot below.
 - c. Explain why the FAA believes that the BSR Overlay proposal that is not using the full overlay complies with recommendation 1.2 R1 without reopening this Select Committee recommendation.
2. **Please compare the proposed partial BSR Overlay to a full BSR Overlay.** In particular, please address the following questions:
 - a. How do the **proposed** BSR Overlay ground tracks, altitudes, speeds, angles of descent, waypoint locations, end waypoint of the STAR, and default heading for vectoring after the end of the STAR compare to the **old BSR from the Monterey Bay all the way to the SFO airport**? In particular, provide a detailed side-by-side comparison of all items (ground tracks, altitudes, speeds, angles of descent, waypoint locations, end waypoint of the STAR, and default heading for vectoring after the end of the STAR) for different portions of the procedure, including the vectoring to the ILS. Include visuals as appropriate, especially for ground tracks.
 - b. What are the **differences** in the **estimated noise impacts** between a **full BSR Overlay** (as voted on by the Select Committee) and the **proposed partial BSR Overlay** (as described in the FOIA information) across the entire route between the Monterey Bay all the way to SFO airport? In particular,
 - i. Please address the differences after the end of the procedure for the vectored portion and specify all assumptions and historical data used in calculating the noise impact estimates and differences.
 - ii. Please provide all airlines simulation results as well as all noise modeling data and assumptions made in the calculations for the proposed BSR Overlay impact.
3. **Describe the environmental review process that will be used or is already underway for the proposed partial BSR Overlay.** In particular,
 - a. Provide a status update of the environmental review process for the proposed BSR Overlay and a targeted completion date.
 - b. Identify the representatives for “airport proprietors” and “community” who will be or have been contacted already.

Thank you,

Lydia Kou - Council Member

March 5, 2020

From

Mary-Lynne Bernald

To

Lydia Kou

Message

URGENT - PIRAT follow up questions for the FAA

Dear Lydia,

While I completely understand your sense of urgency, the rules governing the SCSC Roundtable dictate the manner in which we may respond to the questions you are requesting be sent to the FAA. Such an action requires approval by the members of the Roundtable. I have conferred with Steve regarding this protocol and he has confirmed it.

In the future, please let the community members who engage with you know that for questions such as Marie Jo Fremont's are best and most efficiently handled through you as the appointed member. Had her email gone through the correct channels, we could and would have agendaized this item for the February meeting so the SCSCRT could have reviewed the request.

As we all come to understand the required protocol, we should be able to avoid these unfortunate hiccups in the future.

I wish I had better news to relay. Please confirm that you are now requesting this matter be placed on the April agenda.

Sincerely,

Mary-Lynne

March 6, 2020

From

Steve Alverson

To

Raquel Girvin

Message

Follow-up Questions on the FAA's 2/26/20 PIRAT TWO Presentation

Dear Regional Administrator Girvin,

At the direction of the SCSC Roundtable Chairperson, Mary-Lynne Bernald, I am attaching a letter that contains questions following up on the FAA's presentation on the PIRAT TWO STAR at the February 26, 2020 SCSC Roundtable meeting.

We look forward to receiving FAA's written response to these questions prior to the April 22, 2020 SCSC Roundtable meeting.

Regards,

Steve
Steven R. Alverson
Senior Vice President
ESA | Environmental Science Associates

Attachment Name

20200306_S_Alverson_Letter_to_FAA_with_PIRAT_STAR_Questions_w attach



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

PO Box 3144
Los Altos, CA 94024

March 6, 2020

Ms. Raquel Girvin
Regional Administrator, AWP-1
FAA Western-Pacific Region
777 South Aviation Boulevard, Suite 150
El Segundo, CA 90245

Subject: PIRAT follow up questions for the FAA

Dear Administrator Girvin,

The SCSC Roundtable is submitting the following four requests regarding the PIRAT TWO Standard Terminal Arrival Route (PIRAT TWO STAR) for the FAA's review and response:

- 1. Explain the differences between the CATEX information and reality using the seven assumptions identified as unreasonable.** The SCSC Roundtable requests that the FAA validate the assumptions made in the PIRAT STAR CATEX, based on the following FAA assumptions listed below.

Note: This same question was asked in my letter to the FAA dated January 17, 2020, on page 9 of the SCSC RT meeting packet - February 26, 2020. This question was listed as question 2.

To understand whether the original expectations about the PIRAT STAR's noise exposure described in the CATEX for the PIRAT STAR match reality, the SCSC Roundtable requests that the FAA validate the assumptions made in the PIRAT STAR CATEX.

Note: Ms. Girvin's letter to me dated February 21, 2020, on pages 9 and 10 of the SCSC RT meeting packet – February 26, 2020 states,

"Your letter also asks the FAA to validate assumptions made in its categorical exclusion of the proposed procedure amendment to ensure the noise analysis conducted matches reality. However, your letter does not identify any FAA assumptions that were unreasonable."

Identification of seven assumptions that are unreasonable: See the Annotated FAA's PIRAT Environmental Review document dated May 17, 2018 obtained via FOIA ("Annotated - 2018-06-11 KSFO.IER.ARCHI.20180517 (SIGNED)_MLsign.pdf").

Assumption 1 – The FAA noted, "an increase in operations is not expected". (Page 17, the CATEX). Slide 18 of the 2/26/2020 FAA presentation to the SCSC RT (or page 30 of the meeting packet) shows a 35.5% increase from 2018-2019, 4044 to 5579, May through August. Note: many Oceanic arrivals are nighttime flights.

Both the Palo Alto and Los Altos/Mountain View letters dated 11/13/18 raised the concern:

- Palo Alto: "In particular, we are concerned about the predictable increase in volume of overflights resulting from transitioning of the Pacific 2 Tailored Approach (TA) to a public-use area navigation (RNAV STAR), and the increased impacts associated with adding Oakland International Airport (OAK) traffic to the SFO traffic on this route."
- Los Altos/Mountain View: "We expect noise will be shifted from other approaches as airlines consolidate operations to us this procedure, which violates the widely endorsed principle,

including by the San Francisco Roundtable, of not moving noise from one community to another.”

Note that Joseph Bert, from the FAA, commented on the increased usage of PIRAT at the 2/26/2020 meeting: he stated, “the PIRAT has increased, which is kind of, I guess, anticipated when you don’t have a STAR and then you bring in a STAR. People are going to want to fly the STAR” (see time stamp 53:46 of the [video of the 2/26/2020 SCSC RT meeting](#)). Such statement is in direct contradiction with the CATEX assumption that usage would not increase.

Assumption 2 – The FAA denotes the project as a “Community Request”. (Page 22, the CATEX)

Note: The PIRAT procedure was not requested by the Community. What was created by the FAA was different from what was asked for. By implementing the PIRAT STAR, there is an increased volume of planes AND these aircraft produce a higher level of noise before final approach because they need to lose altitude faster than the former procedure. Furthermore, a limited-use (Tailored Arrival) procedure was converted to a public-use navigation (RNAV STAR) procedure for both SFO and OAK arrivals.

Assumption 3 – The FAA states that the “proposed changes do not capture any of the Select Committee/SF Roundtable recommendations, rather they are a result of design work to address safety and operational concerns”. (Page 50, the CATEX).

Note: This contradicts what is stated on FAA slide 16 presented at the February 26, 2020 meeting that PIRAT is in response to the Select Committee recommendation.

Assumption 4 – the FAA marked “Yes” to the question, “Are the airport proprietor and users providing general support for the proposed project?” on page 50 of the CATEX.

Note: Our understanding is that SFO was shown and did not support the early version called the “PIRAT project” in the FOIA documents received. **Please provide the FAA documentation that shows that the airport proprietor supported PIRAT.**

Assumption 5 – The FAA denoted “No” impact for an established community on page 48 of the CATEX. **Did the FAA look at Environmental and Social Justice as part of the PIRAT STAR environmental review process?**

Note: The City of East Palo Alto sent a letter to the FAA dated November 13, 2018 requesting noise and emission impacts of the PIRAT STAR procedure on sensitive areas such as minority and low-income populations.

Assumption 6 – The FAA denoted “Yes”, local citizens and community leaders are aware of the proposed project and then states that it is “UNKNOWN” if they oppose or support it, on page 50 of the CATEX.

Note: Letters of objection were sent (November 13, 2018) by Palo Alto, Los Altos, Mountain View, and East Palo Alto and within 60 days of the IFP Gateway posting. **Who are the local citizens and community leaders with whom the FAA communicated at the time the PIRAT STAR CATEX was done?**

Assumption 7 – The FAA denotes “No” the FAA has not received one or more comments objecting to the project on environmental grounds from citizens or elected officials.

Note: Residents brought up concerns about PIRAT multiple times and months before the procedure was implemented in April 2019. They did so in writing and at Roundtable meetings. Letters of objection were sent (November 13, 2018) on environmental related impacts by Palo Alto, Los Altos, Mountain View, and East Palo Alto.

2. Why is the FAA not meeting the noise abatement agreement documented in a 2000 letter with Representative Eshoo for MENLO at 5,000 feet?

On slide 16 of the 2/26/2020 FAA presentation (page 28 of the packet), the FAA stated that PIRAT was “Developed to meet noise abatement procedures implemented in July 1998 (Traffic permitting cross over Woodside VOR (Now ARGGG) at 8,000 feet mean sea level). We applaud the FAA’s desire to honor previous noise abatement agreements and wish that the FAA would do the same for communities living in the close vicinity of the MENLO waypoint.

3. In my letter dated January 17, 2020, the FAA was asked about the history of PIRAT development since 2013.

Note: Slide 17 of the 2/26/2020 FAA presentation covers only the change from PIRAT ONE to PIRAT TWO, not pre-PIRAT ONE. Furthermore, the FAA representative at the meeting (Joseph Bert) stated he has no information before PIRAT ONE. Appendix C of the January letter included historical information on PIRAT ONE. See attachments "Annotated - RE_PIRAT STAR_SFO.pdf" and "Annotated - KSFO New STAR 8457 Gateway (1).pdf" for email communications in 2016 and 2017 about a PIRAT STAR, which preceded the current PIRAT ONE/PIRAT TWO STAR.

- a. The FAA records referenced above, and obtained through a FOIA request, indicate that the FAA was working on a PIRAT STAR as early as 2015 (and probably earlier than that) as part of the NorCal Metroplex project, but that the procedure had environmental issues.
 - This FAA documentation aligns with the SFO Noise Office saying that they did not support a PIRAT procedure that was proposed around 2014 because of noise concerns.
 - b. On November 16, 2016, an FAA employee requested to put the PIRAT STAR back in the IFP process because it had been removed by mistake. Note that the Select Committee issued their recommendations, which do not mention any STAR procedure for Oceanic Arrivals, one day later on November 17, 2016, after the FAA put PIRAT STAR back in the IFP process.
- 4. Five questions marked "6." in my January 17, 2020 letter to the FAA were not answered** – see Appendix B of my letter to the FAA dated January 17, 2020, page 9 of the SCSC RT meeting packet - February 26, 2020 as well the "Annotated - 2018-06-11 KSFO.IER.ARCHI.20180517 (SIGNED)_MLsign.pdf" document.

On behalf of the SCSC Roundtable, thank you for your attention to these requests. We look forward to receiving your written response by the April 22, 2020 SCSC Roundtable meeting.

Sincerely,



Mary-Lynne Bernald
Chairperson, SCSC Roundtable

Cc: SCSC Roundtable Members and Alternates
Congressman Jimmy Panetta's Office
Congresswoman Anna Eshoo's Office
Congressman Ro Khana's Office

ATTACHMENTS

- FAA's PIRAT Environmental Review documents dated May 17, 2018 received via FOIA:
 - Annotated - 2018-06-11 KSFO.IER.ARCHI.20180517 (SIGNED)_MLsign.pdf
 - Annotated - RE_PIRAT STAR_SFO.pdf
 - Annotated - KSFO New STAR 8457 Gateway (1).pdf
- Letters to the FAA: East Palo Alto, Los Altos/Mountain View, and City of Palo Alto
 - Los Altos/Mountain View: "181113 IFP Coordination joint ltr MtV-LA (final).pdf"
 - Palo Alto: "FAA comment letter on PIRAT STAR 11-13-18.pdf"
 - East Palo Alto: "EPA Pirat Ltr 11 13 18.pdf"
- [SCSC-RT letter to FAA, January 17, 2020](#)

Attachment 1

Facility/Office: Western Service Center/OSG
Prepared By: Katherin Matolcsy

Date: May 17, 2018
Phone: 206-231-2237

This initial environmental review (IER) will provide basic information about the proposed project to better assist in preparing for the environmental analysis phase and inform the FAA's compliance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [U.S.C.] Section 4321 et seq.; implementing regulations issued by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations (CFR), parts 1500-1508); FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* (FAA Order 1050.1F); and FAA Order 7400.2L, *Procedures for Handling Airspace Matters*. FAA Order 7400.2L provides guidance and establishes policy and procedures to assist air traffic personnel in applying the requirements of FAA Order 1050.1F.

Although the IER requests information in several categories, not all the data may be available initially; however, it does represent information, in accordance with FAA Order 1050.1, which ultimately will be needed for preparation of the environmental document.

Once the FAA determines that NEPA applies to a proposed action, the FAA needs to decide on the appropriate level of review. The three levels of NEPA review are Categorical Exclusion (CATEX), Environmental Assessment (EA), and Environmental Impact Statement (EIS). A CATEX refers to a category of actions that the FAA has determined, based on previous experience, do not individually or cumulatively have a significant effect on the human environment except in extraordinary circumstances. The presence of extraordinary circumstances preclude the use of a CATEX and would merit additional review in an EA or EIS. A CATEX is not an exemption or a waiver from NEPA; it is a level of NEPA review and compliance. FAA Order 1050.1F, Section 5-6.5, Categorical Exclusions for Procedural Actions includes the list of CATEXs involving establishment, modification, or application of airspace and air traffic procedures.

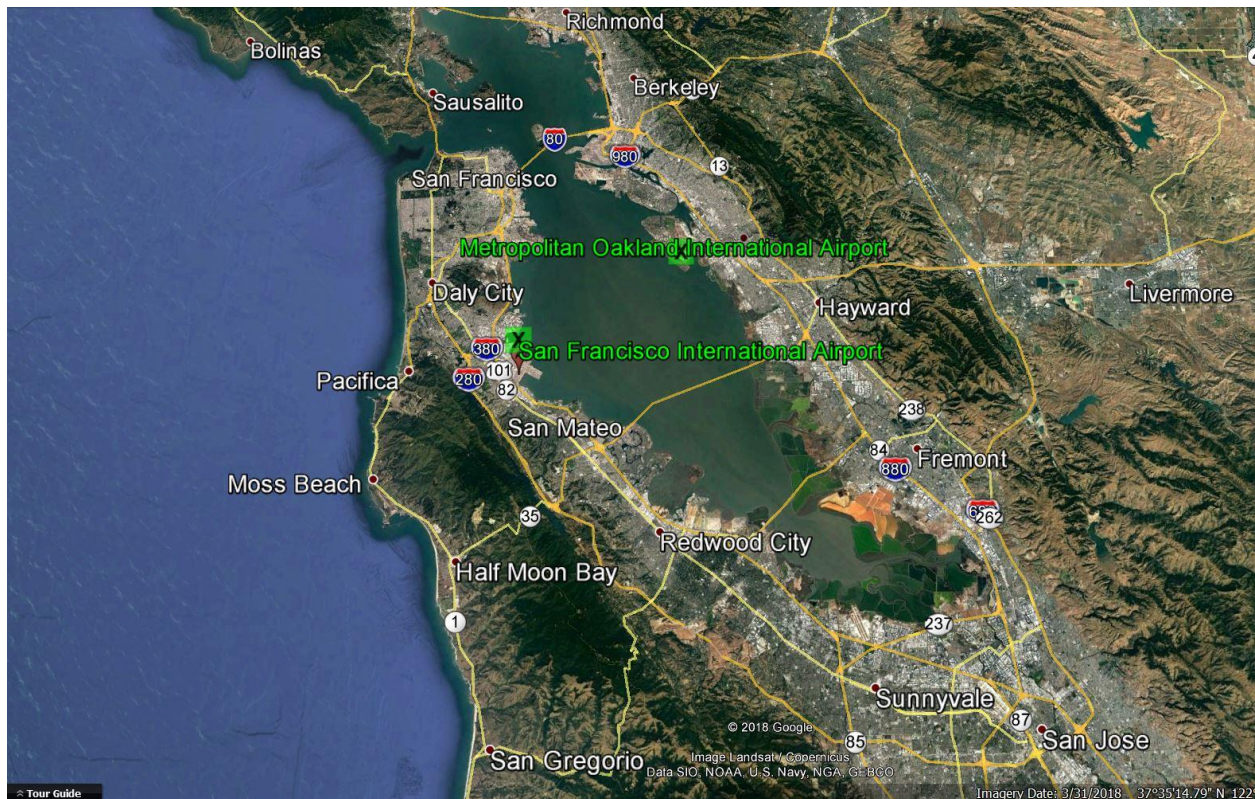
This document describes how the CATEX applies to the Proposed Action, and presents analysis of extraordinary circumstances that, if present, could require more detailed NEPA review. There is not a prescribed format for an environmental review of a CATEX. However, the documentation should "cite the CATEX(s) used, describe how the proposed action fits within the category of actions described in the CATEX, and explain that there are no extraordinary circumstances that would preclude the proposed action from being categorically excluded." FAA Order 1050.1F, Section 5-3.d.

A. Project Description. The FAA is proposing to amend multiple procedures for the San Francisco International Airport (KSFO) in San Francisco, California and one procedure for the Metropolitan Oakland International Airport (KOAK) in Oakland, California (Figure 1). The FAA is also proposing to implement one new Standard Terminal Arrival Route (STAR) for both KSFO and KOAK.

1. The DYAMD STAR procedure would be amended to conform to the Class B Airspace redesign and current procedure design criteria.

2. Amend three Standard Instrument Departure (SID) procedures: WESLA and SSTIK at KSFO and CNDEL at KOAK.

Figure 1. General Area of the San Francisco International Airport and the Metropolitan Oakland International Airport



Air Traffic Initial Environmental Review
San Francisco International Airport – Procedure Amendments
Page 2

☒ Yes ☐ No If Yes, Model: TARGETS and the Instrument Approach Procedures Automation (IAPA).

If yes, provide a summary of the output from the modeling.
TARGETS distribution packages are available in Attachment 1.

C. Describe the existing (no action alternative) in full detail. Provide the necessary chart(s) depicting the current procedure or provide information for a new procedure. Describe the typical fleet mix, quantifying (if possible) the number of aircraft on the route and depict their altitude(s) along the route.

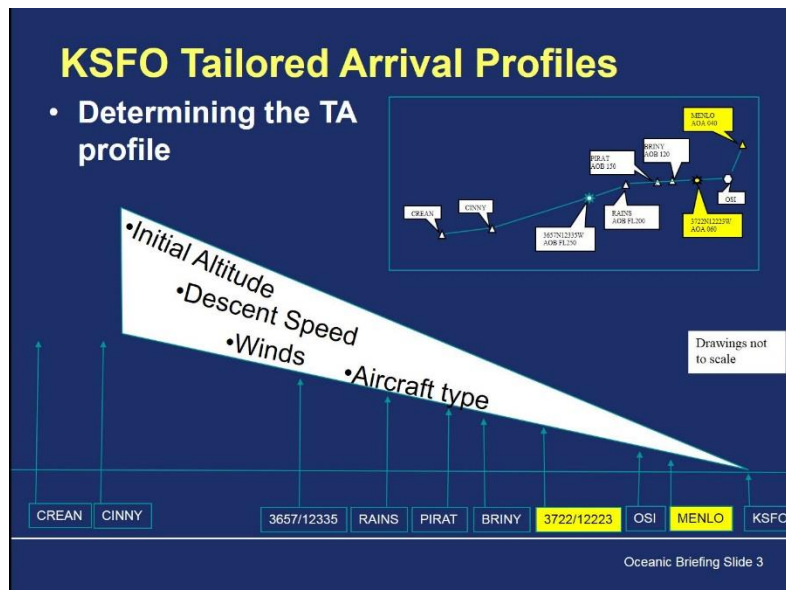
The following current (published) procedures would be amended (Refer to Attachment 2 for Terminal Procedure Publication procedure charts):

1. DYAMD STAR:
 1. DYAMD THREE ARRIVAL RNAV
2. Standard Instrument Departures:
 1. SSTIK THREE DEPARTURE (RNAV)
 2. WESLA THREE DEPARTURE (RNAV)
 3. CNDEL THREE DEPARTURE (RNAV)
3. Instrument Approach Procedures:
 1. Instrument Landing System (ILS) or Localizer (LOC) Runway (RWY) 28L
 2. ILS or LOC RWY 28R
 3. ILS RWY 28R (Special Authorization [SA] CAT I¹)
 4. ILS RWY 28R (CAT II – III)
 5. ILS RWY 29L (SA CAT II)
 6. RNAV (Required Navigation Performance [RNP]) Y RWY 28R
 7. RNAV (Global Positioning System [GPS]) RWY 28L
 8. RNAV (GPS) Z RWY 28R
4. Charted Visual Flight Procedure:
 1. QUIET BRIDGE VISUAL RWY 28L/R

¹ CAT = Approach category.

5. Pacific 2 Tailored Arrival²

The OCEANIC Pacific 2 Tailored Arrival (TA) procedure into KSFO comes in from the west from overseas locations, with aircraft converging into a single path at the PIRAT waypoint, located approximately 23 nautical miles (NM) to the west of the California coastline (Figure 2). Once on a single path, the aircraft cross the San Francisco Peninsula at the Woodside Very High Frequency Omni-Directional Range Tactical Air Navigation (OSI VORTAC) system, a navigational beacon and proceed to the final approach into KSFO. This procedure is in use as a test procedure with selected carriers. Tailored arrivals are similar to an optimized profile descent (OPD), except that it is a non-published dynamic procedure (tailored for traffic, aircraft type, environment, time, etc.).

Figure 2. Tailored Arrival into KSFO³

FAA's Operations Network⁴ reports 450,391 operations for the calendar year 2016 (Table 1).

² Tailored Arrivals (TA) is a comprehensive method of planning, communicating, and flying highly-efficient arrival trajectories from cruise altitude to the runway threshold. TA trajectories are optimized for each aircraft to permit a fuel-efficient, low noise descent profile that will provide separation assistance while complying with arrival sequencing requirements and other airspace requirements.

³ Excerpted from presentation "SOCM-2 Seminar. Data Link Advanced Operations". Presented by Dennis Addison, FAA on February 8, 2012.

https://www.google.com/search?q=Pacific+tailored+arrival+into+KSFO&rlz=1C1GCEA_enUS761US761&oq=Pacific+tailored+arrival+into+KSFO&aqs=chrome..69i57j13432j0j8&sourceid=chrome&ie=UTF-8

⁴ The Operations Network: official source of FAA air traffic operations. <https://aspm.faa.gov/opsnet/sys/Airport.asp>

Table 1. KSFO Operations Data

	Air Carrier	Air Taxi	General Aviation	Military
IFR Itinerant ⁵	379,642	54,856	10,396	411
VFR Itinerant	5	626	2,29	2,16

Note:

IFR= Instrument Flight Rules

VFR = Visual Flight Rules

Runway use percentages⁶ for operations during 2014 are reported in Table 2 below.

Table 2. Runway Use

Operating Configuration	Arrival Runways	Departure Runways	Day	Night
West	28L, 28R	01L, 01R	96.6%	94.2%
East2	19L, 19R	10L, 10R	4.4%	5.7%
West (Noise Abatement)	28L, 28R	10L, 10R	0.0%	0.1%

Runway use percentages for arrivals during the year 2014⁷ are broken up into aircraft type, and day/night operations in Table 3.

Table 3. Runway Use – Arrivals Only

	Heavy Jets		Jets		Small Jets		Turboprops		Pistons	
RWY	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
19L	5%	5%	3%	5%	0%	0%	3%	3%	0%	0%
19R	0%	0%	1%	0%	0%	0%	1%	1%	0%	0%
28L	46%	16%	38%	16%	21%	0%	59%	28%	0%	8%
28R	49%	79%	58%	79%	79%	100%	38%	68%	100%	92%

The current procedures are provided in Attachment 1. The procedure charts depict the altitudes on each procedure.

⁵ Airport Operations. The number of arrivals and departures from the airport at which the airport traffic control tower is located. There are two types of operations: local and itinerant. Local operations are those operations performed by aircraft that remain in the local traffic pattern, execute simulated instrument approaches or low passes at the airport, and the operations to or from the airport and a designated practice area within a 20-mile radius of the tower. Itinerant operations are operations performed by an aircraft, either IFR, SVFR, or VFR, that lands at an airport, arriving from outside the airport area, or departs an airport and leaves the airport area.

⁶ Environmental Assessment for Northern California Optimization of Airspace and Procedures in the Metroplex. Average Annual Day Flight Schedules. ATAC Corporation. Revised. August 7, 2014.

⁷ Environmental Assessment for Northern California Optimization of Airspace and Procedures in the Metroplex. Average Annual Day Flight Schedules. ATAC Corporation. Revised. August 7, 2014.

Historical radar track data was obtained through the Performance Data Analysis and Reporting System (PDARS) to obtain traffic counts and aircraft mix departures from KSFO and KOAK separated by runway. Departure operations data is available in Table 4.

Historical radar track data was also obtained through PDARS for the Pacific 2 TA. Track data was collected for 90 random days during calendar year 2017 (“2017 Track Data”).⁸ The selection of 90 random days is considered a conservative representation of the average traffic counts accounting for seasonal variations and peak travel times. Operations on the Pacific 2 TA are shown in Table 5. Table 5 also identifies the transition waypoints for the proposed PIRAT STAR associated with the appropriate position reporting point (waypoint) on the Pacific 2 TA. Flight tracks for ALANN, CINNY, CREAM, and MAFIC waypoints on the Pacific 2 TA are associated with the CINNY transition on the proposed PIRAT STAR. Flight tracks for ALCOA, ALLBE, BUTEN, and CEPAS waypoints on the Pacific 2 TA are associated with the ALCOA transition on the proposed PIRAT STAR. Flight tracks for DACEM and FATMO waypoints on the Pacific 2 TA are associated with the PAINT transition on the proposed PIRAT STAR.

⁸ Ninety random days of track data selected in accordance with the FAA Average Annual Day Addendum to the Guidance for Noise Screenings of Air Traffic Actions, utilizing the Random Day Generator tool.

Table 4. Operations Data for Departures from KSFO and KOAK

		Heavy Jets				Large Jets				Small Jets				Turboprops				Pistons			
		Day		Night		Day		Night		Day		Night		Day		Night		Day		Night	
Airport	Runway	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual
KOAK	28L	-	-	-	-	0.1	35	-	-	0.1	26.1	0.02	8.7	0.02	8.7	-	-	-	-	-	-
	28R	-	-	-	-	0.1	35	-	-	0.1	35	-	-	0.02	8.7	-	-	0.02	8.7	-	-
	30	0.02	8.7	-	-	19	6987	2.2	800	2.4	860	0.2	78	0.02	8.7	-	-	-	-	-	-
KSFO	01L	-	-	0.02	8.7	34.5	12610	4.8	1747	0.3	104	-	-	0.05	17.4	-	-	-	-	-	-
	01R	-	-	-	-	1.1	417	0.07	26.1	-	-	-	-	-	-	-	-	-	-	-	-
	10L	-	-	-	-	-	-	-	-	0.02	8.7	-	-	-	-	-	-	-	-	-	-
	10R	-	-	-	-	0.07	26.1	0.14	52	-	-	-	-	-	-	-	-	-	-	-	-
	19R	-	-	-	-	0.02	8.7	-	-	0.02	8.7	-	-	-	-	-	-	-	-	-	-
	28L	-	-	-	-	3.4	1251	0.48	174	0.12	43.5	-	-	0.07	24	-	-	-	-	-	-
	28R	-	-	-	-	2.5	921.2	0.21	78	1.64	600	0.05	17.4	0.5	172	-	-	-	-	-	-
Totals		0.02	8.7	0.02	8.7	60.79	22,291	7.9	2,877.1	4.7	1,686	0.27	104.1	1.13	239.5	-	-	0.02	8.7	-	-

Table 5. Operations Data for the Pacific 2 Tailored Arrival

		Heavy Jets				Large Jets				Small Jets				Turboprops			
		Day		Night		Day		Night		Day		Night		Day		Night	
Position Reporting Point		Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual
¹ PACIFIC 2 TA	² PIRAT STAR																
ALANN	CINNY	0.8	277	0.04	14.6	0.8	277	0.6	219	0.01	4.9	-	-	-	-	-	-
ALCOA	ALCOA	0.52	190	0.32	117	0.01	4.9	0.33	122	-	-	-	-	-	-	-	-
ALLBE	ALCOA	4.5	1635	0.47	170	0.63	229	0.17	63.3	-	-	-	-	-	-	-	-
BUTEN	ALCOA	0.4	141	0.01	4.9	0.08	29.2	-	-	-	-	-	-	-	-	-	-
CEPAS	ALCOA	0.21	77.9	0.07	24.3	0.01	4.9	-	-	-	-	-	-	-	-	-	-
CINNY	CINNY	0.48	175.2	2.6	934	0.16	58.4	4.3	1557	-	-	-	-	-	-	-	-
CREAN	CINNY	6.5	2385	1.8	652	6.33	2297	2	730	0.4	146	0.04	14.6	0.01	4.9	-	-
DACEM	PAINT	7.2	2623	0.4	146	0.05	19.5	-	-	-	-	-	-	-	-	-	-
FATMO	PAINT	0.41	151	0.08	29.2	0.03	9.7	-	-	-	-	-	-	-	-	-	-
MAFIC	CINNY	0.7	258	0.2	83	0.04	14.6	0.1	24.3	-	-	-	-	-	-	-	-

D. Describe the proposed project, providing the necessary chart(s) depicting changes. Describe changes to the fleet mix, numbers of aircraft on the new route, and their altitude(s), if any.

Northern California Terminal Radar Approach Control has requested that the crossing restriction of “AT 8,000 feet MSL” at the ARCHI waypoint be lowered to 7,000 feet MSL. The proposed amendment restores the original crossing restriction listed in the Northern California Metroplex Environmental Assessment (July 2014). The proposed amendment will allow arrivals to KSFO approaching from the east to descend on an ODP while remaining within Class B airspace. The proposed amendment accounts for the modified KSFO Class B airspace with a targeted implementation date of August 2018.

Amending the crossing restriction at the ARCHI waypoint requires amendment of the DYAMD STAR and associated IAPs and CVFP to maintain connectivity between DYAMD and the IAPs/CVFP.

The number of aircraft operations and mix are not expected to change. Proposed procedure specific amendments are described below.

DYAMD STAR:

1. Lower the crossing restriction altitude at the ARCHI waypoint from 8,000 feet MSL to 7,000 feet MSL.
2. Remove the speed restriction of AT 230K at the waypoint ARCHI.
3. Move the FRELY waypoint 0.11 nautical mile (NM)/668.37 feet southwest along its current track to conform to current design criteria
4. Reduce the speed restriction at FRELY from AT 240 Knots Indicated Air Speed (KIAS) to 230KIAS. Requested by ATC and industry.

Instrument Approach Procedures and Charted Visual Flight Procedures:

The following IAPs and CVFP will be amended by reducing the crossing restriction at ARCHII from AT 8,000 feet MSL to AT 7,000 feet MSL. No other changes will be made.

1. ILS or LOC RWY 28L
2. ILS or LOC RWY 28R
3. ILS RWY 28R (SA CAT I⁹)
4. ILS RWY 28R (CAT II – III)
5. ILS RWY 29L (SA CAT II)
6. RNAV (RNP) Y RWY 28R
7. RNAV (GPS) RWY 28L
8. RNAV (GPS) Z RWY 28R

⁹ CAT = Approach category.

9. QUIET BRIDGE VISUAL RWY 28L/R

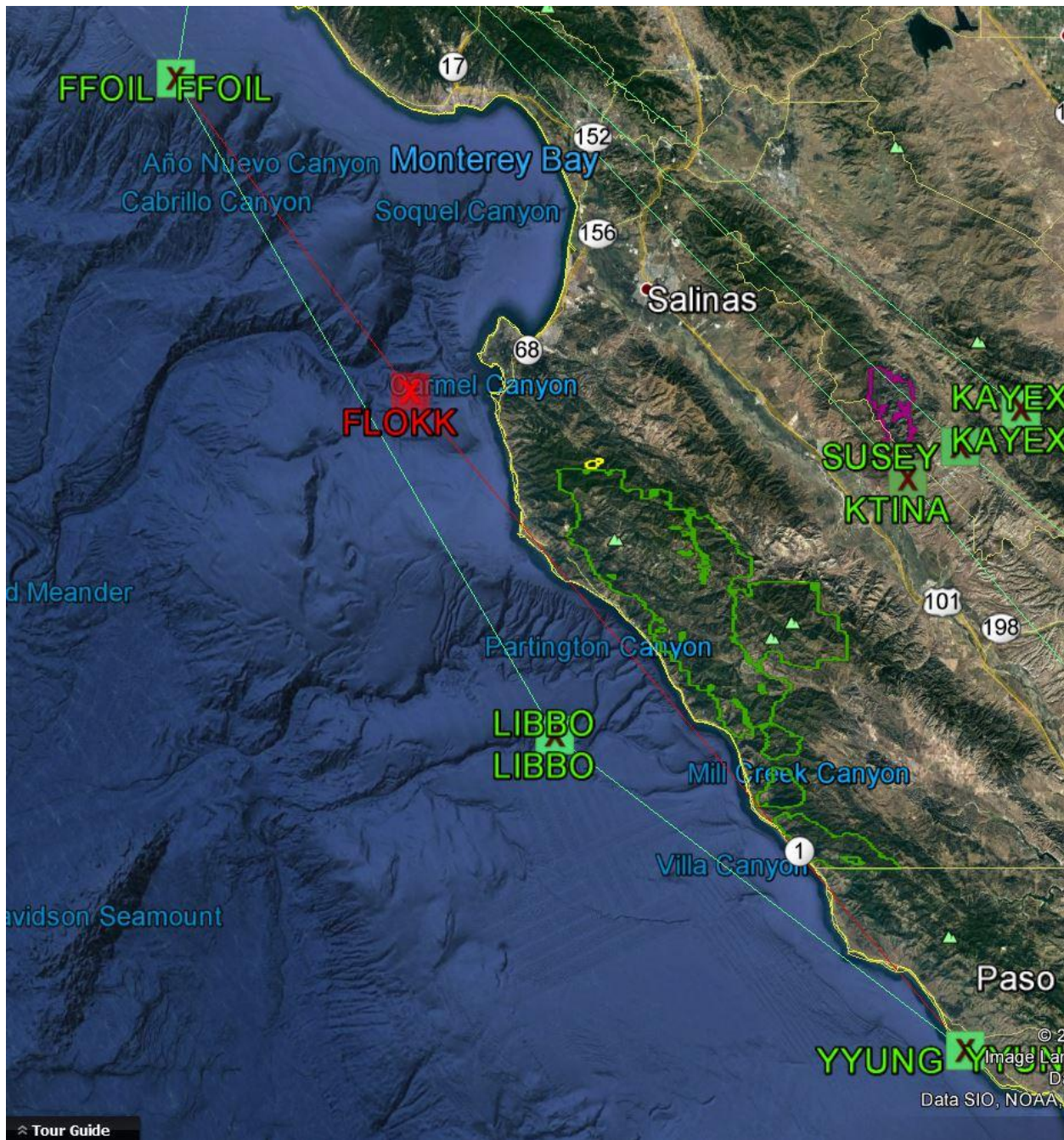
Standard Instrument Departure Procedures:

The following amendments are common to the three SIDS:

1. Remove the FLOKK waypoint at ATC's request (Figure 3).
2. Increase the Minimum En Route Altitude (MEA) from 9,000 feet MSL to 11,000 feet MSL on the EBAYE transition from SUSEY to EBAYE. Increase of the altitude reduces the number of critical DMEs¹⁰.
3. Increase the MEA from 9,000 feet MSL to 11,000 feet MSL on the CISKO transition from KTINA to CISKO. Increase of the altitude reduces the number of critical DMEs.
4. Add new waypoint, LIBBO, between FFOIL and YYUNG. Addition of LIBBO moves the procedure alignment approximately 10 NM to the west. This moves the procedure over water; the existing segment between FLOKK and YYUNG is partially over land (Figure 3).

¹⁰ DME = Distance Measuring Equipment

Figure 3. New Waypoint LIBBO to be added. FLOKK to be removed.



The following are the SID-specific amendments:

1. SSTIK THREE DEPARTURE (RNAV):
 - a. Move the SSTIK waypoint 0.44 NM/2673.5 feet southeast to conform to current criteria.
 - b. Add note indicating runways not available for use: RWYs 10L/R, 19L/R, 28L/R.
 - c. Add the San Jose VOR/DME as a critical DME on both the CISK0 and EBAYE transitions. Addition of the critical DME is based on RNAV Pro results.
2. WESLA THREE DEPARTURE (RNAV)
 - a. Add a critical DME on the EBAYE transition. Addition of the critical DME is based on RNAV Pro results.
3. CNDEL THREE DEPARTURE (RNAV)
 - a. Add a critical DME on the EBAYE transition to replace the MANTECA (ECA) VOR/DME which has been decommissioned. Addition of the critical DME is based on RNAV Pro results.

The above-described proposed amendments will not change existing flight paths.

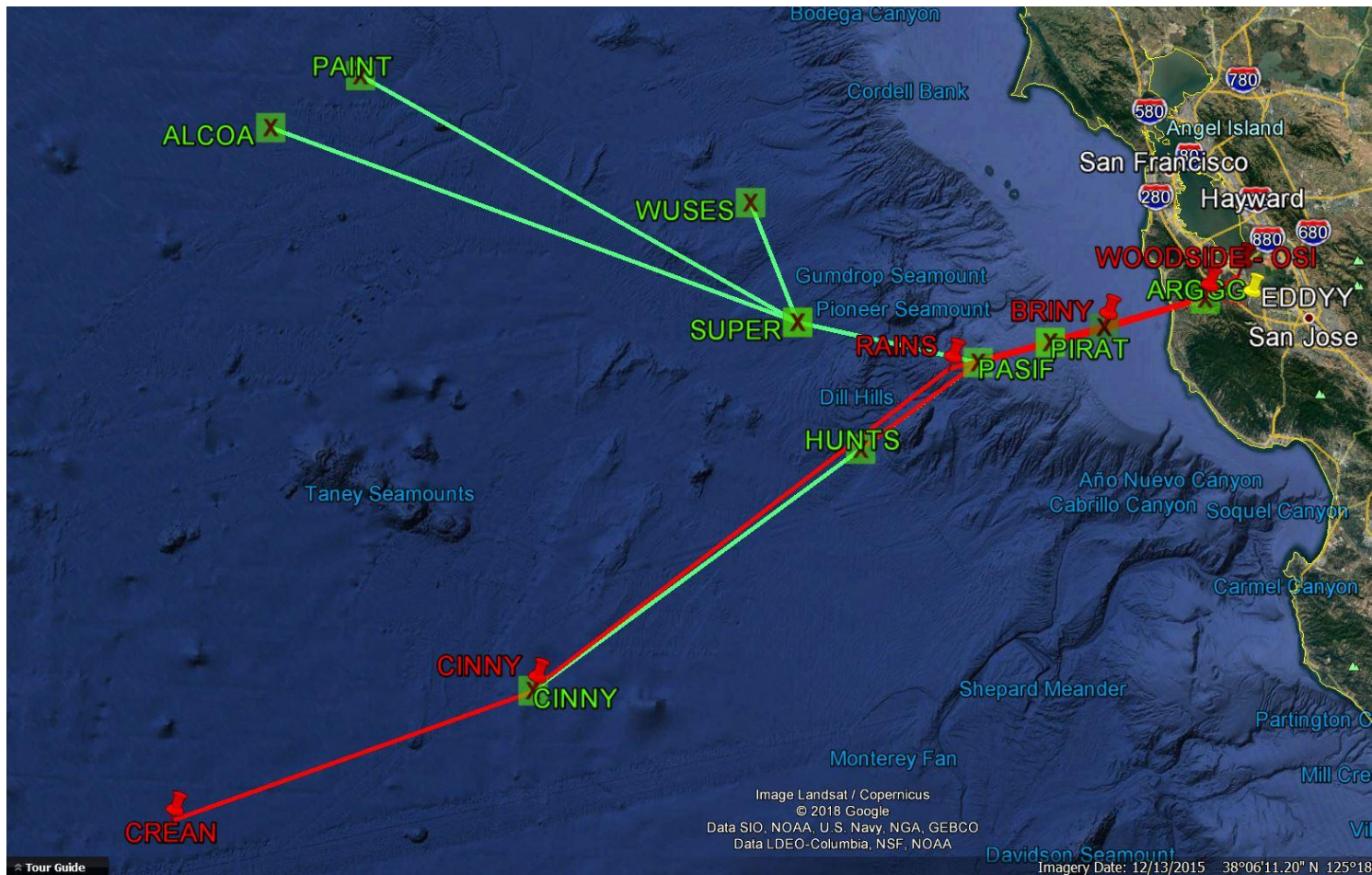
New PIRAT STAR

The PIRAT STAR (Figure 4) will convert the Pacific 2 TA to a public-use RNAV STAR that expands benefits of the TA currently only available to selected carriers to all users of KSFO. The PIRAT STAR will accommodate arrivals to RWY 28L/R at KSFO and RWY 28L/R and RW 30 at KOAK.

The PIRAT STAR will be an Optimized Profile Descent (OPD) STAR, requiring aircraft to cross ARGGG at 8,000 feet MSL or approximately 5,820 feet AGL. The waypoint ARGGG will replace the WOODSIDE VOR (OSI), and is located approximately 100 feet west of OSI along the existing track. At ARGGG, ATC will vector aircraft to final approach course for KSFO and/or KOAK. The PIRAT STAR does not connect to IAPs.

The PIRAT STAR will have three en route transition, PAINT, ALCOA, and CINNY. The CINNY transition mimics the existing Pacific 2 TA segment(s) CINNY-PIRAT- BRINY-OSI. The ALCOA transition mimics the existing BUTEN-ALCOA-BRINY-OSI segment on the Pacific 2 TA. The PAINT transition mimics the existing DACEM-BRINY-OSI segment on the Pacific 2 TA. Oakland Air Route Traffic Control Center (ZOA) requested a route north of the waypoint PAINT developed for offloads that the Traffic Management Unit (TMU) could utilize during periods of concentrated demand. Waypoint WUSUS is the proposed start point for the offload route.

Figure 4. Pacific 2 Tailored Arrival and the Proposed PIRAT STAR



Red = Existing Pacific 2 TA

Green = Proposed PIRAT STAR

Table 6 shows the anticipated traffic and aircraft mix based on the 2017 Track Data on each transition on the proposed PIRAT STAR. The WUSUS transition is not included because it is intended for overflow traffic.

Table 6. Estimated Operations on the Proposed PIRAT STAR

Transition	Heavy Jets				Large Jets				Small Jets				Turboprops			
	Day		Night		Day		Night		Day		Night		Day		Night	
	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual	Daily	Annual
CINNY	8.48	3095	4.64	1684	7.33	2647	7	2530	0.41	151	0.04	14.6	0.01	4.9	-	-
ALCOA	5.63	2044	.87	316.2	0.73	268	0.5	185.3	-	-	-	-	-	-	-	-
PAINT	7.61	2774	0.48	175.2	0.08	29.2	-	-	-	-	-	-	-	-	-	-

1. Will there be actions affecting changes in aircraft flights between the hours of 10 p.m. – 7 a.m. local?

☒ Yes ☐ No

Aircraft would continue to fly the amended procedures and the route of the new PIRAT RNAV STAR; published airline-specific schedules are not expected to change.

2. Is a preferential runway use presently in effect for the affected airport(s), formal or informal?

☒ Yes ☐ No

The preferred runway for arrivals during both Daytime (0700 – 2200 local time) and Nighttime (2200 – 0700 local time) is RWY 28L/R and using the QUIET BRIDGE CVFP¹¹.

For departures, the preferred runway for Daytime (0700 – 2200 local time) is RWY 01L/R. For Nighttime departures (2200 – 0700 local time), the preferred runway is RWY 10L/R.

The Nighttime Preferential Runway Use programme aims to maximize flights over water and minimize flights over land and populated areas between 0100 and 0600 (local time), thus reducing nighttime noise in the airport surrounding communities.

The noise abatement information published on whispertrack¹² lists the noise sensitivity of the Airport area as “High”, noting that the overall goal of the Fly Quiet Program is to influence airlines to operate as quietly as possible in the San Francisco Bay Area.

3. Will airport preferential runway configuration use change as a result of the proposed project?

☐ Yes ☒ No

4. Is the proposed project primarily designed for Visual Flight Rules (VFR), Instrument Flight Rules (IFR) operations, or both?

☐ VFR ☒ IFR ☐ Both

¹¹ Noise Abatement Procedures by Whispertrack. <http://whispertrack.com/airports/KSFO>

¹² <https://whispertrack.com/airports/KSFO>

If this specifically involves a charted visual approach (CVA) procedure, provide a detailed local map indicating the route of the CVA, along with a discussion of the rationale for how the route was chosen. N/A

5. Will there be a change in takeoff power requirements?

☐ Yes ☒ No

If so, what types of aircraft are involved, i.e., general aviation propeller-driven versus large air carrier jets? N/A

6. Will all changes occur above 3,000 feet above ground level (AGL)?

☒ Yes ☐ No

What is the lowest altitude change on newly proposed routes or on existing routes that will receive an increase in operations?

An increase in operations is not anticipated.

7. Will there be actions involving civil jet aircraft (heavier than 75,000 pounds gross weight) arrival procedures between 3,000-7,000 feet AGL or departures between 3,000-10,000 feet AGL?

☒ Yes ☐ No

Civilian jet aircraft are currently flying and would continue to fly the procedures proposed for amendment. The number of operations and aircraft mix are not expected to change. The number of aircraft that would fly each transition on the new PIRAT STAR is not expected to change from the number of operations and aircraft fleet mix based on the 2017 Track Data (Refer to Table 6 above).

8. If noise analysis was already performed using the FAA's Aviation Environmental Design Tool (AEDT), Aviation Environmental Screening Tool (AEST), TARGETS Environmental Plug-In, Integrated Noise Model (INM), or Noise Integrated Routing System (NIRS), provide a summary of the results (and/or attach a copy of the noise screening analysis results).

The FAA Air Traffic Organization (ATO) established a noise screening process to help determine the need for a detailed noise analysis of air traffic actions. The MITRE Corporation's Center for Advanced Aviation System Development prepared a guidance document to assist the FAA and others involved in proposed air traffic actions with a solid and repeatable approach to noise screening (MITRE Guidance).¹³

¹³ MITRE. Guidance for Noise Screening of Air Traffic Actions. December 2012.

The MITRE Guidance document provides an overview of the noise screening process, which can be used to determine the potential for noise impacts related to most air traffic actions. The MITRE Guidance provided conforms to the FAA Order 1050.1; consistent with NEPA and the CEQ regulations, FAA adjusts the level of environmental review to the expected level of impact of a proposed action. For example, FAA Order 1050.1F contains a list of air traffic actions, which normally do not result in significant impacts to the environment (CATEX), and therefore do not require the preparation of an EA or EIS. One of the requirements for a CATEX determination is to ensure that there are no extraordinary circumstances as defined in FAA Order 1050.1F. The noise screening process provides an approach to identify extraordinary circumstances and/or the potential for significant impacts associated with noise impacts of proposed air traffic actions for fixed-wing aircraft. The process is based on currently approved FAA tools and policies.

Noise screening trades modeling precision for a simplified process when and where possible. The simpler noise screening techniques provide conservative results very quickly, whereas the most complex modeling tools provide more precise results, but take more time and require more data. The screening tests have been constructed to minimize the risks of false-negative results, i.e., an action potentially causing significant noise impacts passing the noise screening process. Passing noise screening implies that the potential for significant impacts and/or extraordinary circumstances due to aircraft noise is negligible, and a CATEX is appropriate. The noise screening documentation can be used to support the CATEX determination.

Noise screening is required for arrivals below 7,000 feet above ground level (AGL) and departures below 10,000 feet AGL. These limits increase to 18,000 feet AGL over national parks or wilderness areas. Air traffic actions could include route or procedure route or procedure utilization changes, vertical profile changes, and Performance-Based Navigation (PBN) procedures including:

“Changing jet arrival traffic position, altitude, or volume between 500 feet above ground level (AGL) and 10,000 feet AGL.”¹⁴

The FAA noise screening Aviation Environmental Screening Tool (AEST) version 1.4, which supercedes the NIRS¹⁵ Screening Tool, was used to complete the analysis of potential effects due to change in the aircraft noise exposure level. AEST incorporates the noise pre-screening tools in the FAA Guidance for Screening of Air Traffic Actions.

The Altitude/Operations Test (A/O Test) is a tool to determine if changes in the number of operations or altitudes or both are enough to cause a change in noise exposure levels exceeding the noise screening thresholds. This test applies to both jet and/or propeller

¹⁴ MITRE Guidance for Noise Screening of Air Traffic Actions. December 2012.

¹⁵ Noise Integrated Routing System (NIRS)

traffic. The proposed action failing this test is an indication that the potential exists for extraordinary circumstances above 3,000 feet AGL or significant impacts at or below 3,000 feet AGL. The change in altitude at ARCHI was evaluated using the A/O Test (Figure 5). The number of operations is not expected to change; therefore, the A/O Test evaluated the change in altitude from 8,000 feet MSL/5,886 feet AGL to 7,000 feet MSL/4,886 feet AGL.

The results of the A/O Test noise screening results indicated that potential noise impacts are not expected due to the lateral movement of the fix; therefore, further noise screening is not required (Attachment 3).

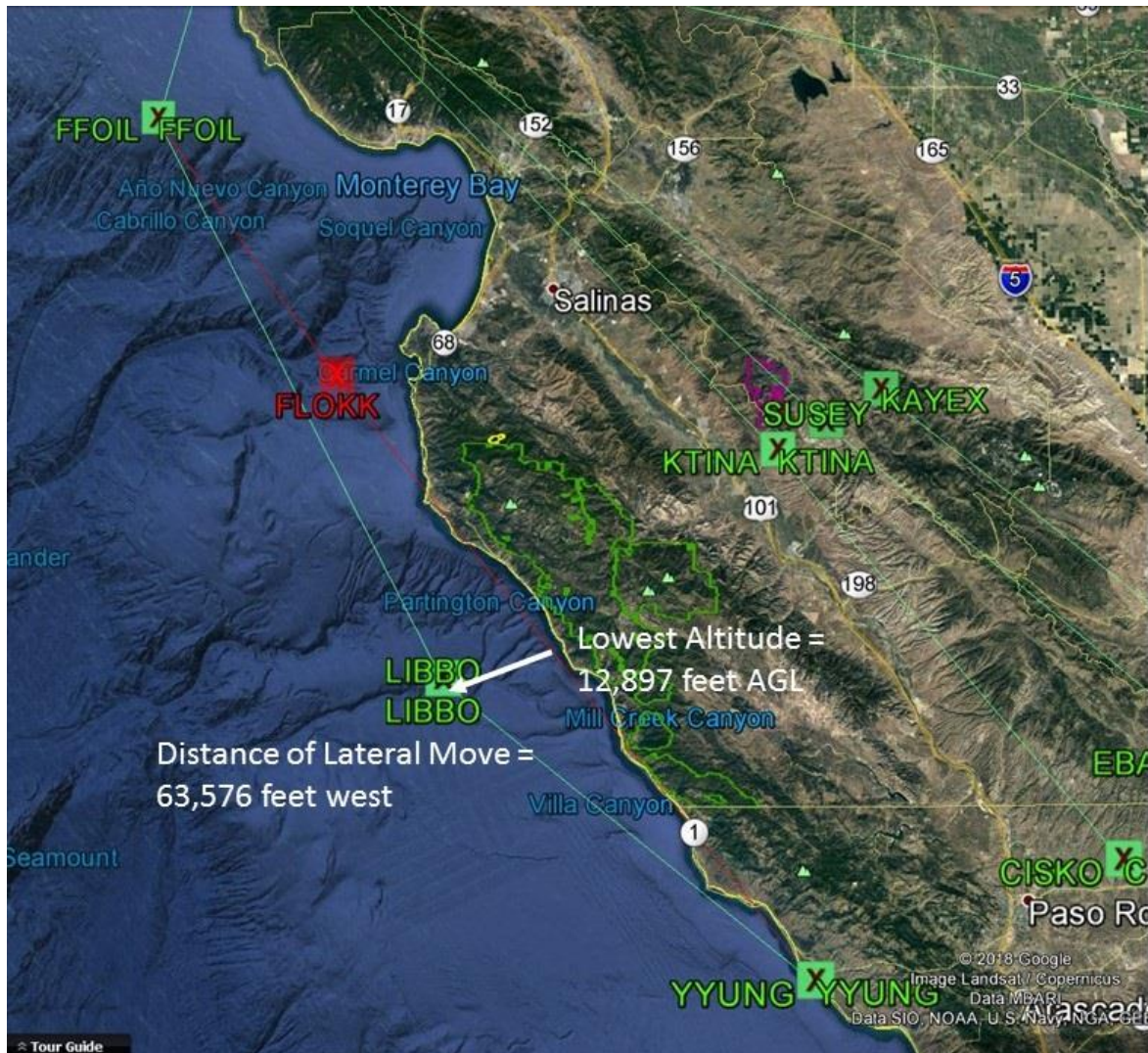
Figure 5. ARCHI Waypoint



The waypoint LIBBO (New) is located approximately 63,576 feet west of the segment between FFOIL and YYUNG (Figure 6). The lowest altitude specified in Above Ground Level (AGL) flown along the changed portion of the procedure is approximately 12,897 feet AGL. Noise screening is not required for changes to departure procedures above 10,000 feet AGL or arrival procedures above 7,000 feet AGL.¹⁶

¹⁶ MITRE Guidance for Noise Screening of Air Traffic Actions. December 2012.

Figure 6. Addition of LIBBO and Lateral Movement of the FFOIL-YYUNG Segment to the West



Purpose and Need

A. Describe the purpose and need for the proposed project. If detailed background information is available, summarize here and provide a copy as an attachment to this review.

The crossing restriction at the ARCHI waypoint on the DYAMD STAR and connecting IAPs was raised from 7,000 feet mean sea level (MSL) to AT 8,000 feet MSL in January 2016. The speed restriction of AT 230 knots (K) at ARCHI was added to all connecting IAPs as well. The amendments were implemented in response to aircraft excursions into and out of Class B

airspace. An excursion is an event describing an aircraft dropping out of Class B airspace and then re-entering Class B airspace. Excursion data was compiled from PDARS on a daily basis for KSFO. Concurrently, the Class B airspace was undergoing redesign to contain arrival and departure paths, both lateral and vertical, within the Class B airspace. The change in altitude was to keep traffic within Class B airspace until the redesigned airspace was implemented (effective August 2018). To conform to the redesigned Class B airspace, the crossing restriction at ARCHI would be lowered from AT 8,000 feet MSL to AT 7,000 feet MSL.

The existing Pacific 2 TA, a private arrival procedure, would be replaced by the new PIRAT RNAV STAR for use by oceanic airlines for arrival into KSFO. The oceanic arrivals converging into the congested domestic airspace need to be procedurally separated and sequenced into the arrival flow at the destination airport to ensure aircraft operations remain safe and efficient without increasing pilot and controller workload. The PIRAT RNAV STAR would be an Optimized Profile Descent (OPD) STAR, requiring aircraft to cross ARGGG, which is near the WOODSIDE VOR (OSI), AT 8,000 feet MSL or approximately 5,820 feet AGL.

B. What operational/ benefits will result if this project is implemented?

The Pacific 2 Tailored Arrival is currently in use as a test procedure with selected carriers. The procedure is beneficial for users but cumbersome for ATC to issue in its current form. ATC requested an RNAV STAR that converts the Pacific 2 Tailored Arrival to a public RNAV STAR that expands the benefits of the Tailored to all users of KSFO. The new STAR would enhance flows and accessibility to KSFO and KOAK for all arrivals from the Pacific. RNAV STAR usage is very high for KSFO; currently there is no RNAV STAR that provides access to KSFO from oceanic routes.

1. If a delay reduction is anticipated, can the reduction be quantified?

☐ Yes ☐ No ☒ N/A

2. Can reduced fuel costs/natural energy consumption be quantified?

☐ Yes ☐ No ☒ N/A

If not quantifiable, describe the approximate anticipated benefits in lay terms.

C. Is the proposed project the result of a user or community request or regulatory mandate?

☒ Community Request ☐ Regulatory Mandate

If not, what necessitates this action?

Describe the Affected Environment

A. Provide a description of the existing land use in the vicinity of the proposed project.

As described in the Part 150 Study¹⁷ update for KSFO, the airport is located in eastern San Mateo County, California and is owned by the City and County of San Francisco (CCSF) and operated by and through the San Francisco Airport Commission (Airport Commission). KSFO is located approximately 13 miles south of downtown San Francisco. The active operations area at KSFO is bordered by the San Francisco Bay to the east and U.S. Highway 101 (U.S. 101) to the west and south. The Airport is surrounded by the cities of Millbrae and Burlingame (to the south), San Bruno (to the west), and South San Francisco (to the north).

Generalized planned land uses within the immediate vicinity of KSFO consist primarily of commercial and industrial uses including transportation and utility infrastructure. Single- and multi-family residential uses are the predominant planned land uses in areas west of U.S. 101. San Mateo County and its incorporated jurisdictions also provide for a substantial amount of open space, park, and recreation areas; the most prominent of which includes the Golden Gate National Recreation Area in western San Mateo County, the San Bruno Mountains, and miles of shoreline along both the San Francisco Bay and the Pacific Ocean. With the Bay Area's strong emphasis on technology, large portions of San Mateo County and its cities are also designated for professional office, research and development, and light industrial uses.

DYAMD STAR

The DYAMD STAR provides the en route transition from flights approaching from the east to the arrival procedures to KSFO. The two transitions, INYOE and RUSME, connect to DYAMD and then to the fix ARCHI. ARCHI then connects the DYAMND STAR to the IAPs to KSFO. The INYOU transition overflies the Granite Mountain and Ansel Adams Wilderness Areas; the RUSME transition overflies the White Mountain Wilderness Area (Figure 7). Both transitions overfly the Yosemite National Park (Figure 7). These areas are overflown at altitudes of approximately 12,697 feet AGL and higher. Additionally, the DYAMD STAR directs aircraft to overfly Important Bird Areas (IBAs) as designated by the Audubon Society (Figure 8 and 9). IBAs are locations that have been identified as critical areas for sustaining bird life. Critical Habitat for the California Red-legged Frog is overflown in the area between CEDES and FRELY (Figure 14). The only amendment to the DYAMD STAR and associated IAPs and CVFP is lowering of the

¹⁷ ESA and BridgeNet. San Francisco International Airport. 14 CFR Part 150 Study Update Noise Exposure Map Report. Final. August 2015.

altitude at ARCHI from 8,000 feet MSL/5,886 feet AGL to 7,000 feet MSL/4,886 feet AGL. The proposed amendment would not change flight tracks.

STANDARD INSTRUMENT DEPARTURE PROCEDURES

The SSTIK, WESLA and CNDEL RNAV SIDs all cross the San Francisco area, with land use transitioning from industrial to residential along the flight path to the southwest. The flight path continues over the San Francisco State Fish and Game Refuge (Figure 10), the Golden Gate National Recreation Area (Figure 11), the city of El Granada, and then over the Pacific Ocean to the PORTE fix. From the PORTE fix, the flight path heads southwest at which point it splits into three transitions, NTELL, LOSHN, and EBAYE, overflying the Santa Cruz Mountains. The land use along the ground track of the three transitions is sparsely populated mountainous terrain, areas of agricultural activities and pockets of residential use. The forth transition, YYUNG, connects from PORTE to FFOIL, continuing southeast over the Pacific Ocean to YYUNG. These transitions serve aircraft en route to destinations to the south, southwest, and southeast. The EBAYE transition overflies the Pinnacles National Monument and the Hain Wilderness Area at an altitude approximately 7,371 feet AGL (Figure 12). The three SIDs also overfly IBAs as shown in Figure 13. The segments between WESLA/SSTIK/CNDEL and PORTE overfly Critical Habitat for the California Red-legged Frog (Figure 14)

Only the YYUNG transition on the three SIDs would be amended and is discussed later in this document. Flight paths would not change for the NTELL, LOSHN, and EBAYE transitions.

Figure 7. DYAMD STAR. INYOE and RUSME Transitions

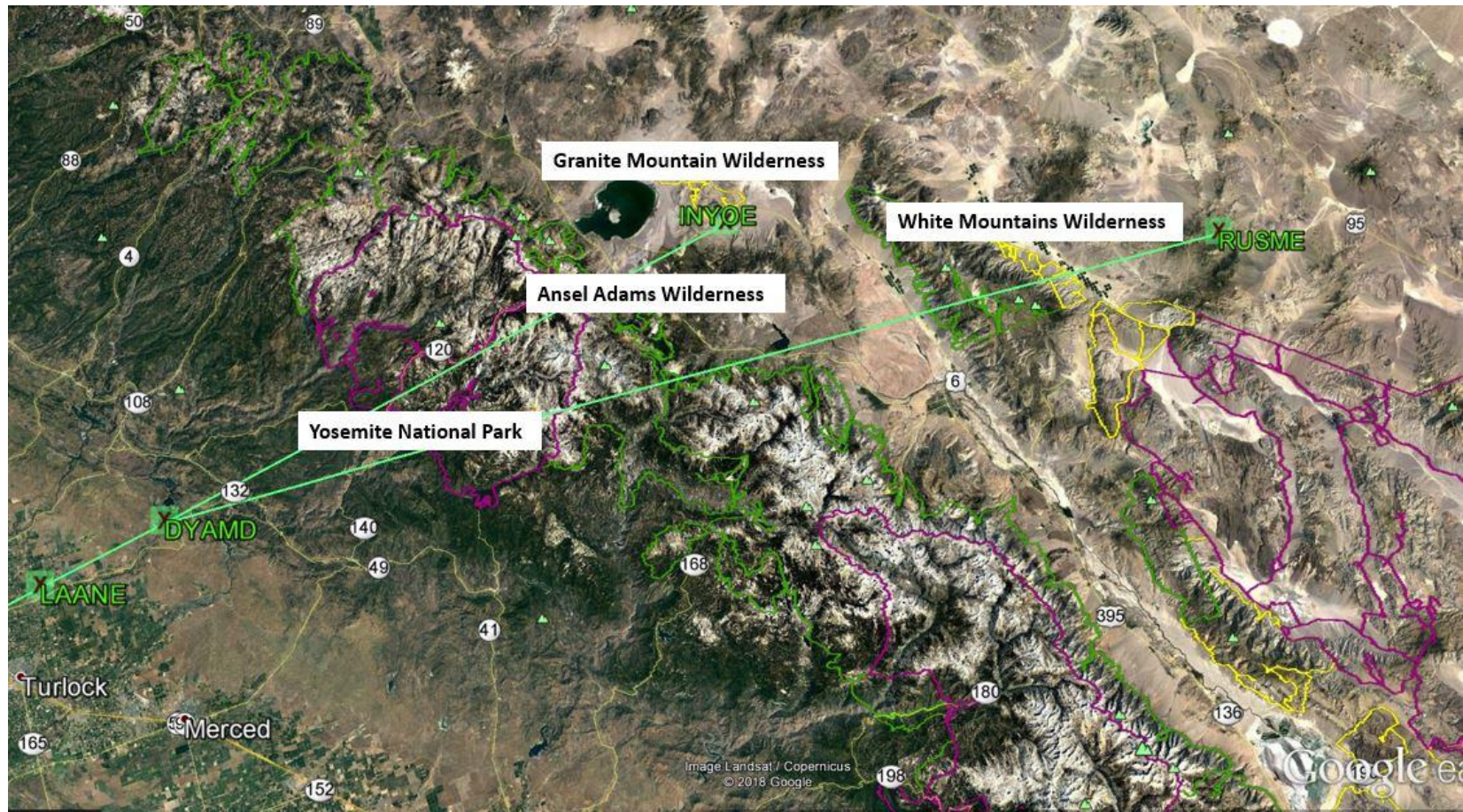


Figure 8. DYAMD STAR. Important Bird Areas

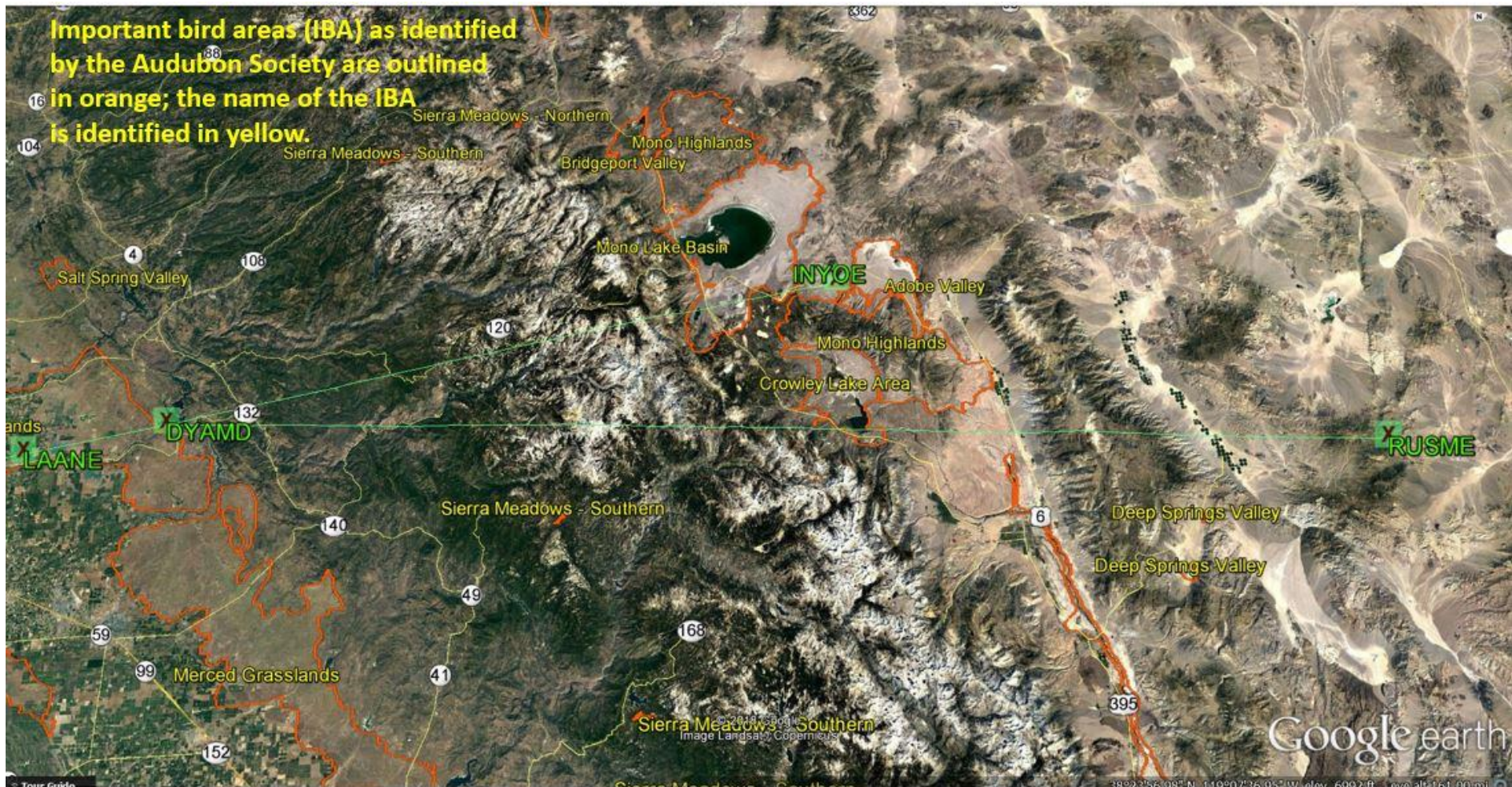


Figure 9. DYAMD STAR. Important Bird Areas



Figure 10. WESLA, SSTIK, and CNDEL. San Francisco State Fish and Game Refuge

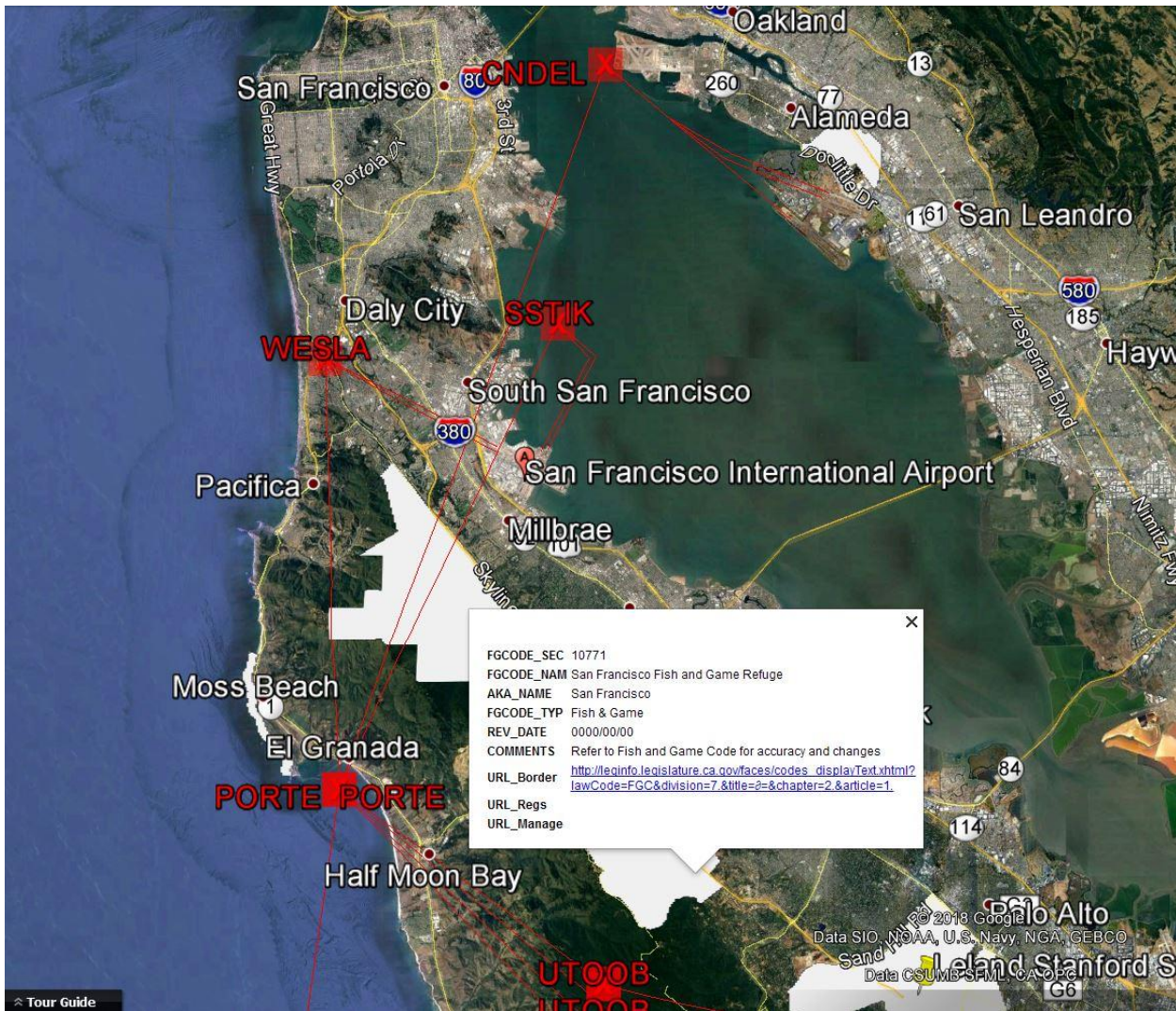


Figure 11. WESLA, SSTIK, and CNDEL. Golden Gate National Recreation Area

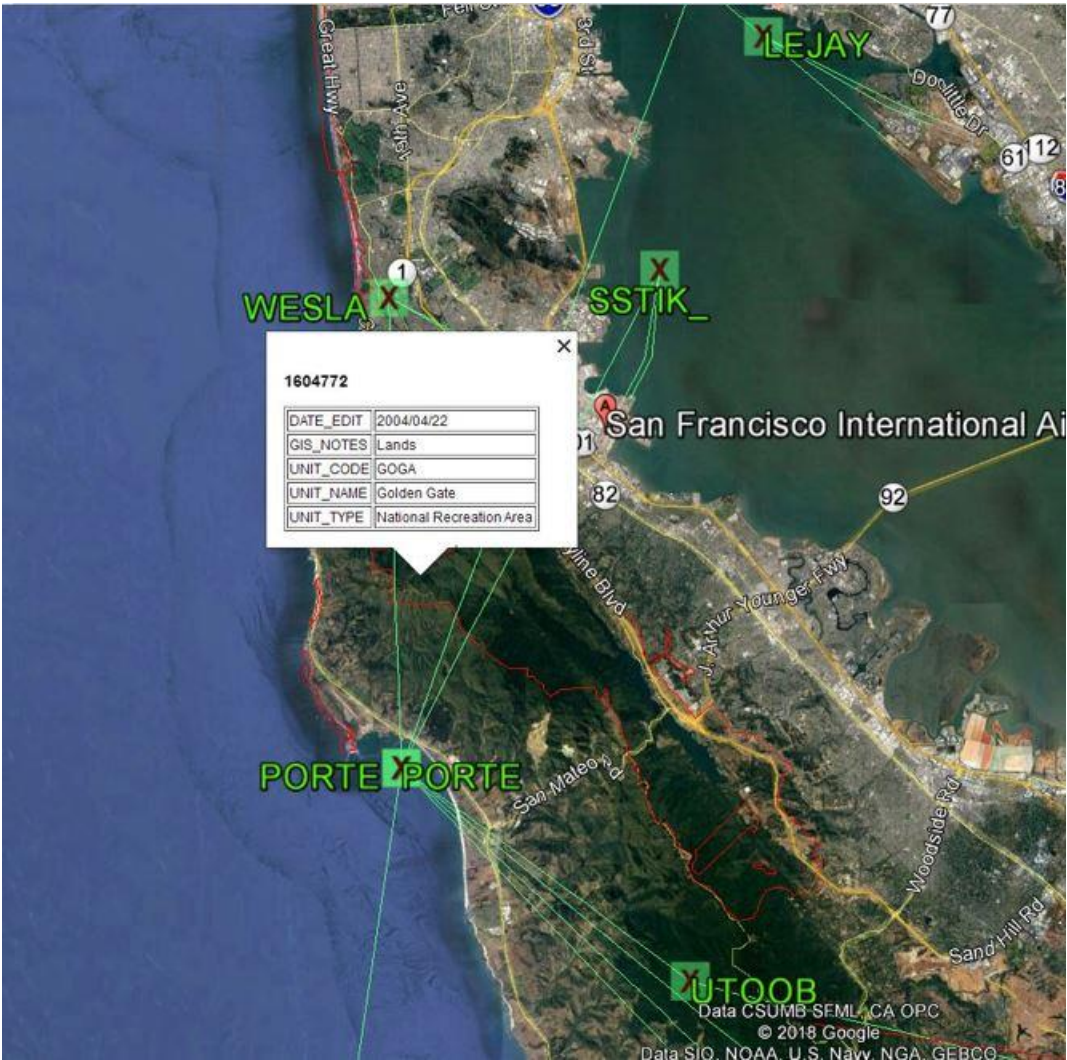


Figure 12. EBAYE Transition. Pinnacles National Monument and Hain Wilderness

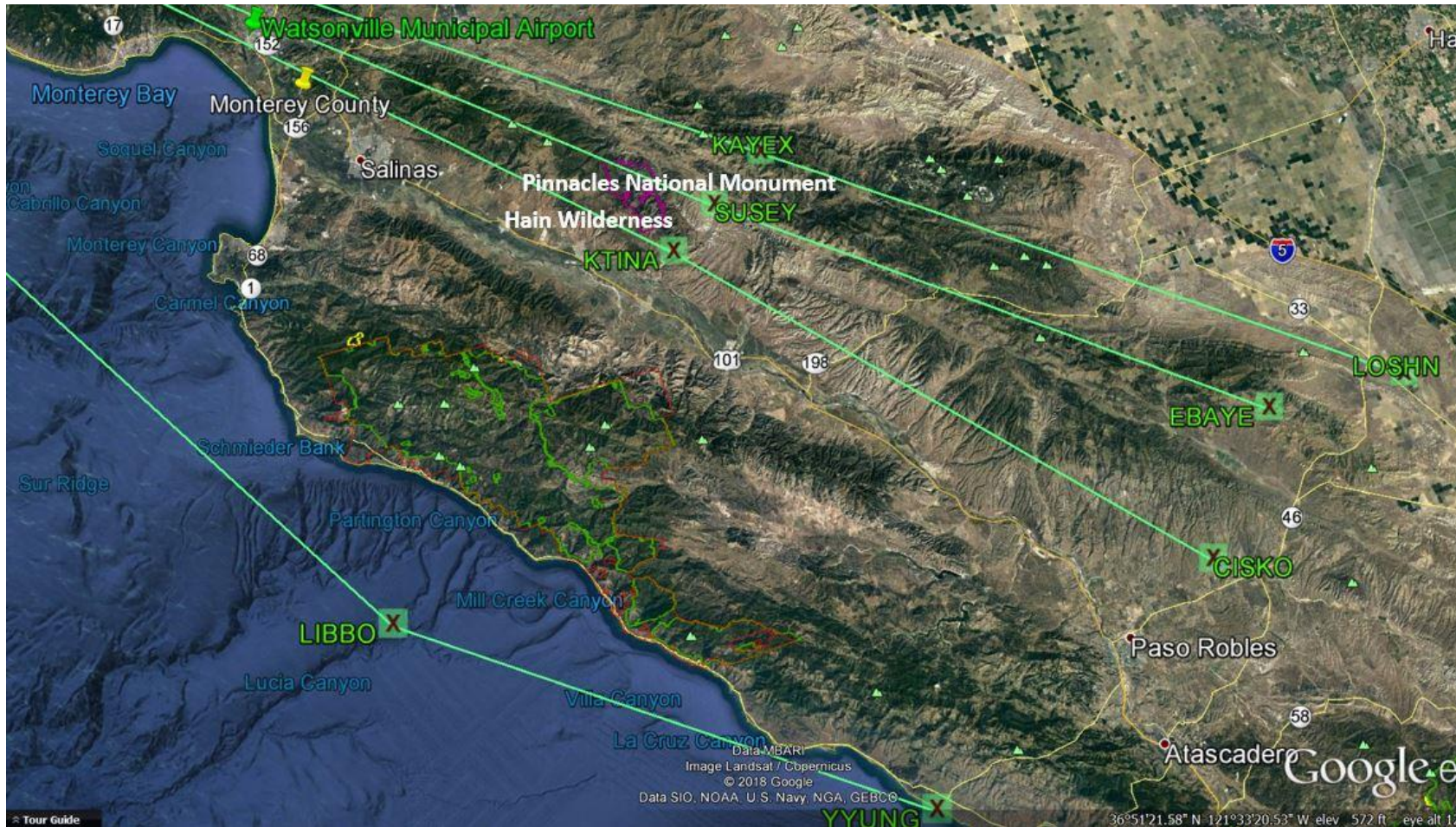


Figure 13. WESLA, SSTIK, and CNDEL. Important Bird Areas.



B. Will the proposed project introduce air traffic over noise sensitive areas not now affected?

☐ Yes ☒ No

Note: An area is noise sensitive if aircraft noise may interfere with the normal activities associated with the use of the land. Normally, noise sensitive areas include residential, educational, health, and religious structures and sites, and parks, recreational areas, areas with wilderness characteristics, wildlife refuges, and cultural and historical sites. See FAA Order 1050.1 [Paragraph 11-5.b.(1)] for full definition of noise sensitive areas.

The amendments to the DYAMD STAR and associated IAPs would not change flight paths. Aircraft would not overfly any new areas.

With the exception of the YYUNG transition on the WESLA, SSTIK, and CNDEL SIDs, flight paths would not change for the NTELL, LOSHN, EBAYE, and CISKI transitions on the three SIDs. The NTELL, LOSHN, EBAYE, and CISKI transitions would not be amended. The addition of the waypoint LIBBO would move the FFOIL-YYUNG segment to the west of its current ground track. The amended segment would move the track further west over water.

The proposed PIRAT STAR mimics the existing Pacific 2 TA.

B. Affected Environment and Consequences

The determination of whether a proposed action may have a significant environmental effect is made by considering any requirements applicable to the specific resource [see FAA Order 1050.1, paragraph 4-3. and Exhibit 4-1.]. Will implementation of the proposed project result in any extraordinary circumstances¹⁸? As stated in FAA Order 1050.1, paragraph 5-2.b., extraordinary circumstances exist when a proposed action involves any of the following circumstances AND has the potential for a significant effect [40 CFR 1508.4).

The use of a CATEX to satisfy NEPA is precluded if the proposed action involves any of the circumstances described in Order 1050.1F, Paragraph 5-2(b) and may have a significant impact. The determination of whether a proposed action may have a significant environmental impact under NEPA is made by considering the relevant environmental impact categories and comparing impacts to the FAA's thresholds of significance, where applicable, as well as any other relevant federal laws and statutes, Executive Orders, and regulations as outlined in with FAA Order 1050.1F.

There are 14 environmental impact categories identified by FAA Order 1050.1F. Only those areas where there may be significant environmental impacts caused by the proposed action, or where there are uncertainties which require evaluation are discussed in this document.

¹⁸ Extraordinary circumstances are factors or circumstances in which a normally categorically excluded action may have a significant environmental impact that then requires further analysis in an EA or an EIS. For FAA proposed actions, extraordinary circumstances exist when the proposed action involves any of the circumstances described in Order 1050.1F, Paragraph 5-2(b). and may have a significant impact.

The Proposed Action does not involve land acquisition, physical disturbance, or construction activities.

B1. Wildlife and Waterfowl: Endangered/Threatened Species; Critical Habitat

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for biological resources (including fish, wildlife, and plants). A significant impact to biological resources would occur when: *The U.S. Fish and Wildlife Service or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of a Federally-listed threatened or endangered species, or would result in the destruction or adverse modification of federally-designated critical habitat.* The FAA has not established a significance threshold for non-listed species.

In addition to the threshold above, Exhibit 4-1 of FAA Order 1050.1F provides additional factors to consider in evaluating the context and intensity of potential environmental impacts for biological resources. Please note that these factors are not intended to be thresholds. If these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts. Factors to consider that may be applicable to biological resources include, but are not limited to, situations in which the proposed action or alternative(s) would have the potential for:

- A long-term or permanent loss of unlisted plant or wildlife species, i.e., extirpation of the species from a large project area (e.g., a new commercial service airport);
- Adverse impacts to special status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats;
- Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or
- Adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality (e.g., road kills and hunting), or ability to sustain the minimum population levels required for population maintenance.

Are wildlife and/or water fowl refuge/management areas within the affected area of the proposed project?

☒ Yes ☐ No

The segment between BRINY and ARGGG on the proposed PIRAT STAR would overfly Critical Habitat for the California Red-legged Frog (*Rana draytonii*) which is Federally listed as Threatened (Figure 14). The YYUNG waypoint is located approximately 0.11 nautical miles west of the Critical Habitat for the California Red-legged Frog (Figure 15).

Critical Habitat for Steelhead Trout (*Oncorhynchus* (=Salmo) *mykiss*) which is Federally listed as Threatened is located throughout the region. Procedures, both existing and proposed, overfly Critical Habitat of the Steelhead Trout (Figure 16).

If so, has there been any communication with the appropriate wildlife management regulatory (federal or state) agencies to determine if endangered or protected species inhabit the area?

☐ Yes ☒ No

Information was obtained from readily available online sources such as the U.S. Fish and Wildlife Service (USFWS) website Critical Habitat Mapper (<https://www.fws.gov/refuges/>) and the California Department of Fish and Wildlife website (<https://www.wildlife.ca.gov/>).

An impact on natural, ecological or scenic resources of Federal, Tribal, State, or local significance (for example, Federally listed or proposed endangered, threatened, or candidate species or proposed or designated critical habitat under the Endangered Species Act) [see FAA Order 1050.1, paragraph 5-2.(3)].

☐ Yes ☒ No ☐ Possibly

1. *At what altitude would aircraft overfly these habitats?*

The proposed PIRAT STAR would overfly these habitats at altitudes ranging between approximately 7,896 to 6,782 feet AGL.

2. *During what times of the day would operations be more/less frequent?*

Overflights may occur during both daytime and nighttime.

Figure 14. Critical Habitat for the California Red-legged Frog

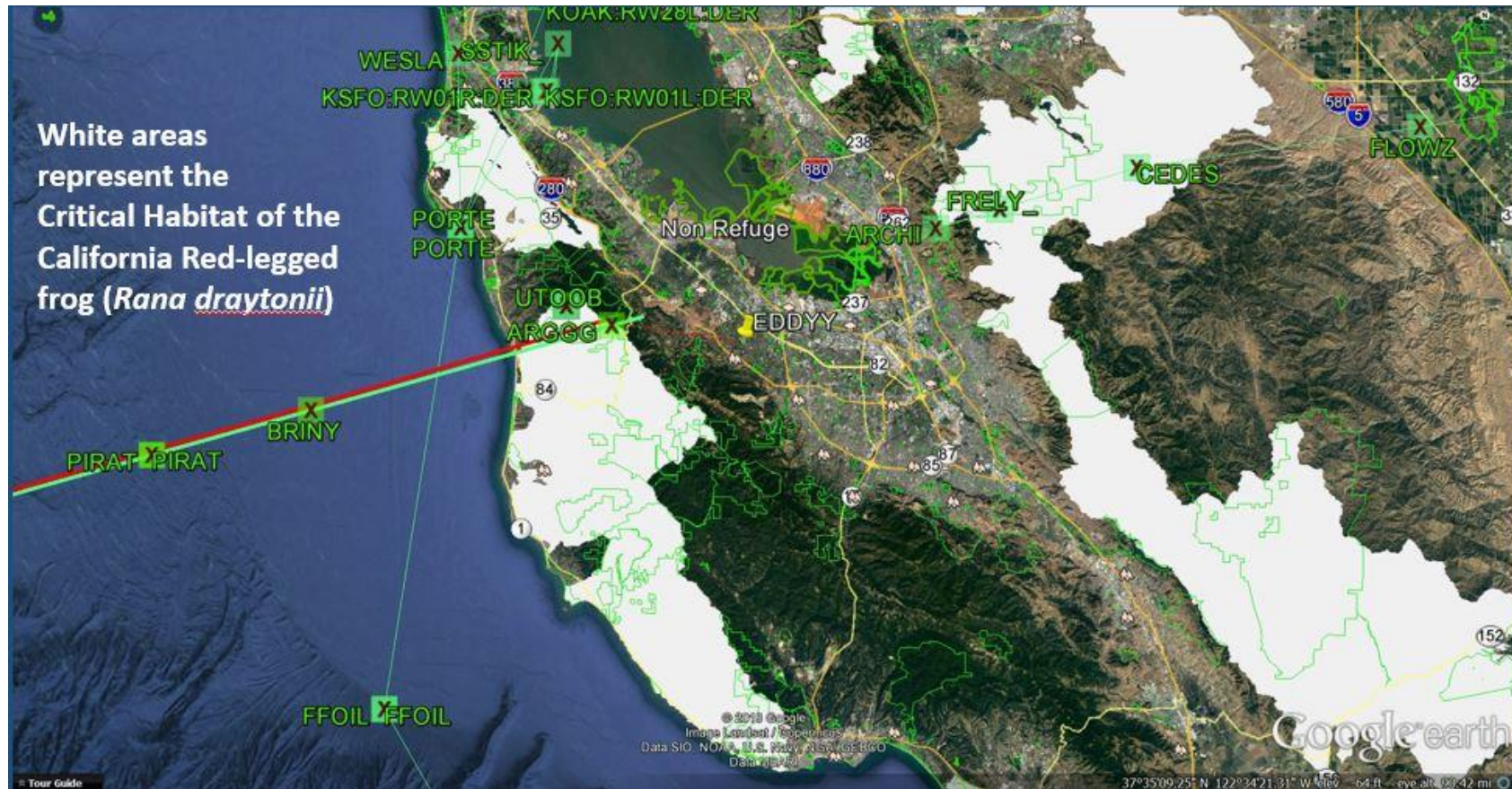


Figure 15. Critical Habitat for the California Red-legged Frog

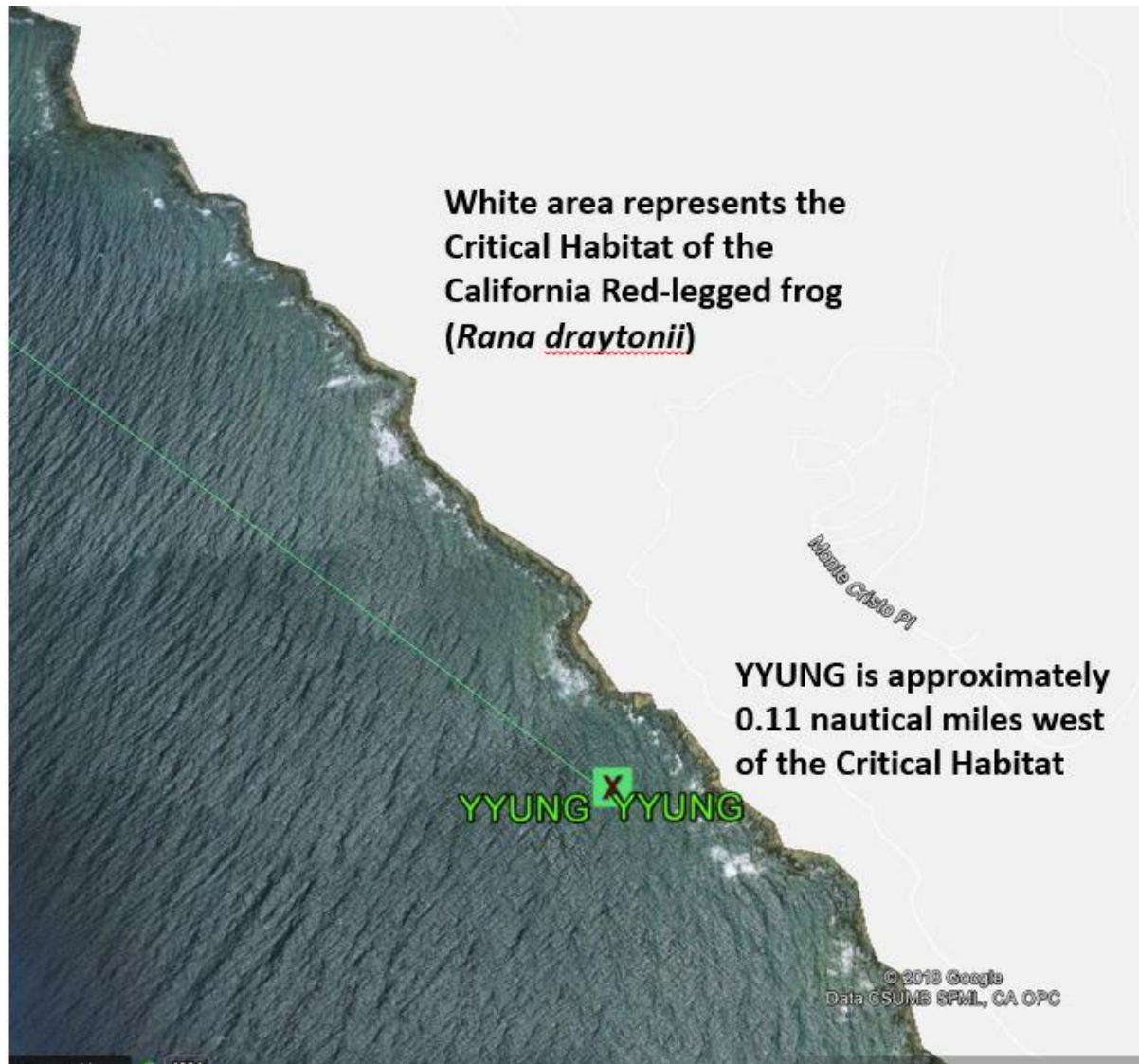
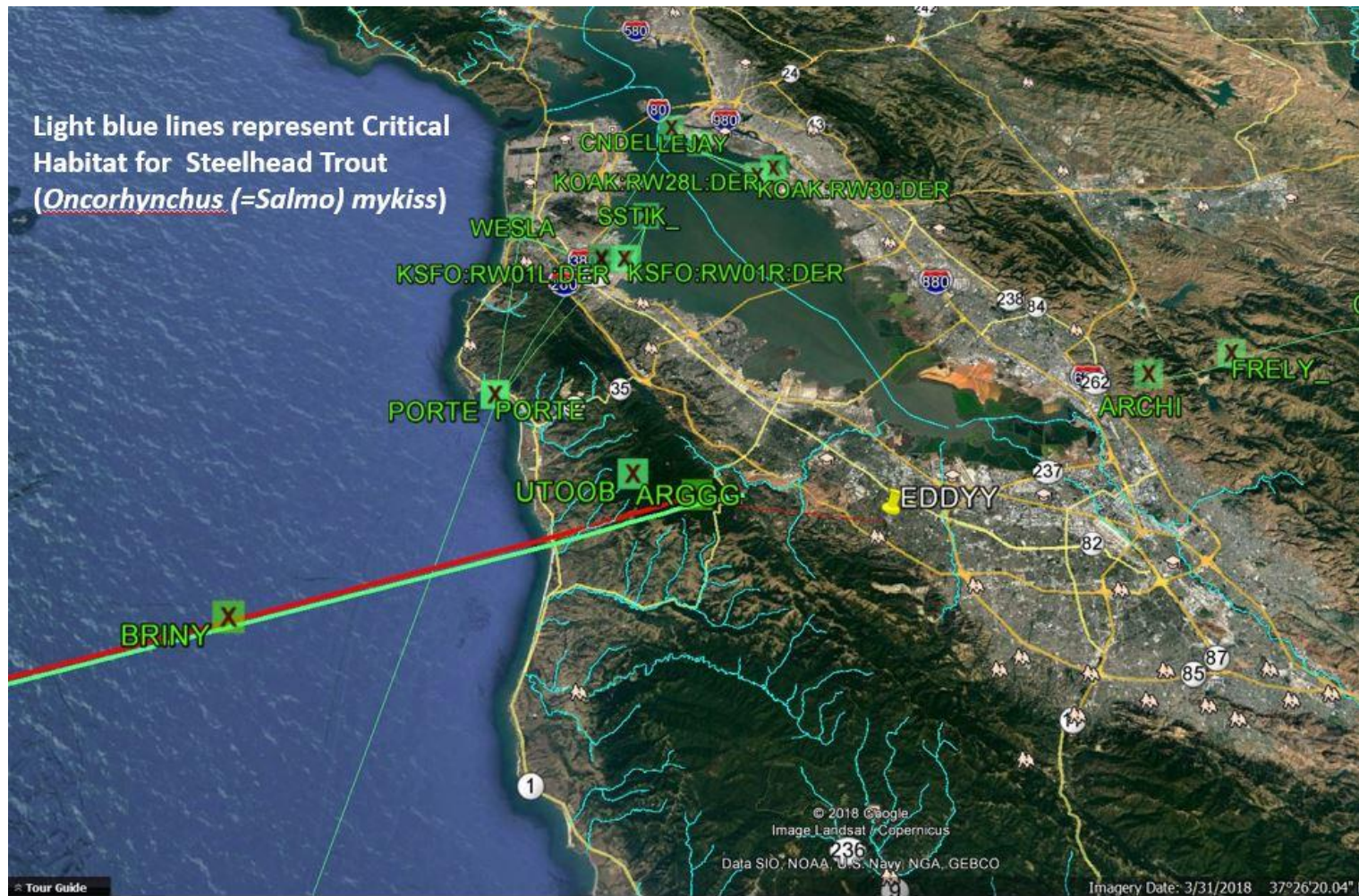


Figure 16. Critical Habitat for the Steelhead Trout



B2. An impact on the following resources: resources protected by the Fish and Wildlife Coordination Act; wetlands; floodplains; coastal zones; national marine sanctuaries; wilderness areas; National Resources Conservation designated prime and unique farmlands or, State, or locally important farmlands; energy supply and natural resources; resources protected under the Wild and Scenic Rivers Act, including study or eligible river segments; rivers or river segments listed on the Nationwide Rivers Inventory (NRI); and solid waste management [see FAA Order 1050.1, paragraph 5-2(4)].

This section addresses several environmental impact categories (EIC) as identified in FAA Order 1050.1F:

EIC 4: Coastal Resources

- coastal zones
- coastal wetlands
- floodplains
- fish and wildlife and their respective habitats within these areas

The Proposed Action does not involve land acquisition, physical disturbance, or construction activities.

The segment between LIBBO and YYUNG on the amended YYUNG transition for the WESLA, SSTIK, and CNDEL SIDs overflies the California Sea Otter Game Refuge (Figure 17). With the exception of the California Sea Otter Game Refuge, the remaining subcategories of this EIC were assessed and considered to not be present or to have negligible or non-existent effects from the Proposed Action, and in accordance with CEQ regulations, did not warrant further analysis.

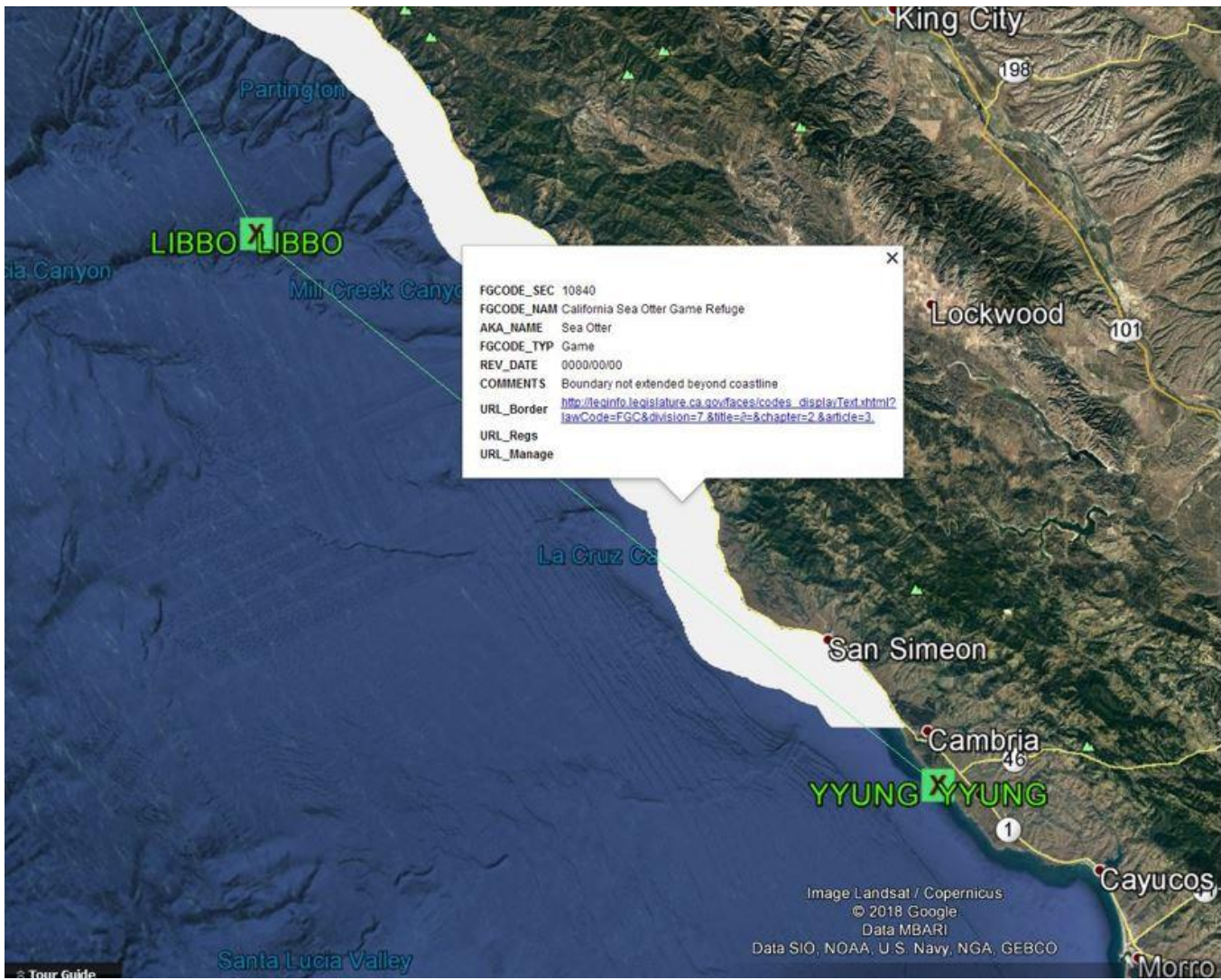
EIC 6: Farmlands

The Proposed Action does not involve land acquisition, physical disturbance, or construction activities. This EIC was assessed and was considered to not be present or to have negligible or non-existent effects from the Proposed Action, and in accordance with CEQ regulations, did not warrant further analysis.

EIC 7: Hazardous Materials, Solid Waste, and Pollution Prevention

The Proposed Action does not involve land acquisition, physical disturbance, or construction activities. This EIC was assessed and was considered to not be present or to have negligible or non-existent effects from the Proposed Action, and in accordance with CEQ regulations, did not warrant further analysis.

Figure 17. California Sea Otter Game Refuge



EIC 10: Natural Resources and Energy Supply

The Proposed Action does not involve land acquisition, physical disturbance, or construction activities. This EIC was assessed and was considered to not be present or to have negligible or non-existent effects from the Proposed Action, and in accordance with CEQ regulations, did not warrant further analysis.

EIC 11: Noise and Noise-Compatible Land Use

- wilderness areas

Noise and Noise-Compatible Land Use is covered later in this document.

EIC 14: Water Resources

- wetlands
- floodplains
- surface waters
- groundwater
- wild and scenic rivers

The Proposed Action does not involve land acquisition, physical disturbance, or construction activities. This EIC was assessed and was considered to not be present or to have negligible or non-existent effects from the Proposed Action, and in accordance with CEQ regulations, did not warrant further analysis.

B3. Section 4(f) Properties

Section 4(f) of the U.S. DOT Act of 1966 (now codified at 49 U.S.C. § 303) protects significant publicly owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historic sites.

An impact on properties protected under Section 4(f) of the Department of Transportation Act is one of the factors FAA considers in determining whether there are extraordinary circumstances that would preclude use of a CATEX to satisfy NEPA requirements for a Proposed Action (EIC 5 in FAA Order 1050.1F). Section 4(f), as amended and re-codified at 49 U.S.C. § 303(c), states that, subject to exceptions for *de minimis* impacts¹⁹:

... the Secretary [of Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or

¹⁹ The term “highly controversial on environmental grounds” means there is a substantial dispute involving reasonable disagreement over the degree, extent, or nature of a Proposed Action’s environmental impacts or over the action’s risks of causing environmental harm. FAA Order 1050.1F. Section 5-2.b.(10).

land of an historic site of national, State, or local significance,²⁰ (as determined by the officials having jurisdiction over the park, area, refuge, or site) only if . . . there is no feasible and prudent alternative to the use of such land...and the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

As noted above, the Proposed Action does not involve land acquisition, physical disturbance, or construction activities.

Are there cultural or scenic resources, of national, state, or local significance, such as national parks, publicly owned parks, recreational areas, and public and private historic sites in the affected area?

☒ Yes ☐ No

The segment between LIBBO and YYUNG on the amended YYUNG transition (WESLA, SSTIK, and CNDEL SIDs) is approximately 0.56 nautical miles east of the Piedras Blancas Light Station which is listed on the National Register of Historic Places (NPS Reference Number: 91001095) (Figure 18).

If so, during what time(s) of the day would operations occur that may impact these areas?

Aircraft on the YYUNG transition would not be directed to overfly the Piedras Blancas Light Station.

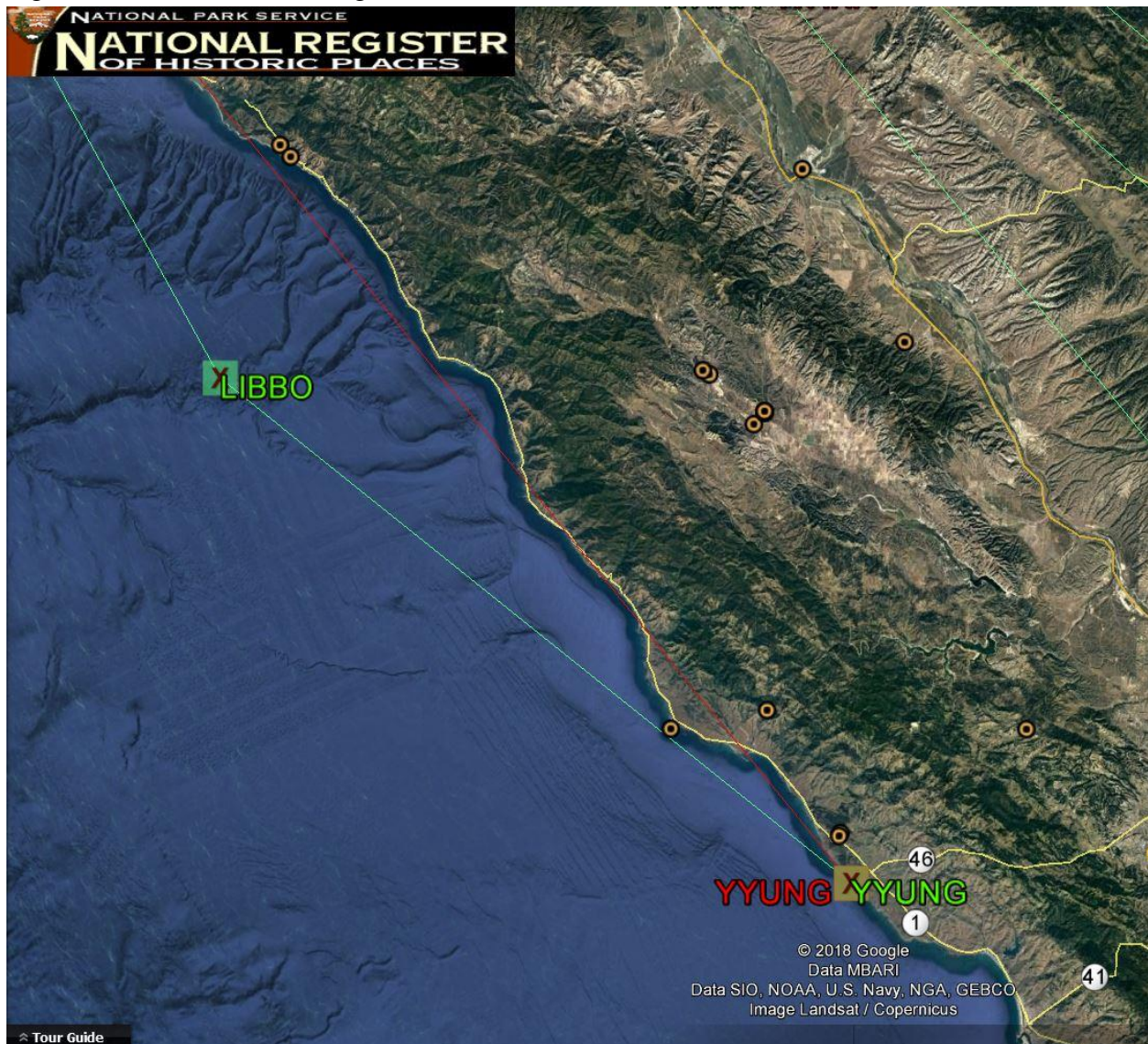
Will the proposed project result in an adverse effect on cultural resources protected under the National Historic Preservation Act of 1996, as amended (see 1050.1, paragraph 5-2.b.1.)?

☐ Yes ☒ No

No historic properties would be affected as a result of implementing the proposed amendments and the proposed new procedure as the proposed amendments would not direct aircraft to overfly the listed historic property.

²⁰ There is no prescribed format; however, the documentation should cite the CATEX(s) used, describe how the Proposed Action fits within the category of actions described in the CATEX, and explain that there are no extraordinary circumstances that would preclude the Proposed Action from being categorically excluded." FAA Order 1050.1F, Section 5-3.d.

Figure 18. Piedras Blancas Light Station



An impact on properties protected under section 4(f) of the Department of Transportation Act [see FAA Order 1050.1, paragraph 5-2.b.(2)].

☐Yes ☒No ☐Possibly

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for Section 4(f) properties. A significant impact would occur when: The action involves more than a minimal physical use of a Section 4(f) resource (see Section 5.3.1 above) or constitutes a "constructive use" based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource (see Section 5.3.2 above).⁴ A significant impact under NEPA would not occur if mitigation measures eliminate or reduce the effects of the use below the threshold of significance. If a project would physically use Section 4(f) property, the FAA is responsible for complying with Section 4(f) even if the impacts are less than significant for NEPA purposes.

The proposed amendments to procedures would not direct aircraft to overfly areas not currently overflown. The Proposed Action would not require the use of, impact to, any publicly owned land such as a public park, recreation area, wildlife or waterfowl refuge, or any land of national, state, or local significance. The Proposed Action would have no effect on Department of Transportation Section 4(f) resources.

B4. Air Quality

Air Quality is addressed in FAA Order 1050.1F as EIC 1. This section considers the potential for the Proposed Action to have impacts on air quality that could preclude use of a CATEX. Any air quality impacts would be the result of increased emissions from aircraft using the amended procedures as compared to the No Action alternative; there are no other emissions sources associated with the Proposed Action. No additional operations will result from the Proposed Action.

In the United States (U.S.), air quality is generally monitored and managed at the county or regional level. The U.S. Environmental Protection Agency (EPA) pursuant to mandates of the federal Clean Air Act, (42 U.S.C. § 7401 et seq. (1970)), has established the National Ambient Air Quality Standards (NAAQS) to protect public health, the environment, and quality of life from the detrimental effects of air pollution. Standards have been established for the following criteria air pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM), and sulfur dioxide (SO₂). Particulate Matter standards have been established for inhalable coarse particles ranging in diameter from 2.5 to 10 micrometers (µm) (PM₁₀) and fine particles less than 2.5 µm (PM_{2.5}) in diameter. The current NAAQS are listed in Table 7.

If concentrations of or more criteria pollutants in a geographic area is found to exceed the regulated or “threshold” level for one or more of the NAAQs, the area may be classified as a *nonattainment* area. Areas with concentrations of criteria pollutants that are below the levels established by the NAAQs are considered either *attainment* or unclassified areas. The Clean Air Act requires states to develop a general plan to attain and maintain the standards in all areas of the country and a specific plan to attain the standards for each area designated nonattainment. These plans are known as State Implementation Plans (SIPs). A SIP is a collection of regulations and documents used by a state, territory, or local air district to reduce air pollution in areas that do not meet NAAQS.

For areas of nonattainment, an air quality design value is assigned to the criteria pollutants out of compliance. A design value is a statistic that describes the air quality status of a given location relative to the level of the NAAQs. Design values are typically used in SIPs to designate and classify nonattainment areas, such as severe, moderate, or marginal, as well as to assess progress towards meeting the NAAQS²¹.

²¹ <https://www.epa.gov/air-trends/air-quality-design-values#definition>

Table 7. National Ambient Air Quality Standards

Pollutant		Primary/ Secondary	Averaging Time	Level
Carbon Monoxide (CO)		primary	8 hours	9 ppm (1971 standard)
			1 hour	35 ppm (1971 standard)
Lead (Pb)		Primary and secondary	Rolling 3 month average	0.15 µg/m ³ (2008 standard)
Nitrogen Dioxide (NO ₂)		primary	1 hour	100 ppb (2010 standard)
		primary and secondary	1 year	53 ppb (1971 standard)
Ozone (O ₃)		primary and secondary	8 hours	0.070 ppm (2015 standard)
Particle Pollution (PM)	PM _{2.5}	primary	1 year	12.0 µg/m ³ (2013 standard)
		secondary	1 year	15.0 µg/m ³ (2013 standard)
		primary and secondary	24 hours	35 µg/m ³ (2013 standard)
	PM ₁₀	primary and secondary	24 hours	150 µg/m ³ (2012 standard)
Sulfur Dioxide (SO ₂)		primary	1 hour	75 ppb (2010 standard)
		secondary	3 hours	0.5 ppm (1991 standard)

Levels reflect the most recent NAAQ standard for the particular criteria pollutant.

Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb) by volume, and micrograms per cubic meter of air (µg/m³).²²

²² <https://www.epa.gov/criteria-air-pollutants/naaqs-table>

The YYUNG transition on the WESLA, CNDEL, and SSTIK SIDs overflies the San Luis Obispo County Air Pollution Control District. The ARCHI waypoint and the PIRAT STAR overfly the Bay Area Air Quality Management District.

The current attainment/nonattainment status of California in the counties identified above with respect to the NAAQS is found on EPA’s website²³ (current as of May 13, 2018). The areas are currently in attainment with all NAAQS.

Under section 176(c)(4)) of the Clean Air Act (42 U.S.C. 7506(c)) and EPA regulations at 40 CFR Parts 51 and 93 (commonly referred to as the General Conformity Rule), the FAA must ensure that its activities do not cause or contribute to new violations of the NAAQS; worsen existing violations of the NAAQS or delay attainment of the NAAQS. When developing the General Conformity Rule, the EPA recognized that many actions conducted by Federal agencies do not result in substantial increases in air pollutant emissions in nonattainment and maintenance areas.

The General Conformity Rule also allows Federal agencies to develop a list of actions that are presumed to conform to a SIP.²⁴ This can be done by clearly demonstrating that the total of direct and indirect emissions from these types of activities would not cause or contribute to any new violation of any standard in any area; interfere with provisions in the applicable SIP for maintenance of any standard; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area

An impact on air quality or a violation of local, State, Tribal, or Federal air quality standards under the Clean Air Act amendments of 1990 [see FAA Order 1050.1, paragraph 5-2.(8)].

☐Yes ☒No ☐Possibly

According to FAA Order 10501F, Exhibit 4-1, an emissions impact is significant if “[t]he action would cause pollutant concentrations to exceed one or more of the NAAQS, as established by the EPA under the Clean Air Act, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.”

The FAA’s Presumed to Conform list includes “Air Traffic Control Activities and Adopting Approach, Departure and Enroute Procedures for Air Operations.” Air traffic control activities are defined for this purpose as “actions that promote the safe, orderly, and expeditious flow of aircraft traffic, including airport, approach, departure, and en route air

²³ https://www3.epa.gov/airquality/urbanair/sipstatus/reports/ca_areabypoll.html

²⁴ 40 CFR 93.153(g)(h))

traffic control. Airspace and air traffic actions (e.g., changes in routes, flight patterns, and arrival and departure procedures) are implemented to enhance safety and increase the efficient use of airspace by reducing congestion, balancing controller workload, and improving coordination between controllers handling existing air traffic, among other things.” FAA determined that project related aircraft emissions released into the atmosphere below the inversion base for pollutant containment, commonly referred to as the “mixing height,” (generally 3,000 feet above ground level) can be presumed to conform when modifications to routes and procedures are designed to enhance operational efficiency (i.e., to reduce delay), increase fuel efficiency, or reduce community noise impacts by means of engine thrust reductions.²⁵ This Presumed to Conform covers the Proposed Action.

B5. Water Resources

FAA Order 1050.1F addresses water resources under EIC 14.

Are there reservoirs or other public water supply systems in the affected area?

☒ Yes ☐ No

Approximately 85% of San Francisco’s total water needs are provided by the Hetch Hetchy watershed, an area located in the Yosemite National Park west of San Francisco.

An impact on water quality, sole source aquifers, a public water supply system, or State or Tribal water quality standards established under the Clean Water Act and the Safe Drinking Water Act [see FAA Order 1050.1, paragraph 5-2.(9)].

☐ Yes ☒ No ☐ Possibly

Exhibit 4-1 of FAA Order 1050.1F provides the FAA’s significance threshold for surface waters. A significant impact exists if:

The action would:

1. *Exceed water quality standards established by Federal, state, local, and tribal regulatory agencies; or*
2. *Contaminate public drinking water supply such that public health may be adversely affected.*

Exhibit 4-1 of FAA Order 1050.1F provides the FAA’s significance threshold for groundwater. A significant impact exists if:

The action would:

1. *Exceed groundwater quality standards established by Federal, state, local, and tribal regulatory agencies; or*
2. *Contaminate an aquifer used for public water supply such that public health may be adversely affected.*

²⁵ 72 Fed. Reg. 41578.

The Proposed Action does not involve land acquisition, physical disturbance, or construction activities. This EIC was assessed and was considered to not be present or to have negligible or non-existent effects from the Proposed Action, and in accordance with CEQ regulations, did not warrant further analysis.

B6. Community and Community Development

Community and community developed is addressed under EIC 12 in FAA Order 1050.1F: Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks; specifically under the "Socioeconomics" subsection.

Socioeconomics is an umbrella term used to describe aspects of a project that are either social or economic in nature. A socioeconomic analysis evaluates how elements of the human environment such as population, employment, housing, and public services might be affected by the proposed action and alternative(s).

In general, the significance of socioeconomic impacts is determined by the magnitude and duration of the impacts, whether beneficial or adverse. The FAA has not established a significance threshold for socioeconomics in FAA Order 1050.1F.

A division or disruption of an established community; a disruption of orderly, planned development; or an inconsistency with plans or goals that have been adopted by the community in which the project is located [see FAA Order 1050.1, paragraph 5-2.(5)].

☐ Yes ☒ No ☐ Possibly

An increase in congestion from surface transportation, by causing a decrease in the Level of Service below the acceptable level determined by the appropriate transportation agency (i.e., a highway agency) [see FAA Order 1050.1, paragraph 5-2.(6)].

☐ Yes ☒ No ☐ Possibly

Likelihood of an inconsistency with any Federal, State, Tribal, or local law relating to the environmental aspects of the proposed action [see FAA Order 1050.1, paragraph 5-2.(11)].

☐ Yes ☒ No ☐ Possibly

Likelihood of directly, indirectly, or cumulatively, creating a significant impact on the human environment, including, but not limited to, actions likely to cause a significant lighting impact on residential areas or commercial use of business properties, likely to cause a significant impact on the visual nature of surrounding land uses, likely to cause environmental contamination by hazardous materials, or likely to disturb an existing hazardous material contamination site such that new environmental contamination risks are created [see FAA Order 1050.1, paragraph 5-2.(12)].

☐Yes ☒No ☐Possibly

Effects on the quality of the human environment that are likely to be highly controversial on environmental grounds. The term “highly controversial on environmental grounds” means there is a substantial dispute involving reasonable disagreement over the degree, extent, or nature of a proposed action’s environmental impacts or over the action’s risks of causing environmental harm. Mere opposition is not sufficient for a proposed action or its impacts to be considered highly controversial on environmental grounds. Opposition on environmental grounds by a Federal, state, or local government agency or by a tribe or a substantial number of the persons affected by the action should be considered in determining whether or not reasonable disagreement regarding the impacts of a proposed action exists. If in doubt about whether a proposed action is highly controversial on environmental grounds, consult the LOB/SO’s headquarters environmental division, AEE, Regional Counsel, or AGC for assistance [see FAA Order 1050.1, paragraph 5-2.(10)].

☐Yes ☐No ☒Possibly

The FAA is aware of local community concerns associated with the implementation of the 2014 Northern California Optimization of Airspace and procedures in a Metroplex (OAPM) project.

Community Involvement

Formal community involvement or public meetings/hearings may be required for the proposed project. Make a determination if the proposed project has the potential to become highly controversial. The effects of an action are considered highly controversial when reasonable disagreement exists over the project’s risks of causing environmental harm. Opposition on environmental grounds by a Federal, State or local government agency or by a Tribe, or by a substantial number of the persons affected by the action should be considered in determining whether reasonable disagreement regarding the effects of a proposed action exists [see FAA Order 1050.1, paragraph 5-2.b.(10)].

A. Have persons/officials who might have some need to know about the proposed project due to their location or by their function in the community been notified, consulted, or otherwise informed of this project?

XYes ☐ No UNKNOWN

During the spring of 2016 and to facilitate community involvement within their respective districts, the Congressional delegation designated a total of 12 representatives—locally-elected officials from Santa Cruz, Santa Clara, San Mateo and San Francisco Counties – to serve on the Select Committee. The Select Committee’s role was to review the FAA’s Phase One Report, gather public input within their represented areas about measures to address noise concerns, and make

recommendations that reflect public input. The Select Committee diligently worked to identify which of the initially feasible recommendations, including amendments and/or new procedures, could be included within the second phase of the Initiative. The San Francisco Airport Community Roundtable provided guidance and assistance to the Select Committee's efforts as well.

The Select Committee held a total of 10 public meetings, and the SFO Roundtable concurrently discussed the Initiative during its own regularly scheduled meetings. In November 2016, the Congressional delegation provided the FAA with 104 recommendations from these two bodies.

In July 2017 the FAA issued an interim report on its efforts to evaluate 104 recommendations from these two bodies. At that time, the agency was still considering how to address more than 50 percent of them. The agency has now determined how it would proceed on the full set of recommendations. The November 2017 update²⁶ details a total of 203 items, which consists of the original 104 recommendations and each of their sub-recommendations. Of these, 101 have already been addressed, 25 would be addressed in the future, and 77 were not endorsed.

The proposed changes do not capture any of the Select Committee / SF Roundtable recommendations, rather they are a result of design work to address safety and operation concerns.

1. Are local citizens and community leaders aware of the proposed project?

X Yes ☐ No

Please see discussion above.

2. Are any ☐ opposed to or ☐ supporting it? ☒ UNKNOWN

Please see discussion above.

If so, identify the parties and indicate the level of opposition and/or support.

- a. If they are opposed, what is the basis of their opposition?

- b. Has the FAA received one or more comments objecting to the proposed project on environmental grounds from local citizens or elected officials?

☐ Yes ☒ No

If so, state the nature of the comment and how the FAA was notified (e.g. resolution, Congressional, Public meeting/workshop, etc.).

3. Are the airport proprietor and users providing general support for the proposed project?

²⁶ FAA Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties. Update on Phase Two. Compiled at the Requests of Representatives Farr (Panetta), Eshoo and Speier. November 2017.

☒ Yes ☐ No

4. Is the proposed project consistent with local plans and development efforts?
☐ Yes ☐ No
5. Has there been any previous aircraft-related environmental or noise analysis, including a FAR Part 150 Study, conducted at this location?
☒ Yes ☐ No

If so, was the study reviewed as a part of this initial review?

☒ Yes ☐ No ☐ N/A

The Part 150 study has been reviewed and referenced earlier in this document.

Alternatives

- A. Are there alternatives to the proposed project? ☒ Yes ☐ No

If yes, describe any alternatives to the proposed action.

The only alternative is the No Action alternative; procedures would not be amended and the proposed PIRAT STAR would not be implemented.

- B. Please provide a summary description of alternatives eliminated and why.

The No-Action alternative was eliminated because amendments to the DYAMD STAR and connecting IAPs and CVFP are necessary to conform to the Class B airspace redesign. The No Action alternative does not meet the purpose and need of the proposed action.

Mitigation

Are there measures, which can be implemented that might mitigate any of the potential impacts, i.e., Global Positioning System (GPS)/Flight Management System (FMS) plans, Navigation Aids (NAVAID), etc.? ☐ Yes ☐ No ☒ N/A

Cumulative Impacts

What other projects (FAA, non-FAA, or non-aviation) are known to be planned, have been previously implemented, or are ongoing in the affected area that would contribute to the proposed project's environmental impact?

The FAA Northern California Optimization of Airspace and Procedures in a Metroplex (NorCal OAPM) project was implemented in 2014. The NorCal OAPM project serves the existing air traffic within the northern California metropolitan area, which includes

KSFO. Arrival and departure procedures were redesigned in order to increase efficiency and safety in the National Airspace System. Given that the proposed amended procedures do not add to the number of aircraft operations at KSFO, no cumulative impact is expected to occur as a result of the implementation of the Proposed Action.

Facility/Service Area Conclusions

- ☒ This initial review and analysis indicates that no extraordinary circumstances or other reasons exist that would cause the responsible federal official to believe that the proposed project might have the potential for causing significant environmental impacts. The undersigned have determined that the proposed project qualifies as a categorically excluded action in accordance with Order 1050.1, and on this basis, recommend that further environmental review need not be conducted before the proposed project is implemented.

Appendix 5. Air Traffic Initial Environmental Review

JO 7400.2

Facility Manager Review/Concurrence

Signature: _____

Date: _____

Name: _____

John F. Nelson

Air Traffic Manager

Northern California Terminal Radar Approach Control (NCT)

Service Area Environmental Specialist Review/Concurrence

Signature: _____

Date: _____

Name: _____

Marina Landis

Environmental Protection Specialist, Operations Support Group,

Western Service Center, AJV-W25

Service Area Director Review/Concurrence, if necessary

Signature: _____

Date: _____

Name: _____

Kim A. Stover

Director, Air Traffic Operations

Western Service Area, AJTW

Attachment 2

From: [Pitts, Jason \(FAA\)](#)
To: [Kelley, Kevin C \(FAA\)](#); [Gonzalez, George \(FAA\)](#); [Wolfe, Derek \(FAA\)](#); [Peterson, John CTR \(FAA\)](#)
Cc: [Calabrese, Stefanie CTR \(FAA\)](#); wpbn@natca.net; [Cureton, Lisa \(FAA\)](#)
Subject: RE: PIRAT STAR_SFO
Date: Wednesday, May 17, 2017 8:08:15 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.jpg](#)

Copy Sir.

Tom,

Please put a copy of this email in the project folder. Josh and I will bring up the issue for discussion with the work group regarding continued use of the Pacific 2.

Thanks

Jason

Jason Pitts
Performance Based Navigation (PBN) Co-Lead
Western Service Center
Operations Support Group
(425) 917-6736 (Office)
(425) 306-5848 (Mobile)

From: Kelley, Kevin C (FAA)
Sent: Wednesday, May 17, 2017 8:03 AM
To: Pitts, Jason (FAA); Gonzalez, George (FAA); Wolfe, Derek (FAA)
Cc: Calabrese, Stefanie CTR (FAA); wpbn@natca.net; Cureton, Lisa (FAA)
Subject: RE: PIRAT STAR_SFO

Hello Jason,

Thank you very much for the thorough background, which I read from top to bottom. It is helpful for us keep tabs on this, as our C063 OpSpec authorizes Tailored Arrivals, and when the subject STAR gets published, I expect use of the Pacific 2 Tailored Arrival at SFO will decline, possibly to the point where we would cancel the authorizations.

Thanks again!

Best regards,

Kevin

KEVIN C. KELLEY, JR.

AFS-470, Performance Based Flight Systems

FAA Flight Standards

202-267-8854

kevin.c.kelley@faa.gov

From: Pitts, Jason (FAA)
Sent: Wednesday, May 17, 2017 9:43 AM
To: Kelley, Kevin C (FAA); Gonzalez, George (FAA); Wolfe, Derek (FAA)
Cc: Calabrese, Stefanie CTR (FAA); wpbn@natca.net; Cureton, Lisa (FAA)
Subject: RE: PIRAT STAR_SFO

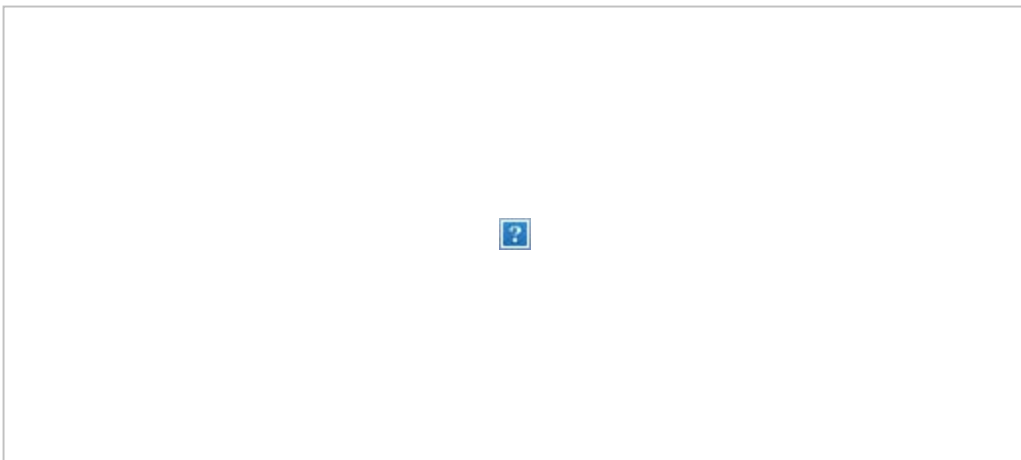
Hi Kevin,

The short answer is this is not the same project as had environmental issues back in 2015 and is proceeding as a new project request. Pub date is TBD.

Let me give you some background for understanding. Sorry if it's more than you bargained for.

The information provided from the original email at the bottom is from a terminated project and quite old.

Current screenshot from the project mentioned at the bottom.



That being said and, looking at the date of the original email, additional comments were included in the project *after* the email at the bottom. The full list (final) is below. As you can see, the 6/19/15 entry indicates design activities were on-going and the STAR had moved back into design. If memory serves me correctly the last publication date for NorCal Metroplex was December 2015. As such, you can see from the comment list, I had project terminated quite some time ago. (Background continued below....)



To make sure we aren't comparing apples and oranges, we are not resurrecting the NorCal Metroplex PIRAT STAR project. On 11/16/2016 Oakland Center put in a IFP Gateway request to convert the (currently in use) Pacific 2 Tailored Arrival to a RNAV STAR. See the following cut and paste from the Baseline Analysis Report. While we were at NorCal TRACON late last year the ATM asked us to expedite the STAR since it was a priority for the facility. As such, Josh and I got it on the agenda for our meeting down there in March. Yes ... it will be called the PIRAT STAR. No ... it's not the same project as referred to in the January 2015 email. It is a stand-alone-single-site project under the 7100.41 and we are following the process from square one. Once we have final design agreement the project will be submitted for environmental review. We won't continue with development/publication if we don't complete the required environmental review and have the appropriate documentation.



It's not yet on the production schedule because it's not yet in the Procedure Tracking System (PTS). Normally, it doesn't get put into PTS until it goes to the RAPT and, following the process, we're not quite ready to send the request to the RAPT. We're close – simply waiting to schedule the pencils down telcon. Once we get RAPT approval we'll have a publication date established.

I don't know if this background helps.

If you have any questions please let me know.

b/r

Jason

Jason Pitts
Performance Based Navigation (PBN) Co-Lead
Western Service Center
Operations Support Group
(425) 917-6736 (Office)
(425) 306-5848 (Mobile)

From: Kelley, Kevin C (FAA)
Sent: Tuesday, May 16, 2017 1:21 PM
To: Gonzalez, George (FAA); Wolfe, Derek (FAA)
Cc: Calabrese, Stefanie CTR (FAA); Pitts, Jason (FAA); wpbn@natca.net
Subject: RE: PIRAT STAR_SFO

Hi George,

Thanks for that update.

//Derek,

This STAR previously was mired in environmental review (see screen shot at bottom of this trail). Is that resolved/ do you have a sense for how long it will take to get it published?

Thanks,

Best regards,

Kevin

KEVIN C. KELLEY, JR.

AFS-470, Performance Based Flight Systems

FAA Flight Standards

202-267-8854

kevin.c.kelley@faa.gov

From: Gonzalez, George (FAA)

Sent: Tuesday, May 16, 2017 3:40 PM

To: Kelley, Kevin C (FAA)

Cc: Calabrese, Stefanie CTR (FAA); Pitts, Jason (FAA); Wolfe, Derek (FAA); wpbn@natca.net

Subject: RE: PIRAT STAR_SFO

Hi Kevin...

The SFO PIRAT STAR is almost at the end of the "Design Phase" also known as "pencils down" The PBN Co-Leads will be scheduling a design confirmation meeting in the very near future. If you need any more information suggest you contact Derek Wolfe, Joshua Haviland or Jason Pitts (WSA PBN Co-Leads).

"EZ"

Respectfully,

George Gonzalez

Airspace Services (AJV-1)

Manager, Performance Base Navigation (PBN) Technical Support Services (AJV-141)

East 490 L'Enfant Plaza, 4th Floor, Room 212

Washington, DC 20024

Work: (202) 267-0669

Cell: (405) 314-9388

"Real knowledge is to know the extent of one's ignorance." - Confucius



From: Calabrese, Stefanie CTR (FAA)
Sent: Tuesday, May 16, 2017 3:28 PM
To: Gonzalez, George (FAA)
Subject: FW: PIRAT STAR_SFO

FYI...PIRAT STAR at SFO. Kevin needs info on it – says it was held up by environmental. Bill says it is not on the production schedule. Any insight?

Thanks!

Stefanie

Stefanie C. Calabrese
PBN Programs and Policy Group Contract Support, AJV-14
(w): 202-267-7385
stefanie.ctr.calabrese@faa.gov
490 L'Enfant Plaza SW, Suite 4102
Washington, DC 20024

From: Kelley, Kevin C (FAA)
Sent: Tuesday, May 16, 2017 3:09 PM
To: Calabrese, Stefanie CTR (FAA)
Subject: FW: PIRAT STAR_SFO

Hi Stefanie,

Oops, the BUFIE is at LAX. It's the PIRAT I was looking for... (not in the document you sent) who would have updates on this? George Gonzalez?

Thanks!

Best regards,
Kevin
KEVIN C. KELLEY, JR.

AFS-470, Performance Based Flight Systems
FAA Flight Standards
202-267-8854
kevin.c.kelley@faa.gov

From: Cureton, Lisa (FAA)
Sent: Monday, January 05, 2015 3:56 PM
To: Kelley, Kevin C (FAA)
Subject: FW: PIRAT STAR_SFO

More FYI



Attachment 3


[View Help](#)

View Request

Request: **EXTERNAL WEBSITE REQUEST - SAN FRANCISCO, CA**

Request ID: 20161116171103 Date Created: 11/16/2016
 Allow this Request to be viewable from the external website? YES

Initial Request Remark:

COMMENTS: -----CONTACT INFO-----

FIRST NAME: JEFF

LAST NAME: HUBERT

TELEPHONE: 510-745-3744

EMAIL: JEFF.B.HUBERT@FAA.GOV

ROLE: INTERNAL FAA

TYPE OF PROCEDURE: STAR (INTERNAL)

ICAO CODE: KSFO

AIRPORT NAME: SFO

AIRPORT COUNTRY: US

AIRPORT CITY: SAN FRANCISCO

AIRPORT STATE: CA

AIRCRAFT TYPE: FIXED WING (DEFAULT)

NAVIGATION SYSTEM TYPE: RNAV (GPS) - EXAMPLES: LPV, LP, LNAV/VNAV, LNAV, ETC.

TYPE OF REQUEST: ORIGINAL

PREFERRED ROUTING DESCRIPTION: THE ORIGINAL REQUEST TO CREATE AN RNAV STAR FOR OCEANIC ARRIVALS TO SFO (PIRAT STAR) WAS INADVERTENTLY REMOVED FROM THE IFP PROCESS. THIS PROCEDURE IS CURRENTLY IN USE AS A TEST PROCEDURE WITH SELECTED CARRIERS (PACIFIC 2 TAILORED ARRIVAL). THIS PROCEDURE HAS BEEN PROVEN BENEFICIAL FOR THE USERS BUT IS VERY CUMBERSOME FOR ATC TO ISSUE IN ITS CURRENT FORM.

OTHER REMARKS:

Tracking Information:

Status: PENDING

Owner:

Association Information:

ID: KSFO

Name: SFO

City: SAN FRANCISCO

State: CALIFORNIA

Country: UNITED STATES

Aircraft Type: ROTARY

Does this Airport have a published IFP? FALSE

Airport Manager contacted about request? FALSE

Point of Contact Information:

Name: JEFF HUBERT

Company:

Business: EXTERNAL WEBSITE USER

Address: NOADDRESSGIVEN

Location:

Phone Number: 5107453744

Fax Number:

E-mail: JEFF.B.HUBERT@FAA.GOV

Project List

There have been no Projects built for this Request.

Please review the Request Remarks for more information on this Request.

Request	Request Remarks	Request	New Project
Edit/Delete	View/Add/Edit	Print	Add
Request Files	Request Files	Filter Worklist	Search Results
Check In	Check Out	View	Go

Attachment 4



**1 North San Antonio Road
Los Altos, California 94022-3087**

November 13, 2018

Kimberly Stover, Director, Air Traffic Operations
Western Service Area, AJTW
2200 S. 216th Street
Des Moines, WA 98198

RE: IFP Coordination, Standard Terminal Arrival Route (STAR), PIRAT, KSFO/KOAK

Ms. Stover,

The Cities of Mountain View and Los Altos (Cities) have serious concerns if the FAA allows the PIRAT STAR procedure to be published in its current state. Most importantly from the perspective of our cities, this new procedure has the potential to move noise over our cities, which violates the widely endorsed principle of not moving noise from one community to another. The PIRAT approach will likely increase the number of flights over Mountain View and Los Altos, as more, and perhaps all, Oceanic arrivals would be using this procedure rather than the select carriers using the existing Pacific 2 tailored arrival. Moreover, some proportion of that increased number of flights can be expected to be vectored over Mountain View and Los Altos when approaches are congested.

The aforementioned STAR data has been posted to the IFP Information Gateway and reviewed by our consultants. Please find the following issues relative to the STAR's development and production:

Design

The terminus of the PIRAT procedure is ARGGG at 8000' (MSL), where the aircraft depart on a track of 60 degrees "for vector to an instrument approach." We have the following comments:

- The cities of Mountain View and Los Altos are concerned about the potential of increased vectoring of transpacific flights over their communities during times of congestion and resulting from the higher utilization of the PIRAT procedure.
- The cities of Mountain View and Los Altos share an interest in noise being minimized over the populated areas past the ARGGG waypoint. To that end, we ask the FAA to work with Air Traffic Control (ATC) to have the minimum altitude of 8000' followed.

CATEX

- The CATEX is devoid of any noise data analysis relative to projected traffic increases and expected usage. Analysis of old / new noise contours appears to have been bypassed, irrespective of aircraft altitude.
- The CATEX does not address historic noise complaints over the noise sensitive communities due to nighttime oceanic flights crossing as low as 1500' AGL. The San Francisco International Airport Noise Office has been tracking data on this issue since 2015. The Late Night Woodside VOR report shows the flight number and altitude for each aircraft that uses, or is vectored in the proximity of the Woodside VOR, on approach to San Francisco International Airport / Metropolitan Oakland Airport between the hours of 10:30 p.m. and 6:30 a.m. This report is generated twice per week and is sent to Northern California TRACON (NCT). To date, this has been no more than a futile effort to mitigate noise impacts with this compliance. With the PIRAT STAR now being “public,” greater usage is expected which has the potential to bring greater impact; none of this has been quantified in the CATEX.
- The CATEX states, “The PIRAT STAR will convert the Pacific 2 Tailored Approach (TA) to a public-use RNAV STAR that expands benefits of the TA [tailored arrival] currently only available to selected carriers to all users of KSFO.” We expect that noise will be shifted from other approaches as airlines consolidate operations to use this procedure, which violates the widely endorsed principle, including by the San Francisco Roundtable, of not moving noise from one community to another.
- From the CATEX: “An Environmental Review was completed by the Western Service Center and is incorporated herein by reference. The Environmental Review was conducted in accordance with policies and procedures in the Department of Transportation Order 5610.1C, ‘Procedures for Considering Environmental Impacts’ and FAA Order 1050.1F.”

This Environmental Review was not included with the CATEX. In addition, this Review was not signed off by the FAA Regional Manager nor the Regional Environmental Specialist. Therefore, the Environmental Review does not comply with FAA JO 7100.41, 7400.2, 1050.1, and DOT Order 5610.1.

Air Traffic Initial Environmental Review

Section IV, Community Involvement, contains questions for Community Development input in conjunction with the airport proprietor. This section was not disclosed and appears to be noncompliant with the FAA’s Community Involvement Manual / ATO Community Involvement Plan.

- Adverse effects on the following aspects of the environment were not disclosed:
 - Species listed or proposed to be listed on the List of Endangered or Threatened Species, or designated Critical Habitat for these species, contained within the San Francisco State Fish and Game Refuge, in which the terminus waypoint ARGGG is located.

- Impact to the San Francisco Bay Natural Wildlife Refuge was also not disclosed and is a possibility due to the vectoring of additional arriving aircraft for San Francisco, Oakland, and San Jose. The vectoring of low arriving aircraft over the South Bay (5000' and below) increased 36% from 2001 to 2013 and is projected to increase in the future.
- Properties protected under Section 106 of the National Historic Preservation Act were not disclosed. These sites involve a unique characteristic of the geographic area, such as prime or unique agricultural land, a coastal zone, a historic or cultural resource, parkland, wetland, wild and scenic river, designated wilderness or wilderness study area, sole source aquifer (potential sources of drinking water: San Andreas Lake, Crystal Springs Reservoir), or an ecologically critical area.
- Significant increases of noise over a noise-sensitive area and emissions (hazardous/toxic substances) from low altitude vectored aircraft were not disclosed.

Therefore, the cities respectfully request the FAA to stop any further production action of the PIRAT STAR until the aforementioned errors can be rectified and the Environmental Review made compliant with current FAA Orders concerning Community Involvement. In addition, the cities request that this procedure be held in abeyance until noise impacts on the residents in our communities are provided by the FAA to our cities and until the cities are allowed to analyze the procedure and its impacts, and subsequently provide comments on this procedure.

Please consider the cities of Mountain View and Los Altos in the hosting of any future Community Involvement meetings concerning the finalizing of development of this STAR.

Respectfully submitted,

Leonard M. Siegel
Mayor
City of Mountain View

Jean Mordo
Mayor
City of Los Altos

cc: Honorable Anna Eshoo, U.S. House of Representatives
Honorable Jimmy Panetta, U.S. House of Representatives
Honorable Ro Khanna, U.S. House of Representatives
Dennis Roberts, Regional Administrator, AWP
Tamara Swann, Deputy, Regional Administrator, AWP
Manager, Federal Aviation Administration, Western Service Area Air Traffic Organization
FAA Manager, Aeronautical Information Services
Manager, Performance-Based Navigation Integration Group (AJV-14)
City of Mountain View City Council
City of Mountain View CM, CA, ACM, ATCM-Gilmore

Attachment 5

November 13, 2018

Mr. Dan Elwell
Acting Administrator
Federal Aviation Administration
800 Independence Ave., SW
Washington, DC 20024

Sent via email to Dan.Elwell@faa.gov

Dear Administrator Elwell:

The City of Palo Alto is writing to comment on the recently proposed PIRAT ONE ARRIVAL Standard Terminal Arrival Route (STAR). These comments are submitted in response to the solicitation of comments set forth on the FAA's IFP Gateway which indicates that comments are being accepted until November 13, 2018. (See https://www.faa.gov/air_traffic/flight_info/aeronav/procedures/application/?event=procedure.results&tab=coordination&nasId=SFO#searchResultsTop)

We note at the outset that we understand the request for comments on the IFP Gateway is directed primarily at solicitation of technical comments from air traffic professionals or aeronautical users. The agency has not, however, provided any other mechanism for the public to comment on this proposed procedure. We are, therefore, availing ourselves of this opportunity to ensure that the FAA receives and considers our comments before taking a final agency action pursuant to 49 U.S.C. 46110.

We are troubled by the lack of community engagement by the FAA during the planning and execution of such proposed changes to routes or procedures. The manner in which the PIRAT STAR has been proposed and the process for solicitation of comments does not comply with the FAA's own Community Involvement Policy as set forth in Appendix 10 to FAA Order JO 7400.2L. Neither has the process complied with current FAA practice to engage the community in any air traffic change which is likely to be controversial on environmental grounds. See FAA Order 1050.1F § 5-2; see also RTCA, PBN Blueprint Community Outreach (2016) (available at https://www.rtca.org/sites/default/files/2016_pbn_blueprint_community_outreach.pdf) which was approved by the FAA's NextGen Advisory Committee in June 2016. As far as we know, the agency has not solicited non-technical comments, has not widely distributed the proposed draft CatEx document, and has not provided the environmental documentation that was prepared in connection with what appears to be a documented CatEx. See Order 1050.1F § 5-3. (The City, through its attorney, has submitted a FOIA request for this documentation but the agency has thus far not responded to the request. We reserve the right to supplement these comments upon the timely receipt of the requested information. We reiterate here, as we did in the FOIA request, that the environmental documentation is essential for the City to determine whether the agency has properly documented the Cat Ex.)

The City of Palo Alto has also written several letters to the FAA in the past to which the FAA has been completely unresponsive. We have been left with no viable process for engaging with the FAA regarding the many questions and concerns we have about flight operations in the airspace over our city; this

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Palo Alto, CA 94303
650.329.2477
650.328.3631 fax

communication vacuum is unacceptable. In the present context, in particular, the agency has failed to explain how the proposed PIRAT route addresses our previous complaints and concerns regarding OCEANIC arrivals into San Francisco International Airport (SFO).

With that background, we offer the following comments and raise several questions specifically on the proposed PIRAT STAR.

Because it has neither provided the environmental documentation to support the CatEx nor responded to the City's FOIA request, the FAA has not communicated whether or how the impacts of the proposed PIRAT route have been studied. We request that the FAA disclose single event noise levels, number of events over grid points on-the-ground and other relevant per-flight-operation noise data on the proposed PIRAT route using the FAA standard AEDT model. See FAA Order 7400.2L § 32-2-1. We also request that the proposed PIRAT route be presented for community involvement per Appendix 10 to FAA Order 7400.2L. We specifically request that preparation of an Air Traffic Initial Environmental Review pursuant to Order 7400.2L § 32-2-1(b).

We have several concerns about the potential impacts of the PIRAT route and ask the FAA to clarify the following issues related to routing paths and altitudes; air traffic volume; and noise and other environmental impacts, particularly given that one of NextGen's goals was to "take into consideration, to the greatest extent practicable, design of airport approach and departure flight paths to reduce exposure of noise and emissions pollution on affected residents."

While we appreciate the intent to limit flights to 8,000 MSL or higher near the neighborhoods in the Woodside area, we remain concerned about noise and other environmental impacts anticipated from the PIRAT STAR. In particular, we are concerned about the predictable increase in the volume of overflights resulting from the transition of the Pacific 2 Tailored Approach (TA) to a public-use area navigation (RNAV) STAR, and the increased impacts associated with adding Oakland International Airport (OAK) traffic to SFO traffic on this route. We are also troubled by the ambiguity and absence of information about where and how aircraft will be vectored by Air Traffic Control (ATC) between the ARGGG waypoint and final approach at SFO or OAK.

The following questions illustrate the current dearth of information available to the public about the impacts of the proposed PIRAT STAR and the necessity for a more transparent public process prior to any implementation decision.

Ambiguity of Vectoring's Routes, Altitudes, and Impacts

How will Air Traffic Control manage the paths for vectoring from the stated 060 heading from the ARGGG waypoint? Where are aircraft most likely to fly between the ARGGG waypoint and final approach into each airport? When vectoring aircraft from ARGGG, will Air Traffic Control maintain aircraft at or above 6,000 MSL over Palo Alto? What altitudes will be maintained over other neighboring sensitive areas? What are the impacts on the Air Traffic Control workload when all flights must be vectored by ATC after the ARGGG waypoint?

Impacts of Increased Volume

How many total operators and flights are anticipated to use this public-use STAR compared to the volume limitations of the current TA? Does the FAA anticipate increases in flights on this route because

of the increased growth projected at all three international airports in the San Francisco Bay Area? What are the anticipated levels of use by OAK arrivals vs. SFO arrivals on this route? What are the anticipated levels of use, if any, by SJC? What are the implications of the proximity of current and future SJC traffic to the anticipated PIRAT traffic vectored from ARRRG en route to SFO? How has the FAA studied the safety implications of PIRAT in increasingly congested airspace? What are the impacts on efficiency of increased volume?

Environmental Impacts

What studies has the FAA completed on the noise and emission impacts of the PIRAT STAR procedure, including especially the on-the-ground noise impacts because of increased volume on PIRAT? Some flights currently using the Pacific 2 TA overfly our community during nighttime and early morning hours. What is the anticipated volume and frequency of flights on the newly proposed public route during these disruptive times?

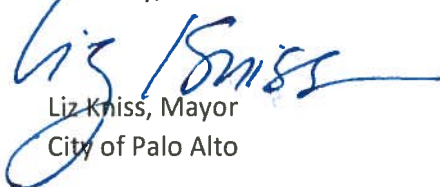
The proposed route, and the associated areas most likely to be used in vectoring flights from ARGGG to final approach, would likely direct aircraft over noise-sensitive areas, several wildlife refuges and water storage areas, historic areas, and minority and low-income populations. We draw your attention to the specific obligations of the FAA to consider impacts over such areas even if the agency believes that it has adequate legal justification to use a CatEx. See FAA Order 1050.1F § 5-3 in particular. What has the FAA done to study the environmental impacts of PIRAT flights, including the increased volume of these flights and their required vectoring, over these sensitive areas?

Finally, we urge the FAA to creatively partner with airports in the San Francisco Bay Area Metroplex to leverage new technologies to develop improved procedures as part of its Next-Gen journey. Leveraging SFO's Ground-Based Augmentation System (GBAS) is a key starting point. As you know, SFO is linking two satellite-based approach technologies – Required Navigation Performance (RNP) and a Global Navigation Satellite System (GNSS) Landing System (GLS) to improve from the approach tools invented 85 years ago, but improvements can only be gained by this technology if the FAA is willing to consider procedures that take advantage of it. Did the FAA team approach the SFO GBAS team to discuss how the new procedure could take advantage of GBAS to reduce aircraft impacts on nearby areas? How has the FAA considered SFO's upcoming deployment of new landing options when designing the PIRAT procedure?

Let me be clear that we do not believe that the FAA has adequately disclosed impacts of the PIRAT STAR under its existing orders and policy statements. And, in particular, the manner in which PIRAT STAR has been publicly disclosed violates standard agency practice for enhanced community involvement that has been adopted in the wake of the *Phoenix v. Huerta* decision.

Thank you for your attention to our concerns. We look forward to your response.

Sincerely,



Liz Kniss, Mayor
City of Palo Alto

cc: 9-AMC-Aerochart@faa.gov

[https://www.faa.gov/air traffic/flight info/aeronav/procedures/application/?event=email.contact&details=SFO%20\(%20KSFO\)%20SAN%20FRANCISCO%20INTL,%20SAN%20FRANCISCO,%20CA%20-%20STAR%20PIRAT%20\(RNAV\)%20ONE%20SAN%20FRANCISCO%20CA%20KSFO&procedureName=STAR%20PIRAT%20\(RNAV\)%20ONE%20SAN%20FRANCISCO%20CA%20KSFO&airportCode=SFO&airportName=SAN%20FRANCISCO%20INTL&airportState=CA](https://www.faa.gov/air%20traffic%20flight%20info/aeronav/procedures/application/?event=email.contact&details=SFO%20(%20KSFO)%20SAN%20FRANCISCO%20INTL,%20SAN%20FRANCISCO,%20CA%20-%20STAR%20PIRAT%20(RNAV)%20ONE%20SAN%20FRANCISCO%20CA%20KSFO&procedureName=STAR%20PIRAT%20(RNAV)%20ONE%20SAN%20FRANCISCO%20CA%20KSFO&airportCode=SFO&airportName=SAN%20FRANCISCO%20INTL&airportState=CA)

Mr. Dennis Roberts, FAA Western-Pacific Regional Administrator

Ms. Faviola Garcia, Acting Deputy Regional Administrator

Ms. Kimberly Stover, Director, Air Traffic Operations, FAA Western Services Area, AJTW

Mr. Kevin Stewart, Acting FAA Aeronautical Information Services Manager

FAA Western Services Area Air Traffic Organization Manager

Hon. Dianne Feinstein, U.S. Senate

Hon. Kamala D. Harris, U.S. Senate

Hon. Anna G. Eshoo, U.S. House of Representatives

Palo Alto City Council

James Keene, Palo Alto City Manager

Molly Stump, Palo Alto City Attorney

Attachment 6



City of East Palo Alto

Office of the City Manager

November 13, 2018

Mr. Dan Elwell
Acting Administrator
Federal Aviation Administration
800 Independence Ave., SW
Washington, DC 20024

Sent via email to Dan.Elwell@faa.gov

Dear Administrator Elwell:

I am writing to comment on the recently proposed PIRAT ONE ARRIVAL Standard Terminal Arrival Route (STAR). The City of East Palo Alto has been negatively impacted by the increase in airplane traffic and associated noise from both the local General Aviation airport and the regional airports.

I have the following questions and comments.

I am concerned by the lack of community engagement by the FAA during the planning and execution of the proposed PIRAT Star changes to routes or procedures. Were standard FAA community engagement processes used for the proposed PIRAT Star changes to routes or procedures?

What has the FAA done to study the environmental impacts of PIRAT flights, including the increased volume of these flights and their required vectoring, over sensitive areas? The FAA should release the noise and emission impacts of the PIRAT STAR procedure, in particular the impacts on sensitive areas such as minority and low-income populations. The proposed Categorical Exemption lacks the adequate documentation to reach an informed decision.

I look forward to your response.

Sincerely,

Sean Charpentier
Interim City Manager

cc: 9-AMC-Aerochart@faa.gov
East Palo Alto City Council
Palo Alto City Council
James Keene, East Palo Alto City Manager
Hon. Jackie Speier, U.S. House of Representatives

Attachment 7



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

PO Box 3144
Los Altos, CA 94024

January 17, 2020

Ms. Raquel Girvin
Regional Administrator, AWP-1
FAA Western-Pacific Region
777 South Aviation Boulevard, Suite 150
El Segundo, CA 90245

Subject: SCSC Roundtable Requests Regarding the PIRAT STAR

Dear Administrator Girvin,

The SCSC Roundtable is submitting the following three requests regarding the PIRAT Standard Terminal Arrival Route (PIRAT STAR) for the FAA's review and response:

1. The SCSC Roundtable accepts Adam Vetter's August 28, 2019 offer to have the FAA perform an in-depth analysis of PIRAT STAR usage. A preliminary analysis of SFO PIRAT STAR arrivals indicates that usage may have increased by almost 20 percent for the months of May and June in 2019 versus May and June of 2018 even though the total SFO arrivals during those same periods did not increase. The Roundtable requests an historical review of the number of Oceanic Arrivals to determine whether they have increased since the PIRAT STAR was implemented. The Roundtable requests that the FAA model the noise exposure on the ground for Oceanic Arrivals for the land area located between the Pacific coastline and the western shoreline of the San Francisco Bay from 2013 to 2019 (see Appendix A for specifics on the requested analysis).
2. To understand whether the original expectations about the PIRAT STAR's noise exposure described in the CATEX for the PIRAT STAR match reality, the SCSC Roundtable requests that the FAA validate the assumptions made in the PIRAT STAR CATEX. (See Appendix B for important context information about Oceanic Arrivals before/after PIRAT and specific questions that the Roundtable would like the FAA to address). This question can leverage the data obtained from the analysis in item 1 above.
3. Given that the PIRAT STAR CATEX information received by Palo Alto through its FOIA request and other FAA communications on the PIRAT STAR are at times inconsistent, the Roundtable requests that the FAA provide a history of the PIRAT STAR development since 2013 as well as describe in simple terms the differences between a previous PIRAT STAR version that may have existed before the current PIRAT STAR. (See Appendix C for specifics questions that should be addressed and important context information about a previous PIRAT STAR procedure).

On behalf of the SCSC Roundtable, thank you for your attention to these requests. We look forward to your response in the near future.

Sincerely,

Mary-Lynne Bernald
Chairperson, SCSC Roundtable

APPENDICES

Appendix A: Analysis of Historical Noise Exposure on the Ground for SFO and OAK Oceanic Arrivals between the Pacific Coastline and Western Shoreline of the San Francisco Bay

- Scope: SFO Oceanic arrivals and OAK Oceanic Arrivals from the Pacific Ocean coastline all the way to each ILS landing system.
- Time period:
 - Same 4-month period of May through August (this 4-month period should be sufficient for comparisons purposes; April should not be used because PIRAT was officially implemented on April 25, 2019; September should not be used because of runway closures at SFO).
 - Seven years (2013, 2014, 2015, 2016, 2017, 2018, 2019) to capture pre-NextGen and post-NextGen changes, including procedure and vectoring changes.
- Tools: Noise modeling should be done using the latest version of AEDT and noise exposure should be calculated using the CNEL metric, which is recognized by the FAA.
- Data input:
 - Use actual flight data.
 - Document any assumptions made for data input.
- Data output/Report details:
 - Summary tables and graphs should be provided to allow readers to compare yearly data from 2013 to 2019 for the same four-month period.
 - Detailed data that are used to create summaries or requested in this document should be provided in an Excel or CSV format.
 - For the same time period of each year, please provide the following information:
 - Total number of arrivals for each airport (SFO, OAK)
 - Total number of Oceanic arrivals for each airport (SFO, OAK)
 - Number of Oceanic arrivals broken down by destination airport (SFO and OAK) that flew within:
 - 1 mile and 3 miles of the Woodside VOR or ARGGG
 - 1 mile, 3 miles, and 5 miles of either MENLO or SIDBY

Notes:

- Data should be summarized for each scenario (e.g., a combination of destination airport and a distance from a specific waypoint)
- Different distances are used for the two locations because flights are on a procedure up to the Woodside VOR/ARGGG but vectored to MENLO/SIDBY after that.
- Distances represent on-the-ground projections between waypoints and aircraft.
- The shortest distance between waypoints and aircraft should be used to capture a flight.
- Detailed data of Oceanic arrivals near 2 locations
 - Location A: within 1 mile and 3 miles of the Woodside VOR (2018 data and before) and ARGGG (2019 data)
 - Location B: within 1 mile, 3 miles, and 5 miles of MENLO and SIDBY once SIDBY started to be used for Oceanic arrivals

For each Oceanic Arrivals scenario (e.g., waypoint location and distance from waypoint), provide the following data:

- Date and time stamp
- Flight number
- Aircraft type
- Origin airport
- Destination airport (SFO or OAK)
- Altitude at time stamp
- Distance from waypoint at time stamp
- Speed at time stamp
- Number of Oceanic arrivals broken down by:
 - Daytime, evening, and nighttime (Evening is 7 pm – 10 pm and nighttime is 10pm to 7am)
 - Heavy Jets, Large Jets, Small Jets, Turbo Props
 - Destination airport (SFO and OAK)
 - Heading (range, average, and median) used after Woodside VOR or ARGGG for each destination airport
 - Descent angle (range, average and median) used between Woodside VOR or ARGGG and MENLO or SIDBY
 - Procedure used --specify name and end point (3 procedures/end points combinations: Pacific 2 Tailored Arrivals/Woodside VOR, non-Pacific 2 Arrivals/Woodside VOR, and PIRAT/ARGGG)
- Altitudes (range, average, and median) within 1 mile or 3 miles of the procedure end waypoint (Woodside VOR or ARGGG)
- Altitudes (range, average, and median) within 1 mile, 3 miles, and 5 miles of MENLO or SIDBY
- On a Google street map, show actual ground tracks between the Woodside VOR or ARGGG and the ILS system, use different colors to show the flights altitude bands in 1,000 ft increments (<3,000 ft, 3000 to 3999 ft, etc.), and identify the median ground track line
- Horizontal and vertical distribution of ground tracks in the vicinity of the Woodside VOR or ARGGG:
 - Using a 3-mile line centered between ARGGG and the Woodside VOR, display separately for SFO and OAK as well as cumulatively (SFO+OAK) the:

Number of actual flights

Lateral and vertical distribution of actual flights

Range, average, and median altitudes

Range, average, and median speeds

- Maintain the same scale for the axes across all time periods and provide sufficient granularity in the display for readers to be able to identify potential changes over time. Use tables and graphs to display the data.
- Horizontal and vertical distribution of ground tracks in the vicinity of MENLO or SIDBY:
 - Using a 5-mile line centered between MENLO and SIDBY (a wider radius is suggested to capture potential vectoring dispersion), display separately for SFO and OAK as well as cumulatively (SFO+OAK) the:

Number of actual flights

Lateral and vertical distribution of actual flights

Range, average, and median altitudes

Range, average, and median speeds

- Maintain the same scale for the axes across all time periods and provide sufficient granularity in the display for readers to be able to identify potential changes over time. Use tables and graphs to display the data.

- Total number of flights broken down by arrival route (SFO SERFR, SFO Bodega West, SFO Oceanic, OAK Oceanic, SJC South Flow) that flew within the following distances of MENLO or SIDBY:
 - Within 0.5 mile radius
 - Within 1.0 mile radius
 - Within 1.5 mile radius
 - Within 2.0 mile radius
 - Within 2.5 mile radius
 - Within 3.0 mile radius
 - Within 5.0 mile radius

For each of the 7 distance groups listed above, specify the altitudes (range, average, and median) and speeds (range, average, and median)

Appendix B: Oceanic Arrivals Before and After Implementation of the PIRAT STAR

Using actual flight data for the months of May through August for both 2018 and 2019, the SCSC Roundtable requests that the FAA:

1. Compare actual number vs assumed number of Oceanic Arrivals in total and broken down between Pacific 2 Tailored Arrivals, non-Pacific 2 Tailored Arrivals, and PIRAT:
 - a. For each airport (SFO and OAK)
 - b. Within a 3-mile radius of the Woodside VOR or ARGEGG
 - c. Within a 5-mile radius of MENLO or SIDBY
2. Compare actual fleet mix vs assumed fleet mix of Oceanic arrivals.
3. Compare actual time distribution vs assumed time distribution of Oceanic arrivals.
4. Using AEDT, display the CNEL contours for 3 different Oceanic arrivals procedures in 3 different areas
 - a. Procedures are:
 1. Pacific 2 Tailored Arrival, which is optimized for each aircraft for a low noise descent profile all the way to the runway and existed before PIRAT
 2. Non-Pacific 2 Tailored Arrival, which existed before PIRAT
 3. PIRAT arrival, which is not optimized for each aircraft, ends miles away from the runway, and is vectored to final approach
 - b. Three suggested areas between the Pacific Ocean and the ILS system: around Woodside VOR/ARGEGG, around MENLO/SIDBY, plus around one additional location between ARGEGG and SIDBY.
 - c. Noise contours for at least 2 different types of jets: heavy jets and large jets.
 - d. References for data sources (actual data or assumptions) and documented assumptions.
 - e. Small area (maximum 5-mile radius) near each waypoint with CNEL contours displayed in 3-dB increments or less for readers to be able to observe any potential differences.
5. Using actual flight data for 2018 and 2019, display the different CNEL noise exposure contours in 3-dB increments in 2 locations (one near Woodside VOR/ARGEGG and the other near MENLO/SIDBY) for the:
 - a. Pacific 2 Tailored Arrivals (2018) --specify number of flights
 - b. Non-Pacific 2 Tailored Arrivals (2018) - specify number of flights
 - c. PIRAT (2019) - specify number of flights

and articulate any potential differences. Same guidelines as in item 4 above.

6. Articulate the benefits that have been realized through the implementation of PIRAT (benefits statements must be supported by data), and in particular the incremental benefits gained from the prior procedures (Pacific 2 TA and non-Pacific 2 TA).
6. Explain how the altitude increase that occurred at ARGEGG does not increase the noise exposure of PIRAT arrivals over the residential areas between ARGEGG and the final approaches to SFO or OAK, which did not change. Describe in particular the changes in the flying altitudes and descent angles of aircraft between ARGEGG and final approaches that may have occurred given the minimum 8,000 ft altitude at ARGEGG.
6. Identify who decided to combine the Tailored Arrival procedure with the ATC vectoring instruction as described in the FAA written answer to the Roundtable question 5 from May 2019 and list all stakeholders who were consulted on the proposal prior to the decision.
6. Identify the stakeholders and elected officials who were involved in the current PIRAT design discussions as well as the timeframe of such discussions.
6. Document when and how SFO and the City and County of San Francisco expressed their support of the current PIRAT procedure.

Context information

The FAA document called “2018-06-11 KSFO.IER.ARCHI.20180517 (SIGNED)_MLsign”, signed on May 18, 2018 and obtained through a FOIA request by the City of Palo Alto, provides some information on the environmental review conducted by the FAA for PIRAT and describes some assumptions used in the CATEX analysis. In this document, the FAA stated that:

- They did not expect the number of operations, aircraft mix and airlines schedules to change. Based on 2017 Track Data (table 6 on page 15), the FAA expected the following traffic:
 - Annual PIRAT traffic: 15,747 planes per year
 - Fleet mix: 64% Heavy Jets vs. 36% Large Jets (very few small jets or turboprops)
 - Time distribution: 31% during night time (10 pm - 7 am) and 69% during the day

Note however that, in their February 22, 2019 letter to Palo Alto Mayor Filseth, the FAA stated that they “anticipate more aircraft will likely use the PIRAT STAR than the Pacific 2 TA”, which makes sense given that one or two carriers used Tailored Arrivals, but “defers to SFO and OAK to address the potential increase in oceanic arrivals.” This last statement is puzzling given that the FAA assumed no increase in Oceanic arrivals in the CATEX analysis (see above) and that airports do not have the ability to limit the number of carriers or flights (as long as airports have capacity they must accept new flights).

- “[Pacific 2] Tailored Arrivals (TA) is a comprehensive method of planning, communicating, and flying highly-efficient arrival trajectories from cruise altitude to the runway threshold. TA trajectories are optimized for each aircraft to permit a fuel-efficient, low noise descent profile that will provide separation assistance while complying with arrival sequencing requirements and other airspace requirements.” (page 4, footnote #2).
- PIRAT “will convert the Pacific 2 TA to a public-use RNAV STAR that expands benefits of the TA currently only available to selected carriers to all users of KSFO” (see page 12).
- PIRAT was requested by ATC (see paragraph B page 22) because ATC found issuing Tailored Arrivals cumbersome; however, the FAA added on paragraph C page 22 that PIRAT was a community request even though the FAA acknowledged on page 50 paragraph 4 that the proposed changes were not based on the Select Committee or SFO Roundtable recommendations, but designed to address safety and operations concerns.
- The airport proprietor was supportive of PIRAT (page 50).

Appendix C: History of PIRAT STAR before the 2016 Select Committee Recommendations

The SCSC Roundtable requests that the FAA:

1. Explain what was the NorCal Metroplex PIRAT STAR project (as described under Context information below), which existed before 2015 and obviously before the Select Committee was formed, and in particular, how the project related to Pacific 2 Tailored Arrivals.
2. Explain what environmental issues were associated with the NorCal Metroplex PIRAT STAR project.
3. Explain who was consulted and when on the NorCal Metroplex PIRAT STAR project.
4. Explain why the NorCal Metroplex PIRAT STAR was abandoned.
5. Compare and contrast the NorCal Metroplex PIRAT STAR and the current PIRAT STAR. Comparisons should include, but not be limited to ground tracks, altitudes, waypoints, headings, descent angles, etc. for the flight paths of Oceanic arrivals between the Pacific Ocean coastline and the western shoreline of the San Francisco Bay for both SFO and OAK.

Context information

There seems to be inconsistent information from the FAA about the development of the PIRAT STAR.

- FAA records, obtained through the City of Palo FOIA request, indicate that there was a different PIRAT STAR (which was referred to in a January 2015 email) that was part of the Norcal Metroplex project, but had environmental issues (see document titled “RE_PIRAT STAR_SFO.pdf” and screenshots below extracted from pages 2 and 3 of the document). This FAA information is aligned with the SFO Noise Office saying that they did not support a PIRAT procedure that was proposed around 2014 because of noise concerns.

The short answer is this is not the same project as had environmental issues back in 2015 and is proceeding as a new project request. Pub date is TBD.

To make sure we aren't comparing apples and oranges, we are not resurrecting the NorCal Metroplex PIRAT STAR project. On 11/16/2016 Oakland Center put in a IFP Gateway request to convert the (currently in use) Pacific 2 Tailored Arrival to a RNAV STAR. See the following cut and paste from the Baseline Analysis Report. While we were at NorCal TRACON late last year the ATM asked us to expedite the STAR since it was a priority for the facility. As such, Josh and I got it on the agenda for our meeting down there in March. Yes ... it will be called the PIRAT STAR. No ... it's not the same project as referred to in the January 2015 email. It is a stand-alone-single-site project under the 7100.41 and we are following the process from square one. Once we have final design agreement the project will be submitted for environmental review. We won't continue with development/publication if we don't complete the required environmental review and have the appropriate documentation.

- On November 16, 2016, an FAA employee requested to put the PIRAT STAR back in the IFP process because it had been removed by mistake from the IFP process (see document titled “KSFO New STAR 8457 Gateway (1).pdf” and screenshot below of the

document). Note that the Select Committee issued their report and recommendations, which do not mention any STAR procedure for Oceanic Arrivals, one day later on November 17, 2016.

View Request	
Request: EXTERNAL WEBSITE REQUEST - SAN FRANCISCO, CA	
Request ID: 20161116171103	Date Created: 11/16/2016
Allow this Request to be viewable from the external website? YES	
Initial Request Remark:	
COMMENTS: -----CONTACT INFO-----	
FIRST NAME: JEFF	
LAST NAME: HUBERT	
TELEPHONE: 510-745-3744	
EMAIL: JEFF.B.HUBERT@FAA.GOV	
ROLE: INTERNAL FAA	
TYPE OF PROCEDURE: STAR (INTERNAL)	
ICAO CODE: KSFO	
AIRPORT NAME: SFO	
AIRPORT COUNTRY: US	
AIRPORT CITY: SAN FRANCISCO	
AIRPORT STATE: CA	
AIRCRAFT TYPE: FIXED WING (DEFAULT)	
NAVIGATION SYSTEM TYPE: RNAV (GPS) - EXAMPLES: LPV, LP, LNAV/VNAV, LNAV, ETC.	
TYPE OF REQUEST: ORIGINAL	
PREFERRED ROUTING DESCRIPTION: THE ORIGINAL REQUEST TO CREATE AN RNAV STAR FOR OCEANIC ARRIVALS TO SFO (PIRAT STAR) WAS INADVERTENTLY REMOVED FROM THE IFFP PROCESS. THIS PROCEDURE IS CURRENTLY IN USE AS A TEST PROCEDURE WITH SELECTED CARRIERS (PACIFIC 2 TAILORED ARRIVAL). THIS PROCEDURE HAS BEEN PROVEN BENEFICIAL FOR THE USERS BUT IS VERY CUMBERSOME FOR ATC TO ISSUE IN ITS CURRENT FORM.	
OTHER REMARKS:	

March 8, 2020

From

Mike McClintock

To

SCSC Roundtable

Message

Re: Current negotiations with the FAA concerning NextGen Flight Paths - Thank You

Reva:

Thank you for your kind note, which I am forwarding to the Forum members, the FAA, and other parties of interest. The Forum's NextGen/Metroplex Subcommittee and Airport staff have been working diligently with the FAA's technical experts to achieve a solution to this vexatious problem; and I am hopeful that your note will inspire all concerned to continue to work together to achieve a workable solution to the WNDSR issue, as well as the other NextGen implementation issues affecting the East Bay.

We have come a long way since our first meeting with the FAA Regional Administrator at the time, and we have some way yet to go. But, there is hope that with the continued commitment of all involved parties, we can get this done fairly and equitably.

Mike McClintock
Forum Facilitator

Attachment Name

20200308_M_McClintok_Re Current negotiations

Subject: Current negotiations with the FAA concerning NextGen Flight Paths - Thank You



**TO: MIKE McCLINTOCK, FORUM FACILITATOR
OAKLAND AIRPORT - COMMUNITY NOISE MANAGEMENT FORUM**

RE: WNSDR NEGOTIATIONS WITH THE FAA

DATE: March 7, 2020

On behalf of everyone who is negatively impacted by the WNSDR flight path, Save Our Skies East Bay thanks you for meeting and seriously discussing alternatives to this flight path.

Thousands of East Bay residents who live, work and go to school under the WNSDR flight path have been suffering for over five years with the noise and air pollution generated by the low flying, day and night flights, along this path. Millions of yearly visitors to the East Bay Regional Parks and City of Oakland's Parks that are located under this flight path have also been deprived of their quiet, meditative, park visits by these same planes. We are hopeful that you will find a way to relieve us of the excessive burden that WNSDR has placed upon us all.

We encourage you to continue talking until a solution is found and implemented.

Thank you for your efforts.

Yours,
Reva Fabrikant
Save Our Skies East Bay

Cc:
Representative Barbara Lee (CA-13)
Mar Velez, U.S. Representative Barbara Lee's office
Benny Lee, City of San Leandro
Walt Jacobs, Alameda

March 8, 2020

From

Mike McClintock

To

SCSC Roundtable

Message

Fwd: FYI NEPA

This from Palo Alto Sky Posse via Yvonne McHugh:

Mike McClintock
Forum Facilitator

Attachment Name

20200308_M_McClintok_Fwd FYI NEPA

This from Palo Alto Sky Posse via Yvonne McHugh:



Sky Posse Palo Alto

Dear Friends,

You may receive this message twice, if you have signed the petition to reduce aircraft noise over Palo Alto and neighboring communities but we wanted to make sure everyone gets this message before Tuesday.

There is a proposal to the White House Council on Environmental Quality (CEQ) <https://www.whitehouse.gov/ceq/> (not to be confused with California CEQA), to make changes to the National Environmental Policy Act (NEPA) which would be detrimental to having full disclosure of impacts from various federal actions, including airspace actions. See more background information below.

CEQ has requested public comments on or before TUESDAY March 10, 2020

Post a comment to this link: <https://www.regulations.gov/document?D=CEQ-2019-0003-0001>

If you would like a short version of what to voice, please consider submitting the following:

I am writing to OPPOSE the proposal to change NEPA per docket Docket No. CEQ-2019-0003. As a citizen affected by federal airspace actions, which already routinely fail to disclose real impacts on the ground, using an outdated FAA metric, and non-current science for determining thresholds of significance, the proposed change to eliminate evaluating reasonably foreseeable actions would further exempt FAA from environmental responsibility.

Background Info:

Letter from Congressional Representatives <https://degette.house.gov/sites/degette.house.gov/files/DeGette-Rooney%20NEPA%20Letter.pdf>

Columbia Law Blog:

FIVE POINTS ABOUT THE PROPOSED REVISIONS TO CEQ'S NEPA REGULATIONS

<http://blogs.law.columbia.edu/climatechange/2020/01/10/five-points-about-the-proposed-revisions-to-ceqs-nepa-regulations/>

- The proposal would eliminate requirements to evaluate “cumulative” effects, and possibly “indirect effects,” as well.
- The proposal would limit analysis to effects which are “reasonably foreseeable” and have a “reasonably close causal relationship” to the proposal.
- The proposal redefines “significance” and limits consideration of indirect effects in significance determinations.
- CEQ has signaled that it will move forward with its proposed GHG guidance, and is inviting comments on whether it should codify any aspects of that guidance in the regulations.
- The proposal would undermine the environmental policy set forth in NEPA.

SPREAD THE WORD

Ask neighbors to JOIN OUR CALLS TO ACTION and to get updates by sending "SUBSCRIBE" to info@skypossepaloalto.org

SHARE THE QUIET NIGHTS PETITION

<http://chng.it/hDFnrflk8C>

COMMUNITY PRIORITIES

- Assess alternative waypoints to reduce concentration and ["Fly at Higher Altitudes!"](#)
- Eliminate low altitude night flights
- Create the successor organization to the Select Committee ✓

Eliminating low altitude night traffic should be the easiest task for FAA because *there is no traffic congestion at night*. Assessments of alternatives using the right [tools](#) is also long overdue.

New concerns have also developed since the Select Committee. **As we go forward, much of what we need is within the power of local and regional officials to help accomplish.**

MOST IMPORTANT

Report intrusive jet noise!

The number of reporters matters (enlist neighbors who are bothered by intrusive jet noise to report!)

Use any of these methods:

The APP stop.jetnoise.net

EMAIL sfo.noise@flysfo.com

SFO PHONE 650.821.4736/Toll free 877.206.8290.

ONLINE:

SFO traffic: [click here for the link](#)

SJC traffic: [click her for the link](#)



Other airports: [click here for more info](#)

Complaint Option with IFTTT App - You can make your own noise complaint button with smart phone app [see instructions here](#). The app sends the complaints to sfo.noise@flysfo.com (or the noise office email address of the airport of your choice) with the message body including name, address, time and noise type. You may also want to try [programmable button](#) with it.

Thank you!

Sky Posse Palo Alto

Jet noise overhead ?

REPORT IT

Optional info - please report speedbrakes!

Speedbrakes ☐ (Whiny/whooshy noise)

Your notes

I was ...

Volume ☒ loud, ☐ LOUD, ☐ INSANE

March 9, 2020

From

- SCSC Roundtable - RESPONSE

To

Marie-Jo Fremont

Message

Request to access PIRAT data provided by FAA to the Roundtable on Feb 21, 2020

Dear Marie-Jo,

Thank you for reaching out regarding the FAA provided data files. We apologize for not getting back to you sooner, and we have been working to re-post the files to the SCSC Roundtable website. Due to the format and size of the files we are working on a solution to being able to post for proper viewing/download. Thank you for your patience, and we will send notification once these files are available.

Regards,

SCSC Roundtable Staff
scscroundtable@gmail.com

March 9, 2020

From

- SCSC Roundtable - RESPONSE

To

Marie-Jo Fremont

Message

Request to access PIRAT data provided by FAA to the Roundtable on Feb 21, 2020

Dear Marie-Jo,

As a follow up to our prior email, we were able to successfully upload the data file to the SCSC Roundtable website for viewing. [The file can be found at this link](#), within the "Correspondence" section of the "Resources" tab on the website.

We hope that you find this information useful.

Regards,

--

SC | SC Roundtable
<https://scscroundtable.org>

March 9, 2020

From

Steve Alverson; - SCSC Roundtable - RESPONSE

To

Bert Ganoung

Message

FAA Data Files for Your Review/Use

Bert,

In response to an SCSC Roundtable inquiry regarding the use of the PIRAT STAR, the FAA provided a spreadsheet that has a great deal of data on it. As it is possible, that you and your staff may be asked questions about these data, we thought it would be important for you to download and review it. [Here is a link](#) to the FAA-provided data, which has been posted on the SCSC Roundtable website.

Regards,

Steve
Steven R. Alverson
Senior Vice President

March 9, 2020

From

Bert Ganoung

To

Steve Alverson

Message

FAA Data Files for Your Review/Use

Steve,

I appreciate your forward of the link regarding this data. I plan to share a study with the Roundtable based on our analysis of the Oceanic and PIRAT arrivals that staff is completing.

Thank you,

Bert

March 13, 2020

From

Quiet Skies NorCal

To

SCSC Roundtable

Message

Letter from Quiet Skies NorCal to Cupertino City Council (attached)

Please see the attached letter from Quiet Skies NorCal to Cupertino City Council, with copy to Congressman Ro Khanna, Congresswoman Anna Eshoo, Congressman Jimmy Panetta and the SC/SC Roundtable.

Attachment Name

20200313_Q_Skies_Letter from Quiet Skies_attach_Cupertino Mar 13 2020



Quiet Skies NorCal Coalition

March 13, 2020

City of Cupertino
10300 Torre Avenue
Cupertino, CA 95014-3202

Subject: City Council Meeting, March 17th, Agenda Item #11, Resolution No. 20-029

Dear Mayor Scharf, Vice Mayor Paul, and Councilmembers Sinks, Chao, and Willey,

Quiet Skies NorCal is a community advocacy group focused on addressing jet noise issues and representing thousands of residents across Santa Clara and Santa Cruz Counties, including many Cupertino residents.

Residents throughout our region have been suffering from jet noise caused by changes in the airspace brought about by the FAA's NextGen program. Particularly, Cupertino residents continue to suffer from jet noise issues related to SJC's South Flow. Thanks to the grass roots efforts of thousands of bay area residents and the commitment of our Congressional Representatives, our communities finally have a forum to address jet noise issues directly with the FAA via the Santa Clara/Santa Cruz Roundtable.

In addition to the jet noise issues brought about by NextGen, residents are very concerned about future jet noise and environmental issues resulting from SJC expansion plans and new procedures being implemented by the FAA. To that end, the Roundtable have done an exemplary job laying the foundation for long term FAA to community engagement.

In its initial term, the Roundtable have ratified a Strategic Plan, an expansive Work Plan, and have created subcommittees to address legislative and technical concerns. Residents have not only enjoyed unbounded opportunities to express themselves during public comment, the Roundtable have been exceptionally diligent in facilitating responses from the FAA to their queries.

It is imperative that residents have a forum to address current and future jet noise issues. On behalf of the thousands of residents we represent, Quiet Skies NorCal ask that the City Council vote against Resolution No. 20-029 and continue to participate in and fund the Roundtable.

It is imperative that all Cities and Counties remain united in their participation in and funding of the Roundtable in order that none are left behind. Cupertino residents deserve a forum to address current and future jet noise and aviation-related environmental issues, please don't leave them behind.

Yours truly,

Quiet Skies NorCal

Cc: Congressman Ro Khanna, Congresswoman Anna Eshoo, Congressman Jimmy Panetta
SC/SC Roundtable

March 16, 2020

From

Evan Wasserman

To

SCSC Roundtable

Message

SCSC Roundtable - CDC Guidance - April 22, 2020 Meeting Cancelation

Dear SCSC Roundtable Members, Alternates, FAA, and Congressional staff,

Due to government health directives banning public gatherings to limit the spread of the Coronavirus Disease 2019 (COVID-19), the April 22, 2020 SCSC Roundtable Meeting has been canceled. We will provide you with an update when the next SCSC Roundtable meeting has been scheduled, which will be based on government health directives regarding public gatherings. Please also check the [SCSC Roundtable webpage](https://scscroundtable.org) regarding the resumption of future meetings.

Thank you for your understanding.

Regards,

SC | SC Roundtable

<https://scscroundtable.org>

March 19, 2020

From

Bert Ganoung

To

Steve Alverson

Message

SUNNE ONE Conventional Departure Procedure Data Request

Hello Steve,

I was directed by management to ask if the OAK Noise office would be willing to perform this evaluation and data supply to the SCSC Roundtable. I passed this request to Jesse Richardson who initially said yes but, is now verifying with his management that it would be Ok to proceed. You will likely hear from him soon on this matter. Either way I will stay in the loop and convey if they are not able to do the data pull.

Thank you all for your understanding.

Sincerely,

Bert

March 20, 2020

From

Steve Alverson

To

Bert Ganoung

Message

SCSC Roundtable Letter to SFO in Support of Palo Alto's Request for Aircraft Noise Monitors

Dear Mr. Satero, Mr. Ganoung, and Members of the San Francisco International Airport/Community Roundtable,

On behalf of the Santa Clara/Santa Cruz Airport/Community Roundtable (SCSC Roundtable), I have attached for your consideration a letter from the SCSC Roundtable in support of the City of Palo Alto's request for SFO to install noise monitors within Palo Alto. This letter directly follows the SCSC Roundtable's action at the February 26, 2020 Regular Roundtable meeting supporting Palo Alto's request.

I would appreciate it if you would acknowledge receipt of this email and the attached letter.

The SCSC Roundtable looks forward to your response. Thank you.

Regards,

Steven R. Alverson
SCSC Roundtable Facilitator

Attachment Name

20200320_Final_SCSC_Roundtable_to_SFO_Palo Alto_Noise_Monitor_v3



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

PO Box 3144
Los Altos, CA 94024

March 20, 2020

Mr. Ivar C. Satero
Airport Director
San Francisco International Airport
P.O. Box 8097
San Francisco, CA 94128

Subject: SCSC Roundtable Support of a Request by the City of Palo Alto for Noise Monitor Placement

Dear Mr. Satero:

At its February 26, 2020 regular meeting, the Santa Clara/Santa Cruz Airport/Community Roundtable (SCSC Roundtable) authorized me to send you this letter indicating the Roundtable's support of the City of Palo Alto's request to San Francisco International Airport (SFO) regarding the placement of aircraft noise monitors within the City of Palo Alto.

Noise impacts on the residents of Santa Clara and Santa Cruz Counties from aircraft arriving at and departing from SFO is a primary concern of the SCSC Roundtable.

In addition to supporting Palo Alto's specific request, the SCSC Roundtable requests to be notified by SFO prior to the potential placement of aircraft noise monitors within the member jurisdictions' cities and counties. With this request, the SCSC Roundtable hopes to open additional lines of communication between our member jurisdictions and SFO as it relates to the monitoring of aircraft noise, and working towards collaborative solutions for mitigating the negative impacts of aircraft noise on our member communities.

On behalf of the SCSC Roundtable, thank you for considering our request for your support on the above matters.

Sincerely,

Mary-Lynne Bernald
Chairperson, SCSC Roundtable

CC: SFO Roundtable

March 20, 2020

From

Bert Ganoung

To

Steve Alverson

Message

SCSC Roundtable Letter to SFO in Support of Palo Alto's Request for Aircraft Noise Monitors

Hello Steve,

I acknowledge receipt of your email and the attached letter sent 3/20/2020 at 3:51 PM.

Bert Ganoung

Aircraft Noise Abatement Manager

San Francisco International Airport

March 23, 2020

From

Sky Posse

To

SCSC Roundtable

Message

For the attention of Representative Eshoo

Dear Karen,

Please see two Letter Attachments for Rep Eshoo's attention,

1) Letter from Sky Posse Palo Alto to Rep Eshoo

2) Letter to Members of Congress from the Legislative Committee, Quiet Skies Conference Legislative Committee

Thank you,

Sky Posse Palo Alto

cc:
Palo Alto City Council
SCSC Roundtable
SFO
SJC
OAK

Attachment Name

20200323_S_Posse_For the attention of Representative Eshoo_attach_1

20200323_S_Posse_For the attention of Representative Eshoo_attach_2

Sky Posse Palo Alto

2225 East Bayshore Avenue, Suite 200, Palo Alto, CA 94303

March 23, 2020

Congresswoman Anna G. Eshoo
District Office
698 Emerson Street
Palo Alto, CA

Dear Congresswoman Eshoo,

Sky Posse Palo Alto requests that you please support the attached communication from the Quiet Skies Conference, a national voice to address public concerns about aviation impacts. We are sending this one letter to be respectful of the time you and your staff need for other important issues right now, but Sky Posse represents thousands of your constituents.

As federal funds will be used to support aviation, please consider doing so with a demand for aviation to dedicate attention to environmental concerns, which you are aware have significant repercussions for public health.

The suggestions which are shared by groups from around the country are also core consensus requests that emanated from the Select Committee on South Bay Arrivals.

- Address night time noise - the national consensus is for Curfews
- End unnecessary concentration of traffic and take the planes over bodies of water
- Expedite Airbus retrofits

Kind regards,

Sky Posse Palo Alto

CC:
Palo Alto City Council
SCSC Roundtable
SFO Airport
SJC Airport
OAK Airport

Sky Posse Palo Alto is a grassroots group of citizens deeply concerned about increased aircraft noise and pollutants from Nextgen. Many have invested substantial effort in studying the issues, attending public hearings and meetings, and engaging in outreach. For more info: www.skypossepaloalto.org and www.quietskiesconference.org

March 22, 2020

Dear Members of Congress:

As you are preparing to vote on a bailout for the airline industry, we write to ask that it include protections for people impacted by dangerously concentrated levels of aircraft noise and emissions pollution.

We realize that this bill is being passed very quickly. However, if at all possible, we'd like to see any or all of the following conditions included in any bailout bill for the airline industry:

1. Nighttime curfews. Curfews would enormously improve the lives of millions of Americans who are seriously disturbed by nighttime noise and would be straight-forward, effective, and enforceable. Curfews could be instituted easily while the airlines are ramping back up after the big cutbacks in service caused by this crisis.
2. Airlines should be required to direct airplane traffic over non-residential areas (e.g., oceans, bays, rivers, industrial areas) whenever they are flying under 10,000 feet altitude. Where residential overflights are totally unavoidable, airlines should no longer be permitted to concentrate them all over the same communities.
3. Commission the National Academy of Science to publish a consensus report through the Academy's Division of Medical Science, reviewing existing studies of the public health impact of performance-based navigation.
4. Require airlines to retrofit vortex generators to Airbuses/A320s during scheduled major maintenance, including semi-annual reports of number A320's in fleet, # retrofitting, timeline for remaining.

This reflects the thinking of the member groups of the Quiet Skies Conference, a national organization of aviation-focused community advocacy groups throughout the country.

Thank you for your consideration,

Legislative Committee, Quiet Skies Conference

March 25, 2020

From

Mike McClintok

To

SCSC Roundtable

Message

Forum Informational Materials

All:

Attached for your information and review are:

DRAFT meeting minutes for 1/15/2020 Forum meeting;

4th Qtr. 2019 Noise Abatement Report; and

Quarterly Aircraft Noise Report 4Q2020.

Under normal circumstances these would have gone out with the agenda materials for the now cancelled 4/15/2020 Forum meeting. Action on these three items will be taken at the July 15, 2020 Forum meeting. You will receive a complete agenda package for the July 15 meeting NLT July 6, 2020.

Please contact me with any questions or comments.

Thank you and be well.

Mike McClintock

Forum Facilitator

Attachment Name

20200325_M_McClintock_Forum Informational Materials_attach 1

20200325_M_McClintock_Forum Informational Materials_attach 2

20200325_M_McClintock_Forum Informational Materials_attach 3

NOISE FORUM SUMMARY

North/South Field Working Groups

NOISE ABATEMENT REPORT

FOURTH QUARTER 2019

Compliance Monitoring Quarterly Summary Comparison Fourth Quarter 2019				
	2018Q4		2019Q4	
	Compl.	N/C	Compl.	N/C
Runway 28R/L Jet Departure Compliance	96%	4%	95%	5%
Total Airport-wide Corporate Jet Departures	2,868	123	2,709	147
Runway 10R/L Jet Landing Compliance	59%	41%	69%	31%
Total Southeast Plan Corporate Jet Landings	96	66	220	97
North Field VFR Departure Compliance	93%	7%	91%	9%
Total Runways 28R/L & 33 Departures	235	18	214	22
North Field Quiet Hours Compliance	70%	30%	77%	23%
Total North Field Quiet Hours Departures	138	59	174	51
Runway 30 BFI Right Turn Departure Compliance	100%	0%	100%	0%
Total Runway 30 Turbojet Departures	18,609	70	19,170	73
Night Time Departure Compliance	97%	3%	99%	1%
Total Runway 30 Night Turbojet Departures	3,078	84	3,658	52
Runway 12 Night Departure Compliance	98%	2%	99%	1%
Total Runway 12 Night Turbojet Departures	187	4	276	3
Runway 30 East Turn Departure Compliance	99%	1%	99%	1%
Total Runway 30 East Turn Departures	5,710	52	5,220	59
100 Degree Radial Turbojet Landing Compliance	99%	1%	99%	1%
Total 100 Degree Radial Turbojet Landings	1,408	11	1,245	11
Engine Runup Program Compliance	100%	0%	100%	0%
Total Evening and Nighttime Engine Runups	9	0	8	0
Note: N/C means non-compliant. Percentage values are rounded out.				

Operation Details
Beacon Code: 3373
AC Type: H25C
Operation Type: Departure
Runway: 28L
Date/Time: 12/13/2016 8:26:14 AM

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Runway 28R/L Jet Departure NAP

2019Q4
95% Compliance
(2,856 total departures)
(147 non-compliant)

2018Q4
96% Compliance
(2,991 total departures)
(123 non-compliant)

Heading: 325
Elevation: 15

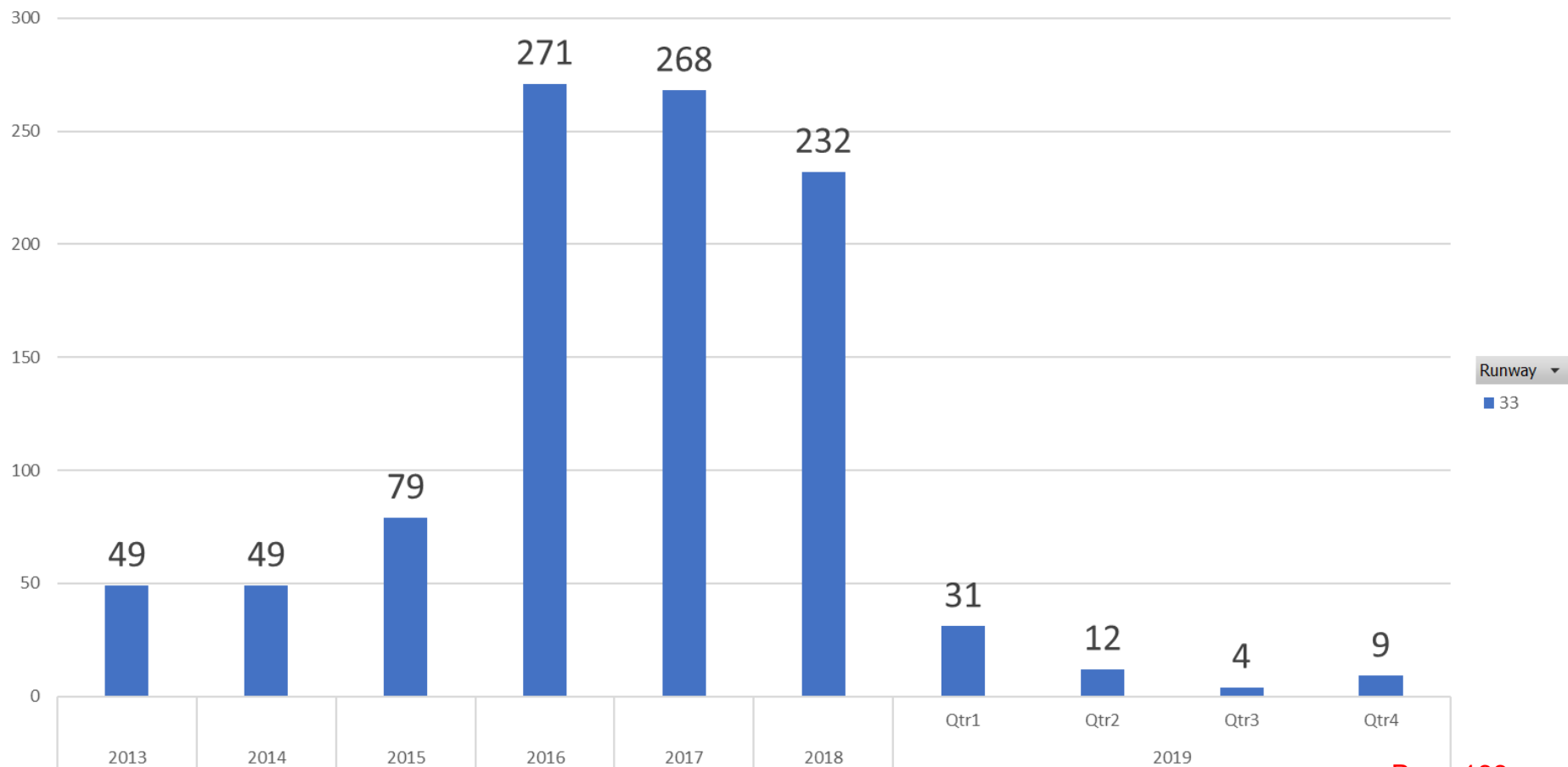
Arrivals
Departures
Touch and Go
Overflights

RUNWAY 33 JET DEPARTURES

Fourth Quarter 2019

Count of Aircraft Type

Runway 33 Jet Departure Trend Analysis



Operation Details	
Beacon Code:	4564
AC Type:	C550
Operation Type:	Arrival
Runway:	10R
Date/Time:	12/15/2016 8:15:42 PM

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Runway 10R/L Jet Landing NAP

2019Q4

69% Compliance
(317 total landings)
(97 non-compliant)

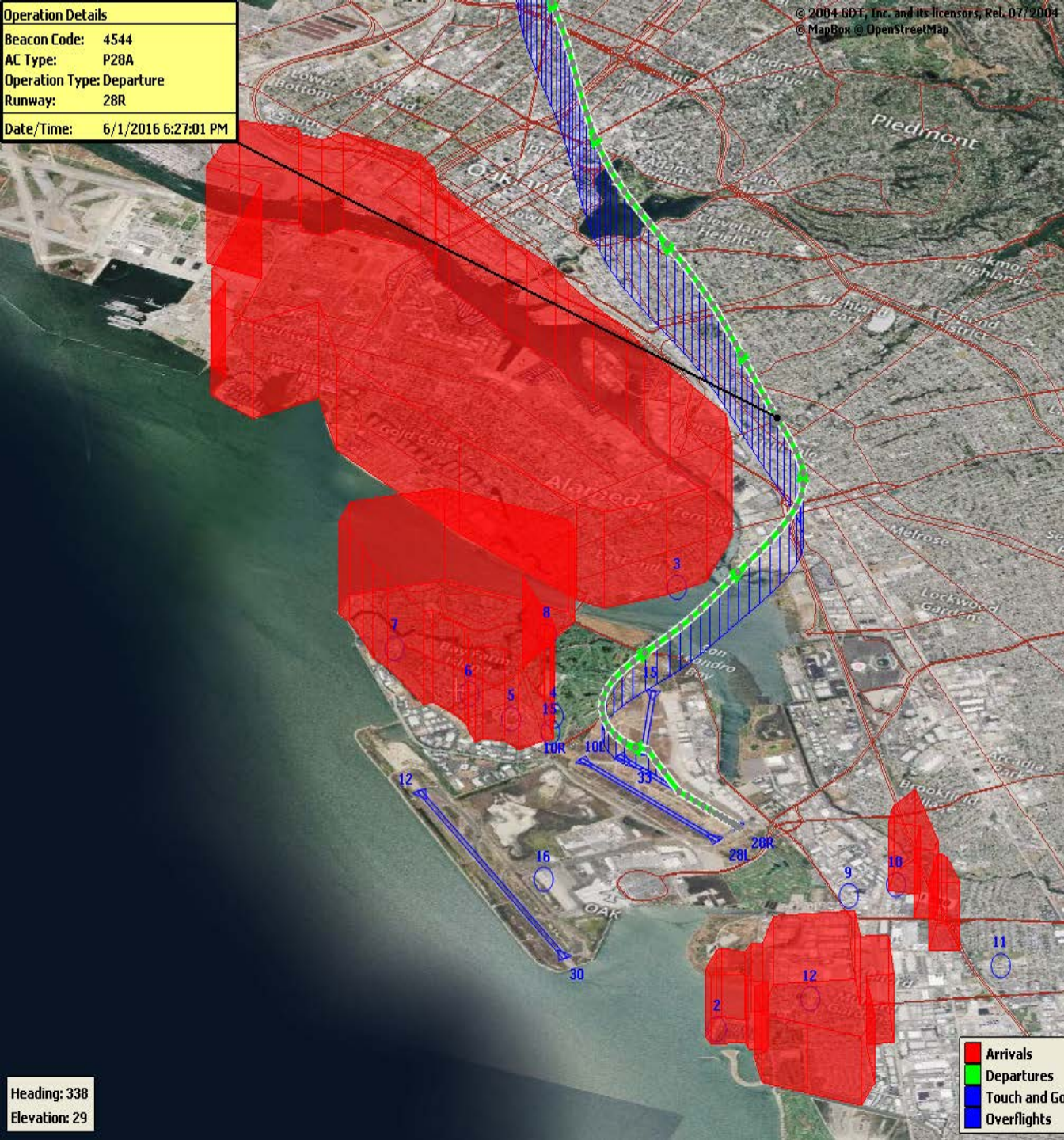
2018Q4

59% Compliance
(162 total landings)
(66 non-compliant)

Heading: 325
Elevation: 15

■ Arrivals
■ Departures
■ Touch and Go
■ Overflights

Operation Details	
Beacon Code:	4544
AC Type:	P28A
Operation Type:	Departure
Runway:	28R
Date/Time:	6/1/2016 6:27:01 PM



VFR Aircraft Departure NAP

2019Q4

**91% Compliance
(236 total departures)
(22 non-compliant)**

2018Q4

**93% Compliance
(253 total departures)
(18 non-compliant)**

Heading: 338
Elevation: 29



Operation Details
 Beacon Code: 3351
 AC Type: PC12
 Operation Type: Departure
 Runway: 28R
 Date/Time: 12/13/2016 6:02:33 AM

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North Field Quiet Hours NAP

2019Q4
 77% Compliance
 (225 total departures)
 (51 non-compliant)

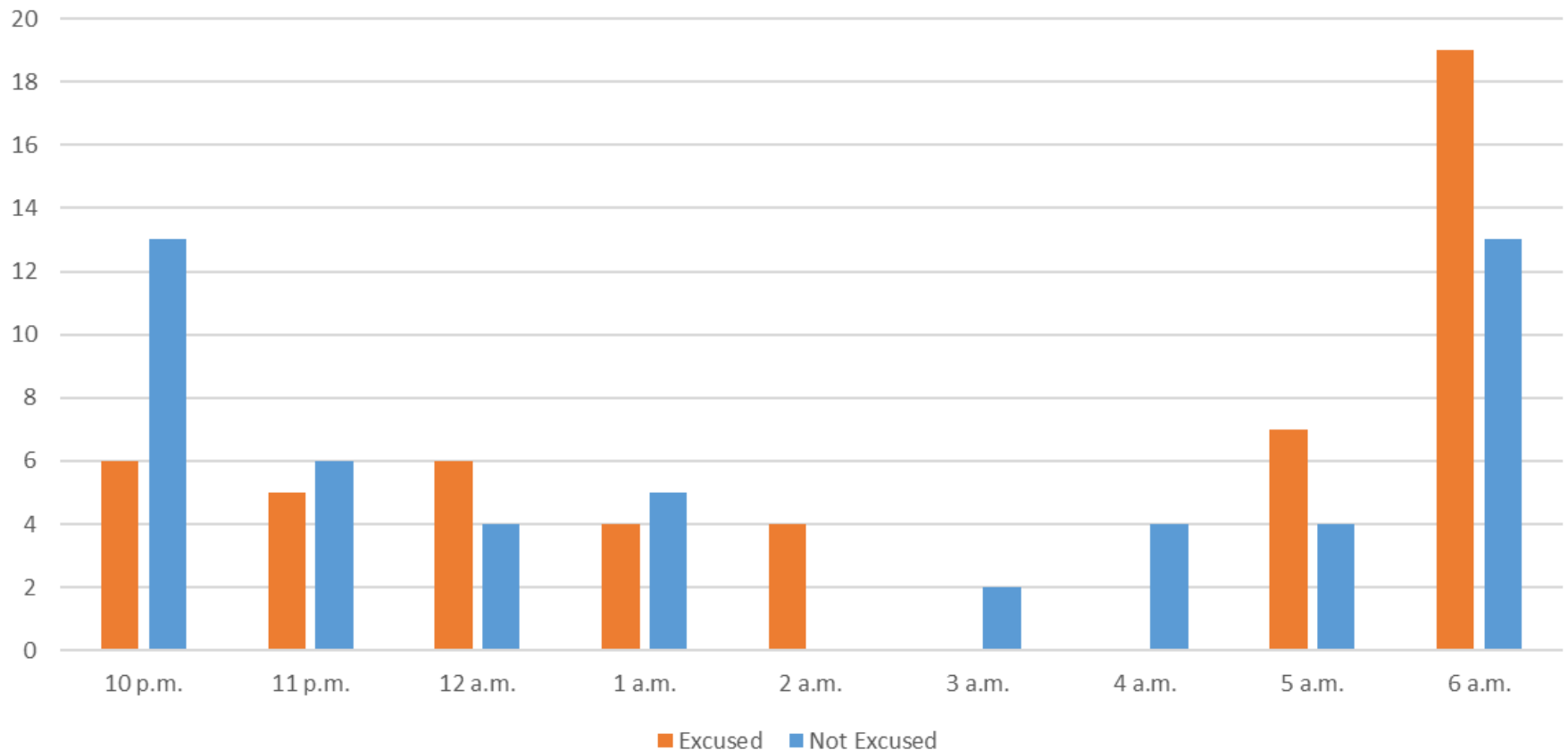
2018Q4
 70% Compliance
 (197 total departures)
 (59 non-compliant)

Heading: 343
 Elevation: 32

Arrivals
 Departures
 Touch and Go
 Overflights

North Field Quiet Hours NAP Non-Compliant by Hour

Excused/Not Excused Violation Count by Hour



Operation Details
 Beacon Code: 3641
 AC Type: 8737
 Operation Type: Departure
 Runway: 30
 Date/Time: 8/22/2017 10:16:59 PM



Night Time Departure NAP

2019Q4

99% Compliance
(3,710 total departures)
(52 non-compliant)

*REBAS Gate non-compliant = 51

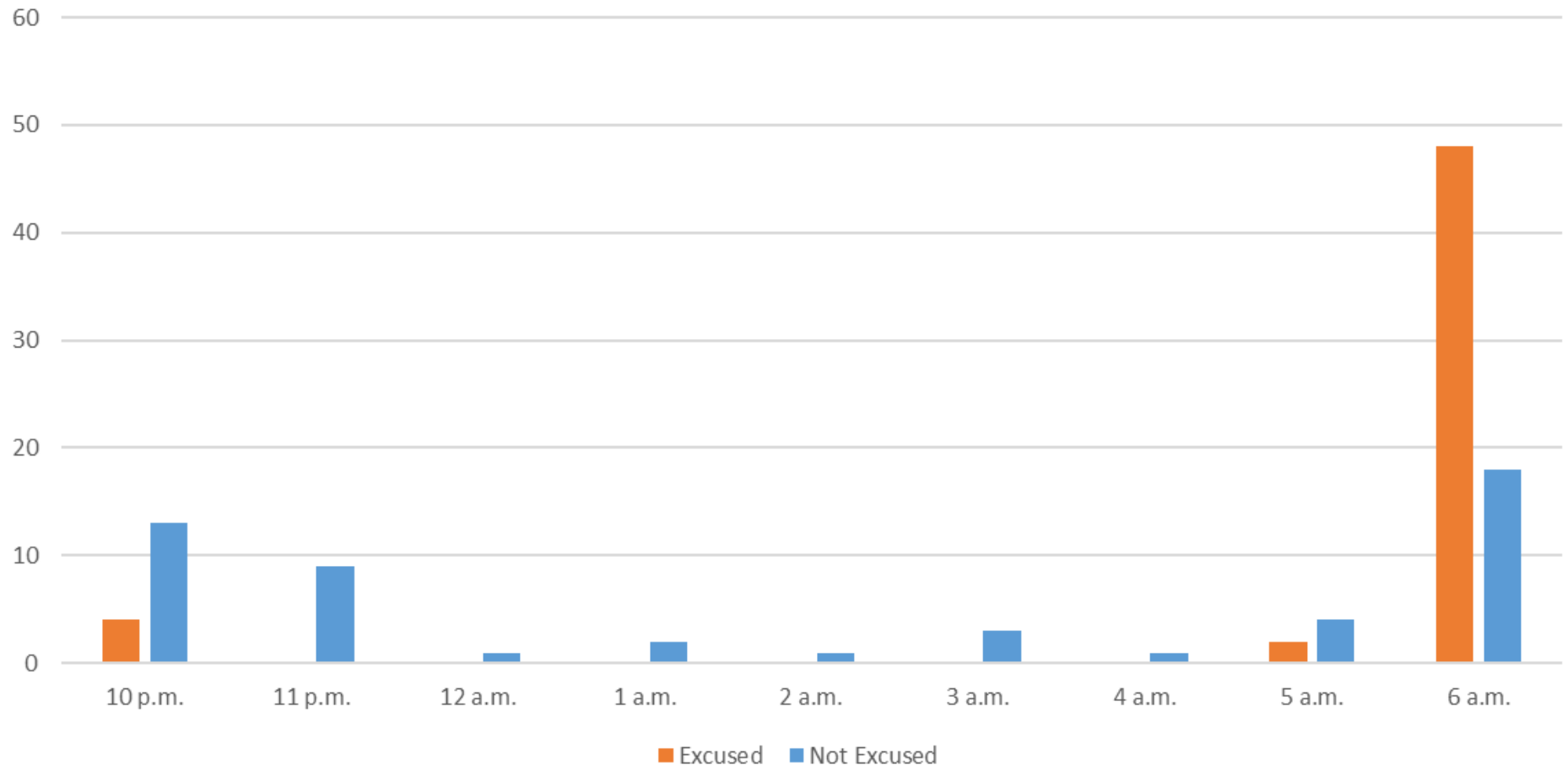
2018Q4

97% Compliance
(3,162 total departures)
(84 non-compliant)

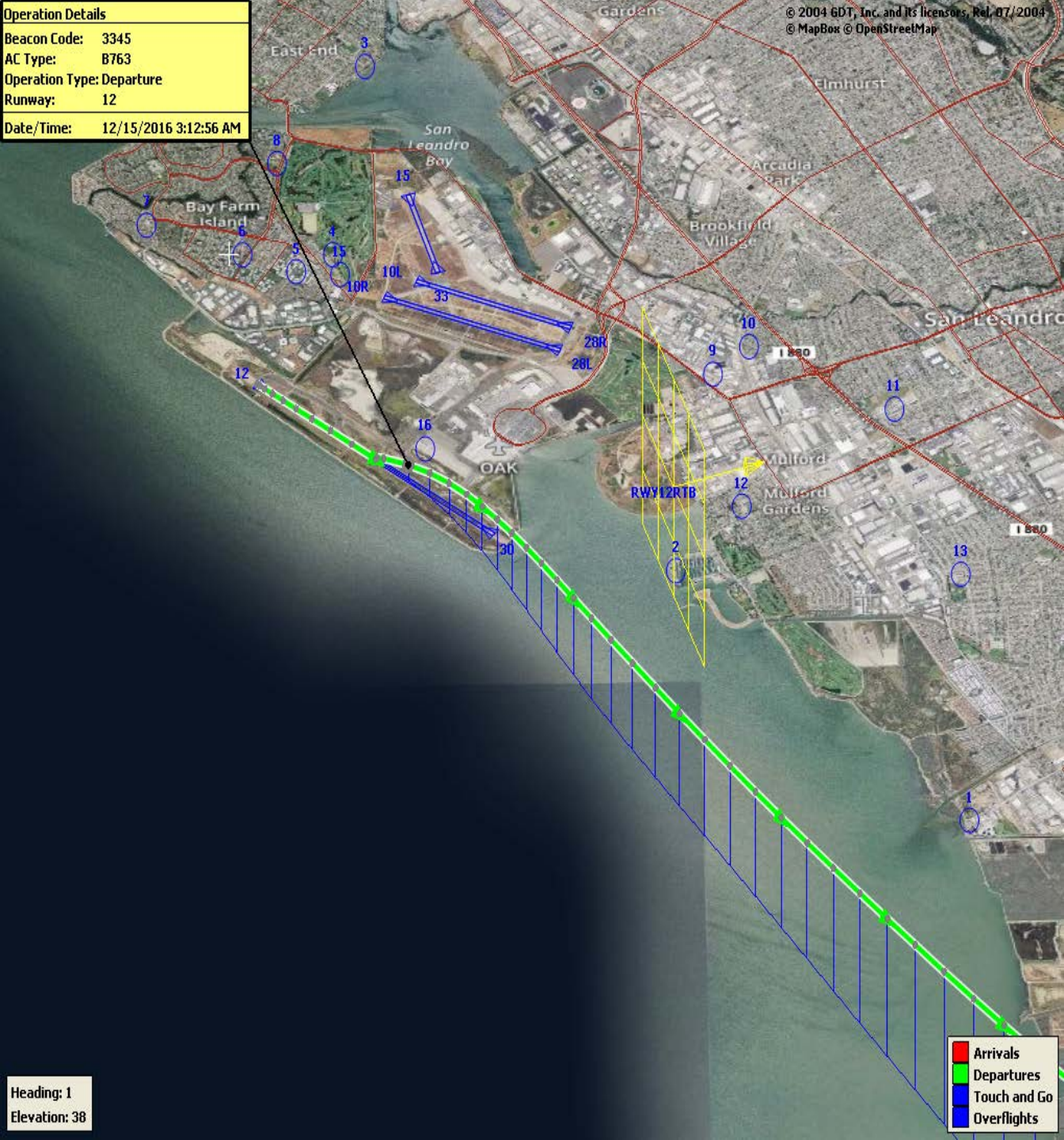
Heading: 349
 Elevation: 59

Night Time NAP Non-Compliant Count by Hour

Excused/Not Excused Violation Count by Hour



Operation Details
Beacon Code: 3345
AC Type: 8763
Operation Type: Departure
Runway: 12
Date/Time: 12/15/2016 3:12:56 AM



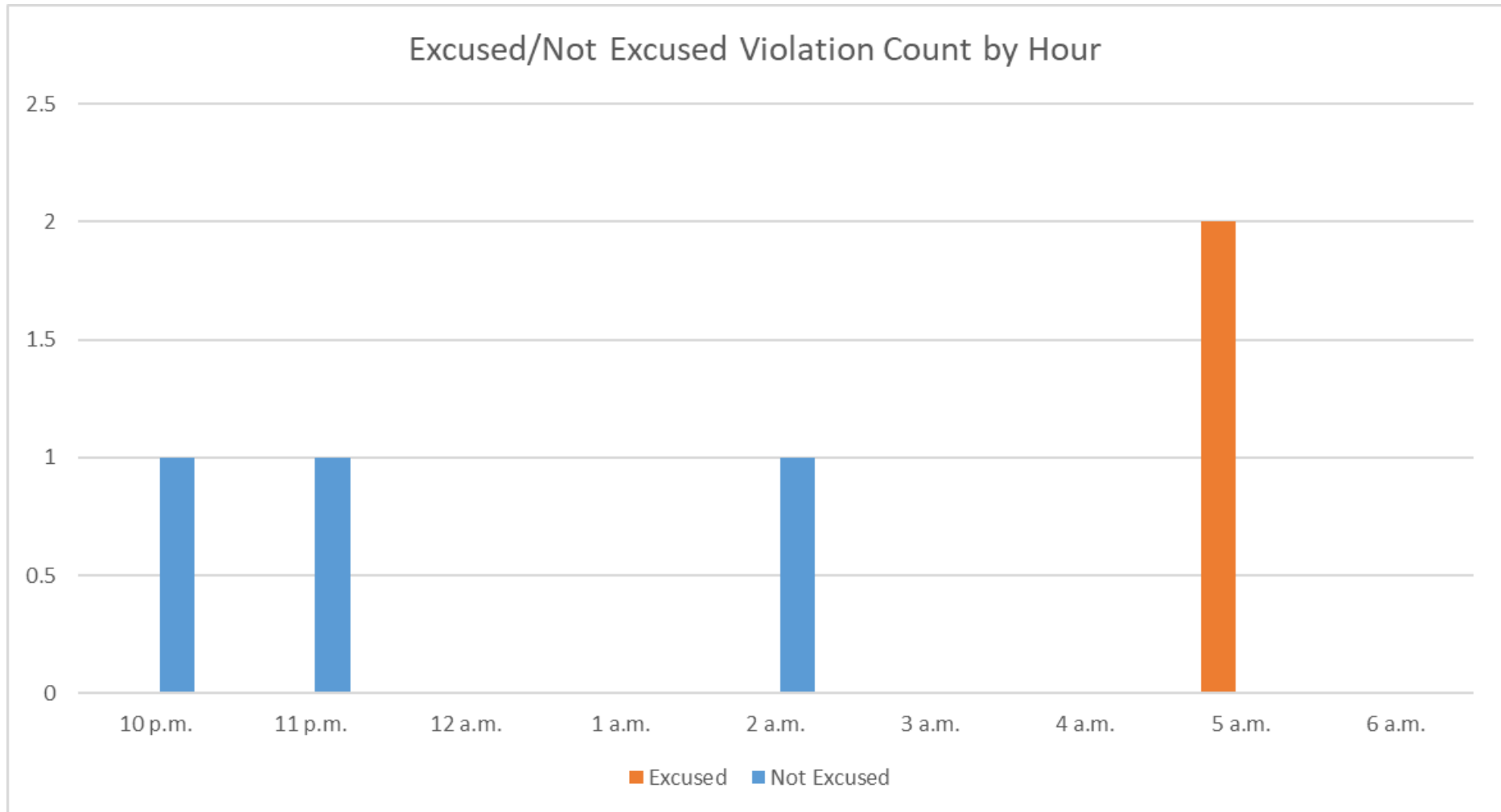
Runway 12 Night Departure NAP

2019Q4
99% Compliance
(279 total departures)
(3 non-compliant)

2018Q4
98% Compliance
(191 total departures)
(4 non-compliant)

Heading: 1
Elevation: 38

Runway 12 Night Departure Non-Compliant Count by Hour



Operation Details	
Beacon Code:	3374
AC Type:	B737
Operation Type:	Departure
Runway:	30
Date/Time:	1/7/2019 8:57:05 AM

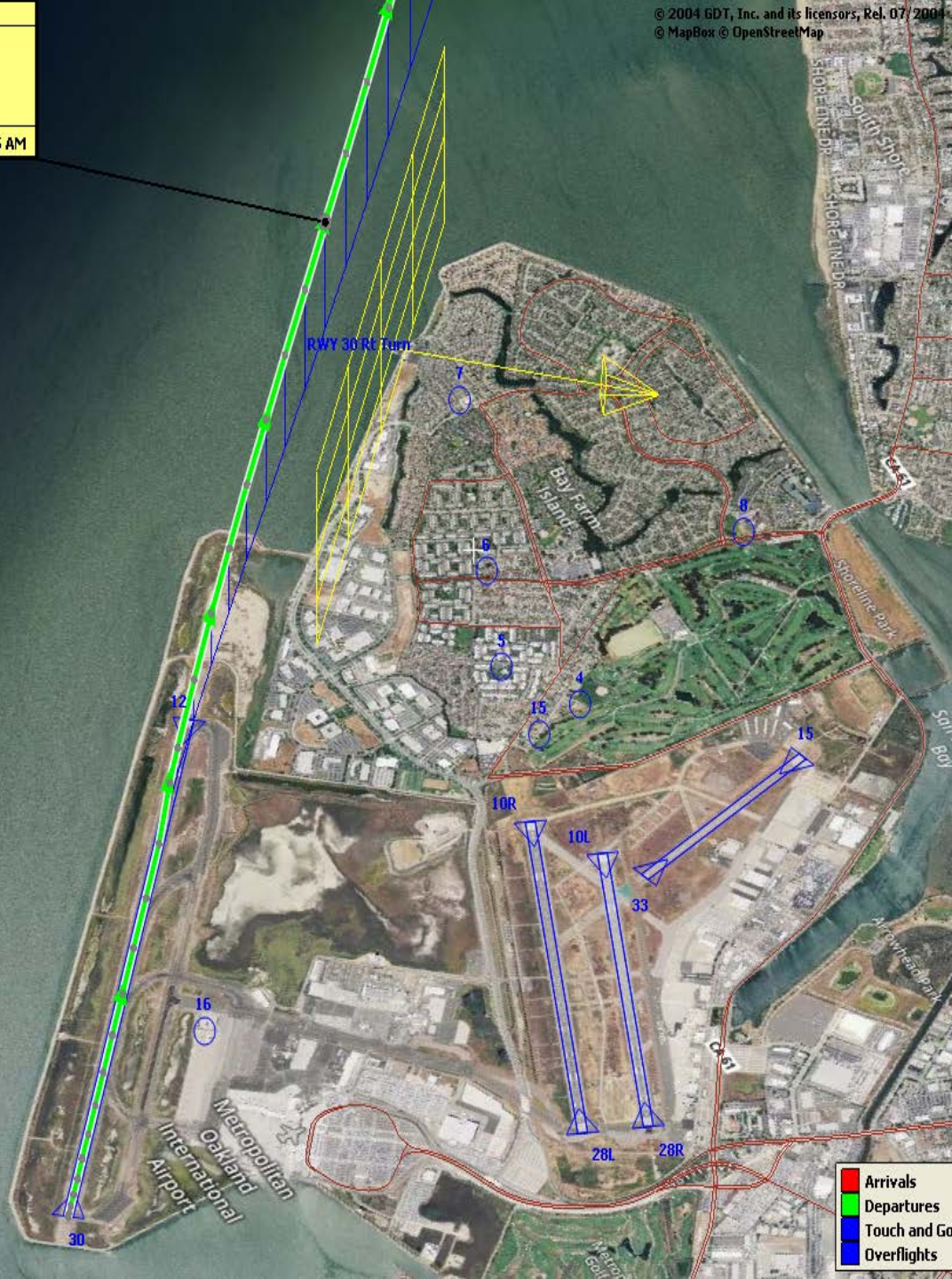
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Runway 30 Bay Farm Right Turn NAP

2019Q4
100% Compliance
(19,243 total departures)
(73 non-compliant)

2018Q4
100% Compliance
(18,679 total departures)
(70 non-compliant)

Heading: 299
Elevation: 36



Runway 30 East Turn NAP

2019Q4
99% Compliance
(5,279 total departures)
(59 non-compliant)

*2019Q4 Excused Departures = 35

2018Q4
99% Compliance
(5,762 total departures)
(52 non-compliant)

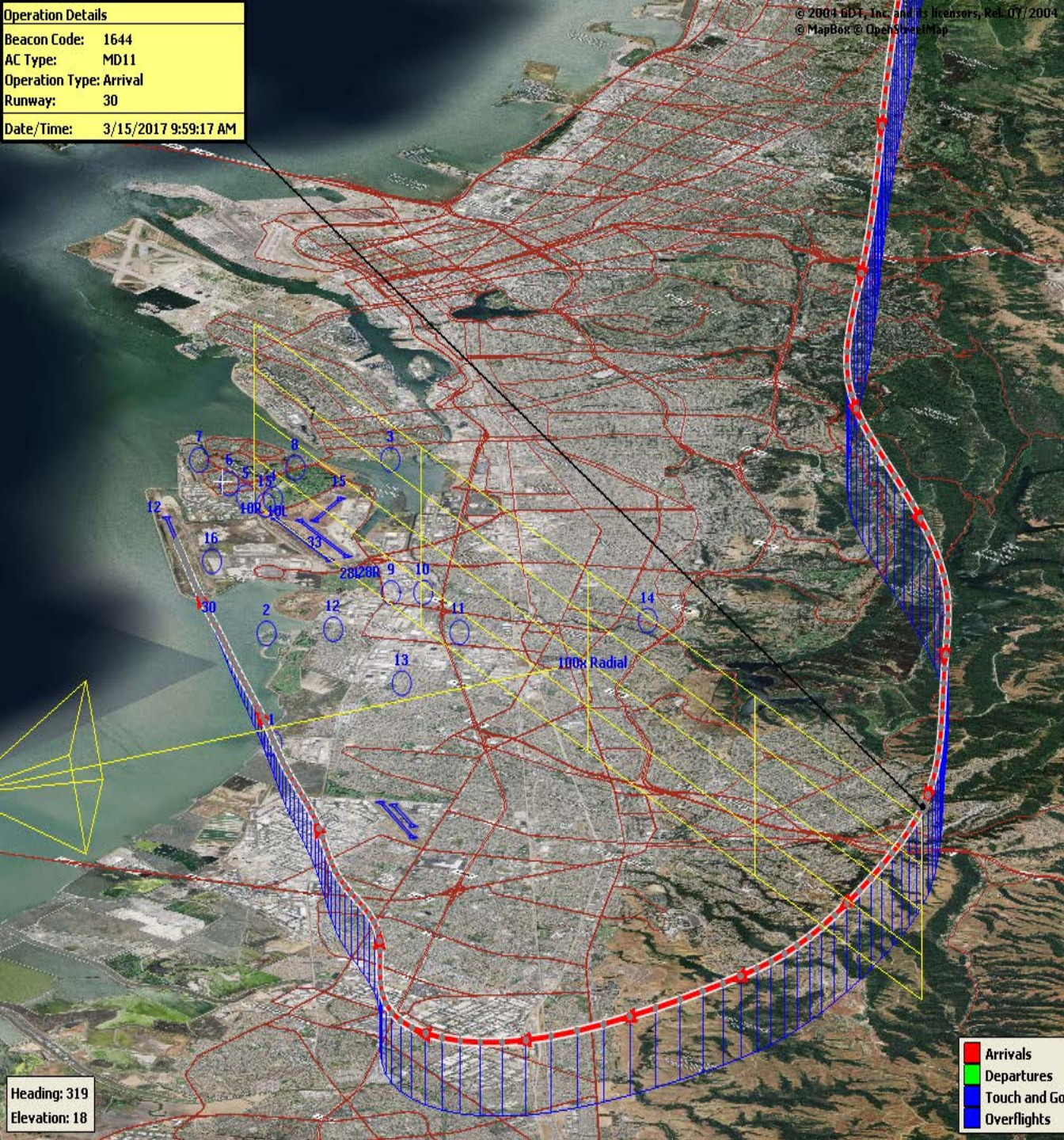
Operation Details	
Beacon Code:	3777
AC Type:	B737
Operation Type:	Departure
Runway:	30
Date/Time:	3/15/2017 9:53:47 AM

Alameda Rwy 30



Operation Details	
Beacon Code:	1644
AC Type:	MD11
Operation Type:	Arrival
Runway:	30
Date/Time:	3/15/2017 9:59:17 AM

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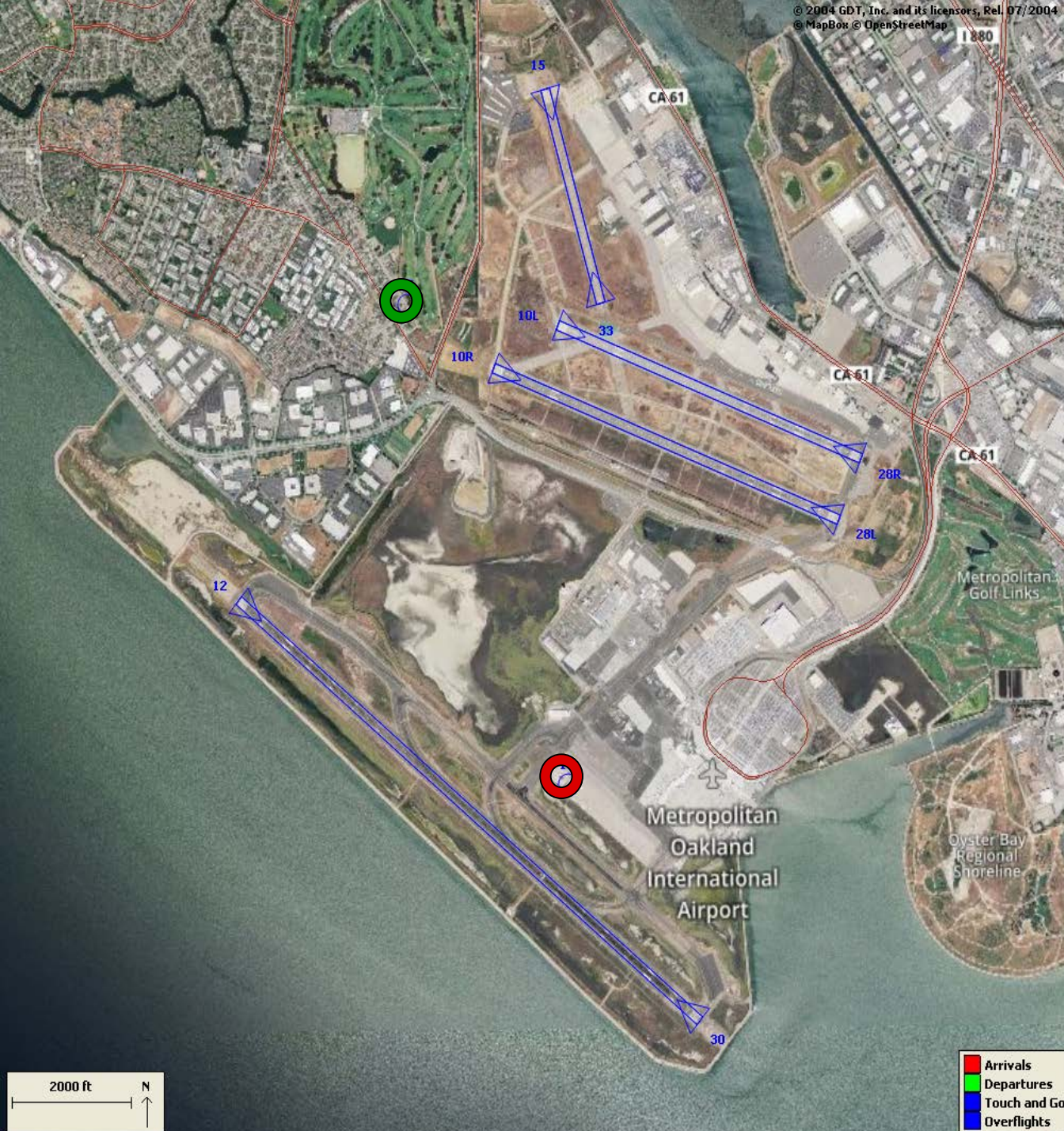


100 Degree Radial At 3,000 ft. NAP

2019Q4
99% Compliance
(1,256 total landings)
(11 non-compliant)

2018Q4
99% Compliance
(1,419 total landings)
(11 non-compliant)

- Arrivals
- Departures
- Touch and Go
- Overflights



Engine Run-up NAP

2019Q4

**100% Compliance
(8 engine run-ups)*
(0 non-compliant)**

2018Q4

**100% Compliance
(9 engine run-ups)
(0 non-compliant)**

***Only above idle-power run-ups
recorded.**

Compliance Monitoring Quarterly Summary Comparison Fourth Quarter 2019 - Quarter-to-Quarter				
	2019Q3		2019Q4	
	Compl.	N/C	Compl.	N/C
Runway 28R/L Jet Departure Compliance	95%	5%	95%	5%
Total Airport-wide Corporate Jet Departures	2,917	141	2,709	147
Runway 10R/L Jet Landing Compliance	100%	0%	69%	31%
Total Southeast Plan Corporate Jet Landings	0	0	220	97
North Field VFR Departure Compliance	96%	4%	91%	9%
Total Runways 28R/L & 33 Departures	325	14	214	22
North Field Quiet Hours Compliance	75%	25%	77%	23%
Total North Field Quiet Hours Departures	219	72	174	51
Runway 30 BFI Right Turn Departure Compliance	100%	0%	100%	0%
Total Runway 30 Turbojet Departures	21,252	5	19,170	73
Night Time Departure Compliance	93%	7%	99%	1%
Total Runway 30 Night Turbojet Departures	3,748	266	3,658	52
Runway 12 Night Departure Compliance	100%	0%	99%	1%
Total Runway 12 Night Turbojet Departures	0	0	276	3
Runway 30 East Turn Departure Compliance	100%	0%	99%	1%
Total Runway 30 East Turn Departures	5,981	13	5,220	59
100 Degree Radial Turbojet Landing Compliance	99%	1%	99%	1%
Total 100 Degree Radial Turbojet Landings	1,381	14	1,245	11
Engine Runup Program Compliance	100%	0%	100%	0%
Total Evening and Nighttime Engine Runups	11	0	8	0
Note: N/C means non-compliant. Percentage values are rounded out.				

Table 1. North Field Night Aircraft Departure SEL Noise Measurements
Total Aircraft Departures = 101

Fourth Quarter 2019 (10:00 p.m. to 7:00 a.m.)

NMT Number	Aircraft Noise Events Below SEL 80 dBA	Aircraft Noise Events SEL 80 - 84.9 dBA			Aircraft Noise Events SEL 85 - 89.9 dBA			Aircraft Noise Events SEL ≥ 90 dBA			Total Aircraft Noise Events
		Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	
1	4	0	0.0	0.0%	0	0.0	0.0%	0	0.0	0.0%	4
2	9	3	0.0	0.5%	1	0.0	0.2%	0	0.0	0.0%	13
3	22	3	0.0	0.5%	1	0.0	0.2%	0	0.0	0.0%	26
4	24	26	0.3	4.6%	22	0.2	3.9%	8	0.1	1.4%	80
5	31	12	0.1	2.1%	4	0.0	0.7%	16	0.2	2.8%	63
6	10	3	0.0	0.5%	9	0.1	1.6%	10	0.1	1.8%	32
7	9	5	0.1	0.9%	10	0.1	1.8%	1	0.0	0.2%	25
8	12	11	0.1	1.9%	0	0.0	0.0%	0	0.0	0.0%	23
9	5	8	0.1	1.4%	4	0.0	0.7%	0	0.0	0.0%	17
10	19	6	0.1	1.1%	0	0.0	0.0%	0	0.0	0.0%	25
11	0	1	0.0	0.2%	0	0.0	0.0%	1	0.0	0.2%	2
12	7	6	0.1	1.1%	1	0.0	0.2%	0	0.0	0.0%	14
13	6	0	0.0	0.0%	0	0.0	0.0%	0	0.0	0.0%	6
14	0	0	0.0	0.0%	0	0.0	0.0%	0	0.0	0.0%	0
All NMTs	158	84	1	0	52	1	0	36	0	0	330

Table 2. Aircraft SEL Noise Measurements in Alameda - Total Aircraft Departures = 74

Fourth Quarter 2019 (10:00 p.m. to 7:00 a.m.)

NMT Number	Aircraft Noise Events Below SEL 80 dBA	Aircraft Noise Events SEL 80 - 84.9 dBA			Aircraft Noise Events SEL 85 - 89.9 dBA			Aircraft Noise Events SEL ≥ 90 dBA			Total Aircraft Noise Events
		Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	
3	22	3	0.0	1.3%	1	0.0	0.4%	0	0.0	0.0%	26
4	24	26	0.3	10.9%	22	0.2	9.2%	8	0.1	3.3%	80
5	31	12	0.1	5.0%	4	0.0	1.7%	16	0.2	6.7%	63
6	10	3	0.0	1.3%	9	0.1	3.8%	10	0.1	4.2%	32
7	9	5	0.1	2.1%	10	0.1	4.2%	1	0.0	0.4%	25
8	12	11	0.1	4.6%	0	0.0	0.0%	0	0.0	0.0%	23
Total	108	60	0.7		46	0.5		35	0.4		249

Table 3. Aircraft SEL Noise Measurements in San Leandro - Total Aircraft Departures = 27

Fourth Quarter 2019 (10:00 p.m. to 7:00 a.m.)

NMT Number	Aircraft Noise Events Below SEL 80 dBA	Aircraft Noise Events SEL 80 - 84.9 dBA			Aircraft Noise Events SEL 85 - 89.9 dBA			Aircraft Noise Events SEL ≥ 90 dBA			Total Aircraft Noise Events
		Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	
2	9	3	0.0	0.9%	1	0.0	0.3%	0	0.0	0.0%	13
9	5	8	0.1	2.4%	4	0.0	1.2%	0	0.0	0.0%	17
10	19	6	0.1	1.8%	0	0.0	0.0%	0	0.0	0.0%	25
11	0	1	0.0	0.3%	0	0.0	0.0%	1	0.0	0.3%	2
12	7	6	0.1	1.8%	1	0.0	0.3%	0	0.0	0.0%	14
13	6	0	0.0	0.0%	0	0.0	0.0%	0	0.0	0.0%	6
14	0	0	0.0	0.0%	0	0.0	0.0%	0	0.0	0.0%	0
Total	46	24	0.3		6	0.1		1	0.0		77

**Rolling Take-off Night Departure Procedure (1:00 to 5:00 AM)
Fourth Quarter 2019, NMT 2**

	Aircraft Departures	Recorded Noise Events (a)	Lmax Average	SEL Average	Avg. Duration (seconds)
Baseline (November 2002) [A]					
DC10/MD10	87	32	69	78	22
MD11	32	13	70	79	24
A306	67	21	67	77	25
Fourth Quarter 2019 [B]					
	Total [X]	Est. Avg. Monthly [X/3]			
B763	131	44	41	66	74
DC10/MD10	46	15	20	66	76
MD11	254	85	134	67	77
A306	92	31	28	66	74
B757	166	55	60	66	74
B77L	101	34	18	65	74
Difference [A-B]					
DC10/MD10		-72	-12	-3	-2
MD11		53	121	-3	-2
A306		-36	7	-1	-3

(a) For the current calendar quarter reported, ANOMS does not correlate all departures to their respective noise events; that is most, but not all, aircraft back-blast noise events are effectively correlated as the program software algorithms may misidentify an aircraft noise event.

Source: ANOMS (Airport Noise and Operations Monitoring System)

**Rolling Take-off Night Departure Procedure (1:00 to 5:00 AM)
Fourth Quarter 2018, NMT 2**

	Aircraft Departures	Recorded Noise Events (a)	Lmax Average	SEL Average	Avg. Duration (seconds)
Baseline (November 2002) [A]					
DC10/MD10	87	32	69	78	22
MD11	32	13	70	79	24
A306	67	21	67	77	25
Fourth Quarter 2018 [B]					
	Total [X]	Est. Avg. Monthly [X/3]			
B763	129	43	45	65	74
DC10/MD10	33	11	20	66	75
MD11	238	79	173	67	77
A306	96	32	51	65	74
B757	172	57	76	65	75
B77L	76	25	27	66	74
Difference [A-B]					
DC10/MD10		-76	-12	-3	-4
MD11		47	160	-3	-5
A306		-35	30	-2	-11

(a) For the current calendar quarter reported, ANOMS does not correlate all departures to their respective noise events; that is most, but not all, aircraft back-blast noise events are effectively correlated as the program software algorithms may misidentify an aircraft noise event.

Source: ANOMS (Airport Noise and Operations Monitoring System)

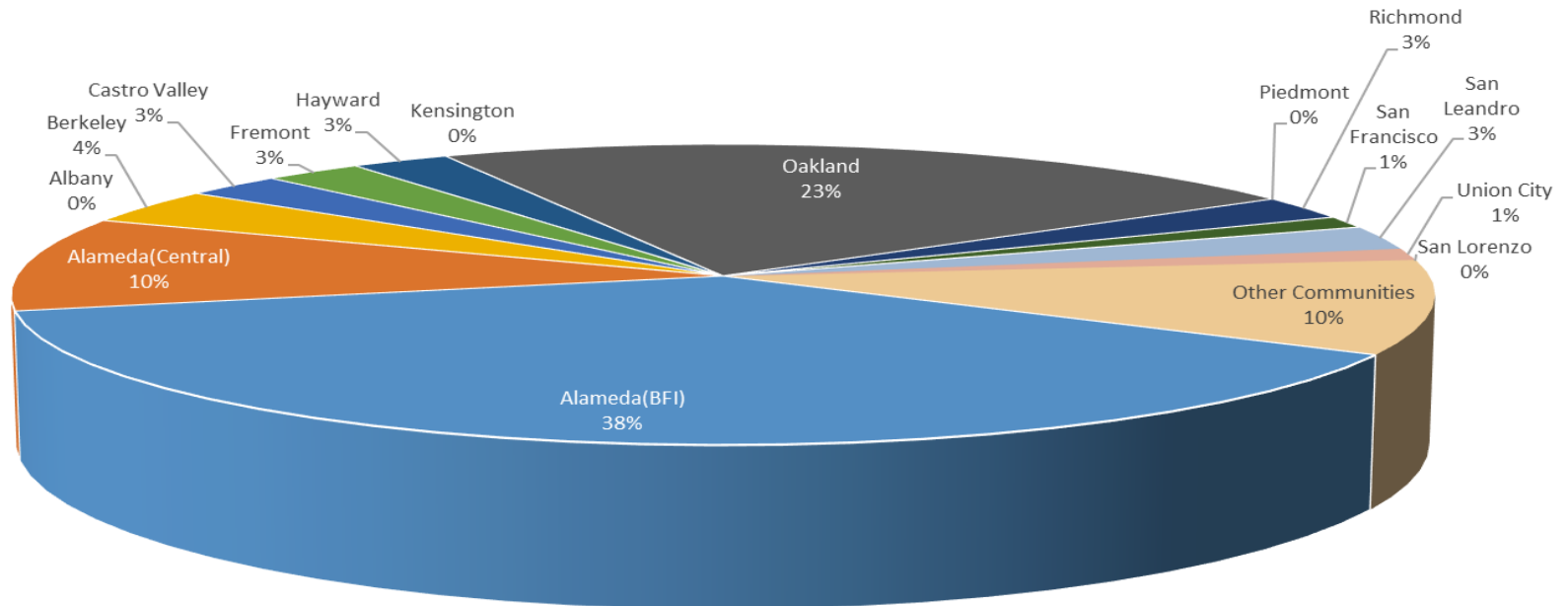
**Oakland International Airport
Noise Complaint Summary
October 2019**

Community	Callers	Complaints
Alameda(BFI)	30	647
Alameda(Central)	8	47
Albany	0	0
Berkeley	3	32
Castro Valley	2	17
Fremont	2	4
Hayw ard	2	16
Kensington	0	0
Oakland	18	3494
Piedmont	0	0
Richmond	2	1804
San Francisco	1	1
San Leandro	2	3
Union City	1	47
San Lorenzo	0	0
Other Communities	8	609
Total	79	6721
Complaints by Type		
Website	0	
E-mail	4391	
Phone	0	
View point App	2330	
Complaints by Time of Day		
Day (0700 - 1900)	1402	
Evening (1900 - 2200)	1237	
Night (2200 - 0700)	4082	
Complaints by Type of Operation		
Arrivals	4039	
Departures	2326	
Over-flights	328	
Touch & Go	28	
Not Linked to an Operation	0	
Complaints by Type of Aircraft		
Business Jet	107	
Helicopter	86	
Jet	5807	
Military	0	
Not Reported (not linked to an aircraft)	0	
Other (Type information not available)	136	
Propeller	391	
Turbo-prop	194	

Number of Callers

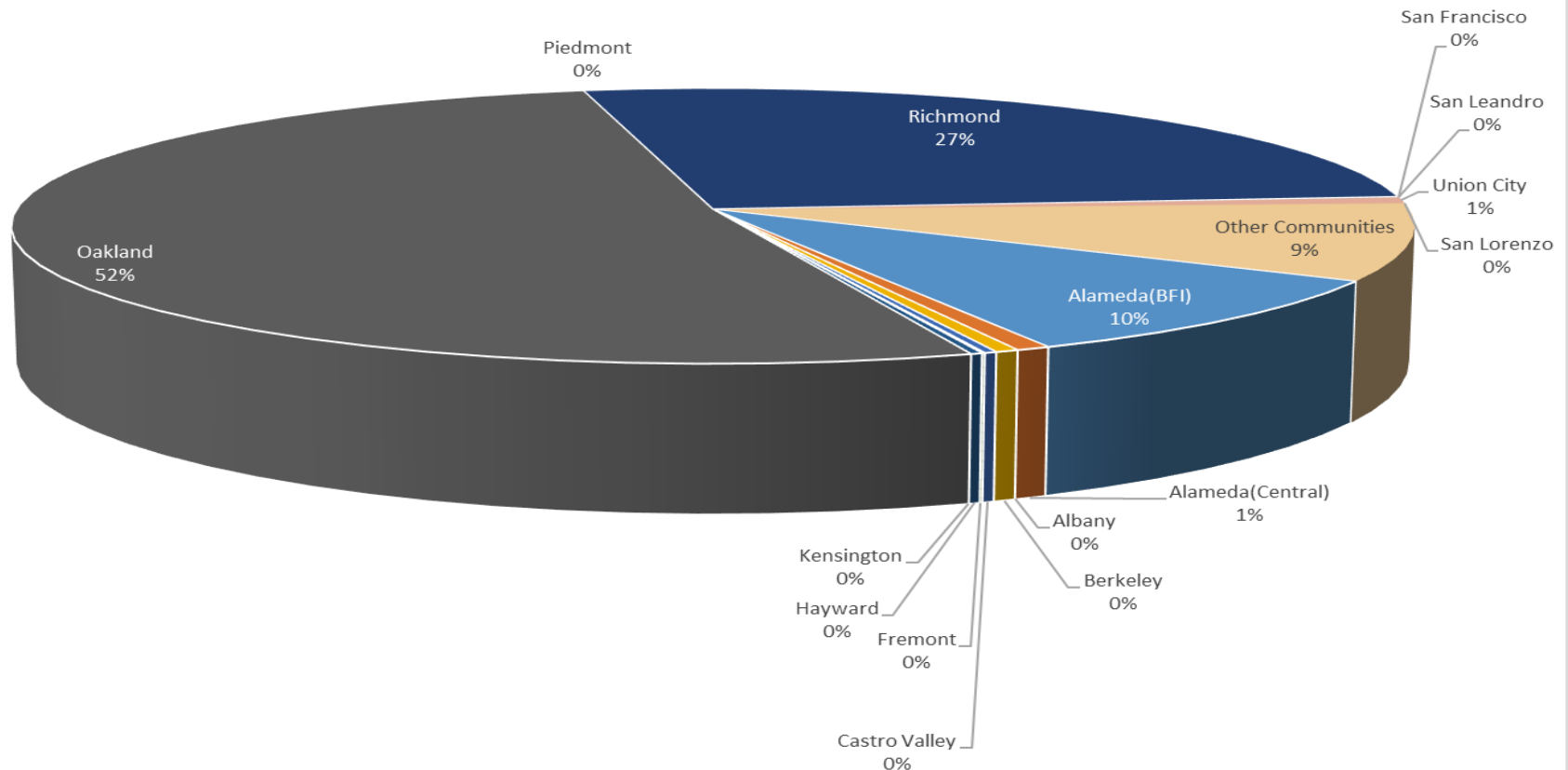
October 2019

Noise Complaints Summary by Number of Callers



Number of Complaints October 2019

Noise Complaints Summary by Number of Complaints



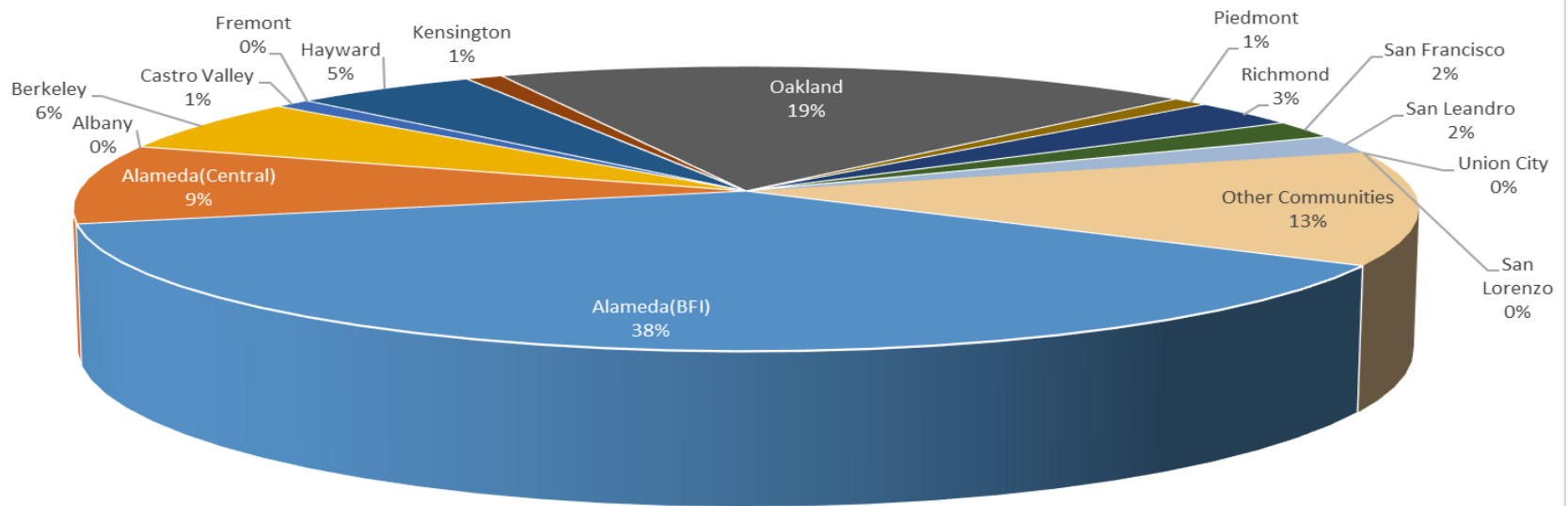
**Oakland International Airport
Noise Complaint Summary
November 2019**

Community	Callers	Complaints
Alameda(BFI)	38	1114
Alameda(Central)	9	78
Albany	0	0
Berkeley	6	9
Castro Valley	1	2
Fremont	0	0
Hayw ard	5	14
Kensington	1	1
Oakland	19	3134
Piedmont	1	1
Richmond	3	1365
San Francisco	2	9
San Leandro	2	4
Union City	0	0
San Lorenzo	0	0
Other Communities	13	679
Total	100	6410
Complaints by Type		
Website	0	
E-mail	3569	
Phone	0	
View point App	2841	
Complaints by Time of Day		
Day (0700 - 1900)	1933	
Evening (1900 - 2200)	1211	
Night (2200 - 0700)	3266	
Complaints by Type of Operation		
Arrivals	3042	
Departures	3083	
Over-flights	239	
Touch & Go	46	
Not Linked to an Operation	0	
Complaints by Type of Aircraft		
Business Jet	240	
Helicopter	41	
Jet	5513	
Military	0	
Not Reported (not linked to an aircraft)	0	
Other (Type information not available)	138	
Propeller	369	
Turbo-prop	109	

Number of Callers

November 2019

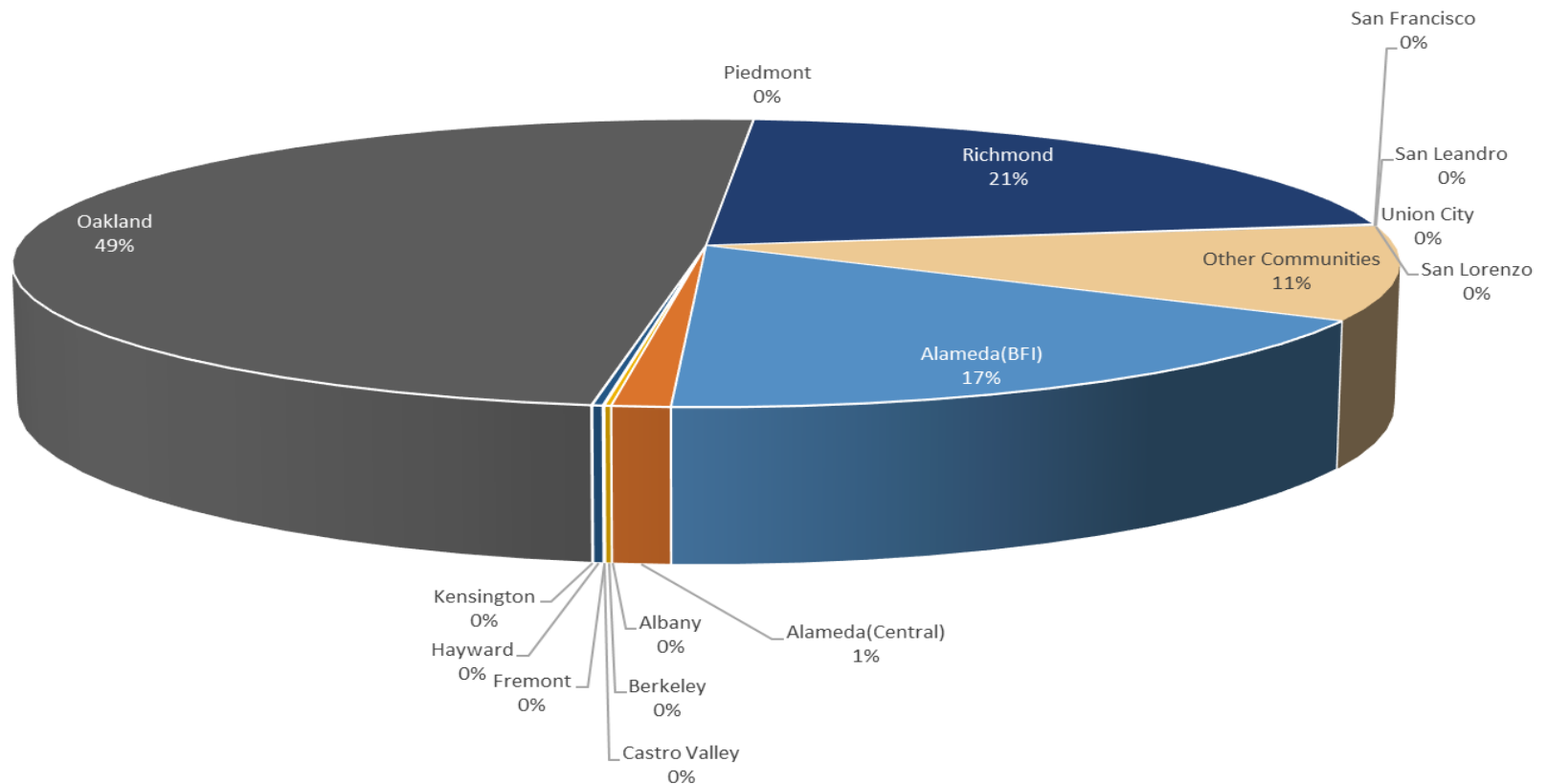
Noise Complaints Summary by Number of Callers



Number of Complaints

November 2019

Noise Complaints Summary by Number of Complaints



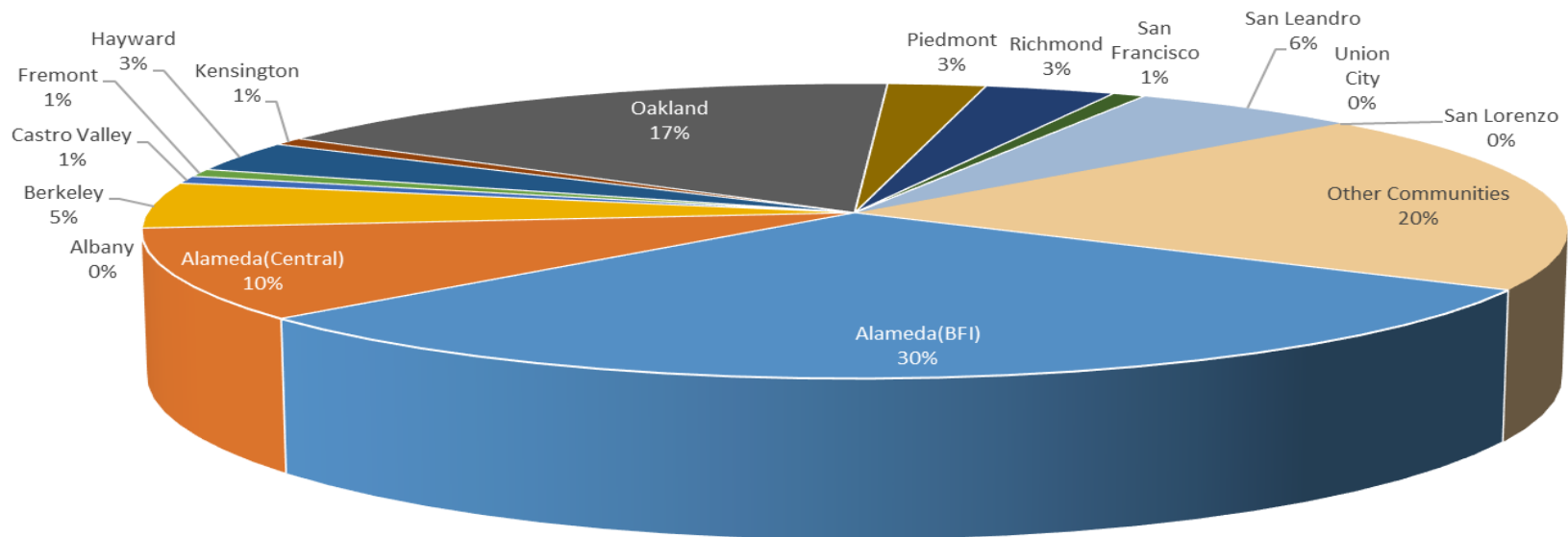
**Oakland International Airport
Noise Complaint Summary
December 2019**

Community	Callers	Complaints
Alameda(BFI)	36	1178
Alameda(Central)	12	128
Albany	0	0
Berkeley	6	133
Castro Valley	1	8
Fremont	1	1
Hayward	4	177
Kensington	1	3
Oakland	20	3291
Piedmont	3	3
Richmond	4	2359
San Francisco	1	11
San Leandro	7	94
Union City	0	0
San Lorenzo	0	0
Other Communities	24	794
Total	120	8180
Complaints by Type		
Website	0	
E-mail	5004	
Phone	53	
View point App	3123	
Complaints by Time of Day		
Day (0700 - 1900)	2905	
Evening (1900 - 2200)	1454	
Night (2200 - 0700)	3821	
Complaints by Type of Operation		
Arrivals	4493	
Departures	3469	
Over-flights	171	
Touch & Go	47	
Not Linked to an Operation	0	
Complaints by Type of Aircraft		
Business Jet	336	
Helicopter	68	
Jet	7189	
Military	0	
Not Reported (not linked to an aircraft)	0	
Other (Type information not available)	84	
Propeller	276	
Turbo-prop	227	

Number of Callers

December 2019

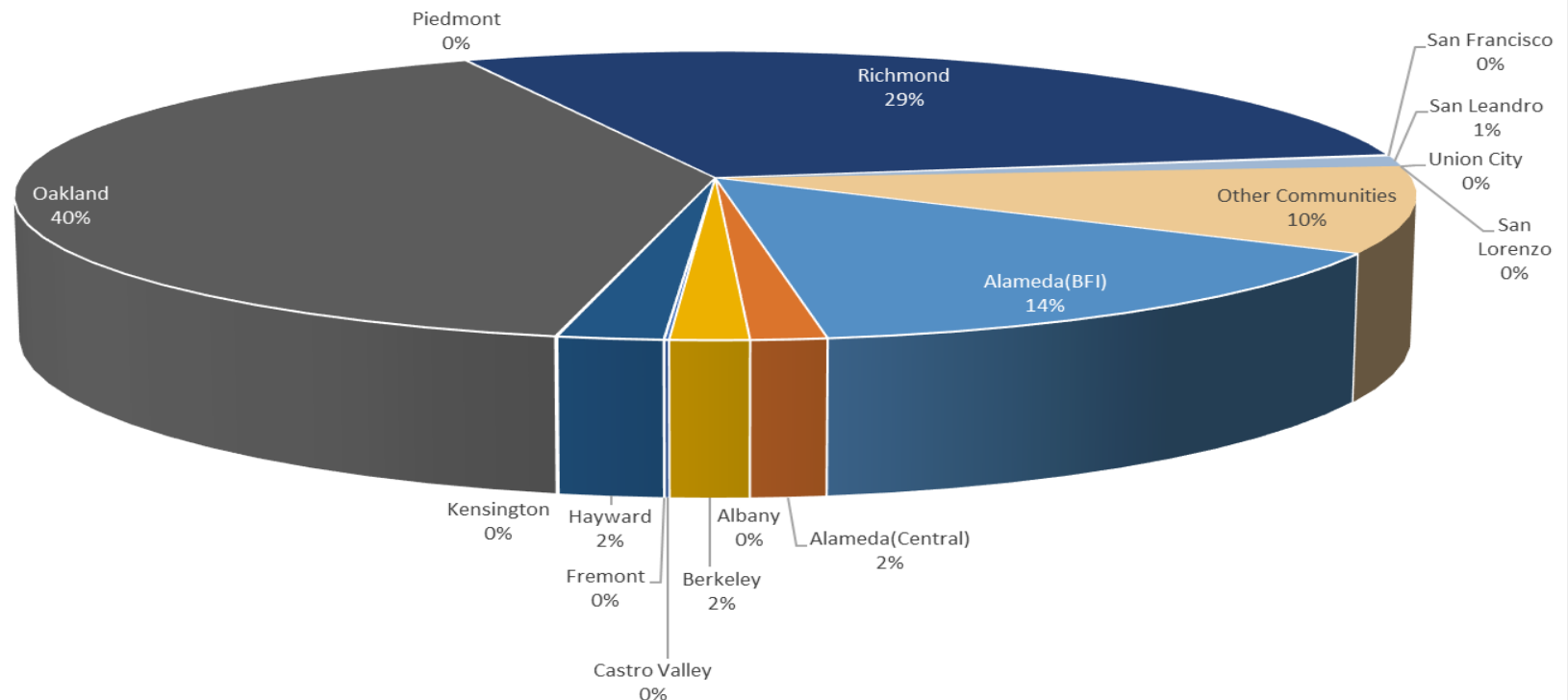
Noise Complaints Summary by Number of Callers



Number of Complaints

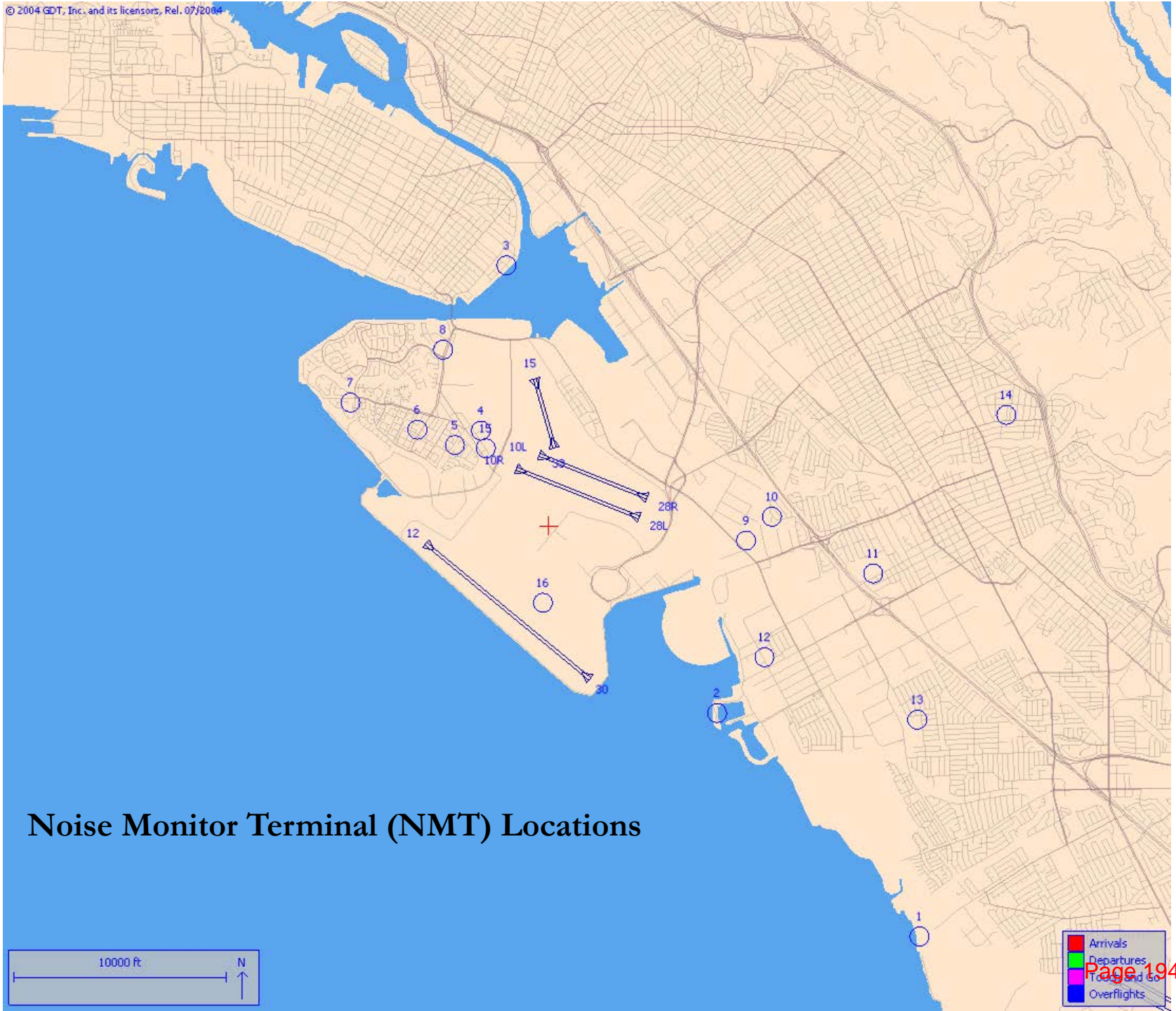
December 2019

Noise Complaints Summary by Number of Complaints



**Oakland International Airport
Annual Noise Complaint Summary**

	Callers		Complaints	
Community	2018	2019	2018	2019
Alameda(BFI)	301	200	5,034	8,254
Alameda(Central)	51	50	767	883
Albany	-	1	-	1
Berkeley	38	20	205	287
Bolinas	-	-	-	-
Castro Valley	9	6	120	139
Danville	1	2	1	13
El Cerrito	1	1	1	1
El Sobrante	1	1	52	3,739
Fremont	8	8	31	38
Hayward	29	12	1,783	1,847
Kensington	1	3	5	9
Lafayette	1	2	1,144	83
Oakland	88	77	52,227	42,820
Orinda	-	5	-	5
Piedmont	2	7	17	14
Richmond	3	5	207	8,321
San Francisco	11	14	696	37
San Leandro	25	25	174	1,172
San Lorenzo	2	2	15	3
San Pablo	1	-	1	-
San Ramon	-	1	-	1
Union City	4	1	3,430	3,683
Walnut Creek	1	3	2	3
Other Communities	62	58	3,434	947
Total	640	504	69,346	72,300
Change		-21%		4%



Noise Monitor Terminal (NMT) Locations

DRAFT MEETING MINUTES OAKLAND AIRPORT-COMMUNITY NOISE MANAGEMENT FORUM

January 15, 2020

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1. INTRODUCTIONS

The January 15, 2020 meeting of the Oakland Airport-Community Noise Management Forum was called to order at 6:32 p.m. by the Forum's Elected Co-Chair, San Leandro Councilmember Benny Lee. Co-Chair Lee said he would be facilitating the meeting in the absence of the Forum's facilitator, Mike McClintock. Co-Chair Lee asked the Forum members and advisors to introduce themselves for the benefit of the audience:

Forum Members/Alternates Present:

Kristi McKenney, Assistant Director of Aviation, Port of Oakland
Benny Lee, Co-Chair/Councilmember, City of San Leandro
Walt Jacobs, Co-Chair/Citizen Representative, Alameda
Tony Daysog, Councilmember, City of Alameda
Ernest DelliGatti, Citizen Representative, Alameda County
Cheryl Davila, Councilmember, City of Berkeley
James Nelson, Citizen Representative, Berkeley
Edward Bogue, Citizen Representative, Hayward
Peter Marcuzzo, NextGen/Metrolplex Subcommittee Chair/Citizen Representative, Oakland
Tom Wagner, Citizen Representative, San Leandro

FAA Representatives

Tamara Swann, Deputy Regional Administrator, FAA Western-Pacific Region
Adam Vetter, FAA Western Service Area Operations Support Group, Analytics/Community Engagement Team Lead
Sky Laron, FAA, Community Engagement Officer

Staff Members/Advisors/Guests:

Matt P. Davis, Airport Operations Manager, Port of Oakland
Matt Davis, Governmental Affairs Director, Port of Oakland
Jesse Richardson, Acting Noise Abatement Supervisor/Sr. Noise and Environmental Affairs Specialist
Joan Zatopek, Manager of Aviation Planning, and Development, Port of Oakland
Allen Tai, Planning Services Manager, City of Alameda
Kyle Bertsche, FAA, Front Line Manager, Oakland Air Traffic Control Tower
Rhea Gundry, HMMH, Acoustical Consultant
Adam Scholten, HMMH, Airspace Consultant
Tom Middleton, HMMH, Noise Consultant
Christian Valdes, Technical Consultant, Landrum & Brown
Valerie E. Jensen Harris, Court Reporter (CSR 4401)

Facilitator Lee noted that if anyone had any questions or wished to speak on any of the agenda items, they should fill out a speaker's card and give it to him. He said for public comment, speakers should mark down agenda item 5 on the card.

2. ANNOUNCEMENTS**A. Acceptance of 3rd Quarter 2019 Noise Report**

Co-Chair Lee asked if there were any questions on the 3rd quarter 2019 noise abatement report, noting that he had some questions of his own. He commented to Matt P. Davis that in going through the report he found it to be phenomenal because "there is so much more content that we can actually [use and understand], and identify the issues and actually see if there's any action items we need to [look at]." He asked about the differences in compliance data for the nighttime noise abatement departure procedure for the 2019 Q3 data versus the 2018 Q3 data. He asked Mr. Davis to speak to this and explain what caused it, and if there are any action items we need to take? Matt responded that in the 3rd quarter, SFO was overlaying one of its parallel runways. Runway 28 was closed from September 1 through September 20. During that time, because of the additional traffic on Runway 01, the FAA asked that, basically, our noise abatement procedure be suspended at 6:00 a.m. instead of 7:00 a.m. for the three-week period so they

could complete the work. Basically, what would happen otherwise was there would be significant delays at both Oakland and San Francisco. During that time, he said, we did have departures that were non-compliant. The report breaks them out, and every single flight that occurred before 7:00 a.m. was considered non-compliant. Davis said he could review the data and develop a separate compliance report for this time period and compare the differences between what it looked like and what it could have looked like. He noted also, that they had reached out to the communities and advised them we would have a three-week period of additional flights in the morning hours.

Co-Chair Lee said his question was whether this was a scheduled or unscheduled repair. Davis replied that it was both “yes and no,” adding that SFO has had a series of pavement failures on Runways 28L and 28R. Normally, these types of repairs are scheduled months and even years in advance, as was the case with the runway safety area work in 2018. The work was scheduled, but in order to complete it on time, it was necessary to modify the noise abatement hours. This was not something that was presented to the Port prior to the FAA’s request, but we tried to notify the communities as quickly as possible once we were made aware of it. Lee asked if the Port maintained a schedule for projected maintenance. Davis replied that “yes,” they do, but he could not speak for SFO. Typically, an asphalt runway has a fifteen-year life cycle. However, the runway issue at SFO was unanticipated. It was a failure of the subbase due to high usage. He noted that at OAK, they try to complete runway maintenance work on Monday mornings prior to 6:00 a.m.

James Nelson said he had spoken with a Berkeley resident regarding the complaint summary, and had discussed this with Jesse Richardson. Evidently, he said, there is an app/website that competes with the Port’s noise complaint hotline—stop.jet.noise.net. It was his understanding that numerous complaints are registered on stop.jet.noise.net that do not show up in the Oakland noise report. He said he was wondering if there was any way to incorporate these complaints into the Port’s noise reports? He understands that SFO is able to do this. Facilitator Lee said this is a question for staff because stop.jet.noise.net is a separate system outside the Port’s noise complaint reporting system.

Matt P. Davis responded that the Port does not integrate the actual stop.jet.noise.net information with its noise reports. However, he noted, users of this app can e-mail their input to the app to the noise office where it will be incorporated into the noise reports. The information will show up if it is e-mailed to the noise office immediately. So, he said, if someone files a complaint through the app, and that’s all they do, that individual’s complaint would not be known to the noise office, and, hence, not be logged-in. However, if that individual e-mails the complaint information to the noise office, it is logged-in to the system. So, in terms of actually integrating the app data. This issue came up a few years ago. Because this software is a third-party app it is not supported by the airport. Alternatively, he said, the airport asked its noise management system vendor, Bruel & Kjaer (B&K) to help produce an app. This has been available for some time now it would be great to have additional feedback on that app. The airport always prefers to have a noise management app produced by B&K because it can work directly with them for integration and implementation. Matt said he thought that there was another app created for Alameda, but that it was no longer compatible when the airport upgraded its noise system. He noted that, for any third-party app, they may be able to integrate it into the airport’s system, but they cannot guarantee that it will continue to integrate effectively when the system is upgraded. His primary concern with respect to the stop.jet.noise.net app, is that if it is integrated with the airport’s noise system it may not continue to function as the system is upgraded. Assistant Aviation Director McKenney noted that it was important for them to continue to work with sustainable software and apps. She encouraged staff to continue to share with the community the tools that the airport provides so that they know that all noise complaints will be counted accurately; and that they can be categorized and analyzed appropriately.

Alameda Councilmember Tony Daysog said that he thought that this issue is a broader one having to do with open data. A lot of governments at all levels, whether local or state, are committing to providing

data in an open way so that people can figure out how they want to use it. Perhaps, he said, that's something for not only the Forum, but for the Oakland Airport as well. He suggested that the other airports get together to figure out what's their policy toward open data policy sharing. Co-Chair Lee concurred, saying that at the last Forum meeting we had a presentation regarding Viewpoint, a publicly-available interactive tool being developed for the airport. Lee said that he had discussions with Jesse Richardson about reaching out to the vendor to see how we can use this tool to leverage this information from a regional perspective and separate out data for SFO, Oakland and San Jose, but combine it when we need to. These, he said, are some of the things that I think we'll have future discussions on.

Ernie DelliGatti said he had reviewed the number of noise complaints for July through September. He noted that in the "complaints by aircraft," under "other" for July there were 137 aircraft, for August there were 139, and for September there were 215. That's a total of 491 "other" aircraft. He asked, what are considered to be other types of aircraft? Mr. Richardson replied that the category of "other" would be those aircraft that were not identified by the ANOMS system; but the system did provide other data, such as date, time of day, and tail number. Jesse said that the airport continues to work with B&K to try to capture all of the data, but some of it gets missed or filtered out. Kristi McKenney explained that the category of "other" should not be construed to imply that it is another type of aircraft versus unidentified or something else. She thought the term "other" might need to be changed. Co-Chair Lee asked if it is identified as either general aviation or commercial? Jesse said it was not. Lee said that this was a work in progress and that it would be better if we could identify and properly classify the aircraft.

James Nelson said he would follow-up with Jesse with re the stop.jet.noise.net app. He thought that a separate report for these external complaints would be appropriate because he was concerned about the double counting of duplicate complaints. He suggested that the noise office might investigate some alternatives or additions to the current noise report to provide a summary of stop.jet.noise.net complaints. Facilitator Lee said he wanted to follow-up on this, asking if the Viewpoint app can identify aircraft in the "other" category. Matt P. Davis said he would have the noise office staff look into this. He said he did not think that there was any app that can do this, because it entails a manual process of listening to air traffic control tapes to get a tail number, then correlating that number with the aircraft registration to get the aircraft type. Davis said they would look at what needs to be done to clean-up the "other" category. Ernie DelliGatti asked if the "other" category had anything to do with general aviation aircraft that refuse to broadcast their ID numbers. Davis said that this could be part of the issue. Matt Pourfarzaneh of CLASS said he had briefly discussed the issue of noise complaints about the increased number of SFO flights over the East Bay. He asked how these noise complaints were being documented, and noted that there will be time when it will be necessary to "approach [the FAA] to do a better job." He said the Forum would be the best venue for this. Facilitator Lee concurred, and added that he thought that this dialogue has made staff aware that there is further work we have to do in terms of trying to improve the situation.

Facilitator Lee called for a second on the motion to receive and file the 3rd Quarter 2019 noise report. Tom Wagner so moved. The question was called and the motion approved.

3. APPROVAL OF MINUTES

A. October 16, 2019

Co-Chair Lee asked if there were any questions or comments with re the October 16, 2019 draft meeting minutes? Tom Wagner moved approval. Councilmember Davila moved to second. James Nelson noted one correction that he had already provided to Mike McClintock concerning his status as a registered professional mechanical engineer in California and the State of Washington and Washington D.C. Motion was amended to ensure that the Forum's regular facilitator would make the change as was noted by Mr. Nelson. Peter Marcuzzo seconded. The draft minutes were approved.

4. NEXTGEN RELATED NOISE CONCERNS

A. SUBCOMMITTEE REPORT

Peter Marcuzzo, NextGen/Metroplex Subcommittee Chair, began his report by thanking the FAA representatives who came today: Ms. Tamara Swann, Adam Vetter and Sky Laron. They came in early today and have met with the NextGen Subcommittee, where they discussed the current progress of changes proposed on the instrument departure and other approaches that we suggested; basically four topics: (1) The Cal State Visual Approach, which the FAA emphasized is on hold until the Forum can advise them of what it would like to see. Ernie DelliGatti is working on this and HMMH will provide more information on this later on; (2) The WNDSR arrival procedure, which was somewhat delayed due to the difficulty in achieving a quorum in their working group because of the Holiday Season. Right now, he said, they are working furiously to make up for the lost time. Peter noted that the FAA working group is comprised of representatives from the airlines, FAA technical staff and air traffic, and labor. They are seeking to determine the best methods and ways they can amend the WINDSR arrival. So, he said, this is in progress; (3) The WNDSR SID and the HUSSH departure SID were discussed along with the changes we'd like to see on that procedure. This has been entered into the FAA's Instrument Flight Procedures Gateway so it now has a line item number and it is in progress. But, there are still a lot of steps yet to be taken; and (4) The SUNNE ONE departure out of Oakland, which is a "proceduralization" or a graphic fix for pilots for what is currently the left turn off of Runway 30 down the bay for departures going southbound. He said it is a really a good procedure for noise abatement, and it helps a lot of people out, not to mention reducing both controller and pilot workload. It will be easier for controllers to issue a "SUNNY ONE" departure, instead of having to tell the pilot to turn left, climb, maintain, do this or that, etc. Lastly, he said, the Subcommittee's next meeting with the FAA will be on April 15, 2020, the date of the next Forum meeting.

James Nelson pointed out that it would take about 18 to 24 months for the HUSSH clearance to go through and asked where the WNDSR procedure was in the IFP Gateway. Peter concurred with the 18- to 24-month timeline for HUSSH and said that the WNDSR IFP Gateway proposal was just beginning [N.B. Mr. Marcuzzo asked Adam Vetter for a copy of the slide used in an earlier-in-the-day presentation that shows the processes and the timeline. Mr. Vetter said, "yes"]. Co-Chair Lee thanked Mr. Marcuzzo for his leadership in this area and working with the FAA. He also thanked the FAA representatives for their attendance at the Forum and Subcommittee meetings, and for their commitment to working with the Forum to solve these problems.

B. FAA NOISE FORUM MEETINGS UPDATE

Kristi McKenney updated the Forum on the FAA Western Service Region noise forums for airports. She said the last one was a couple months ago in Colorado Springs, and it had a very productive agenda. Discussion included some of the communications methods that the FAA is using with communities. The FAA has found that it really helps them if they hear from airports that are working directly with community members. They are receiving more feedback on the type of information the communities are looking for, and are better able to get them that information and work with them. She said, she thinks that this shows that the FAA has made great strides in its commitment to engage with affected communities. The next meeting is going to be in Tucson at the end of February, and she is helping to shape the agenda and will be reflecting the issues that we are concerned about here in the East Bay, Oakland, and the Bay Area in general. The next meeting will be in May, and will be hosted by the Oakland Airport. She said she was pleased with the progress made by this group since it started some 18 months or so ago. These relationships keep building every meeting, and they have resulted in some of the same people who are engaged in these meetings participating in our meetings and our working groups. So, she said, this is how we hoped they would go.

C. FAA DEPUTY REGIONAL ADMINISTRATOR UPDATE

Deputy FAA Regional Administrator Tamara Swann thanked the Forum for the opportunity to be here, and said that her team is looking forward to continuing the work that they've been doing with the subcommittee. She that today was her first opportunity to meet with the Forum's NextGen/Metroplex Subcommittee, and was impressed with the presentations and the collaboration that went on. It was very valuable and helped in moving things forward, she said, and that they would continue to support the Forum by bringing the right subject matter experts, as appropriate to the agenda, to the meetings. She said she appreciated the procedure updates that Peter Marcuzzo provided. She noted that the nighttime HUSSH procedure was still in environmental review, and that this is independent of OAK's requested amendment, which is still moving along. Peter Marcuzzo said that this was an SFO request—"the turn out of the gate?" Ms. Swann said, "yes."

Ernie DelliGatti said, with respect to the environmental review, is the FAA using the standard aircraft narrow body/wide body heading? He said, he was asking because the airlines constantly swap out aircraft based on load factors and other things. He said, he was curious if the FAA was using a generic aircraft for the environmental review. Adam Vetter replied that the aircraft used in the model were not necessarily generic. Generally, he said, depending on the level of review, it takes into account a certain number of days of historical aircraft operations; meaning the past 365 days or past calendar year. Whatever the fleet was during the study period is what is used to assess any potential changes within the model; in this case for the HUSSH procedure or for any procedure. He said they understand that fleet mixes do change, and sometimes our fleet mix database is slow to catch up, but it is updated about every six months.

Co-Chair Lee thanked the FAA for its participation, and noted that there is a lot of focus on data He said, he thought that this would be of great help in terms of identifying past events and help to improve future outcomes. Benny also thanked the NextGen/Metroplex Subcommittee for the work they are doing in working collaboratively with the FAA, and that he is looking forward to solving the issues that we have in our communities.

5. PUBLIC COMMENT

Dr. Yvonne McHugh of Point Richmond said she was asking for help to find out who to contact for help concerning all of the flights concentrated over Point Richmond, and is this part of a plan? She said Point Richmond experiences a lot of noise and a lot of aircraft—sometimes 50 planes in 1 ½ hours. She said she would like to know who to contact. Peter Marcuzzo said he would meet with her after the meeting and he would explain it to her. Kristi McKenney offered that the airport noise office is always available to answer such questions, and that the airport's web site is a good source of information. Jesse Richardson is also available to speak with her individually. Ms. McHugh said that Jesse had been "remarkable" with his support and in helping her to visualize what's going on. She said also, that she likes "Stop Jet Noise" because all you have to do is press a button, while the airport's system is "much more time consuming." Facilitator Lee asked about Richmond's historical relationship with the Forum. [NB: Western Contra Costa County (Richmond) was a member of the Forum for a short period of time before dropping out due to financial considerations]. Benny said reaching out to Richmond could be added as an item of new business.

6. LEGISLATIVE UPDATE

Tim Middleton from HMMH provided background and a briefing on some recent bills that have been introduced in committees of both the United States House of Representatives and the United States Senate. Some of these bills have been moved out of the committee they were submitted in, and most were submitted in November 2019 by California Representative Jackie Speier, who represents the northern two-

thirds of San Mateo County and the southwest quarter of San Francisco. Tim gave an overview of the individual bills:

- **RESPECT Act (H.R. 5105)**

The “Responsive Employees Support Productive Educated Congressional Talk Act.” This act requires the administrator of the FAA to respond to requests for information from members of Congress and for other purposes. Essentially, he said, this bill would put timelines on when FAA staff would have to respond to members of Congress.

- **REST Act of 2019 (H.R. 5106)**

The “Restore Everyone's Sleep Tonight Act,” would amend U.S.C. Title 49 [N.B. the part of the U.S. Code that governs transportation] to allow airports to impose access restrictions for certain hours and assess certain penalties against air carriers and aircraft operators. Tim said that this could change how airports impose curfews and could potentially change how a lot of airports could operate. He did not believe it would actually pass, but noted that over the years since the “Airport Noise Control Act of 1990” (ANCA) was approved, there have been numerous efforts to impose curfews on airports. Because of potential impacts on interstate commerce, few, if any, ever get approved.

- **SNORE Act of 2019 (H.R. 5107)**

The “Serious Noise Reduction Efforts Act of 2019” would amend the U.S.C. Title 49 to establish a program at SFO for purposes of sound proofing residential buildings in the vicinity of the airport, and it only applies to SFO. Tim did not think it had much chance of passing.

- **SHHH Act (H.R. 5108)**

The “Southbound HUSSH and NIITE Help Households Act” would require the FAA administrator to continue processing the proposed SFO night departure, southbound transition and the OAK HUSSH departure. This is in response, he presumed to the Congresswoman's perception that the process isn't moving as quickly as it should.

- **F-AIR Act (H.R. 5109)**

The “Fairness in Airspace Includes Residents Act amends the U.S. Code to expand priorities of the FAA administrator in developing plans and policies for the use of navigable airspace. Tim said this bill has more support than some of the others. If enacted, it would amend and re-prioritize the FAA's mission statement. The text of the bill has the full mission statement in it. It would maintain safety as the first priority of the FAA, but then it would elevate noise and health impacts to have an equal footing as efficiency. The perception here is that if environmental noise and health impacts are on the same level as efficiency, the idea is perhaps that this would be more favorable for some people.

- **APPRISE Act (H.R. 5110)**

The “All Participating in Process Reaching Informed Solutions for Everyone Act” would direct the FAA administrator to ensure that representatives of aviation roundtables may participate in the NextGen performance-based navigation implementation process of the FAA. This would basically ensure that the roundtable technical representatives were involved in the design procedure. Tim thought that this comes out of the perception that airspace procedures are designed in a box, and that people find out about them after the fact.

- **NOTIFIED Act (H.R. 5111)**

The “Notify Officials to Inform Fully and Impel Educated Decisions Act” would require the FAA administrator to notify the public of proposed new Performance Based Navigation Implementation Process flight procedures (PBN) implementation process. Tim said this act is similar to the previous act. It is very broad, and essentially says that the FAA would have to notify all relevant local, state and federal reps and aviation roundtables within five miles of the flight path for changes to airspace under 18,000 feet, which is a very large swath of land. This again, he said, seems to have come from the perception that all relevant parties have not been notified or that there isn't a standard notification procedure for airspace changes.

- **LEAVE Act (H.R. 5112)**

The “Low-frequency Energetic Acoustics and Vibrations Exasperate Act” would address the ground-based noise from aircraft takeoffs and landings. Tim felt that this bill was somewhat premature, in that it’s directing the states to define how they would implement ground-based noise measuring and monitoring, and then establish new compliance requirements for this.

The next two bills [NB: the bills were not specifically identified because Tim was speaking from an on-screen presentation] were introduced into both the House and Senate at the same time and are identical. This was done, he suspected, in the hope that they might move through both chambers that much quicker. They direct the FAA administrator to enter into arrangements with the National Academy of Sciences to provide a report on the health impacts of air traffic noise and pollution, which, he said, is slightly redundant to the FAA re-authorization bill, which specified multiple studies for the FAA to conduct concerning the health impacts of aircraft and air traffic noise and pollution. Lastly, Tim introduced H.R. 2351, as the “Protecting Airport Communities from Particle Emissions Act” Again, he said, it directs the FAA to conduct a study relating to ultra-fine emission particles. If it were to be passed, it specifically names the NorCal Metroplex as a region to look at.

Ed Downing, vice president of CLASS, said that based on his reading of H.R. 5108 it would seem to indicate that Oakland and the impact of the HUSSH departure on the Oakland community would be somewhat secondary to what’s happening at SFO, because the primary part of it is going to the SFO Roundtable. Tim replied that because SFO is in Ms. Speier’s district, that would appear to be the case. Downing asked if Barbara Lee had signed on to the bill as a co-sponsor. Tim replied that, that was the case. Ed noted further that Representative Lee was a co-sponsor on most, if not all of Ms. Speier’s proposed noise/aviation legislation. Facilitator Lee noted that there was no representative from Barbara Lee’s office in attendance tonight. Tim Middleton said that there should have been a column on the spreadsheet that indicated if Rep. Lee had co-sponsored any of the bills. He said that could be fixed. Benny Lee commented that he had gone to the legislation website and noticed that some of the bills have two or three co-sponsors and others have up to 14 co-sponsors. Kristi McKenney added that outside of the legislation, the actual FAA process mandated in the reauthorization act includes Oakland. Facilitator Lee continued, noting that there needs to be a minimum of 200 co-sponsors in order to move the propose legislative item to a vote.

7. FORUM WORK PLAN 2020

This item was tabled by Co-Chair Lee until the Forum’s regular facilitator returned.

8. ANALYSIS OF PROPOSED SAN LORENZO 1 (SLZ1) VISUAL APPROACH

Adam Scholten of HMMH reviewed the proposed Runway 30 San Lorenzo One visual approach. He said that this was a proposal submitted from the community to address concerns regarding compliance with the Oakland 100-degree radial noise abatement procedure where aircraft were supposed to maintain an altitude of at least 3,000 feet when crossing the 100-degree radial. The proposed procedure is designed to keep aircraft higher until they turn to align with Runway 30, and to utilize a flight path over the more industrialized areas of Hayward and San Lorenzo that maximizes overflight off the bay to the maximum extent possible. Adam provided graphical imagery of the proposed procedure. He said HMMH did an analysis of the land uses underlying the proposed procedure as it was submitted to them. Of note, he said, is that due to the design of the procedure, it would only be able to be used under visual flight rule (VFR) conditions because the procedure relies on utilizing visual landmarks. Adam referred to additional graphical representations of the proposed procedure showing underlying land uses; specifically, residential, commercial, public use, and industrial. He noted that the proposed procedure is actually an offset approach. Arriving aircraft won’t initially align with the runway heading on final approach, but will have to fly out over the bay a little more and come in to the runway at a slight angle. When an aircraft gets closer to the airport, it will have to turn to align with the runway for touch down.

Another of Adam's slides depicted where aircraft would make the turn to do the offset to the runway. The turn would primarily be over industrialized land uses, but prior to getting to that point, he said, it would come in over Hayward, where there's a mixture of commercial and multi-family, single family uses, as well as numerous other places of worship, schools and hospitals. These are all within one half nautical mile on either side of the proposed procedure. Adam's next slide reviewed the FAA's proposed Runway 30 Cal State visual approach. The FAA's proposed procedure would have aircraft fly out a little farther away from the airport and then cross the Cal State East Bay campus at an altitude of about 3,000 feet and then make the turn to align straight in with the runway; still flying over the industrial area, but closer to land and not flying over the bay. His next slides compared the land use impacts of both procedures. The biggest difference between the two proposed procedures, he said, is where they'd make the turn to align with the runway and the fact that San Lorenzo One would be offset in terms of it being over the bay until coming close to the runway end.

Also, he noted, with the Cal State visual approach, arriving aircraft would turn a little farther to the south-east of Hayward over the Cal State East Bay campus. He reviewed additional differences between the two proposed approaches on subsequent slides and summarized the potential benefits and disbenefits of the San Lorenzo One approach. Some of the potential benefits of this proposed approach are that it may improve the noise abatement procedure compliance with the OAK 100-degree radial, and it would provide an additional visual reference that would allow pilots to better comply with the 100-degree radial. It also would provide a semi-repeatable route for navigation by the aircraft flight crews. Today, he said, when aircraft come in and do visual approaches from the north, they make the turn to final at various points over a wider area, and not necessarily on one path that every single aircraft flies, each and every time, as would be the case with a charted visual approach. Also, he added, with the San Lorenzo One procedure there would be less single- family residential and mixed uses that would be overflowed as compared to the proposed Cal State visual approach.

Adam went on to discuss additional advantages and disadvantages of the two proposed procedures in greater detail. Noting that, in general, both procedures as published charted visual approaches would concentrate the arrival flight path over the communities of Hayward, Mount Eden, Cherryland, and Castro Valley. Specifically, he said, the San Lorenzo One procedure would increase arrivals over downtown Hayward, and there would be more potential for overflying more multi-family residential land use than with the proposed Cal State visual approach, even though there would be less single family residential and mixed use. Both the San Lorenzo One and Cal State visual approaches would overfly numerous residences, schools, places of worship and hospitals. He concluded that this didn't necessarily mean that San Lorenzo One is any more beneficial or any worse than the Cal State visual approach.

Ernie DelliGatti said he had several questions concerning HMMH's analysis. He asked if HMMH analyzed the two procedures by means of computer modeling or did they actually have somebody go out and walk the neighborhood? The second question was, if someone did walk the neighborhood, did anyone talk to the residents? His third question was, did anyone contact the Hayward airport manager because the additional margin of safety was overlooked. By implementing the San Lorenzo One or the Cal State approach, you'd have an extra margin of safety for aircraft taking off from Hayward Airport. His last question was, did anyone take the time to talk to him about the proposal? He said, when he was asked to go ahead and put this proposal together back in November 2018 by the Forum, he asked specifically how many schools were located under the San Lorenzo One approach. He said this information was missing from Adam's presentation. He noted that, within San Lorenzo alone, There are currently a total of seven elementary schools, two high schools, and one adult school for a population of over 12,288 people; not including the people that are currently going to school at Life West Chiropractic College in Hayward, and Chabot College which total an additional 13,751 people currently being overflowed on a daily basis because that's where incoming flights to OAK intersect, and it is a wide intersection. He said, as a resident of the

San Lorenzo area for the past 25 years, he can say that the OAK traffic has gotten progressively worse; hence his pushing for the past five years to gain some relief from the noise, because as it stands right now, they are not only getting noise from both OAK and Hayward airports, they also have trans-oceanic flights over San Lorenzo that turn down toward Union City on the QUIET bridge approach into SFO. So, Ernie said, some of your analyses and conclusions are likely flawed simply because HMMH “cherry-picked” some of the information. Based on his analyses and the fact that he has lived in the area for so long, he has concluded that there will be less noise by shifting the arrival track one to two degrees farther out over the bay as opposed to now, where you currently have aircraft overflying San Lorenzo and San Leandro neighborhoods.

Co-Chair Lee asked Adam to respond. He replied that as to the first question, it was a computerized analysis based on the data that HMMH had received. The procedural data were plotted geospatially and collected land use data collected from the various jurisdictions around the airport. For the second part of that question, in terms of going out and physically walking the route, he said, they did not do that. They were instructed to look at what the land uses were in that area and where the procedure would lie accordingly. As for question 2, he said, he personally did not talk to the Hayward Airport manager, nor did he know if anyone else had; the issue raised by Mr. DelliGatti was not part of HMMH’s assignment, which was specific to land uses and what the implications for the two procedures might be. Facilitator Lee interceded to comment that, as appointed and elected representatives, we represent the voices of our community. HMMH was retained by the Port to conduct these simulations and analyses, and this gives us the opportunity to provide feedback. He said, he had some questions himself, but would hold them in reserve until after the members had a chance to ask their questions.

Mr. DelliGatti repeated that HMMH’s presentation was “skewed” because from his experience of having lived under the arrival paths for Oakland, Hayward, and now SFO he believes that the HMMH presentation needs to be “reviewed and fleshed-out because there’s still a lot of holes in it that he has pointed out.” He yielded to the next commenter. Berkeley Councilmember Cheryl Davila asked if there was a difference in the respective altitudes of the two proposed flight procedures. Adam replied that they were roughly the same. James Nelson asked if either of the two proposals were in response to noise concerns or are they an extension of the concentration of flights? He said his concern was the potential for the concentration of the flight paths. The reduction of the dispersion of the flight paths was problematic, he said, based on the Forum’s experience to date. The concentration of aircraft along a specific track is what generates quite a few complaints. Facilitator Lee asked staff how the criteria for HMMH’s analysis was formulated. Matt P. Davis replied that this evolved through a couple of different phases. Again, he said, the Cal State visual approach analysis came out of the Forum’s concerns over the concentration of flight tracks and the need for some relief for aircraft cutting the corner over San Leandro. To be fair, he said, the Cal State visual approach does have some control and efficiency enhancements from the FAA’s perspective. This was before the flight track concentration became an issue, and at that time, it seemed like a good idea to develop a procedure to help aircraft to avoid short-cutting the 100-degree radial and overfly San Lorenzo. With all the work FAA was doing with the Metroplex, it went away for a while and came back a little more than a year ago. At that time, knowing more about the problems with the concentration of traffic, HMMH was asked to look at what the procedure would look like. That analysis was performed and presented to the Forum. Then, in response to questions from Mr. DelliGatti, the path the FAA had designed was considered to be problematic. To this end, Mr. DelliGatti was asked to prepare a presentation for an alternative procedure; one that would concentrate the incoming traffic over an industrial area. So, the task was then for HMMH to analyze the work DelliGatti had done to see if his alternative approach would provide any benefit over what the FAA had proposed in terms of overflight of residences, schools and impacted communities. The task was for a computer analysis; it was not to go out to the community itself. Co-Chair Lee stated that it was his belief that more outreach to Mr. DelliGatti and the community

would have resulted in less misunderstanding of HMMH's role and responsibility in this matter. He suggested that this be revisited under new business. Lee thanked HMMH for its analyses, and felt that their work was very comprehensive.

Co-Chair Lee asked Adam to bring some of the maps back up. He noted that the proposed flight tracks overfly the unincorporated area around San Leandro, particularly Ashland and Cherryland; which are historically very underserved, low-income communities. So, he said, the optics don't actually look too good. He thought that more community feedback was needed; what are the characteristics of these neighborhoods? This procedure is going to have impacts, regardless of how we may change it or shift it around, he said. We are trying to find some optimal relief, and we want to make sure that it serves the public well. He said he was concerned about the safety of any of this. Matt P. Davis commented that the airport also wants this to be looked at; while the FAA, when they look at the Cal State visual or any visual approach, they look at the flyability of it. That would have to be analyzed; could you fly this safely? Benny Lee asked if some of the proposed flight turns are based on visual reference points, what happens in inclement weather. Peter Marcuzzo responded that the procedure could not be used.

Edward Bogue asked to see the visual comparison of the two procedures again. He said that this was not what he was expecting to see in the final presentation because this appears to have more effect on Hayward than was the case with the previous visuals. The problem in Hayward occurs when aircraft end up using any number of different tracks. He said the San Lorenzo One proposal covers a lot of the area where he gets most of his complaints from when they cut in short, and he didn't think that this was going to be very popular. He was not too thrilled with the proposal at all, he said. Tony Daysog said he wanted to follow-up on Cheryl Davila's question about relative altitudes, and the statement that there is basically no difference between the two proposals. When he looks at the two procedures, he has to ask if the one requiring the tighter turn doesn't need to make a steeper approach, and if it does that as it passes over Hayward's Jackson Street doesn't this have a greater acoustical impact? Adam replied that, in general, even though the turn is a little steeper, the aircraft isn't necessarily going to descend that much more because it still has to cross the 100-degree radial above a certain altitude, and should not get below the glideslope to the runway. Ms. Davila said she was curious as to why the proposed Cal State procedures didn't incorporate a wider turn over the East Bay hills instead of the urban area. Adam said that this was a question for the FAA because HMMH did not design the procedure. Scholten replied that he thought it was designed the way it is because the FAA sought to basically overlay the existing arrival path. James Nelson asked Peter Marcuzzo if the current problem of overflights in San Lorenzo are due to making that turn? Peter replied that these two proposed approaches are designed to keep pilots from cutting the corner over the Hayward Airport and over residential areas on the way into OAK's South Field (Runway 30). That's what both of these approaches do is keep airplanes out wider, more over the industrial areas, and provide a path for the aircraft to follow that will keep them west and south of the Hayward Airport, thus alleviating, he believed, a majority of the issues. Adam concurred. James Nelson said he was a firm believer of spreading the impact. His big concern with both of these proposals is the concentration of flight paths. Facilitator Lee said it was time to move forward and hear from the public.

Ed Downing said that, as someone who has flown the existing procedure many, many times off the 100-degree radial, the higher you try and keep an airplane as it approaches the airport, the more unstable that approach becomes, and you start to introduce safety issues. We'd all like to keep airplanes high so they don't generate noise, he said, but eventually they have to get down and, and doing it from a stable approach, not a power-off thing where they're in a seven degree slide; these are considerations when you undertake to redesign these procedures. Based on his knowledge of the existing procedure, he believes that this is a case of the solution looking for a problem. It was his understanding that the compliance rates for the 100-degree radial are in the 99 percent area historically. To him, we're all trying to find a solution to a problem that doesn't exist, and the idea that we would make a university with thousands of students the visual approach point to avoid noise, when you've got classes going on doesn't make any sense whatsoever. Co-

Chair Lee asked Ernie DelliGatti if he wished to formulate a basis for further discussion when we get to agenda item 13? Ara Balian, airport noise and operations specialist at the Hayward Executive Airport, noted that references to the chart showing the flight tracks should be interpreted to say “east of the airport,” not west. Secondly, he said, with re the Cal State visual approach, Cal State is actually a “reporting” point for arrival aircraft coming into Hayward. One other thing of concern to him is making sure that there is adequate separation between aircraft coming into Hayward and flights going into Oakland. Another thing to also consider, he said, are the arrivals for Oakland going into the North Field; how would this affect this proposed approach? Co-Chair Lee thanked both Ernie DelliGatti and HMMH for their work on this issue. He said, we do need to find that median point with respect to the criteria and make sure it’s confirmed, reviewed, and acknowledged before it’s submitted to HMMH. That way, there is less consternation when it comes to the discussion.

9. TECHNICAL WORKING GROUPS REPORT

A. North Field/South Field Research Group Action Items

Matt P. Davis provided a summary of the last North Field/South Field Research Group meeting. He presented the action items from the last meeting of the North and South Field Research Group. One is still a work in progress that they’ve been working on; the request from the Mayor of Alameda to reduce jet traffic off of Runway 33. For reference, he noted, Runway 33 is the short, almost north-south facing runway on the North Field. He said they have reached out to the carriers that operated jets off that runway, and they were able to work with them successfully. They no longer use Runway 33 for departure; they elect now to go to Runway 30. With this agreement they are seeing virtually zero jet traffic off of Runway 33. At its peak, there were 280 jet departures off that runway by small business jets, not Southwest Airlines. He said they’ll continue to work to make sure they do not use Runway 33 for any more jet takeoffs. Davis said they are working with SFO to schedule another TRACON tour. The NorCal TRACON controls all the origin and destination air traffic in the Northern California region around the Bay Area at certain altitudes, and approaches and departures into and out of Oakland, San Francisco, and San Jose airports. We’ve done these tours before and they give people a chance to meet with the controllers and talk to them. Sometimes, someone gets a chance to sit at one of the radar scopes to see what the controllers are actually seeing. It’s a good opportunity for folks to see how the FAA operates. It’s a good learning experience.

There was a request to review helicopter activity in Alameda’s Fernside neighborhood. The results were provided to the Forum. There was also some interest in the number of freight flights over the past six years, including trends, what types of aircraft were being used by FedEx and UPS, and hours of operations. This was also provided to the Forum. FedEx and UPS are slowly retiring some of their older aircraft and bringing on newer planes. They are also looking at what hours they fly over the past six years. Another item in the pipeline is a three-year report showing compliance trends. In the realm of making it easier for people to voice their concerns or complaints to the airport is an update on efforts to reduce the time required to complete a phone complaint, along with ways to automate certain other procedures. The noise office wants to be able to focus on complaints and issues. “Complaint” versus “comment” has become a minor issue. The noise office is neutral on this, but, based on feedback from the NextGen subcommittee, the preferred term is “complaint.” Another issue is the auto response that follows the filing of a noise complaint. People have complained that it does not provide a unique ID number, which it previously did, that allows you to track your complaint. We will put this feature back in.

Runway 28R will be closed for the next few months as a result of a taxiway rehabilitation adjacent to 28R. To facilitate this, 28R was converted to a taxiway for a three-month period so that aircraft are able to bypass the construction area. Jets still have taxi to South Field to take off. Concern was expressed over the SALAD departure procedure; where aircraft immediately turn to the right off the North Field at night to avoid Alameda residences. During this three-month period while 28R is closed, folks may see a slight

decrease in compliance. We reached out to CLASS to advise them there could be a little difference for Alameda based on the runway closure. That's it for the action items from the research group. Co-Chair Lee asked if there were any questions. Ed Downing thanked the airport for the efforts it made in reducing the jet departures off Runway 33. Matt Pourfarzaneh said that when he logs in to the airport's noise app, all of his information is right there. He doesn't need to log in every time; he stays logged-in. Jesse said that this is good to know, because it was his understanding that if you go to Viewpoint and do not log in, your preferences cannot be stored. Jesse said that he would need to take this back to B&K to see what they have versus what the stop.jet.noise.net app has. Yvonne McHugh said she liked the stop.jet.noise.net app. James Nelson wondered if Richmond could be added to the list of cities in the noise report. Co-Chair Lee and Kristi McKenney both said we need to reach out to Richmond.

10. NOISE OFFICE REPORT

A. Update on Action Items from October 16, 2019 Meeting

No items to report.

B. Viewpoint Update

This brings us back to the question on the stop.jet.noise.net app versus the Viewpoint app. Can Viewpoint store personal knowledge without first having to log in? Can Viewpoint be made to work like a touch type, so it's more like other apps? Unfortunately, there is not currently a way for Viewpoint to store personal information without logging in. Modern smart phones can this, but Viewpoint can't. However, the airport noise office is working with B&K on a mechanism where, if you do log in, you input your name and password then all your information automatically comes up; you won't have to input it all over again. There will be more updates on this as things progress.

11. NOISE NEWS AND UPDATE

Christian Valdes from Landrum & Brown said tonight's news starts out with Boston. Three cities around Boston Logan International Airport requested the FAA and the airport to model and implement a departure procedure off of Runway 33L that more equitably disperses aircraft noise. With the implementation of a RNAV departure from Runway 33L in 2013, residents of the three cities have been severely impacted by aircraft noise; often starting as early as 5 a.m. In response to the cities' request, the FAA is working closely with the airport and MIT as part of a 2016 memorandum of understanding which included identifying specific proposals to reduce noise from RNAV concentrations, to assess the feasibility of specific noise abatement operational or procedural design ideas, to design a model feasible to assess the level of benefits and potential impacts for testing or implementation, and to incorporate community outreach and feedback in the whole process. Back in 2016, then FAA administrator Huerta said if the Boston case was successful, they would be able to implement these ideas at other metropolitan airports. Unfortunately, Christian said, to date there is no specific date when MIT will complete its work.

Moving on to Southern California, where the City of Los Angeles sued the FAA for shifting the departure from the Burbank Airport's Runway 15; demanding that the FAA change it back to where it used to be prior to Metroplex. This will be a fairly tall order, Christian said, and perhaps even impossible, because the procedure itself, in the area in question south on the airport, has not changed. The Metroplex did not change it, and the FAA can't change it back to where it used to be, since it's still in the same place. The San Fernando Valley Noise Task Force is meeting tonight to continue working on this issue. In late breaking news, LAX made the national and international stage when Delta flight 777 departed out of LAX and immediately had engine failure. One of the engines had a compressor stall. The pilot declared an emergency, and quickly turned back to the airport. Valdes showed a photo of what appeared to be contrails coming off the aircraft's wings, but they were not contrails. The airplane was dumping fuel over

the city. The plane was enroute to Shanghai and full of fuel with 181 passengers. It flew over six schools and, unfortunately, the children and adults were outside. Many of the children reported skin and eye irritation, and trouble breathing. The FAA is investigating. A quick note about Oakland Airport aircraft. The majority of aircraft used at OAK do not have fuel release capabilities.

The House Quiet Skies Caucus met with FAA Administrator Stephen Dickson in October to discuss priorities and solutions to aircraft noise problems. One is to disperse flight patterns, to complete and release noise studies, to create a central complaint portal, and to increase community outreach. Next, the FAA is seeking public comment on the national sleep study which will investigate the relationship between aircraft noise and the probability of waking up. The goal is to select about 400 subjects. Each will receive a package of instruments to use over a five-day period. The population candidate pool is based upon the amount of nighttime aircraft noise that a candidate experiences and is not limited to a specific airport vicinity.

Several developments have taken place on the 737 MAX situation in the last months. Boeing CEO Dennis Muilenburg testified before Congress in October and explained Boeing made mistakes in the software responsible for the two crashes, but has worked diligently to fix the software and pilot documentation. In December, the FAA administrator also appeared before Congress and said the agencies should have grounded the MAX after the first accident in October 2018. The FAA continues to look into the certification of the MAX, which will return to service only after the FAA determines the aircraft to be safe. No set timeline has yet been released on when the MAX will be back in service. Both these gentlemen were heavily criticized by members of Congress for lack of correct action and mistakes. On December 23, Boeing fired CEO Muilenburg. The Boeing Board of Directors determined a change of leadership was necessary to get confidence in the company moving forward, and they will proceed with a new commitment to full transparency, including effective and proactive communications. Boeing settled with airlines, including Southwest and American Airlines, for financial losses due to the grounding of the MAX. Boeing estimates the price tag for the eventual settlement with all parties will be about \$5.7 billion, although some analysts think this figure will go much higher. Just last week, Boeing said it recommends simulator training for pilots of the 737 MAX, after previously stating such training was not necessary.

Across the pond, the UK government introduced an air traffic management and unmanned aircraft bill which would give the Transport Secretary new powers to not only ensure airports modernize their airspace but also fine those airports that don't implement changes quickly enough. Airspace modernization would facilitate quicker, quieter and cleaner flights. The bill would also give police greater power to stop unlawful use of unmanned aircraft/drones. Police would have the ability to require a person to land a drone, issue fines and penalties for drone related offenses, and introduce stop and search powers. Continuing with drones, Christian said, Boeing and Porsche joined forces to enter the urban air mobility (UAM) market: drones with leather seats and better stereos. A 2018 study by Porsche forecasts the UAM market will pick up speed after 2025 when premium UAMs will become a key market segment. NASA will host a series of urban air mobility challenges this year to gain public confidence in the safety of UAMs. These challenges will also support the FAA in developing an approval process for UAM vehicle certification, develop flight procedure guidelines and categorize vehicle noise levels. During the noise task, they'll measure noise variability, test flight profiles that minimize noise, and assess community response to that sound. The first challenge will involve the transportation of a payload equivalent to at least one adult within a simulated urban environment.

Good news for electric commercial aircraft. The world's first fully electric commercial aircraft took its 15-minute flight over Vancouver skies. It was a 62-year-old de Havilland Beaver but retrofitted with a 750-horsepower electric motor. It is owned by Harbor Air, which ferries about half a million passengers a year over the Vancouver and Whistler ski area airspace. Their goal is to retrofit all 40 of its aircraft and save on maintenance and produce zero emissions. As for NASA, the X-59 Supersonic Jet has been cleared

for final assembly and may see its first flight in 2021. NASA has also come up with an alloy with unique properties so it can be trained. It can go through solid state phases, and it can be stretched, bent, heated and cooled, and it still remembers its original shape. NASA is currently using this on Vortex Generators; small engines installed on aircraft wings to control air flow during flight. Most Vortex Generators do not move; they're solid, so, at cruising speeds and altitude, they produce drag, which is not good. These so-called Vortex Generators are trained to move as they sense change in temperatures. Valdes showed a video of what happens when a Vortex Generator is sprayed with cool, cold air. Facilitator Lee thank Christian for his presentation.

12. CONFIRM NEXT MEETING – April 15, 2020

The next Forum meeting is scheduled for Wednesday, April 15, 2020

13. NEW BUSINESS/ADJOURNMENT

Ernie DelliGatti said that the Forum needs to revisit the San Lorenzo One proposal to fine tune it before it can go to the FAA. Facilitator Lee asked the Port staff how they thought this should be approached. Kristi McKenney responded that we have to trust that the proposed routing and land use data are accurate, but we can certainly sit down with Ernie again and go over the details in terms of what we think is different about the land use calculations he may have done, and what we have done. Co-Chair Lee said he thought the minutes would reflect where any discrepancies might lie. He asked Ernie if he agreed that what needed to be done would be to try to converge and make sure that we are in consensus and agreement that this is what we're looking to propose. Mr. DelliGatti concurred. Ms. McKenney said she thought she more than just that. It may be what Ernie proposed, but she heard others say that they had concerns about both the FAA Cal State proposal and the revised Cal State San Lorenzo One proposal of Ernie. McKenney said that they can bring back to the Forum whatever they are looking for, but at some point they will have to vote on whether they actually want to pursue these changes or not, and if this is actually a solution to whatever issues were identified. It may exacerbate things or create different issues. Edward Bogue said he agreed. The Forum needs to revisit this and have more discussion to know if we are going to move things forward.

Co-Chair Walt Jacobs asked if there was anything different you would do in the approach to revisiting it again? Kristi said, she believes that they've done an extremely-thorough job on both of these proposals, and they were discussed at several meetings, but we will again need to sit down if Ernie feels there is something missing, just to make sure we checked all the boxes. Walt expressed his concern that no one had discussed any of these issues with Ernie beforehand. Kristi said Jesse can speak with Ernie, and we can spend more time with him if need be. Benny Lee suggested that once that discussion happens, we document exactly what comes out of it, and that needs to be presented to the Forum. Then the comments from the Forum will be the basis for the final decision. James Nelson said he'd like to see some copies of the statistical analysis of flight paths, heat maps or other documentation. Co-Chair Lee said that this would be part of the review process, and that we will need to decide what that will be before we submit them for analysis. Matt P. Davis said they could reference some of the previous reports, and HMMH did present, at a previous meeting, heat maps to show what the expected concentration level would be. We can bring sort of the full breadth of the information HMMH provided to us to give a full and complete picture to the Forum. Lee thanked the Port staff and Forum members, along with the FAA for their collaborative work. Kristi McKenney thanked Benny for facilitating the meeting and leading the discussions.

The meeting was adjourned at 8:45 p.m.



Oakland International Airport



A division of the Port of Oakland

Quarterly Aircraft Noise Report

Fourth Quarter 2019



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Prepared by
Oakland International Airport
Noise/Environmental Compliance Office

January 23, 2020

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QUARTERLY REPORT INTRODUCTION

The Quarterly Aircraft Noise Report presents compliance monitoring information on various aircraft noise abatement programs managed by the Noise/Environmental Compliance Office at Oakland International Airport as required by various settlement agreements with local communities. In addition a variety of other aircraft noise reduction and aircraft operational reports are included. These noise abatement programs are designed to reduce the impacts of aircraft noise on communities near the Oakland International Airport.

COMPLIANCE BEYOND THE CONTROL OF THE PORT OF OAKLAND

Noise abatement procedures (NAP) at Oakland International Airport are based upon a number of voluntary actions that air traffic controllers and pilots may take to help reduce the impacts of aircraft noise on communities adjacent to the airport. The airport has no authority in regards to the movement of aircraft or the direction of flight. The authority to regulate flight patterns of aircraft is vested exclusively in the Federal Aviation Administration (FAA). FAA air traffic controllers have the responsibility for directing aircraft on the ground and in flight and the pilot in command has the final authority as to the safe flight of her/his aircraft. Pilots in command make the final decisions relative to runway use; therefore, pilots may request to use any available runway. Neither the Airport nor the FAA air traffic controllers may restrict a pilot's access to an available runway.

SAFETY COMES FIRST

Safety always takes precedence over noise abatement procedures and pilots must follow air traffic control instructions and other safety considerations caused by weather, potential air space conflicts or emergencies. FAA may advise pilots or pilots may determine on their own that there is another nearby aircraft that must be avoided to maintain safe aircraft separation. Safe separation of aircraft may result in a flight over residential areas. Military, law enforcement and medical aircraft flights also may have an operational need to fly over residential areas and are exempt from the noise abatement procedures.

DISCLAIMER

The Port of Oakland's Airport Noise and Operations Monitoring System (ANOMS) is the source of the data used in this report. Although ANOMS is a very sophisticated computer program that provides a state-of-the-art solution for monitoring aircraft operations, problems with the system's data integration and analysis programs occasionally cause erroneous information or loss of data. Usually errors are minimal and are limited to such things as aircraft departure assignment to an inappropriate runway designation or providing incomplete aircraft identification information regarding a specific flight track.

Also, the Federal Aviation Administration allows for certain tolerances in the accuracy of radar data, and ANOMS relies on FAA air traffic control radar data for its database and reporting capability. At times flight track data is lost due to FAA or Port of Oakland equipment failure. Since the NorCal TRACON radar equipment was updated in October 2002, radar data has been very consistent and more complete than in the past. Airport staff carefully reviews the data for accuracy and will make corrections whenever possible

QUARTERLY REPORTS COMPLIANCE COMPARISON SUMMARY TABLE

The compliance monitoring summary table below provides a comparison of the noise abatement procedure compliance rate statistics of the current calendar quarter with the previous year's calendar quarter report.

Compliance Monitoring Quarterly Summary Comparison Fourth Quarter 2019				
	2018Q4		2019Q4	
	Compl.	N/C	Compl.	N/C
Runway 28R/L Jet Departure Compliance	96%	4%	95%	5%
Total Airport-wide Corporate Jet Departures	2,868	123	2,709	147
Runway 10R/L Jet Landing Compliance	59%	41%	69%	31%
Total Southeast Plan Corporate Jet Landings	96	66	220	97
North Field VFR Departure Compliance	93%	7%	91%	9%
Total Runways 28R/L & 33 Departures	235	18	214	22
North Field Quiet Hours Compliance	70%	30%	77%	23%
Total North Field Quiet Hours Departures	138	59	174	51
Runway 30 BFI Right Turn Departure Compliance	100%	0%	100%	0%
Total Runway 30 Turbojet Departures	18,609	70	19,170	73
Night Time Departure Compliance	97%	3%	99%	1%
Total Runway 30 Night Turbojet Departures	3,078	84	3,658	52
Runway 12 Night Departure Compliance	98%	2%	99%	1%
Total Runway 12 Night Turbojet Departures	187	4	276	3
Runway 30 East Turn Departure Compliance	99%	1%	99%	1%
Total Runway 30 East Turn Departures	5,710	52	5,220	59
100 Degree Radial Turbojet Landing Compliance	99%	1%	99%	1%
Total 100 Degree Radial Turbojet Landings	1,408	11	1,245	11
Engine Runup Program Compliance	100%	0%	100%	0%
Total Evening and Nighttime Engine Runups	9	0	8	0
Note: N/C means non-compliant. Percentage values are rounded out.				

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NORTH FIELD REPORTS

NORTH FIELD PREFERENTIAL RUNWAY USE PROCEDURES

The North Field Preferential Runway Use noise abatement procedure program states that the following aircraft should not depart from Runways 28R/L, nor land on Runways 10R/L, except during emergencies, whenever Runways 12/30 are closed or by any cause beyond the control of the Airport.

- Turbo-jet and turbo-fan powered aircraft.
- Turbo-props over 17,000 pounds.
- Four-engine reciprocating powered aircraft.
- Surplus military aircraft over 12,500 pounds.

For the purposes of this report and noise abatement procedure, a corporate jet is defined as a jet aircraft whose typical activities are associated with the North Field facilities and services. This could include jet aircraft weighing over 75,000 lbs.

RUNWAY 28R/L JET AIRCRAFT DEPARTURE NOISE ABATEMENT PROCEDURE

To measure the compliance rate for the jet departure noise abatement procedure, only corporate or charter jet aircraft using facilities at the North Field are evaluated and included in the number of flights (airport-wide corporate jet departures). Charter or air carrier-type aircraft may not be included in the total number of compliant departures, but will be included as a non-compliant departure when they occur.

Runway 28R/L Jet Departure Procedure Compliance Summary Fourth Quarter 2019				
	October	November	December	Quarterly
Airport-wide Corporate Jet Departures	935	901	1,020	2,856
Compliant Corporate Jet Departures	885	852	972	2,709
Non-compliant Corporate Jet Departures	50	49	48	147
Corporate Jet Departure Compliance Rate	95%	95%	95%	95%
Excused Jet Departures	26	10	11	47
The section below compares compliance performance to airport-wide jet departures.				
Airport-wide Jet Departures	7,173	6,746	7,505	21,424
Compliant Airport-wide Jet Departures	7,123	6,697	7,457	21,277
Non-compliant Airport-wide Jet Departures	50	49	48	147
Airport-wide Jet Departure Compliance Rate	99%	99%	99%	99%

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RUNWAY 10R/L JET AIRCRAFT LANDING NOISE ABATEMENT PROCEDURE

To measure the compliance rate for the jet landing noise abatement procedure, only corporate or charter jet aircraft using facilities at the North Field are evaluated and included in the number of flights (SE Plan corporate jet landings). Charter or air carrier-type aircraft may not be included in the total number of compliant landings, but will be included as a non-compliant landing when they occur.

Jet Aircraft Landing NAP for Runway 10R/L Compliance Summary Fourth Quarter 2019				
	October	November	December	Quarterly
Southeast (SE) Plan Corporate Jet Landings *	0	43	274	317
Compliant SE Plan Corporate Jet Landings	0	32	188	220
Non-compliant SE Plan Corporate Jet Landings	0	11	86	97
SE Plan Corporate Jet Landing Compliance Rate	N/A	74%	69%	69%
The section below compares compliance performance to total airport-wide SE Plan jet landings.				
Airport-wide SE Plan Jet Landings	1	262	1,700	1,963
Airport-wide Compliant SE Plan Jet Landings	1	251	1,614	1,866
Airport-wide Non-compliant SE Plan Landings	0	11	86	97
Airport-wide Jet Landing SE Plan Compliance Rate	100%	96%	95%	95%
* Note: During Southeast Plan, business jets may land on Runways 10R/L and 12.				

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NORTH FIELD VFR AIRCRAFT DEPARTURE PROCEDURE

The North Field VFR (visual flight rules) noise abatement procedure is designed for Runways 28R/L or 33 aircraft departures to minimize flights over residential areas of Alameda. Pilots are instructed to make a right turn over San Leandro Bay until reaching Interstate 880. A noncompliant departure is defined as a VFR departure from Runways 28R/L or 33 that flies over Alameda residential areas when it may have been safe to follow the VFR noise abatement procedure.

North Field VFR Aircraft Departure NAP Compliance Summary Fourth Quarter 2019				
	October	November	December	Total
Total VFR Departures	110	80	46	236
Total VFR Departures Over Alameda	29	12	13	54
Compliant Departures	99	74	41	214
Non-compliant Departures	11	6	5	22
Compliance Rate	90%	93%	89%	91%

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NORTH FIELD QUIET HOURS PROCEDURES

The North Field Quiet Hours Procedures were designed to minimize aircraft noise on residential areas adjacent to the North Field from 10 p.m. to 7 a.m. daily. If the procedures are flown as intended, aircraft will avoid flying over nearby residential areas on Bay Farm Island, the Fernside area of Alameda, the Davis West/Timothy Drive and Neptune drive areas of San Leandro.

Pilots are requested to follow these procedures when safety, weather and ATC instructions permit:

- Runways 10R and 28R are the preferred departure runways.
- No left turns from Runways 10R/L.
- No straight out departures from Runway 10L.
- All aircraft over 75,000 pounds are directed to use Runways 12/30.
- Use only full-length departures from the chosen North Field Runway.
- VFR and SALAD IFR departures from Runway 28R
 - The VFR departure shall include a right crosswind or additional downwind segment avoiding Bay Farm Island and the main island of Alameda.
 - The SALAD Instrument Departure Procedure is designed for aircraft to climb out on departure to a right turn heading to the east, which will normally prevent aircraft flying over residential areas of Alameda and Bay farm Island.
- For VFR and IFR Runway 10R/L departures, pilots are requested to use the 180 degree departure heading when able for E/SE-bound departures or continue to fly right turns over the airport for N/NE-bound departures.
- Runway 28L is the preferred landing runway.

North Field Quiet Hours Compliance Summary (10:00 p.m. to 7:00 a.m.) Fourth Quarter 2019				
	October	November	December	Quarterly
Total Night Departures (10:00 p.m. to 7:00 a.m.)	100	57	68	225
Compliant Night Departures	81	43	50	174
Average Compliant Departures per Night	2.6	1.4	1.6	2.0
Non-Compliant Night Departures	19	14	18	51
Average Non-Compliant Departures per Night	0.6	0.5	0.6	0.6
Night Departure Compliance Rate	81%	75%	74%	77%

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NIGHTTIME SEL NOISE MEASUREMENTS REPORT

The Nighttime SEL Noise Measurements Report provides a summary of aircraft departure noise measurements of SEL (sound exposure level) that are equal to or greater than 80 dB (decibels). The data is being reported in this format to simplify the aircraft noise event review process by focusing on the most significant noise events and to the levels that may cause sleep disturbance for some residents in adjacent communities. All aircraft noise measurements between 10:00 p.m. and 7:00 a.m. are evaluated in this report. Supplementary tables 2 and 3 provide data for aircraft departure noise measurements based upon the runway used for departure. (Note: All community-based NMTs are included in the report with the exception of NMT 15, which is used for monitoring

compliance with the aircraft engine maintenance run-up noise abatement program. For this purpose, noise measurements at NMT 15 are correlated with those at NMT 16 during aircraft engine run-up activities conducted in the Ground Run-up Enclosure or GRE.)

Noise Monitor Terminal (NMT) Locations



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Table 1. North Field Night Aircraft Departure SEL Noise Measurements
Total Aircraft Departures = 101

Fourth Quarter 2019 (10:00 p.m. to 7:00 a.m.)

NMT Number	Aircraft Noise Events Below SEL 80 dBA	Aircraft Noise Events SEL 80 - 84.9 dBA			Aircraft Noise Events SEL 85 - 89.9 dBA			Aircraft Noise Events SEL ≥ 90 dBA			Total Aircraft Noise Events
		Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	
1	4	0	0.0	0.0%	0	0.0	0.0%	0	0.0	0.0%	4
2	9	3	0.0	0.5%	1	0.0	0.2%	0	0.0	0.0%	13
3	22	3	0.0	0.5%	1	0.0	0.2%	0	0.0	0.0%	26
4	24	26	0.3	4.6%	22	0.2	3.9%	8	0.1	1.4%	80
5	31	12	0.1	2.1%	4	0.0	0.7%	16	0.2	2.8%	63
6	10	3	0.0	0.5%	9	0.1	1.6%	10	0.1	1.8%	32
7	9	5	0.1	0.9%	10	0.1	1.8%	1	0.0	0.2%	25
8	12	11	0.1	1.9%	0	0.0	0.0%	0	0.0	0.0%	23
9	5	8	0.1	1.4%	4	0.0	0.7%	0	0.0	0.0%	17
10	19	6	0.1	1.1%	0	0.0	0.0%	0	0.0	0.0%	25
11	0	1	0.0	0.2%	0	0.0	0.0%	1	0.0	0.2%	2
12	7	6	0.1	1.1%	1	0.0	0.2%	0	0.0	0.0%	14
13	6	0	0.0	0.0%	0	0.0	0.0%	0	0.0	0.0%	6
14	0	0	0.0	0.0%	0	0.0	0.0%	0	0.0	0.0%	0
All NMTs	158	84	1	0	52	1	0	36	0	0	330

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Table 2. Aircraft SEL Noise Measurements in Alameda - Total Aircraft Departures = 74

Fourth Quarter 2019 (10:00 p.m. to 7:00 a.m.)											
NMT Number	Aircraft Noise Events Below SEL 80 dBA	Aircraft Noise Events SEL 80 - 84.9 dBA			Aircraft Noise Events SEL 85 - 89.9 dBA			Aircraft Noise Events SEL ≥ 90 dBA			Total Aircraft Noise Events
		Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	
3	22	3	0.0	1.3%	1	0.0	0.4%	0	0.0	0.0%	26
4	24	26	0.3	10.9%	22	0.2	9.2%	8	0.1	3.3%	80
5	31	12	0.1	5.0%	4	0.0	1.7%	16	0.2	6.7%	63
6	10	3	0.0	1.3%	9	0.1	3.8%	10	0.1	4.2%	32
7	9	5	0.1	2.1%	10	0.1	4.2%	1	0.0	0.4%	25
8	12	11	0.1	4.6%	0	0.0	0.0%	0	0.0	0.0%	23
Total	108	60	0.7		46	0.5		35	0.4		249

Table 3. Aircraft SEL Noise Measurements in San Leandro - Total Aircraft Departures = 27

Fourth Quarter 2019 (10:00 p.m. to 7:00 a.m.)											
NMT Number	Aircraft Noise Events Below SEL 80 dBA	Aircraft Noise Events SEL 80 - 84.9 dBA			Aircraft Noise Events SEL 85 - 89.9 dBA			Aircraft Noise Events SEL ≥ 90 dBA			Total Aircraft Noise Events
		Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	Amount	Nightly Average	As Percentage of Departures	
2	9	3	0.0	0.9%	1	0.0	0.3%	0	0.0	0.0%	13
9	5	8	0.1	2.4%	4	0.0	1.2%	0	0.0	0.0%	17
10	19	6	0.1	1.8%	0	0.0	0.0%	0	0.0	0.0%	25
11	0	1	0.0	0.3%	0	0.0	0.0%	1	0.0	0.3%	2
12	7	6	0.1	1.8%	1	0.0	0.3%	0	0.0	0.0%	14
13	6	0	0.0	0.0%	0	0.0	0.0%	0	0.0	0.0%	6
14	0	0	0.0	0.0%	0	0.0	0.0%	0	0.0	0.0%	0
Total	46	24	0.3		6	0.1		1	0.0		77

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SOUTH FIELD REPORTS

RUNWAY 30 BFI RIGHT TURN DEPARTURE PROCEDURE

Turbojet aircraft should not make a right turn on departure from Runway 30 and pass over Bay Farm Island. This noise abatement procedure is historically referred to as the “No Right Turn Climb-out Departure Procedure”.

Runway 30 Bay Farm Right Turn Departure Procedure Compliance Summary Fourth Quarter 2019				
	October	November	December	Quarter
Runway 30 Turbojet Departures	7,068	6,423	5,752	19,243
Compliant Departures	6,999	6,421	5,750	19,170
Non-compliant Departures	69	2	2	73
Percentage of Non-compliance	1.0%	0.0%	0.0%	0.4%
Compliance Rate	99%	100%	100%	100%

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NIGHT TIME DEPARTURE PROCEDURE

The HUSSH departure is a FAA (RNAV) departure procedure at Oakland International Airport established to reduce noise on residential communities at nighttime. The HUSSH departure procedure is described as a turbojet aircraft take-off from Runway 30 climb heading 296 degrees to at or above 520 feet, then left turn direct HUSSH. This departure procedure is assigned between 10:00 p.m. and 7:00 a.m. for Runway 30 turbojet aircraft departures.

Night Time Procedure Departure NAP Compliance Summary 10:00 pm - 7:00 am Fourth Quarter 2019				
	October	November	December	Quarter
Runway 30 Nighttime Turbojet Departures	1,318	1,251	1,141	3,710
Buffer Time Departures	13	18	13	44
Compliant Departures	1,301	1,230	1,127	3,658
Non-compliant Departures	17	21	14	52
HUSSH gate misses	9	9	9	27
NIITE gate misses	12	14	10	36
REBAS gate misses	16	21	14	51
Compliance Rate	99%	98%	99%	99%

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ROLLING TAKE-OFF NIGHT DEPARTURE PROCEDURE FOR FedEx

The rolling takeoff noise abatement departure procedure was designed to reduce the impacts to San Leandro residents from back-blast noise generated by late night Runway 30 departures of FedEx jet aircraft between the hours of 1:00 a.m. and 5:00 a.m. Aircraft noise measurements taken at NMT #2, located at the San Leandro Marina, are compared with those measurements taken in 2002 prior to implementation of the noise abatement procedure. During late nighttime hours, an air traffic controller will give “departure clearance” as the aircraft is entering the runway so that the aircraft will continue its departure roll down the runway without stopping. This action is considered a rolling takeoff.

The first table below provides the noise measurements for this current calendar quarter whereas the second table provides the noise measurements for the previous year’s calendar quarter for comparison purposes. The chart provides a representation of the seasonal comparative changes.

Rolling Take-off Night Departure Procedure (1:00 to 5:00 AM) Fourth Quarter 2019, NMT 2						
	Aircraft Departures	Recorded Noise Events (a)	Lmax Average	SEL Average	Avg. Duration (seconds)	
Baseline (November 2002) [A]						
DC10/MD10	87	32	69	78	22	
MD11	32	13	70	79	24	
A306	67	21	67	77	25	
Fourth Quarter 2019 [B]						
	Total [X]	Est. Avg. Monthly [X/3]				
B763	131	44	41	66	74	14
DC10/MD10	46	15	20	66	76	19
MD11	254	85	134	67	77	18
A306	92	31	28	66	74	15
B757	166	55	60	66	74	15
B77L	101	34	18	65	74	17
Difference [A-B]						
DC10/MD10		-72	-12	-3	-2	-3
MD11		53	121	-3	-2	-6
A306		-36	7	-1	-3	-10
(a) For the current calendar quarter reported, ANOMS does not correlate all departures to their respective noise events; that is most, but not all, aircraft back-blast noise events are effectively correlated as the program software algorithms may misidentify an aircraft noise event. Source: ANOMS (Airport Noise and Operations Monitoring System)						

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Summary of Calendar Quarter of Previous Year

Rolling Take-off Night Departure Procedure (1:00 to 5:00 AM) Fourth Quarter 2018, NMT 2						
	Aircraft Departures	Recorded Noise Events (a)	Lmax Average	SEL Average	Avg. Duration (seconds)	
Baseline (November 2002) [A]						
DC10/MD10	87	32	69	78	22	
MD11	32	13	70	79	24	
A306	67	21	67	77	25	
Fourth Quarter 2018 [B]						
	Total [X]	Est. Avg. Monthly [X/3]				
B763	129	43	45	65	74	13
DC10/MD10	33	11	20	66	75	18
MD11	238	79	173	67	77	19
A306	96	32	51	65	74	14
B757	172	57	76	65	75	15
B77L	76	25	27	66	74	14
Difference [A-B]						
DC10/MD10		-76	-12	-3	-3	-4
MD11		47	160	-3	-2	-5
A306		-35	30	-2	-3	-11
(a) For the current calendar quarter reported, ANOMS does not correlate all departures to their respective noise events; that is most, but not all, aircraft back-blast noise events are effectively correlated as the program software algorithms may misidentify an aircraft noise event. Source: ANOMS (Airport Noise and Operations Monitoring System)						

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RUNWAY 12 NIGHT DEPARTURE PROCEDURE

The Runway 12 Night Departure Procedure is an informal radial heading departure procedure at Oakland International Airport established to reduce noise on San Leandro residential communities at nighttime. Turbojet aircraft should depart from Runway 12 and make a right turn to a heading of 140 degrees between 10:00 p.m. and 7:00 a.m.

Runway 12 Night Departure NAP Compliance Summary (10:00 PM to 7:00 AM) Fourth Quarter 2019				
	October	November	December	Quarter
Jet Departures	1	31	247	279
Non-Compliant Departures	1	0	2	3
Compliant Departures	0	31	245	276
Compliance Rate	0%	100%	99%	99%
Note: The noise abatement procedure is officially implemented between 10:00 p.m. and 7:00 a.m. nightly.				

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ENGINE RUN-UP PROCEDURE PROGRAM

The Port of Oakland maintains an aircraft engine run-up procedure policy at Oakland International Airport and regulates enforcement of the program under Operations Directive Number 616.5. The directive requires regulation of all engine run-ups for aircraft over 12,500 pounds and all military type aircraft and specifies the location and time-of-day for this activity. Maximum noise levels are reviewed at the noise monitoring terminal located on Beach Road (NMT #15) when a power engine run-up occurs between 7:00 p.m. and 7:00 a.m. daily. A non-compliant engine run-up will equal or exceed Lmax 75 dB between 7:00 p.m. and 10:00 p.m. and will equal or exceed Lmax 70 dB between 10:00 p.m. and 7:00 a.m..

Engine Run-up Program Fourth Quarter 2019				
	October	November	December	Quarter
Runups - 7:00 PM to 10:00 PM	1	1	0	2
Runups Greater Than 75 dBA	0	0	0	0
Runups - 10:00 PM to 7:00 AM	2	2	2	6
Runups Greater Than 70 dBA	0	0	0	0
Total Evening and Nighttime Runups	3	3	2	8
Total Non-compliant Runups	0	0	0	0
Compliance Rate	100%	100%	100%	100%

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RUNWAY 30 EAST TURN DEPARTURES PROCEDURE

Runway 30 turbojet departures should not turn right over Alameda residential areas until reaching 3,000 feet above airport ground level.

Runway 30 East Turn Departures at 3,000 feet Procedure Compliance Summary Fourth Quarter 2019				
	October	November	December	Quarter
Total Runway 30 East Turn Turbojet Departures	1,931	1,669	1,679	5,279
Non-compliant Turbojet Departures	49	4	6	59
Total Turbojet Aircraft Above 2,900 Feet ASL*	1,882	1,665	1,673	5,220
Compliance Rate	97%	100%	100%	99%
Excused Turbojet Departures	17	11	7	35
Note: A tolerance factor that accounts for potential errors in aircraft altitude measurements of 100 feet is applied on any aircraft passing through the gate so that aircraft below 2,900 feet are to be flagged as non-compliant.				

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100 DEGREE RADIAL TURBOJET LANDING PROCEDURE

For Runway 30 downwind approaches over the East Bay, turbojet aircraft should not be descended below 3,000 feet above airport ground level until crossing the OAK 100 degree radial.

Cross Over 100 Degree Radial at 3,000 Feet Procedure Compliance Summary Fourth Quarter 2019				
	October	November	December	Quarter
Turbojets on Downwind RWY 30 Approach	576	403	277	1,256
Non-compliant Turbojets	6	1	4	11
Total Turbojet Aircraft Above 3K Feet ASL*	570	402	273	1,245
Compliance Rate	99%	100%	99%	99%
Note: A tolerance factor that accounts for potential errors in aircraft altitude measurements of 100 feet is applied on any aircraft passing through the gate so that aircraft below 2,900 feet are to be flagged as non-compliant.				

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Oakland International Airport Noise Complaint Summary October 2019		
Community	Callers	Complaints
Alameda(BFI)	30	647
Alameda(Central)	8	47
Albany	0	0
Berkeley	3	32
Castro Valley	2	17
Fremont	2	4
Hayw ard	2	16
Kensington	0	0
Oakland	18	3494
Piedmont	0	0
Richmond	2	1804
San Francisco	1	1
San Leandro	2	3
Union City	1	47
San Lorenzo	0	0
Other Communities	8	609
Total	79	6721
Complaints by Type		
Website	0	
E-mail	4391	
Phone	0	
View point App	2330	
Complaints by Time of Day		
Day (0700 - 1900)	1402	
Evening (1900 - 2200)	1237	
Night (2200 - 0700)	4082	
Complaints by Type of Operation		
Arrivals	4039	
Departures	2326	
Over-flights	328	
Touch & Go	28	
Not Linked to an Operation	0	
Complaints by Type of Aircraft		
Business Jet	107	
Helicopter	86	
Jet	5807	
Military	0	
Not Reported (not linked to an aircraft)	0	
Other (Type information not available)	136	
Propeller	391	
Turbo-prop	194	

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**Oakland International Airport
Noise Complaint Summary
November 2019**

Community	Callers	Complaints
Alameda(BFI)	38	1114
Alameda(Central)	9	78
Albany	0	0
Berkeley	6	9
Castro Valley	1	2
Fremont	0	0
Hayward	5	14
Kensington	1	1
Oakland	19	3134
Piedmont	1	1
Richmond	3	1365
San Francisco	2	9
San Leandro	2	4
Union City	0	0
San Lorenzo	0	0
Other Communities	13	679
Total	100	6410
Complaints by Type		
Website	0	
E-mail	3569	
Phone	0	
View point App	2841	
Complaints by Time of Day		
Day (0700 - 1900)	1933	
Evening (1900 - 2200)	1211	
Night (2200 - 0700)	3266	
Complaints by Type of Operation		
Arrivals	3042	
Departures	3083	
Over-flights	239	
Touch & Go	46	
Not Linked to an Operation	0	
Complaints by Type of Aircraft		
Business Jet	240	
Helicopter	41	
Jet	5513	
Military	0	
Not Reported (not linked to an aircraft)	0	
Other (Type information not available)	138	
Propeller	369	
Turbo-prop	109	

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Oakland International Airport Noise Complaint Summary December 2019		
Community	Callers	Complaints
Alameda(BFI)	36	1178
Alameda(Central)	12	128
Albany	0	0
Berkeley	6	133
Castro Valley	1	8
Fremont	1	1
Hayward	4	177
Kensington	1	3
Oakland	20	3291
Piedmont	3	3
Richmond	4	2359
San Francisco	1	11
San Leandro	7	94
Union City	0	0
San Lorenzo	0	0
Other Communities	24	794
Total	120	8180
Complaints by Type		
Website	0	
E-mail	5004	
Phone	53	
View point App	3123	
Complaints by Time of Day		
Day (0700 - 1900)	2905	
Evening (1900 - 2200)	1454	
Night (2200 - 0700)	3821	
Complaints by Type of Operation		
Arrivals	4493	
Departures	3469	
Over-flights	171	
Touch & Go	47	
Not Linked to an Operation	0	
Complaints by Type of Aircraft		
Business Jet	336	
Helicopter	68	
Jet	7189	
Military	0	
Not Reported (not linked to an aircraft)	0	
Other (Type information not available)	84	
Propeller	276	
Turbo-prop	227	

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AIRPORT OPERATIONS SUMMARY TABLES

Note: The source of the data provided in the summary tables below is the Port of Oakland's Airport Noise and Operations Monitoring System or ANOMS.

Operations Table 1. Provides a summary of North Field aircraft departures by runway as well as the volume of aircraft departures relative to the direction of air traffic flow during nighttime hours.

North Field Night Departures by Runway (10:00 p.m. to 7:00 a.m.) Fourth Quarter 2019					
	October	November	December	Total	Percentage
Runway 28L	12	3	10	25	25%
Runway 28R	24	12	11	47	0%
Runway 33	1	1	0	2	0%
Alameda Overflights	37	16	21	74	0%
Runway 10L	4	1	4	9	0%
Runway 10R	3	0	14	17	0%
Runway 15	0	1	0	1	0%
San Leandro Overflights	7	2	18	27	0%
Total Departures	44	18	39	101	0%

Operations Table 2. Provides a summary of North Field aircraft departures by runway as well as by the number of IFR versus VFR departures

North Field VFR/IFR Departures by Runway Fourth Quarter 2019				
	October	November	December	Total
VFR Departures				
Runway 28L	22	12	12	46
Runway 28R	102	70	15	187
Runway 33	127	104	92	323
VFR Departures	251	186	119	556
IFR Departures				
Runway 28L	177	131	202	510
Runway 28R	376	272	138	786
Runway 33	145	143	112	400
IFR Departures	698	546	452	1,696
Total Departures	949	732	571	2,252

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Operations Table 3. Runway Use by Aircraft Category

	Aircraft Category	OAK Aircraft Operations by Category and Runway Fourth Quarter 2019											
		12	30	South Field	15	33	10L	10R	28L	28R	PAD1	North Field	Grand Total
Arrivals	Corporate Jets	228	142	-	-	6	7	82	647	1,750	-	2,492	2,492
	Helicopters	-	-	-	-	-	-	-	2	2	100	104	104
	Commercial Jets	1,393	14,721	16,114	-	-	-	1	67	30	-	98	16,212
	Military	-	1	1	-	-	-	-	1	2	-	3	4
	Propeller	1	2	3	56	84	14	11	274	1,108	-	1,547	1,550
	Regional Jets	231	692	923	-	-	1	20	242	1,160	-	1,423	2,346
	Turboprops	7	36	43	16	7	33	47	257	748	-	1,108	1,151
	Unknown	-	-	-	-	-	-	-	-	-	-	-	-
Sub-totals		1,860	15,594	17,084	72	97	55	161	1,490	4,800	100	6,775	23,859
Departures	Corporate Jets	26	2,321	2,347	-	10	10	293	108	64	-	485	2,832
	Helicopters	-	-	-	-	1	-	-	-	-	74	75	75
	Commercial Jets	1,349	14,829	16,178	-	-	1	2	11	3	-	17	16,195
	Military	-	-	-	-	2	-	-	-	1	-	3	3
	Propeller	2	67	69	83	677	24	19	66	421	-	1,290	1,359
	Regional Jets	101	2,093	2,194	-	-	-	138	6	1	-	145	2,339
	Turboprops	1	27	28	2	33	43	34	365	483	-	960	988
	Unknown	-	-	-	-	-	-	-	-	-	-	-	-
Sub-totals		1,479	19,337	20,816	85	723	78	486	556	973	74	2,975	23,791
Touch & Go Sub-totals		-	-	-	3	208	2	4	55	376	1	649	649
Grand Total		3,339	34,931	37,900	160	1,028	135	651	2,101	6,149	175	10,399	48,299

Operations Table 4. Runway Use by Jet Aircraft Category

	Aircraft Category	RUNWAYS Fourth Quarter 2019											
		12	30	South Field	15	33	10L	10R	28L	28R	PAD1	North Field	Grand Total
Arrivals	Commercial Jets	1,393	14,721	16,114	-	-	-	1	67	30	-	98	16,212
	Regional Jets	231	692	923	-	-	1	20	242	1,160	-	1,423	2,346
Commercial Jet Sub-totals		1,624	15,413	17,037	-	-	1	21	309	1,190	-	1,521	18,558
	Corporate Jets	228	142	370	-	6	7	82	647	1,750	-	2,492	2,862
All Jet Arrivals Sub-totals		1,852	15,555	17,407	-	6	8	103	956	2,940	-	4,013	21,420
Departures	Commercial Jets	1,349	14,829	16,178	-	-	1	2	11	3	-	17	16,195
	Regional Jets	101	2,093	2,194	-	-	-	138	6	1	-	145	2,339
Commercial Jet Sub-totals		1,450	16,922	18,372	-	-	1	140	17	4	-	162	18,534
	Corporate Jets	26	2,321	2,347	-	10	10	293	108	64	-	485	2,832
All Jet Departures Sub-totals		1,476	19,243	20,719	-	10	11	433	125	68	-	647	21,366
Grand Total		3,328	34,798	38,126	-	16	19	536	1,081	3,008	-	4,660	42,786

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DEFINITIONS OF TERMINOLOGY USED IN COMPLIANCE MONITORING COMMENT SECTION

The Noise/Environmental Compliance Office reviews flight track data and air traffic control communications' recordings, along with other data resources, to determine compliance with aircraft noise abatement procedures. This support information is reported in the various lists that document aircraft landing and departures relevant to the noise abatement procedures that are monitored for compliance. Comments are provided in these lists that summarize the circumstances or the reason that most appropriately explains the reviewer's determination as to whether or not the aircraft flight was compliant or non-compliant with noise abatement procedures. The definitions of the summarized comments or terms are described below.

Airspace Conflict Potential: Pilot or air traffic controller may have needed to maintain safe separation between a non-compliant aircraft and other aircraft in the vicinity of the airport. (*Separation of aircraft: some aircraft are able to decrease speed better than others or fly faster than other aircraft and reach minimum safe separation from aircraft in front or behind. These conditions, although rare, are very difficult to avoid.*) These situations may occur when aircraft depart from the North Field on a VFR flight or when jets land on Runway 12 during Southeast Plan traffic flow. In these circumstances the reviewer has made a determination, based upon visual evidence, that the flight, which would normally be considered non-compliant, is exempt for safety considerations.

Air Traffic Conflict: The reviewer has found **clear and specific** evidence that the pilot or air traffic controller was required to maintain safe separation between a non-compliant aircraft and other aircraft in the vicinity of the airport. (*Separation of aircraft: some aircraft are able to decrease speed better than others or fly faster than other aircraft and reach minimum safe separation from aircraft in front or behind. These conditions, although rare, are very difficult to avoid.*) These situations may occur, for example, when aircraft depart from the North Field on a VFR flight or when jets land on Runway 12 during Southeast Plan traffic flow and an air traffic controller diverts the jet to land on the North Field. In these circumstances the flight, which would normally be considered non-compliant, is exempt for safety considerations.

ATC Did Not Advise: Refers to an aircraft flight compliance determination investigation when the air traffic controller does not cite or improperly cites the pilot instructions to use Runway 12/30 for noise abatement. The Air Traffic Control ("ATC") audio file(s) should be used for documentation. In this event, the ATC rather than the aircraft owner or operator will be notified of non-compliance with the noise compliance procedures.

ATC Instructions: Refers to an aircraft flight compliance determination investigation when the air traffic controller instructs a pilot to perform an action that could be for safety or traffic flow reasons. The ATC audio file(s) should be used for documentation. In this event, the aircraft operations and air traffic control are considered in compliance with the noise abatement procedure. N Number not included because the non-compliant flight was solely due to ATC Instructions.

Audio Not Available: Refers to an aircraft flight compliance determination investigation when the ATC audio file is lost or unusable due to a recording system technical failure. In this event, the associated flight is considered not in compliance with the noise abatement procedure even though there may otherwise be a specific reason that could have exempted the flight from a determination of non-compliance.

Audio Not Reviewed: Refers to an aircraft flight compliance determination investigation when the ATC audio file has not been reviewed for some reason other than for a technical failure of the

recording system. In this event, the associated flight is considered not in compliance with the noise abatement procedure even though there may be a specific reason that could have exempted the flight from a determination of non-compliance.

Departure Timing: An air traffic controller may instruct a pilot to depart from Runways 28R/L to hasten a departure time in order to maintain an appropriate flow or departure time to avoid aircraft delays. This activity or action will be investigated to determine if the aircraft flight was in compliance with noise abatement procedures. N Number not included because the non-compliant flight was solely due to ATC Instructions.

Flight Replay Not Reviewed: Refers to an aircraft flight compliance determination investigation when the NOMS flight replay was not employed to review the aircraft flight for airspace use or safety reasons. In this event, the associated flight is considered not in compliance with the noise abatement procedure even though there may be a specific reason that could have exempted the flight from a determination of non-compliance.

IFR Training: Some aircraft are departing VFR (Visual Flight Rules apply) but the pilots or student pilots may be practicing flying IFR (Instrument Flight Rules specified by the FAA for flight under weather conditions in which visual reference cannot be made to the ground and the pilot must rely on instruments to fly and navigate) in which case the pilots direct departing aircraft in a specific heading (i.e. 310 degrees). Based upon the aircraft departure trajectory (straight-line departure at approximately 310 degrees heading), the reviewer may judge that an aircraft flight is a potential IFR training flight. This aircraft departure will be considered compliant with noise abatement procedures.

Special Event: An air traffic controller may instruct a pilot to depart from Runways 28R/L after a special event i.e. Super Bowl, NBA Finals to hasten a departure time in order to maintain an appropriate flow or departure time to avoid aircraft delays. This activity or action will be investigated to determine if the aircraft flight was in compliance with noise abatement procedures. N Number not included because the non-compliant flight was solely due to ATC Instructions.

Law Enforcement: An aircraft piloted by law enforcement officials may need to divert from the noise abatement procedure due to public safety concerns or to perform their law enforcement duties. Law enforcement aircraft flights over residential areas are considered exempt from noise abatement procedures due to the nature of the mission and operational necessity.

Lifeguard Medical: Medical operations such as organ or patient transportation are exempt from noise abatement procedures due to the nature of the mission and operational necessity.

Not Acceptable: This term is used to describe an aircraft that was not in compliance with one of the airport's voluntary aircraft noise abatement procedures. These aircraft departures or arrivals are considered to be non-compliant with noise abatement procedures unless determined to be exempt for a specific reason as judged by the reviewer.

Pilot Refusal: Although air traffic controllers normally instruct jet aircraft pilots to taxi to Runway 30 to depart for noise abatement purposes, FAA regulations allow pilots to refuse departure from Runways 28R/L. Typically, the jet aircraft pilots notified the Port of Oakland that they will no longer taxi to Runway 30 for departure for operation consideration. Pilot refusal are considered not in compliance with the noise abatement procedures.

Pilot Request: Although air traffic controllers normally instruct jet aircraft pilots to taxi to Runway 30 to depart for noise abatement purposes, FAA regulations allow pilots to request departure from Runways 28R/L. Also, FAA air traffic controllers at Northern California

TRACON or the OAK Control Tower normally guide jet aircraft to land on Runway 12 during the Southeast Plan air traffic pattern. However, pilots may request to land on Runways 10R/L when safe conditions exist. Pilot requests are normally granted although these requests are considered not in compliance with the noise abatement procedures.

South Field Closure/Repair: The South Field (Runway 12/30) was closed due to construction, maintenance, Foreign Object Debris (FOD) removal, runway repair, or an emergency. Routine South Field maintenance is scheduled each Monday between 12:00 a.m. and 6:00 a.m. because there are the fewest scheduled air carrier flights during that time, which minimizes the need to use the North Field. Aircraft flights normally considered to be non-compliant would be exempt from complying with any relevant noise abatement procedures in the event of the closure of the South Field runway.

Straight Out: This term describes a non-compliant aircraft flight that departs with a runway heading departure from Runways 10R/L or 28R/L and flew over nearby residential areas.

System Error: This term is used to describe an aircraft operation that is recognized incorrectly by NOMS system. For example, an aircraft arrival may be assigned an operation type departure. This aircraft operation will be considered compliant with noise abatement procedures.

Time Buffer: Aircraft departures from 10:00 to 10:10 p.m. and from 6:50 to 7:00 a.m. fall within the long established "buffer time period" in which an aircraft flight is not considered non-compliant with noise abatement procedures even though the flight would normally be non-compliant during the nighttime hours. These flights will be deemed exempt from the procedures as the departure was slightly delayed or slightly ahead of the scheduled time as fixed by the air traffic controller who provides clearance instructions to the pilot. Although the actual scheduled time of departure is between 7:00 a.m. and 10:00 p.m., the aircraft is released to the runway either early or too late.

VFR Departure: This term is used to describe an aircraft assumed to be flying under Visual Flight Rules (VFR) on departure and flew over nearby residential areas. These aircraft departures are considered to be non-compliant with noise abatement procedures unless determined to be exempt for a specific reason as judged by the reviewer.

Wide Salad: This term is applied by the reviewer when an aircraft flies a SALAD ONE departure turn but the turn was wide and resulted in a flight over Alameda residential areas. The reviewer would determine that this flight is non-compliant with noise abatement procedures.

315 Degree Heading: This term is used to describe an aircraft that the reviewer assumed was flown under either IFR or VFR and made a turn to a 315 degree heading flying over nearby residential areas. These aircraft departures are considered to be non-compliant with noise abatement procedures unless determined to be exempt for a specific reason as judged by the reviewer.

Nighttime SEL Noise Measurement Summary Definitions

These terms are used in the Nighttime SEL Report.

Lmax (maximum sound level): the Lmax metric represents the highest instantaneous noise level heard at a receiver site during a single aircraft event (arrival or departure). However, since this metric describes only the instantaneous maximum noise value, it provides no information on the duration of noise exposure.

SEL (sound exposure level): The SEL metric represents the sound energy detected above a threshold, which is 10 decibels below the peak noise level, for a noise event as a factor of both intensity and duration of that noise event. The SEL represents the cumulative acoustical energy of the event but as though it had occurred within one second. Thus, for example, two events with the same intensity but different durations can be differentiated with the longer duration event having a higher SEL. In general, an aircraft SEL level is approximately 8-10 dB higher than the Lmax, or peak, noise level.

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APPENDICES

Runway 28R/L Jet Departure List for Calendar Quarter

Date/Time	Flight Number	Tail Number	Aircraft Type	Beacon Code	Runway	Aircraft Category	Comments	Excused
11/13/2019 21:45	N563RJ	N563RJ	BE40	4255	28L	B	Departure Timing	No
10/24/2019 17:16	JSX207	A27614	E135	3705	28L	R	Departure Timing	No
10/17/2019 15:54	N400J	N400J	GLF4	4245	28R	B	Departure Timing	No
10/1/2019 11:56	EJA327	N327QS	E55P	3211	28L	B	Departure Timing	No
						Departure Timing	4	
10/12/2019 12:57	N933GC	N933GC	T33	316	28R	M	Fleet Week	No
						Fleet Week	1	
10/7/2019 5:14	LN777AX	N777AX	C550	4546	28L	B	Lifeguard Medical	Yes
10/16/2019 8:49	FFL226	N509RP	C550	4545	28L	B	Lifeguard Medical	Yes
10/21/2019 11:58	LN509RP	LN509RP	C550	4550	28L	B	Lifeguard Medical	Yes
10/24/2019 20:30	LN509RP	N509RP	C550	4236	28L	B	Lifeguard Medical	Yes
10/26/2019 1:53	LN372BW	N372BW	PRM1	3202	28R	B	Lifeguard Medical	Yes
10/26/2019 14:08	LN509RP	N509RP	C550	4507	28L	B	Lifeguard Medical	Yes
10/27/2019 22:05	KFS110	N242CK	CL60	1775	28R	B	Lifeguard Medical	Yes
10/30/2019 2:50	LN509RP	N509RP	C550	3271	28L	B	Lifeguard Medical	Yes
10/30/2019 10:37	LN108JN	N108JN	LJ35	4554	28R	B	Lifeguard Medical	Yes
11/4/2019 7:35	LN108JN	N108JN	LJ35	3302	28R	B	Lifeguard Medical	Yes
11/6/2019 0:07	LN459MB		C560	4262	28R	B	Lifeguard Medical	Yes
11/6/2019 17:33	LN509RP	N509RP	C550	4523	28R	B	Lifeguard Medical	Yes
11/7/2019 10:40	LN459MB	N459MB	C560	4575	28R	B	Lifeguard Medical	Yes
11/13/2019 13:12	LN818WB		ASTR	4273	28R	B	Lifeguard Medical	Yes
11/17/2019 12:27	LN449RP	LN449RP	C501	4274	28R	B	Lifeguard Medical	Yes
11/17/2019 19:38	LN449RP	LN449RP	C501	4510	28R	B	Lifeguard Medical	Yes
11/18/2019 15:25	JLG55	JLG55	LJ55	1767	28L	B	Lifeguard Medical	Yes
11/20/2019 22:29	KFS110	N242CK	CL60	4225	28L	B	Lifeguard Medical	Yes
12/8/2019 12:39	LN453AM		LJ35	3745	28L	B	Lifeguard Medical	Yes
12/8/2019 20:19	LN6EL	N6EL	ASTR	3330	28R	B	Lifeguard Medical	Yes
12/14/2019 0:56	LN581HC	N581HC	C525	3203	28R	B	Lifeguard Medical	Yes
12/14/2019 16:27	KFS198	N295CK	LJ35	6375	28R	B	Lifeguard Medical	Yes
12/22/2019 14:29	LN51GJ	N51GJ	EA50	3321	28L	B	Lifeguard Medical	Yes
12/24/2019 8:42	LN459MB		C560	4257	28L	B	Lifeguard Medical	Yes
12/27/2019 14:07	LN6EL	N6EL	ASTR	1764	28L	B	Lifeguard Medical	Yes
12/31/2019 7:03	LN449RP	N449RP	C501	6337	28L	B	Lifeguard Medical	Yes
10/6/2019 22:48	LN777AX	N777AX	C550	4554	28R	B	Lifeguard Medical	Yes
10/6/2019 14:18	LN810BE	N810BE	C560	3647	28L	B	Lifeguard Medical	Yes
10/6/2019 14:08	QAJ4817	DCQAB	LJ45	1726	28L	B	Lifeguard Medical	Yes
10/6/2019 11:48	N862LG	N862LG	E55P	7463	28L	B	Lifeguard Medical	Yes
10/6/2019 11:40	LN269JR	N269JR	LJ35	6331	28R	B	Lifeguard Medical	Yes
10/4/2019 1:15	LN108JN	N108JN	LJ35	3301	28L	B	Lifeguard Medical	Yes
10/2/2019 16:10	LN509RP		C550	4275	28R	B	Lifeguard Medical	Yes
10/2/2019 9:30	LN509RP	N509RP	C550	4550	28R	B	Lifeguard Medical	Yes
						Lifeguard Medical	34	
10/1/2019 11:30	N920GB	N920GB	EA50	3266	28L	B	Pilot Requested	No
10/2/2019 9:19			GLF5	6335	28L	B	Pilot Requested	No
10/2/2019 10:45	N96AP	N96AP	CRJ2	4223	28L	R	Pilot Requested	No

Date/Time	Flight Number	Tail Number	Aircraft Type	Beacon Code	Runway	Aircraft Category	Comments	Excused
10/2/2019 19:39	N518MV	N518MV	C510	4244	28R	B	Pilot Requested	No
10/3/2019 17:38	N834JS	N834JS	C56X	3601	28R	B	Pilot Requested	No
10/4/2019 13:19	EJM787	EJM787	C750	3744	28L	B	Pilot Requested	No
10/4/2019 19:19	TFF960		HA4T	1727	28R	B	Pilot Requested	No
10/6/2019 10:44	EJA524	N524QS	C680	3275	28L	B	Pilot Requested	No
10/6/2019 17:11	EJM787	EJM787	C750	3740	28L	B	Pilot Requested	No
10/7/2019 4:38			GLF4	3264	28L	B	Pilot Requested	No
10/8/2019 12:27	N404TC	N404TC	GLF4	1757	28R	B	Pilot Requested	No
10/8/2019 15:10	TWY711		GLF4	3615	28L	B	Pilot Requested	No
10/9/2019 8:52	TWY5	TWY5	GLF5	3354	28L	B	Pilot Requested	No
10/10/2019 11:48	N862K	N862K	C550	3003	28L	B	Pilot Requested	No
10/10/2019 13:00	N614JK	N614JK	C550	3643	28R	B	Pilot Requested	No
10/10/2019 16:58	N520MX	N520MX	C25B	4277	28R	B	Pilot Requested	No
10/11/2019 7:19			GLF4	3365	28L	B	Pilot Requested	No
10/11/2019 13:57	N862LG	N862LG	E55P	1775	28L	B	Pilot Requested	No
10/11/2019 16:05	N404TC	N404TC	GLF4	3315	28R	B	Pilot Requested	No
10/12/2019 9:42	PXT504	N504FM	C25A	4225	28L	B	Pilot Requested	No
10/12/2019 10:44			F2TH	3723	28R	B	Pilot Requested	No
10/12/2019 15:31	N991TW	N991TW	CL60	4576	28L	B	Pilot Requested	No
10/12/2019 21:00	N551SJ	N551SJ	C550	3270	28R	B	Pilot Requested	No
10/13/2019 9:51	N40NW	N40NW	F2TH	1727	28R	B	Pilot Requested	No
10/13/2019 10:07	N739SF	N739SF	C25B	3201	28L	B	Pilot Requested	No
10/13/2019 11:00	EJA406	N406QS	E55P	4245	28R	B	Pilot Requested	No
10/13/2019 14:46	PXT499	N499GB	C680	4563	28R	B	Pilot Requested	No
10/13/2019 14:57			PRM1	1766	28L	B	Pilot Requested	No
10/13/2019 18:12			EA50	3252	28L	B	Pilot Requested	No
10/13/2019 19:33	N560KC	N560KC	C56X	3673	28L	B	Pilot Requested	No
10/14/2019 17:59	FTH808		C750	4545	28L	B	Pilot Requested	No
10/14/2019 18:27	N322PL	N322PL	EA50	4576	28L	B	Pilot Requested	No
10/15/2019 21:08	N713FL	N713FL	C750	4223	28L	B	Pilot Requested	No
10/18/2019 13:35	PXT560	N560TN	C56X	1754	28L	B	Pilot Requested	No
10/19/2019 22:15	NMINE	NMINE	GL5T	3266	28L	B	Pilot Requested	No
10/20/2019 10:02	N298RB	N298RB	GLF4	3754	28L	B	Pilot Requested	No
10/20/2019 15:17	XLJ20	N920NL	C25A	3002	28R	B	Pilot Requested	No
10/22/2019 14:17	UNK2	UNK2	C25M	6345	28R	J	Pilot Requested	No
10/24/2019 15:29	N559BK	N559BK	SF50	4523	28R	J	Pilot Requested	No
10/24/2019 17:32	N17GX	N17GX	GLEX	4537	28L	B	Pilot Requested	No
10/25/2019 9:39	N989H	N989H	C680	1732	28R	B	Pilot Requested	No
10/26/2019 16:27			CL60	3666	28R	B	Pilot Requested	No
10/28/2019 7:46			GLF4	1725	28L	B	Pilot Requested	No
10/28/2019 16:39			GLF4	3344	28L	B	Pilot Requested	No
10/30/2019 16:50	N81GK	N81GK	GLF4	3636	28L	B	Pilot Requested	No
10/31/2019 7:19	N709SP	N709SP	C68A	6353	28R	B	Pilot Requested	No
11/1/2019 16:11	N614JK	N614JK	C550	4560	28R	B	Pilot Requested	No
11/2/2019 13:32			GLF5	3624	28L	B	Pilot Requested	No
11/3/2019 17:09	N470TW	N470TW	HDJT	3725	28L	B	Pilot Requested	No
11/4/2019 3:49	DCM3029	DCM3029	GLF4	3264	28L	B	Pilot Requested	No
11/4/2019 14:42	N484JH	N484JH	E50P	3733	28L	B	Pilot Requested	No
11/5/2019 14:56	N786AC	N786AC	C525	3757	28R	B	Pilot Requested	No
11/5/2019 17:20	N124KK	N124KK	EA50	3330	28R	B	Pilot Requested	No
11/5/2019 17:37	N559BK		SF50	4275	28R	J	Pilot Requested	No

Date/Time	Flight Number	Tail Number	Aircraft Type	Beacon Code	Runway	Aircraft Category	Comments	Excused
11/5/2019 17:41	DCM2034	DCM2034	E55P	3657	28R	B	Pilot Requested	No
11/6/2019 8:53			GLF4	3304	28L	B	Pilot Requested	No
11/7/2019 8:51	N448CJ	N448CJ	C25C	3751	28R	B	Pilot Requested	No
11/7/2019 15:57	PXT415	N415PC	C25B	3711	28L	B	Pilot Requested	No
11/7/2019 21:32	N559HF	N559HF	C525	4211	28R	B	Pilot Requested	No
11/8/2019 7:48			GLF4	3753	28L	B	Pilot Requested	No
11/8/2019 10:28	N600GU	N600GU	GA6C	2235	28L	B	Pilot Requested	No
11/9/2019 16:46	SCX8946	N809SY	B738	3317	28L	J	Pilot Requested	No
11/10/2019 8:13	XSN40	N404TC	GLF4	4570	28R	B	Pilot Requested	No
11/10/2019 10:37	XOJ356		CL35	1734	28L	B	Pilot Requested	No
11/11/2019 12:02	EJA571	N571QS	C68A	6331	28R	B	Pilot Requested	No
11/11/2019 12:27			GLF4	3326	28L	B	Pilot Requested	No
11/11/2019 18:52	SJA525	N525CD	C525	3767	28R	B	Pilot Requested	No
11/12/2019 7:51	N377SC	N377SC	F2TH	6367	28L	B	Pilot Requested	No
11/12/2019 18:21	DCM5029	DCM5029	GLF5	6324	28L	B	Pilot Requested	No
11/13/2019 14:23	N707W	N707W	C560	3655	28R	B	Pilot Requested	No
11/13/2019 19:03	N3760C	N3760C	F2TH	3620	28L	B	Pilot Requested	No
11/14/2019 11:16	TFF909		GLF4	3337	28L	B	Pilot Requested	No
11/14/2019 14:18	N862LG	N862LG	E55P	1711	28L	B	Pilot Requested	No
11/14/2019 16:06	N786AC	N786AC	C525	1725	28L	B	Pilot Requested	No
11/15/2019 21:10	DCM4325	DCM4325	C525	3706	28L	B	Pilot Requested	No
11/16/2019 12:02	SPA708	N708S	B735	3201	28L	J	Pilot Requested	No
11/16/2019 12:54	JSX203	N251JX	E135	1743	28R	R	Pilot Requested	No
11/16/2019 14:29	N557CS	N557CS	C510	1731	28R	B	Pilot Requested	No
11/17/2019 12:47	TFF909		GLF4	4524	28L	B	Pilot Requested	No
11/18/2019 8:14	N862LG	N862LG	E55P	3350	28L	B	Pilot Requested	No
11/18/2019 15:21	EJA990	N990QS	C750	4533	28L	B	Pilot Requested	No
11/20/2019 11:24	KFS169	N913CK	LJ35	4561	28R	B	Pilot Requested	No
11/20/2019 14:12	JSX203	N264JX	E135	1725	28L	R	Pilot Requested	No
11/21/2019 14:37	DCM4356	DCM4356	C25B	3733	28R	B	Pilot Requested	No
11/21/2019 18:33	TWY6	TWY6	C25C	3676	28R	B	Pilot Requested	No
11/22/2019 7:17	XADOC	XADOC	LJ35	6370	28R	B	Pilot Requested	No
11/22/2019 8:58	TWY5	TWY5	GLF5	3630	28L	B	Pilot Requested	No
11/22/2019 15:29			GLF5	3012	28L	B	Pilot Requested	No
11/22/2019 18:54	TWY711		GLF4	3764	28L	B	Pilot Requested	No
11/23/2019 18:45	HBJFR	HBJFR	FA7X	3240	28L	B	Pilot Requested	No
11/24/2019 16:03	N10TS	N10TS	C525	3244	28R	B	Pilot Requested	No
11/24/2019 16:17	N363CA	N363CA	C550	4205	28L	B	Pilot Requested	No
11/24/2019 17:24			F2TH	3607	28R	B	Pilot Requested	No
11/27/2019 14:59	ASP846		E545	3615	28L	B	Pilot Requested	No
12/3/2019 13:19	N929SS	N929SS	PRM1	4244	28R	B	Pilot Requested	No
12/3/2019 17:44	N6EL	N6EL	ASTR	3226	28L	B	Pilot Requested	No
12/3/2019 18:24	N327NM	N327NM	C510	1760	28R	B	Pilot Requested	No
12/4/2019 14:14	FT452	N452M	C56X	3664	28L	B	Pilot Requested	No
12/4/2019 14:19	TWY5	TWY5	GLF6	3261	28L	B	Pilot Requested	No
12/4/2019 14:22	TWY5	TWY5	GLF5	3323	28L	B	Pilot Requested	No
12/4/2019 14:24	DCM677	DCM677	GLF6	3366	28L	B	Pilot Requested	No
12/4/2019 18:34	JSX205	N254JX	E135	1756	28L	R	Pilot Requested	No
12/5/2019 6:05	KFS150	N913CK	LJ35	3217	28R	B	Pilot Requested	No
12/5/2019 14:19	XOJ551	N551XJ	CL30	4224	28L	B	Pilot Requested	No
12/5/2019 16:07	N786AC	N786AC	C525	3711	28R	B	Pilot Requested	No

Date/Time	Flight Number	Tail Number	Aircraft Type	Beacon Code	Runway	Aircraft Category	Comments	Excused
12/5/2019 17:17	LXJ407	N407FX	E545	3202	28R	B	Pilot Requested	No
12/8/2019 15:00	TWY5	TWY5	C25C	3261	28L	B	Pilot Requested	No
12/8/2019 17:17	N560HC	N560HC	C560	3240	28L	B	Pilot Requested	No
12/9/2019 15:23	N551AD	N551AD	F900	4545	28L	B	Pilot Requested	No
12/10/2019 9:17	DCM5643	DCM5643	F900	3614	28R	B	Pilot Requested	No
12/11/2019 18:53	N6EL	N6EL	ASTR	1772	28L	B	Pilot Requested	No
12/13/2019 8:52	DCM2456	DCM2456	H25B	3635	28R	B	Pilot Requested	No
12/13/2019 9:35	N843GX	N843GX	GLEX	6326	28L	B	Pilot Requested	No
12/13/2019 17:39	N137JQ	N137JQ	C25C	3777	28L	B	Pilot Requested	No
12/14/2019 15:09	RSP920	N583JS	E50P	3232	28R	B	Pilot Requested	No
12/15/2019 6:57	FFL226	N509RP	C550	4244	28R	B	Pilot Requested	No
12/16/2019 17:03	EJA647	N647QS	C56X	6366	28R	B	Pilot Requested	No
12/17/2019 13:29	N862LG	N862LG	E55P	1724	28L	B	Pilot Requested	No
12/19/2019 9:56	EJA410	N410QS	E55P	4510	28L	B	Pilot Requested	No
12/19/2019 11:33			GLF4	3733	28L	B	Pilot Requested	No
12/19/2019 12:44			EA50	4254	28L	B	Pilot Requested	No
12/19/2019 16:37			GLF4	3751	28L	B	Pilot Requested	No
12/19/2019 18:50	EJM123	N123QS	C750	6335	28L	B	Pilot Requested	No
12/20/2019 10:11	EJA540	N540QS	C680	3711	28L	B	Pilot Requested	No
12/20/2019 10:33	N831BG	N831BG	GALX	3627	28L	B	Pilot Requested	No
12/20/2019 11:15	N826KR	N826KR	F2TH	3731	28L	B	Pilot Requested	No
12/20/2019 11:21	LXJ353	N353FX	E55P	6322	28L	B	Pilot Requested	No
12/20/2019 11:23	N1492J	N1492J	G150	3610	28L	B	Pilot Requested	No
12/20/2019 12:20	EDG195		GLF4	6340	28L	B	Pilot Requested	No
12/20/2019 15:35	TWY711		GLF4	4577	28L	B	Pilot Requested	No
12/20/2019 16:31	JSX336	A27614	E135	6316	28L	R	Pilot Requested	No
12/23/2019 18:05	JSX426	N259JQ	E145	1736	28L	R	Pilot Requested	No
12/23/2019 19:59	EJA385	N385QS	C680	3622	28L	B	Pilot Requested	No
12/24/2019 10:20			F900	3704	28L	B	Pilot Requested	No
12/26/2019 9:45	TWY604		CL60	3702	28L	B	Pilot Requested	No
12/26/2019 10:36	KFS133	N242CK	CL60	4227	28L	B	Pilot Requested	No
12/27/2019 9:07	TWY711		GLF4	4230	28L	B	Pilot Requested	No
12/27/2019 11:48	TWY711		GLF4	3713	28L	B	Pilot Requested	No
12/27/2019 14:36	EJA782	N782QS	CL35	4537	28L	B	Pilot Requested	No
12/27/2019 15:51			C25B	3735	28L	B	Pilot Requested	No
12/30/2019 11:37	CFMCG	CFMCG	C550	3604	28L	B	Pilot Requested	No
12/30/2019 12:49	SWQ5093	N807TJ	B734	1737	28L	J	Pilot Requested	No
						Pilot Requested	142	
10/6/2019 23:09	SWA4829	N7824A	B737	3317	28L	J	RWY 30 Routine Closure	Yes
10/6/2019 23:10	NKS510	N524NK	A319	3335	28L	J	RWY 30 Routine Closure	Yes
10/6/2019 23:11	SWA9007	N254WN	B737	3273	28L	J	RWY 30 Routine Closure	Yes
10/6/2019 23:33	SWA3675	N288WN	B737	3362	28L	J	RWY 30 Routine Closure	Yes
10/6/2019 22:46	SWA4127	N937WN	B737	3357	28L	J	RWY 30 Routine Closure	Yes
10/14/2019 2:33	BSK574	N758MA	B738	3376	28L	J	RWY 30 Routine Closure	Yes
12/16/2019 5:24	SWA1222	N473WN	B737	3332	28L	J	RWY 30 Routine Closure	Yes
12/16/2019 5:13	PXT920		C25A	3224	28L	B	RWY 30 Routine Closure	Yes
11/18/2019 5:20	SWA1222	N268WN	B737	3313	28L	J	RWY 30 Routine Closure	Yes
12/9/2019 5:02	KAI57		CL30	3326	28L	B	RWY 30 Routine Closure	Yes
						RWY 30 Routine Closure	10	
10/16/2019 7:32	N904LR	N904LR	C560	1372	28R	B	System Error	Yes
10/13/2019 16:18	USC240	N352CK	LJ35	3536	28R	B	System Error	Yes

Date/Time	Flight Number	Tail Number	Aircraft Type	Beacon Code	Runway	Aircraft Category	Comments	Excused
10/31/2019 13:08	XOJ552	N552XJ	CL30	1134	28R	B	System Error	Yes
						System Error	3	
						Grand Count	194	

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Runway 10R/L Jet Aircraft Landing List for Calendar Quarter

Date/Time	Flight Number	Tail Number	Aircraft Type	Beacon Code	Runway	Aircraft Category	Comments	Excused
12/21/2019 11:56	LN51GJ	N51GJ	EA50	5767	10R	B	Lifeguard Medical	Yes
						Lifeguard Medical	1	
12/18/2019 9:33	SJE97		C750	7376	10R	B	Pilot Requested	No
12/18/2019 9:45			C25M	1317	10R	J	Pilot Requested	No
12/18/2019 10:00	EJA573	N573QS	C56X	2425	10R	B	Pilot Requested	No
12/18/2019 12:17			EA50	4115	10R	B	Pilot Requested	No
12/18/2019 16:08	EJA216	N216QS	CL60	4261	10R	B	Pilot Requested	No
12/18/2019 16:12	GDG626	N626NT	F2TH	4277	10R	B	Pilot Requested	No
12/18/2019 17:08	DLX401	N401SY	LJ60	572	10R	B	Pilot Requested	No
12/18/2019 17:26			C25A	4524	10R	B	Pilot Requested	No
12/18/2019 18:23			GLF4	2406	10R	B	Pilot Requested	No
12/21/2019 8:41			C525	4545	10R	B	Pilot Requested	No
12/21/2019 9:48	LXJ575	N575FX	CL30	2406	10R	B	Pilot Requested	No
12/21/2019 10:51	EJA426	N426QS	GLF4	4252	10R	B	Pilot Requested	No
12/21/2019 11:01			F2TH	1136	10R	B	Pilot Requested	No
12/21/2019 11:09	N648ME	N648ME	E55P	7326	10R	B	Pilot Requested	No
12/21/2019 11:14	EJA513	N513QS	C680	7270	10R	B	Pilot Requested	No
12/21/2019 12:27			GLF4	1301	10R	B	Pilot Requested	No
12/21/2019 12:34	N819AP	N819AP	GALX	4516	10R	B	Pilot Requested	No
12/21/2019 12:56			GLF4	7321	10R	B	Pilot Requested	No
12/21/2019 14:18	GAJ510	N510UP	C56X	6056	10R	B	Pilot Requested	No
12/21/2019 14:47	N803JS	N803JS	C560	4530	10R	B	Pilot Requested	No
12/21/2019 14:48	GDG48	N8888H	H25C	3116	10R	B	Pilot Requested	No
12/21/2019 15:00	N214WT	N214WT	C750	1161	10R	B	Pilot Requested	No
12/21/2019 16:19	N298RB	N298RB	GLF4	1004	10R	B	Pilot Requested	No
12/21/2019 19:12	JSX425	N263JX	E135	2663	10R	R	Pilot Requested	No
12/21/2019 20:48	N269WR	N269WR	GLF4	7465	10R	B	Pilot Requested	No
12/22/2019 9:02	N49MN	N49MN	ASTR	4256	10R	B	Pilot Requested	No
12/22/2019 9:47			C560	7620	10R	B	Pilot Requested	No
12/25/2019 10:49	N49MN	N49MN	ASTR	4546	10R	B	Pilot Requested	No
12/25/2019 11:23	N300AA	N300AA	LJ45	723	10R	B	Pilot Requested	No
12/25/2019 12:21	PXT903	N903JP	C510	4201	10R	B	Pilot Requested	No
12/25/2019 13:24	LXJ592	N592FX	CL30	7747	10R	B	Pilot Requested	No
12/29/2019 18:52			C525	3555	10R	B	Pilot Requested	No
12/29/2019 19:05	N420DT	N420DT	HDJT	6606	10R	B	Pilot Requested	No
11/26/2019 16:11	JSX337	N253JX	E135	7207	10R	R	Pilot Requested	No
11/26/2019 16:23	JSX737	N261JX	E135	3531	10R	R	Pilot Requested	No
11/30/2019 7:58	JSX427	N261JX	E135	704	10L	R	Pilot Requested	No
11/30/2019 11:20	LXJ553	N553FX	CL30	1113	10R	B	Pilot Requested	No

Date/Time	Flight Number	Tail Number	Aircraft Type	Beacon Code	Runway	Aircraft Category	Comments	Excused
11/30/2019 13:50	G DG979	N9793K	H25C	4207	10R	B	Pilot Requested	No
11/30/2019 14:09	J SX181	N286SK	E145	6714	10R	R	Pilot Requested	No
11/30/2019 16:25	E DG76		GLF5	3103	10R	B	Pilot Requested	No
11/30/2019 16:32	T WY801	N801BG	CL60	4202	10R	B	Pilot Requested	No
11/30/2019 17:07	J SX737	N264JX	E135	3507	10R	R	Pilot Requested	No
11/30/2019 19:24	J SX425	N286SK	E145	2601	10R	R	Pilot Requested	No
11/30/2019 23:34	N610RL	N610RL	F900	3765	10R	B	Pilot Requested	No
12/1/2019 9:51	J SX177	N251JX	E135	7754	10R	R	Pilot Requested	No
12/1/2019 9:54	N648ME	N648ME	E55P	7667	10R	B	Pilot Requested	No
12/1/2019 10:12	N24YP	N24YP	E550	1525	10R	B	Pilot Requested	No
12/1/2019 10:17	F TH125	N125DZ	C750	2420	10R	B	Pilot Requested	No
12/1/2019 11:41	E JA760	N760QS	CL35	7216	10R	B	Pilot Requested	No
12/1/2019 11:46			C56X	2473	10R	B	Pilot Requested	No
12/1/2019 11:58	N888YC	N888YC	CL60	2103	10R	B	Pilot Requested	No
12/1/2019 12:14	N46BE	N46BE	C25A	1043	10R	B	Pilot Requested	No
12/1/2019 12:56	L XJ456	N456FX	GLF4	6044	10R	B	Pilot Requested	No
12/1/2019 13:26	E JA642	N642QS	C56X	4074	10R	B	Pilot Requested	No
12/1/2019 14:15	N430HJ	N430HJ	HDJT	1570	10R	B	Pilot Requested	No
12/1/2019 15:02			GLF4	6060	10R	B	Pilot Requested	No
12/1/2019 15:11	J SX423	N251JX	E135	1530	10R	R	Pilot Requested	No
12/1/2019 15:25			GLF4	7711	10R	B	Pilot Requested	No
12/1/2019 16:26	E JA406	N406QS	E55P	1454	10R	B	Pilot Requested	No
12/1/2019 16:57	E JA946P	N946QS	C750	4067	10R	B	Pilot Requested	No
12/1/2019 17:06	S VL1		C25B	4277	10R	B	Pilot Requested	No
12/1/2019 17:25	N7757B	N7757B	C680	2605	10R	B	Pilot Requested	No
12/1/2019 17:43	N831BG	N831BG	GALX	1453	10R	B	Pilot Requested	No
12/1/2019 18:09	U SC240	N290CK	LJ35	3537	10R	B	Pilot Requested	No
12/1/2019 18:39	D CM451	D CM451	C25B	7661	10L	B	Pilot Requested	No
12/1/2019 20:22	E JA682	N682QS	C56X	2437	10R	B	Pilot Requested	No
12/1/2019 20:29	N11HM	N11HM	C56X	6656	10R	B	Pilot Requested	No
12/1/2019 21:39	J SX757	N251JX	E135	6602	10R	R	Pilot Requested	No
12/2/2019 8:12	J SX171	N258JX	E135	6772	10R	R	Pilot Requested	No
12/2/2019 8:33	E JA358	N358QS	E55P	6064	10R	B	Pilot Requested	No
12/2/2019 9:26	D CM4315	D CM4315	PRM1	7635	10L	B	Pilot Requested	No
12/2/2019 10:26	L XJ547	N547FX	CL30	550	10R	B	Pilot Requested	No
12/2/2019 12:14	J SX173	N260JX	E135	6776	10R	R	Pilot Requested	No
12/2/2019 15:25	L XJ368	N368FX	E55P	4253	10L	B	Pilot Requested	No
12/2/2019 16:34	X OJ753	N753XJ	C750	3507	10R	B	Pilot Requested	No
12/2/2019 17:10	E JA559	N559QS	C68A	6664	10R	B	Pilot Requested	No
12/2/2019 19:58	J SX331	N259JX	E135	1317	10R	R	Pilot Requested	No
12/6/2019 9:53	N85JV	N85JV	C525	7665	10R	B	Pilot Requested	No
12/6/2019 10:58	J SX421	N260JX	E135	1504	10R	R	Pilot Requested	No
12/6/2019 11:34	X OJ357		CL35	4217	10L	B	Pilot Requested	No
12/6/2019 11:59	N430HJ	N430HJ	HDJT	1546	10R	B	Pilot Requested	No
12/6/2019 12:29			C750	2025	10R	B	Pilot Requested	No
12/6/2019 12:44	J SX173	N251JX	E135	2047	10R	R	Pilot Requested	No
12/6/2019 14:06	E JA512	N512QS	C680	1565	10R	B	Pilot Requested	No
12/6/2019 14:31	J SX181	N264JX	E135	1343	10R	R	Pilot Requested	No
12/6/2019 15:17	N448QS	N448QS	GLF4	7734	10R	B	Pilot Requested	No
12/6/2019 15:38	L XJ420	N420FX	E545	4225	10R	B	Pilot Requested	No
12/6/2019 16:51	E JA626	N626QS	C68A	4552	10L	B	Pilot Requested	No

Date/Time	Flight Number	Tail Number	Aircraft Type	Beacon Code	Runway	Aircraft Category	Comments	Excused
12/6/2019 18:11	JSX183	N251JX	E135	2035	10R	R	Pilot Requested	No
12/7/2019 11:39	EJA512	N512QS	C68A	4203	10L	B	Pilot Requested	No
12/7/2019 14:13	N421LT	N421LT	C56X	7731	10R	B	Pilot Requested	No
12/7/2019 16:17	EJA760	N760QS	CL35	2020	10R	B	Pilot Requested	No
12/7/2019 17:35	EJA359	N359QS	C680	1346	10R	B	Pilot Requested	No
12/7/2019 19:06	PXT843	N843CC	CL60	7427	10R	B	Pilot Requested	No
12/7/2019 21:26	XOJ357		CL35	6025	10R	B	Pilot Requested	No
12/13/2019 15:46	JSX423	N261JX	E135	1715	10R	R	Pilot Requested	No
12/13/2019 15:53			F900	1001	10R	B	Pilot Requested	No
						Pilot Requested	97	
11/30/2019 10:22	N300AA	N300AA	LJ45	1556	10R	B	Southeast/Runway Capacity	Yes
11/30/2019 10:36	N46BE	N46BE	C25A	7645	10R	B	Southeast/Runway Capacity	Yes
12/2/2019 15:59	EJA345	N345QS	E55P	7242	10R	B	Southeast/Runway Capacity	Yes
12/2/2019 16:01	JSX337	N259JX	E135	7305	10R	R	Southeast/Runway Capacity	Yes
12/2/2019 16:08	JSX175	N251JX	E135	1343	10R	R	Southeast/Runway Capacity	Yes
12/6/2019 13:17	EJA796	N796QS	CL35	2744	10R	B	Southeast/Runway Capacity	Yes
12/6/2019 13:29	EJA143	N143QS	GLEK	4243	10R	B	Southeast/Runway Capacity	Yes
12/6/2019 13:33	LXJ373	N373FX	E55P	4253	10R	B	Southeast/Runway Capacity	Yes
12/6/2019 13:54	TWY801		CL60	2232	10R	B	Southeast/Runway Capacity	Yes
12/6/2019 14:25			CL30	7313	10R	B	Southeast/Runway Capacity	Yes
12/6/2019 14:57	N127MC	N127MC	C56X	6014	10L	B	Southeast/Runway Capacity	Yes
12/7/2019 8:23	JSX333	N261JX	E135	1375	10R	R	Southeast/Runway Capacity	Yes
12/7/2019 9:12	N724PB	N724PB	C25B	4014	10R	B	Southeast/Runway Capacity	Yes
						Southeast/Runway Capacity	13	
						Grand Count	111	

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North Field VFR Departure List for Calendar Quarter

Date/Time	Runway	Flight Number	Tail Number	Aircraft Type	Beacon Code	Comments	Excused
12/26/2019 11:40	PAD1	CMD8		HELO	332	Air Traffic Conflict	Yes
11/15/2019 16:02	33	N43434	N43434	P28A	362	Air Traffic Conflict	Yes
10/20/2019 12:05	33	N83052	N83052	PA32	333	Air Traffic Conflict	Yes
12/20/2019 14:09	33	N2315M	N2315M	PA12	342	Air Traffic Conflict	Yes
12/19/2019 11:51	33			C340	363	Air Traffic Conflict	Yes
12/26/2019 13:53	33	N20506	N20506	M20P	321	Air Traffic Conflict	Yes
12/16/2019 13:13	28R	N354DG	N354DG	BE36	357	Air Traffic Conflict	Yes
12/23/2019 14:15	PAD1	CMD8		HELO	344	Air Traffic Conflict	Yes
10/2/2019 19:44	PAD1	CMD08		HELO	361	Air Traffic Conflict	Yes
11/7/2019 15:57	28R	N747JS	N747JS	P28R	336	Air Traffic Conflict	Yes
10/12/2019 12:57	28R	N933GC	N933GC	T33	316	Air Traffic Conflict	Yes
11/2/2019 11:23	28L	N66529	N66529	BE35	345	Air Traffic Conflict	Yes
10/26/2019 13:23	28R	N53KP	N53KP	C182	325	Air Traffic Conflict	Yes

Date/Time	Runway	Flight Number	Tail Number	Aircraft Type	Beacon Code	Comments	Excused
10/26/2019 10:26	33	N734BN	N734BN	C172	317	Air Traffic Conflict	Yes
12/30/2019 10:53	33	N52789	N52789	C172	362	Air Traffic Conflict	Yes
12/4/2019 14:48	28R	N4352G	N4352G	P28A	334	Air Traffic Conflict	Yes
11/23/2019 14:20	33	N2874Z	N2874Z	P28A	362	Air Traffic Conflict	Yes
11/23/2019 11:57	33	N420WT	N420WT	COL4	352	Air Traffic Conflict	Yes
10/17/2019 17:43	33	N739UL	N739UL	C172	316	Air Traffic Conflict	Yes
11/17/2019 18:20	28R	N553TP	N553TP	P28A	357	Air Traffic Conflict	Yes
10/13/2019 15:37	28R	WSN5	N395AV	B350	334	Air Traffic Conflict	Yes
10/20/2019 13:44	28R	N1BF	N1BF	BE55	347	Air Traffic Conflict	Yes
10/9/2019 9:24	28R			C172	353	Air Traffic Conflict	Yes
10/21/2019 8:56	28R	DLX622		BE20	320	Air Traffic Conflict	Yes
10/10/2019 11:05	28R	DCM4356			323	Air Traffic Conflict	Yes
10/23/2019 10:18	33	UKN	UKN		373	Air Traffic Conflict	Yes
10/24/2019 15:11	PAD1	N63PP	N63PP	HELO	345	Air Traffic Conflict	Yes
					Air Traffic Conflict	27	
10/7/2019 1:20	PAD1	CMD8		HELO	324	Lifeguard Medical	Yes
10/21/2019 14:57	PAD1	CMD8		HELO	322	Lifeguard Medical	Yes
10/26/2019 23:19	PAD1	REH1	N312RX	HELO	332	Lifeguard Medical	Yes
10/25/2019 14:29	PAD1	CMD8			356	Lifeguard Medical	Yes
10/12/2019 5:13	PAD1	CMD08			325	Lifeguard Medical	Yes
					Lifeguard Medical	5	
12/20/2019 17:37	28L	N2370F	N2370F	C172	356	Not Acceptable	No
12/13/2019 18:15	28R	N5525V	N5525V	P28A	345	Not Acceptable	No
11/19/2019 13:10	PAD1	HELO	HELO		374	Not Acceptable	No
11/18/2019 9:14	28R	N883L	N883L	DA42	370	Not Acceptable	No
11/17/2019 14:16	28R	N727VT	N727VT	C172	354	Not Acceptable	No
11/8/2019 19:19	28R	N420WT	N420WT	C240	365	Not Acceptable	No
11/6/2019 12:07	33	N553TP	N553TP	P28A	313	Not Acceptable	No
10/23/2019 10:11	28L	CGTHD	CGTHD	PA46	334	Not Acceptable	No
10/21/2019 12:10	33	N43434	N43434	P28A	316	Not Acceptable	No
10/20/2019 21:19	28R	N462M	N462M	P46T	366	Not Acceptable	No
10/19/2019 16:57	28R			DA40	335	Not Acceptable	No
10/18/2019 19:22	28R	N819RL	N819RL	PA46	356	Not Acceptable	No
10/12/2019 14:23	33			E300	327	Not Acceptable	No
10/8/2019 17:44	33	N8542M	N8542M	BE35	330	Not Acceptable	No
10/5/2019 20:19	28R	N57403	N57403	M20P	327	Not Acceptable	No
10/5/2019 14:02	28R	N5043J	N5043J	C172	354	Not Acceptable	No
10/4/2019 21:54	28R	N3243B	N3243B	BE36	373	Not Acceptable	No
10/3/2019 10:19	33	N7186C	N7186C	C172	324	Not Acceptable	No
12/29/2019 10:28	PAD1			HELO	377	Not Acceptable	No
					Not Acceptable	19	
12/9/2019 12:27	28R	N734BN	N734BN	C172	333	Touch & Go Training	No
11/23/2019 9:58	28L	N66405	N66405	BL8	321	Touch & Go Training	No
12/18/2019 20:54	28L	N2874Z	N2874Z	P28A	355	Touch & Go Training	No
					Touch & Go Training	3	
					Grand Count	54	

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North Field Quiet Hours Departure List for Calendar Quarter

Date/Time	Flight Number	Tail Number	Aircraft Type	Beacon Code	Runway	Comments	Excused
11/21/2019 0:04	CHP32	CHP32		5316	PAD1	Law Enforcement	Yes
					Law Enforcement	1	
10/7/2019 1:20	CMD8		HELO	324	PAD1	Lifeguard Medical	Yes
10/7/2019 5:14	LN777AX	N777AX	C550	4546	28L	Lifeguard Medical	Yes
10/12/2019 5:13	CMD08			325	PAD1	Lifeguard Medical	Yes
10/14/2019 6:25	LN991GT	N991GT	BE9L	4266	28R	Lifeguard Medical	Yes
10/21/2019 0:40	LN923AS	N923AS	BE20	4507	28R	Lifeguard Medical	Yes
10/26/2019 1:53	LN372BW	N372BW	PRM1	3202	28R	Lifeguard Medical	Yes
10/26/2019 23:19	REH1	N312RX	HELO	332	PAD1	Lifeguard Medical	Yes
10/30/2019 2:50	LN509RP	N509RP	C550	3271	28L	Lifeguard Medical	Yes
11/3/2019 2:18	LN800TP	N800TP	BE20	4236	28R	Lifeguard Medical	Yes
11/6/2019 0:07	LN459MB		C560	4262	28R	Lifeguard Medical	Yes
11/12/2019 2:37	CMD08		HELO	5326	PAD1	Lifeguard Medical	Yes
11/20/2019 22:29	KFS110	N242CK	CL60	4225	28L	Lifeguard Medical	Yes
12/1/2019 22:56	LN41BA	N41BA	BE9L	3326	10L	Lifeguard Medical	Yes
12/5/2019 6:05	KFS150	N913CK	LJ35	3217	28R	Lifeguard Medical	Yes
12/6/2019 0:52	REH50	N913RX	BE20	4211	28R	Lifeguard Medical	Yes
12/7/2019 5:27	REH50	N913RX	BE20	4542	10L	Lifeguard Medical	Yes
12/14/2019 0:04	LN248PH	N248PH	BE20	4263	28L	Lifeguard Medical	Yes
12/14/2019 0:56	LN581HC	N581HC	C525	3203	28R	Lifeguard Medical	Yes
12/26/2019 1:23	LN336LA		BE9L	3213	10R	Lifeguard Medical	Yes
12/30/2019 22:11	LN991GT	N991GT	BE9L	4225	28L	Lifeguard Medical	Yes
10/6/2019 22:48	LN777AX	N777AX	C550	4554	28R	Lifeguard Medical	Yes
10/4/2019 1:15	LN108JN	N108JN	LJ35	3301	28L	Lifeguard Medical	Yes
10/5/2019 6:40	LN991GT		BE20	4567	28R	Lifeguard Medical	Yes
					Lifeguard Medical	23	
10/2/2019 23:05	N3148R	N3148R	C182	4265	33	Not Acceptable	No
10/4/2019 22:31	N831BG	N831BG	GALX	3357	10R	Not Acceptable	No
10/21/2019 5:40	N112HD	N112HD	PA46	3351	28R	Not Acceptable	No
10/25/2019 5:36			CL30	3361	10R	Not Acceptable	No
10/29/2019 22:45	N248PH	N248PH	BE20	4575	28R	Not Acceptable	No
10/31/2019 23:15	N6462Q	N6462Q	M20P	4276	10L	Not Acceptable	No
11/4/2019 3:49	DCM3029	DCM3029	GLF4	3264	28L	Not Acceptable	No
11/30/2019 23:28	N982SB	N982SB	BE9L	6324	10L	Not Acceptable	No
12/1/2019 0:24	N610RL	N610RL	F900	3352	10R	Not Acceptable	No
12/1/2019 1:14	GAJ900	N900UP	C750	3725	10R	Not Acceptable	No
12/1/2019 4:40	TWY604		CL60	3223	10R	Not Acceptable	No
12/2/2019 23:11	EJA559	N559QS	C68A	3277	10R	Not Acceptable	No
12/3/2019 1:12	N845KA	N845KA	B350	4202	10L	Not Acceptable	No
12/7/2019 22:58	N800BJ	N800BJ	PC12	3260	10L	Not Acceptable	No
12/11/2019 5:48	PROP	PROP		330	28L	Not Acceptable	No
12/17/2019 22:59	N1133G	N1133G	COL4	4544	10R	Not Acceptable	No
12/18/2019 6:06	N214DV	N214DV	FA50	3341	10R	Not Acceptable	No
12/18/2019 6:42			F900	3366	10R	Not Acceptable	No

Date/Time	Flight Number	Tail Number	Aircraft Type	Beacon Code	Runway	Comments	Excused
12/21/2019 22:41	EJA525	N525QS	C680	3375	10R	Not Acceptable	No
12/21/2019 23:30			P180	3605	10R	Not Acceptable	No
					Not Acceptable	20	
10/7/2019 4:38			GLF4	3264	28L	Pilot Requested	No
10/19/2019 22:15	NMINE	NMINE	GL5T	3266	28L	Pilot Requested	No
					Pilot Requested	2	
10/6/2019 22:46	SWA4127	N937WN	B737	3357	28L	RWY 30 Routine Closure	Yes
10/6/2019 23:09	SWA4829	N7824A	B737	3317	28L	RWY 30 Routine Closure	Yes
10/6/2019 23:10	NKS510	N524NK	A319	3335	28L	RWY 30 Routine Closure	Yes
10/6/2019 23:11	SWA9007	N254WN	B737	3273	28L	RWY 30 Routine Closure	Yes
10/6/2019 23:33	SWA3675	N288WN	B737	3362	28L	RWY 30 Routine Closure	Yes
10/14/2019 2:33	BSK574	N758MA	B738	3376	28L	RWY 30 Routine Closure	Yes
11/18/2019 5:20	SWA1222	N268WN	B737	3313	28L	RWY 30 Routine Closure	Yes
12/9/2019 5:02	KAI57		CL30	3326	28L	RWY 30 Routine Closure	Yes
12/16/2019 5:13	PXT920		C25A	3224	28L	RWY 30 Routine Closure	Yes
12/16/2019 5:24	SWA1222	N473WN	B737	3332	28L	RWY 30 Routine Closure	Yes
					RWY 30 Routine Closure	10	
10/11/2019 6:55	PCM8710	N744FX	C208	4223	28L	Time Buffer	Yes
10/15/2019 6:54	PCM8679	N879FE	C208	4237	28L	Time Buffer	Yes
10/15/2019 6:57	PCM8710	N744FX	C208	4267	28L	Time Buffer	Yes
10/16/2019 6:56	PCM8710	N744FX	C208	4525	28L	Time Buffer	Yes
10/18/2019 6:53	PCM8710	N744FX	C208	4577	28L	Time Buffer	Yes
10/19/2019 6:59	N41BA	N41BA	BE9L	4274	28R	Time Buffer	Yes
10/23/2019 6:58	PCM8679	N879FE	C208	4557	28L	Time Buffer	Yes
10/24/2019 6:52	PCM8710	N879FE	C208	4270	28L	Time Buffer	Yes
10/27/2019 22:05	KFS110	N242CK	CL60	1775	28R	Time Buffer	Yes
10/30/2019 6:58	PCM8710	N744FX	C208	4245	28L	Time Buffer	Yes
11/7/2019 6:54	PCM8679	N744FX	C208	4507	28L	Time Buffer	Yes
11/8/2019 6:59	PCM8710		C208	4222	28L	Time Buffer	Yes
11/14/2019 6:51	PCM8710	N886FE	C208	4507	28L	Time Buffer	Yes
11/21/2019 6:54	BXR8604		C208	4553	28L	Time Buffer	Yes
12/1/2019 6:55	XSN61		PC12	6350	10L	Time Buffer	Yes
12/15/2019 6:57	FFL226	N509RP	C550	4244	28R	Time Buffer	Yes
12/22/2019 6:55	JSX180	N257JX	E135	3654	10R	Time Buffer	Yes
					Time Buffer	17	
10/2/2019 6:44	PCM8710	N744FX	C208	4277	28L	Wide Salad	No
10/4/2019 6:16	N410MC	N410MC	BE9L	4254	28R	Wide Salad	No
10/6/2019 6:49	N6794D	N6794D	C421	3232	28R	Wide Salad	No
10/7/2019 1:06	N727TP	N727TP	MU2	3253	28L	Wide Salad	No
10/9/2019 6:48	PCM8710	N744FX	C208	4225	28L	Wide Salad	No
10/10/2019 6:23	PCM8709	N846FE	C208	4556	28L	Wide Salad	No
10/12/2019 22:55			BE9L	3242	28R	Wide Salad	No
10/13/2019 1:28	N845KA	N845KA	B350	4517	28R	Wide Salad	No
10/15/2019 22:51	N521WB	N521WB	BE9L	3217	28R	Wide Salad	No
10/17/2019 22:42	N9296N	N9296N	PA32	3321	28R	Wide Salad	No
10/29/2019 0:29	N943RB	N943RB	PA46	4254	28R	Wide Salad	No
11/2/2019 1:38	N204JS	N204JS	BE20	4223	28R	Wide Salad	No
11/5/2019 6:18	PCM8709	N707FX	C208	4251	28L	Wide Salad	No

Date/Time	Flight Number	Tail Number	Aircraft Type	Beacon Code	Runway	Comments	Excused
11/7/2019 5:17	N930VT	N930VT	TBM8	3204	28R	Wide Salad	No
11/7/2019 6:13	PCM8709	N969FE	C208	4213	28R	Wide Salad	No
11/7/2019 22:22	N100MW	N100MW	BE9L	4530	28R	Wide Salad	No
11/8/2019 0:07			BE9L	4506	28R	Wide Salad	No
11/8/2019 3:52	N982SB	N982SB	BE9L	3216	28R	Wide Salad	No
11/8/2019 6:44	N816GL	N816GL	SR22	1735	28R	Wide Salad	No
11/13/2019 6:49	PCM8710	N872FE	C208	4537	28L	Wide Salad	No
11/21/2019 6:14	PXT494	N494KC	PC12	4230	28R	Wide Salad	No
11/28/2019 4:12	N248PH	N248PH	BE20	4252	28R	Wide Salad	No
11/29/2019 6:33	PCM8711	N987FE	C208	4224	28L	Wide Salad	No
12/3/2019 23:19	N462M	N462M	P46T	3240	28R	Wide Salad	No
12/4/2019 22:24	N359DG	N359DG	B350	4522	28R	Wide Salad	No
12/11/2019 22:21	WCC17	N17WC	B350	3252	28R	Wide Salad	No
12/19/2019 0:47	N6462Q	N6462Q	M20P	4533	28L	Wide Salad	No
12/19/2019 22:35	N999AJ	N999AJ	BE36	4571	28L	Wide Salad	No
12/21/2019 4:39	N248PH	N248PH	BE20	4247	28L	Wide Salad	No
					Wide Salad	29	
					Grand Count	102	

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North Field Quiet Hours SEL List for Calendar Quarter

Date Time	NMT	Lmax	SEL	Duration (seconds)	Flight Number	Tail Number	Aircraft Type	Runway
10/1/2019 5:10	9	76.1	83.8	17	GFESF	GFESF		10L
10/2/2019 22:13	4	79.8	86.9	23	N49D	N49D	BE58	28R
10/2/2019 22:14	5	70.6	80.4	18	N49D	N49D	BE58	28R
10/2/2019 22:14	8	73.2	83.7	17	N49D	N49D	BE58	28R
10/2/2019 22:14	3	74.3	83.1	24	N49D	N49D	BE58	28R
10/4/2019 1:16	4	77.7	88.4	30	LN108JN	N108JN	LJ35	28L
10/4/2019 1:16	5	80.9	90.8	33	LN108JN	N108JN	LJ35	28L
10/4/2019 1:16	6	73.4	84.2	27	LN108JN	N108JN	LJ35	28L
10/4/2019 22:32	9	77.4	85.5	17	N831BG	N831BG	GALX	10R
10/4/2019 22:32	12	73.7	83.5	23	N831BG	N831BG	GALX	10R
10/6/2019 22:47	4	82.6	89.5	25	SWA4127	N937WN	B737	28L
10/6/2019 22:47	5	86.1	93	22	SWA4127	N937WN	B737	28L
10/6/2019 22:47	6	81.7	90.5	24	SWA4127	N937WN	B737	28L
10/6/2019 22:47	7	78.2	87.9	27	SWA4127	N937WN	B737	28L
10/6/2019 22:49	4	84.7	90.5	18	LN777AX	N777AX	C550	28R
10/6/2019 22:49	5	77.2	84.8	22	LN777AX	N777AX	C550	28R
10/6/2019 22:49	6	80.1	87.3	20	LN777AX	N777AX	C550	28R
10/6/2019 22:49	7	74.1	84	22	LN777AX	N777AX	C550	28R
10/6/2019 23:09	4	84.2	92	28	SWA4829	N7824A	B737	28L
10/6/2019 23:09	5	86.4	94	25	SWA4829	N7824A	B737	28L
10/6/2019 23:09	6	79.6	89.7	26	SWA4829	N7824A	B737	28L
10/6/2019 23:10	7	77.4	86.9	27	SWA4829	N7824A	B737	28L

Date Time	NMT	Lmax	SEL	Duration (seconds)	Flight Number	Tail Number	Aircraft Type	Runway
10/6/2019 23:11	4	81.9	90.3	23	NKS510	N524NK	A319	28L
10/6/2019 23:11	5	90.9	96	26	NKS510	N524NK	A319	28L
10/6/2019 23:11	6	84.2	91.7	22	NKS510	N524NK	A319	28L
10/6/2019 23:11	7	77.7	87.5	24	NKS510	N524NK	A319	28L
10/6/2019 23:12	4	81.6	89.3	23	SWA9007	N254WN	B737	28L
10/6/2019 23:12	5	87.6	93.8	27	SWA9007	N254WN	B737	28L
10/6/2019 23:12	6	82.5	91.2	24	SWA9007	N254WN	B737	28L
10/6/2019 23:12	7	78.8	88.3	24	SWA9007	N254WN	B737	28L
10/6/2019 23:34	4	82.8	90.2	23	SWA3675	N288WN	B737	28L
10/6/2019 23:34	5	90.4	96.2	22	SWA3675	N288WN	B737	28L
10/6/2019 23:34	6	85.5	93	23	SWA3675	N288WN	B737	28L
10/6/2019 23:34	7	79.2	89	24	SWA3675	N288WN	B737	28L
10/7/2019 1:07	5	77.5	84.2	14	N727TP	N727TP	MU2	28L
10/7/2019 1:07	6	74.1	80.2	10	N727TP	N727TP	MU2	28L
10/7/2019 4:39	4	80.4	87.2	16			GLF4	28L
10/7/2019 4:39	5	90.3	95	17			GLF4	28L
10/7/2019 4:39	6	84.8	90.5	17			GLF4	28L
10/7/2019 4:39	7	76.8	85.3	19			GLF4	28L
10/7/2019 5:14	4	76.4	84.3	21	LN777AX	N777AX	C550	28L
10/7/2019 5:14	5	81.8	89.4	20	LN777AX	N777AX	C550	28L
10/7/2019 5:15	6	80.2	87.8	22	LN777AX	N777AX	C550	28L
10/7/2019 5:15	7	73.8	82.9	21	LN777AX	N777AX	C550	28L
10/12/2019 22:56	4	81.6	85	12			BE9L	28R
10/13/2019 1:29	4	75	80.4	14	N845KA	N845KA	B350	28R
10/14/2019 2:34	4	82.5	90.4	20	BSK574	N758MA	B738	28L
10/14/2019 2:34	5	90.8	96.5	20	BSK574	N758MA	B738	28L
10/14/2019 2:34	6	85.6	93.2	23	BSK574	N758MA	B738	28L
10/14/2019 2:34	8	70.2	80.2	17	BSK574	N758MA	B738	28L
10/14/2019 2:34	7	81.6	90.8	27	BSK574	N758MA	B738	28L
10/17/2019 1:18	4	76.7	82.1	11	N912MF	N912MF	BE20	28R
10/17/2019 22:43	4	79.9	85.4	14	N9296N	N9296N	PA32	28R
10/17/2019 22:44	8	72.8	81.3	13	N9296N	N9296N	PA32	28R
10/19/2019 3:24	4	77	82	9	N912MF	N912MF	BE20	28R
10/19/2019 22:16	4	82.2	88.9	22	NMINE	NMINE	GL5T	28L
10/19/2019 22:16	5	91.3	96.8	19	NMINE	NMINE	GL5T	28L
10/19/2019 22:16	6	85.7	93	22	NMINE	NMINE	GL5T	28L
10/19/2019 22:16	7	79.4	88.7	29	NMINE	NMINE	GL5T	28L
10/21/2019 0:40	4	82.4	86	10	LN923AS	N923AS	BE20	28R
10/21/2019 0:41	5	76.1	80.7	8	LN923AS	N923AS	BE20	28R
10/21/2019 5:41	4	79.2	85	12	N112HD	N112HD	PA46	28R
10/21/2019 5:41	8	78.7	83.3	9	N112HD	N112HD	PA46	28R
10/25/2019 5:37	12	73.7	82.2	18			CL30	10R
10/26/2019 1:54	4	81.8	88.9	17	LN372BW	N372BW	PRM1	28R
10/26/2019 1:54	5	79.7	87	21	LN372BW	N372BW	PRM1	28R
10/26/2019 1:54	6	79	85.3	19	LN372BW	N372BW	PRM1	28R
10/27/2019 22:06	4	78.8	84.8	14	KFS110	N242CK	CL60	28R
10/27/2019 22:06	5	72.2	80.2	14	KFS110	N242CK	CL60	28R
10/28/2019 5:40	4	85	89.7	18	N4141S	N788SA	BE60	28R
10/28/2019 5:40	5	75	81.9	12	N4141S	N788SA	BE60	28R
10/28/2019 5:40	8	73.8	81.1	10	N4141S	N788SA	BE60	28R
10/28/2019 5:41	3	72.6	80.1	12	N4141S	N788SA	BE60	28R

Date Time	NMT	Lmax	SEL	Duration (seconds)	Flight Number	Tail Number	Aircraft Type	Runway
10/29/2019 0:30	4	81.3	86	12	N943RB	N943RB	PA46	28R
10/29/2019 0:31	8	78.8	84	11	N943RB	N943RB	PA46	28R
10/29/2019 0:31	3	74.3	81.3	14	N943RB	N943RB	PA46	28R
10/30/2019 2:50	4	75.9	83.9	18	LN509RP	N509RP	C550	28L
10/30/2019 2:50	5	80.7	88.7	25	LN509RP	N509RP	C550	28L
10/30/2019 2:51	6	77.9	86.2	22	LN509RP	N509RP	C550	28L
10/30/2019 2:59	4	81.9	84.6	9	LN588SA	LN588SA	BE9L	28R
10/30/2019 2:59	8	77.3	82.7	7	LN588SA	LN588SA	BE9L	28R
11/2/2019 1:39	4	80.9	83.8	9	N204JS	N204JS	BE20	28R
11/3/2019 2:19	4	75.6	81.3	10	LN800TP	N800TP	BE20	28R
11/3/2019 2:19	5	75.7	80.7	8	LN800TP	N800TP	BE20	28R
11/4/2019 3:50	4	80.2	87.3	18	DCM3029	DCM3029	GLF4	28L
11/4/2019 3:50	5	89.2	94.4	21	DCM3029	DCM3029	GLF4	28L
11/4/2019 3:50	6	82.6	89.2	21	DCM3029	DCM3029	GLF4	28L
11/4/2019 3:50	7	76.3	84.7	20	DCM3029	DCM3029	GLF4	28L
11/6/2019 0:08	4	89	96.9	29	LN459MB		C560	28R
11/6/2019 0:08	5	81.4	90.2	34	LN459MB		C560	28R
11/6/2019 0:08	6	83.5	91.7	25	LN459MB		C560	28R
11/6/2019 0:08	8	73	83.6	23	LN459MB		C560	28R
11/6/2019 0:08	7	78.7	88.4	33	LN459MB		C560	28R
11/6/2019 4:30	4	73.5	80.5	15	N177SD	N177SD	C77R	28R
11/7/2019 22:23	4	77.8	83.7	13	N100MW	N100MW	BE9L	28R
11/8/2019 0:08	4	76.3	82	13			BE9L	28R
11/8/2019 3:53	4	76.9	82.7	9	N982SB	N982SB	BE9L	28R
11/8/2019 3:53	8	75.2	80.7	7	N982SB	N982SB	BE9L	28R
11/8/2019 23:27	4	74.2	80.9	11	N415DL	N415DL	PC12	28R
11/13/2019 22:18	4	73.5	81.8	17	N6462Q	N6462Q	M20P	28R
11/15/2019 1:11	4	72.7	80.5	17			PC12	28R
11/18/2019 5:21	4	83.3	89.8	19	SWA1222	N268WN	B737	28L
11/18/2019 5:21	5	85.9	93.1	22	SWA1222	N268WN	B737	28L
11/18/2019 5:21	6	81.9	90.8	26	SWA1222	N268WN	B737	28L
11/18/2019 5:21	7	78.7	88.2	27	SWA1222	N268WN	B737	28L
11/20/2019 22:30	5	73.4	81.7	19	KFS110	N242CK	CL60	28L
11/28/2019 4:12	4	75	80	8	N248PH	N248PH	BE20	28R
12/1/2019 0:24	4	72.8	80.8	14	N610RL	N610RL	F900	10R
12/1/2019 0:25	10	72.6	80.8	19	N610RL	N610RL	F900	10R
12/1/2019 0:25	9	79.6	87.4	22	N610RL	N610RL	F900	10R
12/1/2019 0:25	12	80.7	89.5	36	N610RL	N610RL	F900	10R
12/1/2019 0:25	2	70.7	81	42	N610RL	N610RL	F900	10R
12/1/2019 1:14	2	69.2	81.6	77	GAJ900	N900UP	C750	10R
12/1/2019 4:41	12	69.8	80	33	TWY604		CL60	10R
12/1/2019 4:51	4	81	88.1	18	N819AP	N819AP	GALX	10R
12/1/2019 4:51	2	68.1	80.8	78	N819AP	N819AP	GALX	10R
12/1/2019 4:52	9	80	88.7	23	N819AP	N819AP	GALX	10R
12/1/2019 4:52	10	73.3	82.4	20	N819AP	N819AP	GALX	10R
12/2/2019 22:24	4	78.1	87.7	37	RGY937	N937RA	BE40	10R
12/2/2019 22:24	5	73.7	82.4	20	RGY937	N937RA	BE40	10R
12/2/2019 23:11	4	72	81.5	20	EJA559	N559QS	C68A	10R
12/2/2019 23:12	9	72.6	81.8	17	EJA559	N559QS	C68A	10R
12/2/2019 23:12	12	74.8	84	22	EJA559	N559QS	C68A	10R
12/3/2019 1:13	9	73.9	80.3	10	N845KA	N845KA	B350	10L

Date Time	NMT	Lmax	SEL	Duration (seconds)	Flight Number	Tail Number	Aircraft Type	Runway
12/5/2019 0:03	4	79.4	85.9	20	N6462Q	N6462Q	M20P	28R
12/5/2019 0:03	8	72.6	80.2	10	N6462Q	N6462Q	M20P	28R
12/6/2019 0:53	4	81.9	85.5	10	REH50	N913RX	BE20	28R
12/7/2019 5:28	9	77.5	83.9	15	REH50	N913RX	BE20	10L
12/7/2019 5:28	10	74.6	81.3	16	REH50	N913RX	BE20	10L
12/7/2019 22:48	4	73.9	82.4	18	JNY200	N200LC	GLF4	10R
12/7/2019 22:49	9	72.6	81.9	17	JNY200	N200LC	GLF4	10R
12/7/2019 22:49	12	74.9	83.7	18	JNY200	N200LC	GLF4	10R
12/7/2019 22:53	9	75.9	84	16	N888JK	N888JK	PA32	10R
12/7/2019 22:59	10	75.1	80.5	13	N800BJ	N800BJ	PC12	10L
12/9/2019 5:03	4	79.5	85.4	15	KAI57		CL30	28L
12/9/2019 5:03	5	87.7	93.4	16	KAI57		CL30	28L
12/9/2019 5:03	6	80.6	88.6	18	KAI57		CL30	28L
12/9/2019 5:03	7	75.5	84.4	21	KAI57		CL30	28L
12/11/2019 5:49	11	71.2	81.4	18	PROP	PROP		28L
12/11/2019 22:22	4	74.3	80.6	12	WCC17	N17WC	B350	28R
12/11/2019 22:22	5	75.2	80.4	8	WCC17	N17WC	B350	28R
12/12/2019 23:56	4	74.6	81.5	14			PC12	28R
12/13/2019 0:23	4	76.7	84.1	18	N6462Q	N6462Q	M20P	28R
12/14/2019 0:05	4	73.8	80.3	15	LN248PH	N248PH	BE20	28L
12/14/2019 0:05	5	79.4	84.5	15	LN248PH	N248PH	BE20	28L
12/14/2019 0:56	4	83.3	90.5	20	LN581HC	N581HC	C525	28R
12/14/2019 0:56	5	80	87.6	19	LN581HC	N581HC	C525	28R
12/14/2019 0:56	6	77.8	84.3	13	LN581HC	N581HC	C525	28R
12/16/2019 5:14	4	79.3	86.2	21	PXT920		C25A	28L
12/16/2019 5:14	5	86.5	92.5	22	PXT920		C25A	28L
12/16/2019 5:14	6	78.1	86.5	16	PXT920		C25A	28L
12/16/2019 5:24	4	83.3	91.4	27	SWA1222	N473WN	B737	28L
12/16/2019 5:24	5	86	93.9	29	SWA1222	N473WN	B737	28L
12/16/2019 5:25	6	82.7	91.2	26	SWA1222	N473WN	B737	28L
12/16/2019 5:25	7	78.8	88.6	28	SWA1222	N473WN	B737	28L
12/17/2019 23:01	9	78.1	84.4	13	N1133G	N1133G	COL4	10R
12/17/2019 23:01	10	71.3	81	25	N1133G	N1133G	COL4	10R
12/19/2019 0:48	4	77.2	84.7	23	N6462Q	N6462Q	M20P	28L
12/19/2019 22:36	2	80.6	86.3	38	N999AJ	N999AJ	BE36	28L
12/19/2019 22:37	4	75.8	83.1	15	N999AJ	N999AJ	BE36	28L
12/19/2019 22:37	5	87.3	91.5	17	N999AJ	N999AJ	BE36	28L
12/19/2019 22:37	6	84	89.4	15	N999AJ	N999AJ	BE36	28L
12/19/2019 22:37	7	72.6	80.5	11	N999AJ	N999AJ	BE36	28L
12/19/2019 22:37	8	73.6	83.5	22	N999AJ	N999AJ	BE36	28L
12/19/2019 22:38	3	79.9	86.8	20	N999AJ	N999AJ	BE36	28L
12/21/2019 4:40	5	75.4	81	14	N248PH	N248PH	BE20	28L
12/21/2019 22:41	4	78.3	88.5	22	EJA525	N525QS	C680	10R
12/21/2019 23:31	9	82	89.5	23			P180	10R
12/21/2019 23:31	10	70.7	81.3	29			P180	10R
12/21/2019 23:31	11	83	90.5	23			P180	10R
12/26/2019 4:05	9	74.7	83.8	19	N449RP	N449RP	C510	10R
12/26/2019 4:05	12	73.3	82.9	28	N449RP	N449RP	C510	10R

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Runway 30 BFI Right Turn Departure List for Calendar Quarter

Date/Time	Flight Number	Tail Number	Airline	Aircraft Type	Aircraft Category	Comment	Excused
10/10/2019 13:27	DAL	DAL1148	B738	J	N378DA	Fleet Week	No
10/10/2019 13:30	SWA	SWA2069	B737	J	N223WN	Fleet Week	No
10/10/2019 13:32	SWA	SWA408	B737	J	N7877H	Fleet Week	No
10/10/2019 13:35		N31LJ	LJ31	B	N31LJ	Fleet Week	No
10/10/2019 13:40	SWA	SWA1903	B737	J	N482WN	Fleet Week	No
10/10/2019 13:55	SWA	SWA1714	B738	J	N8583Z	Fleet Week	No
10/10/2019 14:11	FDX	FDX3859	B752	J	N991FD	Fleet Week	No
10/10/2019 14:20	SWA	SWA2267	B738	J	N8577Z	Fleet Week	No
10/10/2019 14:22	SWA	SWA2088	B737	J	N460WN	Fleet Week	No
10/10/2019 14:23	FDX	FDX3884	MD11	J	N642FE	Fleet Week	No
10/10/2019 14:26	JSX	JSX205	E135	R	A27614	Fleet Week	No
10/10/2019 14:29	SWA	SWA2221	B737	J	N294WN	Fleet Week	No
10/10/2019 14:31	NKS	NKS360	A320	J	N622NK	Fleet Week	No
10/10/2019 14:33	EJA	EJA407	E55P	B	N407QS	Fleet Week	No
10/10/2019 14:34	VTE	VTE3608	E135	R	N16511	Fleet Week	No
10/10/2019 14:35	EJA	EJA216	CL60	B	N216QS	Fleet Week	No
10/10/2019 14:43	SWA	SWA1979	B737	J	N553WN	Fleet Week	No
10/10/2019 14:44	SKW	SKW3492	E75L	R	N193SY	Fleet Week	No
10/10/2019 14:49	LXJ	LXJ367	E55P	B	N367FX	Fleet Week	No
10/10/2019 15:07	SWA	SWA644	B738	J	N8642E	Fleet Week	No
10/10/2019 15:08	SWA	SWA2039	B737	J	N251WN	Fleet Week	No
10/10/2019 16:00			E50P	B		Fleet Week	No
10/10/2019 16:15	SWA	SWA2508	B737	J	N969WN	Fleet Week	No
10/10/2019 16:17			GLEX	B		Fleet Week	No
10/10/2019 16:25	SWA	SWA2081	B737	J	N254WN	Fleet Week	No
10/10/2019 16:46			R721	B		Fleet Week	No
10/10/2019 16:53	SWA	SWA2276	B737	J	N237WN	Fleet Week	No
10/10/2019 17:17	SKW	SKW4095	E75L	R	N258SY	Fleet Week	No
10/11/2019 10:53	XOJ	XOJ782	C750	B	N782XJ	Fleet Week	No
10/11/2019 10:55	SWA	SWA2495	B738	J	N8652B	Fleet Week	No
10/11/2019 11:05	SWA	SWA274	B737	J	N7703A	Fleet Week	No
10/11/2019 11:36	SWA	SWA1989	B737	J	N281WN	Fleet Week	No
10/11/2019 11:40		N155SL	CL30	B	N155SL	Fleet Week	No
10/11/2019 11:59		N717NB	C56X	B	N717NB	Fleet Week	No
10/11/2019 12:09	JSX	JSX727	E135	R	N260JX	Fleet Week	No
10/11/2019 12:42	ASA	ASA102	B737	J	N619AS	Fleet Week	No
10/11/2019 12:44	NKS	NKS906	A321	J	N674NK	Fleet Week	No
10/11/2019 13:29	SWA	SWA1903	B737	J	N216WR	Fleet Week	No
10/11/2019 13:31	SWA	SWA2069	B737	J	N925WN	Fleet Week	No
10/11/2019 13:52	DAL	DAL1148	B738	J	N3743H	Fleet Week	No
10/11/2019 14:00	PXT		CL60	B		Fleet Week	No
10/11/2019 14:39	SWA	SWA2039	B737	J	N7824A	Fleet Week	No
10/11/2019 14:49	SKW	SKW3492	E75L	R	N404SY	Fleet Week	No
10/11/2019 15:09	SWA	SWA644	B738	J	N8606C	Fleet Week	No
10/12/2019 5:42	FDX	FDX864	B763	J	N151FE	Fleet Week	No
10/12/2019 11:55	SWA	SWA3157	B737	J	N7715E	Fleet Week	No
10/12/2019 12:32	ASA	ASA102	B737	J	N622AS	Fleet Week	No
10/12/2019 12:50	SWA	SWA4684	B737	J	N717SA	Fleet Week	No
10/12/2019 13:15			C525	B		Fleet Week	No

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Night Time Departure Procedure List for Calendar Quarter

Date/Time	Airline	Flight Number	Aircraft Type	Aircraft Category	Tail Number	Comment	Excused
12/30/2019 6:23	DAL	DAL1374	B739	J	N926DZ	Air Traffic Conflict	Yes
12/15/2019 6:40	FDX	FDX859	MD11	J	N592FE	Air Traffic Conflict	Yes
12/14/2019 6:49	EJA	EJA639	C68A	B	N639QS	Air Traffic Conflict	Yes
10/24/2019 6:08	DAL	DAL1374	B738	J	N3732J	Air Traffic Conflict	Yes
11/17/2019 6:24	FDX	FDX690	MD11	J	N589FE	Air Traffic Conflict	Yes
11/18/2019 6:26	SWA	SWA1505	B737	J	N7751A	Air Traffic Conflict	Yes
11/25/2019 5:47	SWA	SWA3123	B738	J	N8690A	Air Traffic Conflict	Yes
10/5/2019 5:07	FDX	FDX487	A306	J	N674FE	Air Traffic Conflict	Yes
12/22/2019 22:25	SWA	SWA1865	B737	J	N715SW	Air Traffic Conflict	Yes
11/11/2019 6:12	SWA	SWA1586	B738	J	N8645A	Air Traffic Conflict	Yes
12/16/2019 6:30	SWA	SWA1505	B737	J	N492WN	Air Traffic Conflict	Yes
					Air Traffic Conflict	11	
10/26/2019 6:17	SWA	SWA3218	B738	J	N8581Z	Not Acceptable	No
10/27/2019 5:57	NKS	NKS188	A320	J	N639NK	Not Acceptable	No
10/29/2019 23:47	NKS	NKS510	A319	J	N525NK	Not Acceptable	No
10/31/2019 6:28	SWA	SWA1913	B737	J	N493WN	Not Acceptable	No
11/1/2019 6:20	NKS	NKS188	A320	J	N603NK	Not Acceptable	No
11/1/2019 6:33	FDX	FDX77	MD11	J	N603FE	Not Acceptable	No
11/4/2019 5:33	SWA	SWA1222	B737	J	N755SA	Not Acceptable	No
11/6/2019 3:21	UPS	UPS966	A306	J	N134UP	Not Acceptable	No
11/7/2019 6:39	SWA	SWA1586	B738	J	N8328A	Not Acceptable	No
11/7/2019 22:20	SWA	SWA2039	B737	J	N432WN	Not Acceptable	No
11/11/2019 6:26	SWA	SWA1505	B737	J	N7748A	Not Acceptable	No
11/11/2019 6:38	PXT	PXT725	C56X	B	N725SJ	Not Acceptable	No
11/11/2019 22:51	SWA	SWA2828	B737	J	N211WN	Not Acceptable	No
11/13/2019 6:10	NKS	NKS188	A321	J	N670NK	Not Acceptable	No
11/14/2019 23:31	VOI	VOI903	A320	J	XAVRF	Not Acceptable	No
11/16/2019 23:59		N39RP	PRM1	B	N39RP	Not Acceptable	No
11/17/2019 22:11	SWA	SWA6301	B737	J	N7728D	Not Acceptable	No
11/18/2019 23:27		N288HK	C680	B	N288HK	Not Acceptable	No
11/24/2019 6:48	SWA	SWA3402	B738	J	N8323C	Not Acceptable	No
11/25/2019 23:28	SWA	SWA1706	B737	J	N958WN	Not Acceptable	No
11/26/2019 6:00	NKS	NKS188	A320	J	N644NK	Not Acceptable	No
11/27/2019 1:03	SWA	SWA2039	B737	J	N7713A	Not Acceptable	No
11/30/2019 1:05			F900	B		Not Acceptable	No
11/30/2019 3:07	FDX	FDX169	B77L	J	N890FD	Not Acceptable	No
12/3/2019 23:25	FDX	FDX1840	A306	J	N725FD	Not Acceptable	No
12/4/2019 6:29	SWA	SWA1505	B737	J	N7706A	Not Acceptable	No
12/4/2019 22:26	SWA	SWA2451	B738	J	N8640D	Not Acceptable	No
12/10/2019 6:30	NKS	NKS188	A320	J	N615NK	Not Acceptable	No
12/13/2019 22:35	SWA	SWA1938	B737	J	N941WN	Not Acceptable	No
12/15/2019 23:26	UPS	UPS2457	MD11	J	N283UP	Not Acceptable	No
12/19/2019 22:13	WGN	WGN0961	B744	J	N344KD	Not Acceptable	No
12/22/2019 22:59	SWA	SWA1884	B737	J	N496WN	Not Acceptable	No

Date/Time	Airline	Flight Number	Aircraft Type	Aircraft Category	Tail Number	Comment	Excused
12/24/2019 6:24	SWA	SWA6629	B737	J	N775SW	Not Acceptable	No
12/24/2019 22:36	SWA	SWA5420	B737	J	N271LV	Not Acceptable	No
12/24/2019 23:25	VOI	VOI903	A320	J	XAVRF	Not Acceptable	No
12/29/2019 2:13	UPS	UPS947	MD11	J	N289UP	Not Acceptable	No
12/29/2019 6:02	NKS	NKS188	A320	J	N656NK	Not Acceptable	No
12/29/2019 22:55	SWA	SWA2661	B738	J	N8657B	Not Acceptable	No
10/26/2019 3:15	FDX	FDX1885	B77L	J	N851FD	Not Acceptable	No
10/25/2019 22:54	DAL	DAL2979	B739	J	N810DN	Not Acceptable	No
10/24/2019 22:22	SWA	SWA1792	B737	J	N731SA	Not Acceptable	No
10/24/2019 6:07	NKS	NKS188	A320	J	N617NK	Not Acceptable	No
10/22/2019 22:15	VOI	VOI5991	A320	J	N512VL	Not Acceptable	No
10/21/2019 0:27	VOI	VOI991	A320	J	N527VL	Not Acceptable	No
10/20/2019 23:13			C750	B		Not Acceptable	No
10/19/2019 5:56	FDX	FDX433	MD11	J	N578FE	Not Acceptable	No
10/17/2019 6:33	EJA	EJA558	C56X	B	N558QS	Not Acceptable	No
10/16/2019 22:32	SWA	SWA8504	B737	J	N906WN	Not Acceptable	No
10/12/2019 5:42	FDX	FDX864	B763	J	N151FE	Not Acceptable	No
10/11/2019 6:05	DAL	DAL1374	B738	J	N382DA	Not Acceptable	No
10/8/2019 4:02	FDX	FDX31	B77L	J	N896FD	Not Acceptable	No
					Not Acceptable	51	
10/1/2019 6:59	FDX	FDX440	MD11	J	N574FE	Time Buffer	Yes
10/4/2019 6:57	ASA	ASA281	B738	J	N506AS	Time Buffer	Yes
10/6/2019 6:53	JSX	JSX180	E135	R	N251JX	Time Buffer	Yes
10/12/2019 6:57	SWA	SWA3158	B738	J	N8531Q	Time Buffer	Yes
10/12/2019 6:58	SWA	SWA3190	B737	J	N490WN	Time Buffer	Yes
10/17/2019 6:56	FDX	FDX3647	B763	J	N163FE	Time Buffer	Yes
10/17/2019 6:58			GLF6	B		Time Buffer	Yes
10/19/2019 6:59	SWA	SWA3190	B737	J	N7742B	Time Buffer	Yes
10/21/2019 6:59	JSX	JSX180	E135	R	N261JX	Time Buffer	Yes
10/26/2019 6:59	SWA	SWA3158	B738	J	N8301J	Time Buffer	Yes
10/29/2019 6:59	JSX	JSX180	E135	R	N252JX	Time Buffer	Yes
10/30/2019 6:56	UPS	UPS2945	MD11	J	N282UP	Time Buffer	Yes
10/31/2019 6:57	FDX	FDX435	DC10	J	N318FE	Time Buffer	Yes
11/2/2019 6:59	FDX	FDX1563	B752	J	N774FD	Time Buffer	Yes
11/4/2019 6:57	SWA	SWA683	B738	J	N8653A	Time Buffer	Yes
11/4/2019 6:59	JSX	JSX180	E135	R	N260JX	Time Buffer	Yes
11/7/2019 6:57	UPS	UPS2953	B763	J	N320UP	Time Buffer	Yes
11/7/2019 6:59	FDX	FDX440	B77L	J	N897FD	Time Buffer	Yes
11/12/2019 6:59	ASA	ASA877	B738	J	N562AS	Time Buffer	Yes
11/14/2019 6:59	FDX	FDX3647	B763	J	N160FE	Time Buffer	Yes
11/15/2019 6:58	FDX	FDX440	B77L	J	N890FD	Time Buffer	Yes
11/16/2019 6:52	SWA	SWA3417	B737	J	N958WN	Time Buffer	Yes
11/17/2019 6:51	SWA	SWA3402	B738	J	N8317M	Time Buffer	Yes
11/17/2019 22:07	SWA	SWA5135	B737	J	N7825A	Time Buffer	Yes
11/18/2019 6:56	SWA	SWA683	B738	J	N8631A	Time Buffer	Yes
11/19/2019 6:57	SWA	SWA683	B738	J	N8620H	Time Buffer	Yes
11/19/2019 6:59	FDX	FDX440	B77L	J	N861FD	Time Buffer	Yes
11/21/2019 6:55	FDX	FDX3647	B763	J	N176FE	Time Buffer	Yes
11/23/2019 6:58	FDX	FDX3647	MD11	J	N598FE	Time Buffer	Yes
11/24/2019 22:06	UPS	UPS2955	MD11	J	N251UP	Time Buffer	Yes
11/25/2019 22:00	SWA	SWA2039	B737	J	N961WN	Time Buffer	Yes

Date/Time	Airline	Flight Number	Aircraft Type	Aircraft Category	Tail Number	Comment	Excused
12/3/2019 6:56	UPS	UPS2955	B763	J	N301UP	Time Buffer	Yes
12/3/2019 6:57	UPS	UPS2945	MD11	J	N282UP	Time Buffer	Yes
12/4/2019 6:56			GLF4	B		Time Buffer	Yes
12/9/2019 6:57	SWA	SWA1505	B737	J	N907WN	Time Buffer	Yes
12/10/2019 6:55	SWA	SWA683	B738	J	N8640D	Time Buffer	Yes
12/13/2019 6:50	FDX	FDX440	B763	J	N146FE	Time Buffer	Yes
12/17/2019 6:59	ASA	ASA877	B738	J	N558AS	Time Buffer	Yes
12/19/2019 6:59	UPS	UPS2967	B752	J	N440UP	Time Buffer	Yes
12/21/2019 6:57	SWA	SWA4842	B737	J	N962WN	Time Buffer	Yes
12/23/2019 6:59	UPS	UPS2953	A306	J	N165UP	Time Buffer	Yes
12/26/2019 6:59	FDX	FDX614	DC10	J	N390FE	Time Buffer	Yes
12/30/2019 6:56	SWA	SWA683	B738	J	N8520Q	Time Buffer	Yes
12/30/2019 6:58	SWA	SWA588	B738	J	N8697C	Time Buffer	Yes
					Time Buffer	44	
					Grand Count	106	

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Runway 12 Night Departure List for Calendar Quarter

Date/Time	Airline	Flight No	Aircraft Type	Aircraft Category	Tail No	Comment	Excused
10/23/2019 2:30	FDX	FDX1879	A306	J	N717FD	Not Acceptable	No
12/21/2019 22:20	SWA	SWA5426	B737	J	N7882B	Not Acceptable	No
12/2/2019 23:54	SWA	SWA1706	B737	J	N7743B	Not Acceptable	No
					Not Acceptable	3	
12/22/2019 5:59	SWA	SWA3183	B738	J	N8502Z	Time Buffer	Yes
12/1/2019 5:51	SWA	SWA3183	B738	J	N8570W	Time Buffer	Yes
					Time Buffer	2	
					Grand Count	5	

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Engine Run-up List for Calendar Quarter

Date	Request Time	Air Carrier	Aircraft	Engine(s)	Power	Location	Proposed Start Time	Lmax >70 dB	Lmax >75 dB
10/6/2019	2344	FDX	B737	1	High	GRE	0000	NO	N/A
10/8/2019	1854	FDX	B737	2	High	GRE	1900	N/A	NO
10/10/2019	0910	TWY	C550	2	High	HG6	0915	N/A	N/A
10/12/2019	0958	UPS	B767	2	High	GRE	1000	N/A	N/A
10/18/2019	1146	GLB	F2TH	2	High	HG6	1155	N/A	N/A
10/29/2019	2250	SWA	B737	2	High	GRE	2255	NO	N/A
10/30/2019	1435	GLB	F2TH	2	High	HG6	1440	N/A	N/A
11/1/2019	1840	FDX	B757	2	High	GRE	1900	N/A	NO

Date	Request Time	Air Carrier	Aircraft	Engine(s)	Power	Location	Proposed Start Time	Lmax >70 dB	Lmax >75 dB
11/4/2019	0410	SWA	B737	2	High	GRE	0420	NO	N/A
11/6/2019	1337	GLB	F2TH	2	High	HG6	1348	N/A	N/A
11/7/2019	1312	UNF	F2TH	2	High	HG6	1312	N/A	N/A
11/11/2019	1305	SWA	B737	2	High	GRE	1310	N/A	N/A
11/18/2019	0625	FDX	A300	2	High	GRE	0900	N/A	N/A
11/19/2019	2228	SWA	B737	2	High	GRE	2235	NO	N/A
11/19/2019	1537	CFS	C525	2	High	HG6	1630	N/A	N/A
11/21/2019	2013	USC	F2TH	2	High	GRE	2045	N/A	NO
11/25/2019	1125	KFA	C550	1	High	HG6	1200	N/A	N/A
11/26/2019	0918	KFA	C550	1	High	HG6	0930	N/A	N/A
11/28/2019	1751	FDX	B757	2	High	GRE	1800	N/A	N/A
11/28/2019	0738	GLB	C550	2	Med	HG6	0740	N/A	N/A
12/6/2019	1316	ROS	C525	2	High	HG6	1316	N/A	N/A
12/16/2019	1356	AAL	A320	2	High	GRE	1415	N/A	N/A
12/16/2019	1242	VHT	C525	2	High	GRE	1250	N/A	N/A
12/16/2019	0616	UPS	B767	2	High	GRE	0630	NO	N/A
12/28/2019	0555	SWA	B737	1	High	GRE	0555	NO	N/A

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Runway 30 East Turn Departures List for Calendar Quarter

Date Time	Airline	Flight Number	Aircraft Type	Altitude (ft)	Comment	Excused
10/1/2019 7:30	SWA	SWA851	B738	2516	Air Traffic Conflict	Yes
10/3/2019 11:54		N681K	C68A	2595	Air Traffic Conflict	Yes
10/6/2019 15:09	SWA	SWA4086	B737	2532	Air Traffic Conflict	Yes
10/6/2019 16:29	SWA	SWA4551	B738	2329	Air Traffic Conflict	Yes
10/7/2019 9:47	SWA	SWA2487	B737	2614	Air Traffic Conflict	Yes
10/8/2019 7:34	FDX	FDX440	MD11	2631	Air Traffic Conflict	Yes
10/14/2019 12:57	SWA	SWA1895	B738	2834	Air Traffic Conflict	Yes
10/15/2019 7:22	SWA	SWA1871	B738	2129	Air Traffic Conflict	Yes
10/16/2019 7:23	FDX	FDX3012	B763	2821	Air Traffic Conflict	Yes
10/16/2019 13:08	SWA	SWA2069	B737	2700	Air Traffic Conflict	Yes
10/16/2019 14:36	SWA	SWA2039	B737	2414	Air Traffic Conflict	Yes
10/17/2019 14:33	SWA	SWA2039	B737	2276	Air Traffic Conflict	Yes
10/19/2019 11:50	SWA	SWA3157	B737	2791	Air Traffic Conflict	Yes
10/23/2019 18:41	SKW	SKW4685	E75L	2814	Air Traffic Conflict	Yes
10/24/2019 14:27	SWA	SWA2069	B737	2198	Air Traffic Conflict	Yes
10/25/2019 13:14	SWA	SWA2069	B737	2221	Air Traffic Conflict	Yes
10/28/2019 10:56	SWA	SWA2495	B738	2874	Air Traffic Conflict	Yes
11/1/2019 14:54	SWA	SWA644	B738	2755	Air Traffic Conflict	Yes
11/3/2019 12:47	SWA	SWA3658	B738	2496	Air Traffic Conflict	Yes
11/3/2019 15:40	SWA	SWA4580	B737	2677	Air Traffic Conflict	Yes
11/4/2019 15:30	SWA	SWA532	B738	2641	Air Traffic Conflict	Yes
11/5/2019 9:36	SWA	SWA955	B737	2713	Air Traffic Conflict	Yes
11/11/2019 11:41	SWA	SWA3961	B737	2759	Air Traffic Conflict	Yes
11/13/2019 17:14	SKW	SKW4095	E75L	2834	Air Traffic Conflict	Yes

Date Time	Airline	Flight Number	Aircraft Type	Altitude (ft)	Comment	Excused
11/14/2019 15:02			GLF5	2877	Air Traffic Conflict	Yes
11/14/2019 15:29	SWA	SWA3794	B737	2890	Air Traffic Conflict	Yes
11/21/2019 19:00	SKW	SKW3652	E75L	2290	Air Traffic Conflict	Yes
11/21/2019 20:54	SWA	SWA921	B737	2818	Air Traffic Conflict	Yes
12/5/2019 16:47	SKW	SKW4095	E75L	2844	Air Traffic Conflict	Yes
12/8/2019 15:47	SWA	SWA3507	B738	2824	Air Traffic Conflict	Yes
12/12/2019 7:10	UPS	UPS2935	B763	2158	Air Traffic Conflict	Yes
12/12/2019 13:35	XOJ	XOJ504	GL5T	2516	Air Traffic Conflict	Yes
12/12/2019 21:10	SWA	SWA921	B737	2477	Air Traffic Conflict	Yes
12/16/2019 19:37	UPS	UPS945	B763	2611	Air Traffic Conflict	Yes
12/20/2019 14:02	FDX	FDX3857	MD11	2388	Air Traffic Conflict	Yes
12/22/2019 18:48	UPS	UPS953	A306	2808	Air Traffic Conflict	Yes
				Air Traffic Conflict	36	
10/10/2019 13:27	DAL	DAL1148	B738	2483	Fleet Week	No
10/10/2019 13:30	SWA	SWA2069	B737	2165	Fleet Week	No
10/10/2019 13:55	SWA	SWA1714	B738	2086	Fleet Week	No
10/10/2019 14:02	FDX	FDX3857	B763	2280	Fleet Week	No
10/10/2019 14:11	FDX	FDX3859	B752	2805	Fleet Week	No
10/10/2019 14:20	SWA	SWA2267	B738	2493	Fleet Week	No
10/10/2019 14:22	SWA	SWA2088	B737	2431	Fleet Week	No
10/10/2019 14:29	SWA	SWA2221	B737	2050	Fleet Week	No
10/10/2019 14:31	NKS	NKS360	A320	2296	Fleet Week	No
10/10/2019 14:34	VTE	VTE3608	E135	2477	Fleet Week	No
10/10/2019 14:44	SKW	SKW3492	E75L	2365	Fleet Week	No
10/10/2019 14:45	SWA	SWA1895	B738	2053	Fleet Week	No
10/10/2019 15:07	SWA	SWA644	B738	2116	Fleet Week	No
10/10/2019 15:08	SWA	SWA2039	B737	2103	Fleet Week	No
10/10/2019 15:53	SWA	SWA1228	B738	2135	Fleet Week	No
10/10/2019 16:17			GLEX	2014	Fleet Week	No
10/10/2019 16:53	SWA	SWA2276	B737	2450	Fleet Week	No
10/10/2019 16:56	NAX	NAX7078	B789	1843	Fleet Week	No
10/10/2019 17:17	SKW	SKW4095	E75L	1961	Fleet Week	No
10/11/2019 9:31	SWA	SWA2487	B737	2614	Fleet Week	No
10/11/2019 10:55	SWA	SWA2495	B738	1988	Fleet Week	No
10/11/2019 11:05	SWA	SWA274	B737	2047	Fleet Week	No
10/11/2019 11:21	SWA	SWA2054	B737	2588	Fleet Week	No
10/11/2019 11:34		N963JP	GLEX	2257	Fleet Week	No
10/11/2019 11:36	SWA	SWA1989	B737	2076	Fleet Week	No
10/11/2019 12:44	NKS	NKS906	A321	2119	Fleet Week	No
10/11/2019 13:10	SWA	SWA1895	B738	1952	Fleet Week	No
10/11/2019 13:31	SWA	SWA2069	B737	1942	Fleet Week	No
10/11/2019 13:52	DAL	DAL1148	B738	1942	Fleet Week	No
10/11/2019 14:00	PXT		CL60	2267	Fleet Week	No
10/11/2019 14:39	SWA	SWA2039	B737	1791	Fleet Week	No
10/11/2019 15:09	SWA	SWA644	B738	1883	Fleet Week	No
10/12/2019 5:42	FDX	FDX864	B763	2201	Fleet Week	No
10/12/2019 11:55	SWA	SWA3157	B737	1853	Fleet Week	No
10/12/2019 13:17	DAL	DAL1148	A319	2604	Fleet Week	No
10/12/2019 13:45	SWA	SWA3754	B737	1994	Fleet Week	No
10/12/2019 14:05	SWA	SWA3150	B738	1958	Fleet Week	No
10/13/2019 12:57	SWA	SWA3187	B737	2073	Fleet Week	No
10/13/2019 13:16	DAL	DAL1148	B738	1896	Fleet Week	No

Date Time	Airline	Flight Number	Aircraft Type	Altitude (ft)	Comment	Excused
10/13/2019 14:02	SWA	SWA1741	B738	1889	Fleet Week	No
10/13/2019 14:04	SWA	SWA4496	B737	1879	Fleet Week	No
10/13/2019 14:24	SWA	SWA2710	B738	2214	Fleet Week	No
10/13/2019 14:53	SKW	SKW3492	E75L	2086	Fleet Week	No
10/13/2019 14:54	SWA	SWA3314	B737	2030	Fleet Week	No
10/13/2019 15:20	SWA	SWA4086	B737	1879	Fleet Week	No
10/13/2019 15:39	SWA	SWA4551	B738	2030	Fleet Week	No
				Fleet Week	46	
10/22/2019 13:58	EJA	EJA141	GLEX	1981	Not Acceptable	No
11/13/2019 18:59	SWA	SWA1571	B737	2621	Not Acceptable	No
11/23/2019 19:30	SWA	SWA5332	B738	2493	Not Acceptable	No
11/24/2019 10:19	SWA	SWA3	B737	2837	Not Acceptable	No
11/24/2019 17:06	SKW	SKW4095	E75L	2841	Not Acceptable	No
12/3/2019 10:30	SKW	SKW3557	E75L	2887	Not Acceptable	No
12/4/2019 13:44	SWA	SWA3336	B737	2194	Not Acceptable	No
12/14/2019 13:28	SKW	SKW3568	E75L	2782	Not Acceptable	No
12/18/2019 19:17	FDX	FDX1332	B763	2572	Not Acceptable	No
12/18/2019 21:18			GLEX	2854	Not Acceptable	No
10/2/2019 12:32	PXT	PXT560	C560	1991	Not Acceptable	No
10/17/2019 8:55	SWA	SWA1919	B737	2572	Not Acceptable	No
				Not Acceptable	12	
				Grand Count	94	

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100 Degree Radial Turbojet Landing List for Calendar Quarter

Date Time	Flight Number	Aircraft Type	Airline	Altitude (ft)	Comment	Excused
10/7/2019 18:59	SWA6841	B737	SWA	2522	Not Acceptable	No
10/10/2019 21:59	SWA6841	B737	SWA	2880	Not Acceptable	No
10/22/2019 13:37	SKW3430	E75L	SKW	2834	Not Acceptable	No
10/24/2019 18:34	SWA1806	B737	SWA	2798	Not Acceptable	No
11/4/2019 14:09	SWA3794	B737	SWA	2883	Not Acceptable	No
12/28/2019 15:35	JSX717	E135	JSX	1532	Not Acceptable	No
12/20/2019 23:41	AAY119	A320	AAY	2805	Not Acceptable	No
12/5/2019 7:50	ASA1366	A320	ASA	2896	Not Acceptable	No
10/30/2019 22:47	SWA2759	B737	SWA	2624	Not Acceptable	No
12/3/2019 17:32	SWA439	B738	SWA	2890	Not Acceptable	No
				Not Acceptable	10	
10/29/2019 6:26	SWA1918	B737	SWA	2896	Pilot Requested	No
				Pilot Requested	1	
				Grand Count	11	

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North Field Jet Departure Procedure
Sample Noncompliance Contact Letter



PORT OF OAKLAND

Via email: aircraftowner/operator@bankofutah.com

January 8, 2019

Aircraft Owner/Operator
XXXXXXXXXX
XXXXXXXXXX

Dear Aircraft Owner/Operator:

The jet aircraft identified below was observed departing from Runway 28L or 28R, which is an operation not in compliance with the noise abatement program at Oakland International Airport. For complete information about our noise procedures visit Whispertrack at <http://whispertrack.com/airports/KOAK>

Event date: 1/7/2019
Time of departure: 1223 hrs. local
Aircraft Type: C525
Aircraft Tail Number or Flight Number: N525XX

The enclosed flight track map illustrates the flight identification and path of the aircraft operation.

Please use Runway 12/30 for turbojet aircraft departures.

The Port of Oakland understands that at times, safety, construction, operational necessity, or ATC instructions prevent aircraft from complying with this program. However, we urge you to help us be a good neighbor and comply with the voluntary noise abatement procedure whenever safely possible.

If circumstances warranted a non-compliant operation or you have further questions, please call me at (510) 563-3349, or e-mail at jrichardson@portoakland.com

Sincerely,

Airport Noise Management Office

Enclosures: Flight Track Map

North Field Jet Landing Procedure
Sample Noncompliance Contact Letter



PORT OF OAKLAND

Via email: aircraftowner/operator@aircorp.com

April 1, 2019

Aircraft Owner/Operator
XXXXXXXXXX
XXXXXXXXXX

Dear Aircraft Owner/Operator:

The jet aircraft identified below was observed landing on Runway 10L or 10R, which is an operation not in compliance with the noise abatement program at Oakland International Airport. For complete information about our noise abatement procedures visit Whispertrack

<http://whispertrack.com/airports/KOAK>

Event date: 3/31/2019
Time of landing: 1650 hrs. local
Aircraft Type: E55P
Aircraft Tail Number or Flight Number: N300XX

The enclosed flight track map illustrates the flight identification and path of the aircraft operation.

Please use Runway 12 for turbojet aircraft landings when airport is in southeast flow configuration.

The Port of Oakland understands that at times, safety, construction, operational necessity, or ATC instructions prevent aircraft from complying with this program. However, we urge you to help us be a good neighbor and comply with the voluntary noise abatement procedure whenever safely possible.

If circumstances warranted a non-compliant operation or you have further questions, please call me at (510) 563-3349, or e-mail at jrichardson@portoakland.com

Sincerely,

Airport Noise Management Office

Enclosures: Flight Track Map

North Field VFR Departure Procedure
Sample Noncompliance Contact Letter



PORT OF OAKLAND

Via email: aircraftowner/operator@aircorp.com

March 31, 2019

Aircraft Owner/Operator
XXXXXXXXXX
XXXXXXXXXX

Dear Aircraft Owner/Operator:

The aircraft identified below was observed departing from Runway 28R/L or 33 and was flown over residential areas adjacent to the airport. This flight was not in compliance with the VFR departure noise abatement procedure at Oakland International Airport. For complete information about our noise procedures visit Whispertrack at <http://whispertrack.com/airports/OAK>.

Event date: 3/30/2019
Time of departure: 1015 hrs. local
Aircraft Type: C172
Aircraft Tail Number or Flight Number: N328XX

The enclosed flight track map illustrates the flight identification and path of the aircraft operation.

Please use the noise abatement departure procedure and avoid flying over residential areas whenever safely possible. Always follow ATC instructions for safe aircraft separation.

The Port of Oakland understands that at times, safety, construction, operational necessity, or ATC instructions prevent aircraft from complying with this program. However, we urge you to help us be a good neighbor and comply with the voluntary noise abatement procedure whenever safely possible.

If circumstances warranted a non-compliant operation or you have further questions, please call me at (510) 563-3349, or e-mail at jrichardson@portoakland.com

Sincerely,

Airport Noise Management Office

Enclosures: Flight Track Map

[\(Return to Table of Contents\)](#)

North Field Quiet Hours Procedure
Sample Noncompliance Contact Letter



PORT OF OAKLAND

Via email: aircraftowner/operator@aircraft.com

January 8, 2019

Aircraft Owner/Operator
XXXXXXXXXX
XXXXXXXXXX

Dear Aircraft Owner/Operator:

The aircraft identified below was observed departing from a North Field runway and was flown over a residential area adjacent to the airport. This flight was not in compliance with the Quiet Hours noise abatement program at Oakland International Airport. For complete information about our noise procedures visit Whispertrack at <http://whispertrack.com/airports/KOAK>

Event date: 1/7/2019
Time of departure: 2223 hrs local
Aircraft Type: PAY2
Aircraft Tail Number or Flight Number: N22XX

The enclosed flight track map illustrates the flight identification and path of the aircraft operation.

Please use the preferred runway and the noise abatement departure procedure.

The Port of Oakland understands that at times, safety, construction, operational necessity, or ATC instructions prevent aircraft from complying with this program. However, we urge you to help us be a good neighbor and comply with the voluntary noise abatement procedure whenever safely possible.

If circumstances warranted a non-compliant operation or you have further questions, please call me at (510) 563-3349, or e-mail at jrichardson@portoakland.com

Sincerely,

Airport Noise Management Office

Enclosures: Flight Track Map

Helicopter Flight Procedure

Sample Noncompliance Contact Letter



PORT OF OAKLAND

Via email: helicopterowner/operator@aircraft.com

March 5, 2019

Helicopter Owner/Operator

XXXXXXXXXX

XXXXXXXXXX

Dear Helicopter Owner/Operator:

The Oakland Airport Noise Office is reaching out to helicopter operators to seek your continued support of the Oakland Noise Abatement Program. By avoiding certain noise sensitive areas located in close proximity to the airport, you are helping us to be a good neighbor to our local citizens.

For complete information about our noise procedures visit Whispertrack at <http://whispertrack.com/airports/KOAK>

In addition, the following recommendations are made for news helicopter operators:

1. Maintain appropriate altitudes.
2. Alternate hover locations whenever possible to minimize noise impacts.
3. Use the 880 corridor to help keep away from residential areas.
4. Keep noise to a minimum by use of optimum pitch and power settings for noise control.

It is understood that there may be times when your aircraft may need to fly over a residential area for safety reasons or to comply with air traffic control, but we ask that all pilots familiarize themselves with our noise sensitive areas and avoid those areas whenever possible.

With your assistance and cooperation, we trust that all efforts are being done to reduce aviation noise and be a good neighbor to our surrounding communities .

If you have further questions, please call (510) 563-3349, or e-mail jrichardson@portoakland.com

Sincerely,

Airport Noise Management Office

Enclosures: Flight Track Map

[\(Return to Table of Contents\)](#)

March 25, 2020

From

Faviola Garcia

To

SCSC Roundtable

Message

FW: Incoming correspondence Todd Anderson possible noise portal

Hi Mary-Lynne, sharing for your awareness. I hope you are doing well and staying healthy.

Favi

Faviola Garcia
Senior Advisor
Federal Aviation Administration
Office of the Regional Administrator

Attachment Name

20200325_F_Garcia_FW_Incoming correspondence Todd Anderson possible noise portal



Todd Anderson
4610 Jewel St
Capitola, CA 95010-3120

SAN JOSE CA 950

12 MAR 2020 PM 3 L



Dennis Roberts
Western Region Director
777 S. Aviation Blvd. suite 150
El Segundo, Ca. 90245

90245-485125



As our Representatives responsible for assuring adherence, compliance and implementation of the Select Committee final FAA directions/recommendations, I'm writing today to ask why the Select Committee decision and direction to the FAA to move the SERFR flight path back to Big Sur flight path has not yet occurred? And most importantly ask the Roundtable to provide a firm date of when the flight path change implementation will occur? The SERFR flight path change back was officially passed and approved by The Select Committee majority vote (8/4), and the FAA directed to change SERFR back to the previous Big Sur flight path by a deadline of no later than last March.

The FAA received an extension on that deadline and was granted an extension for final implementation Jul/Aug. It is now almost a year since the original deadline and 8 months passed that last extension date.

This has been over a 5 year process and the congressionally formed Select Committee and it's appointed community members went through all the required process, procedures, community outreach, stakeholder input and achieved final resolution and recommendations with majority vote.

The Select Committee purpose and mission goals for formation were successfully achieved and brought to conclusion, producing a final and complete physical document stating the official and formal Select Committee directives and recommendations.

This document was authorized and approved by a democratic and final Select Committee majority vote, and then officially given to the FAA for final modeling and implementation.

Specifically, as it relates to the SERFR flight path change, all parties in this process came to a final and binding (8 votes in favor/ 4 opposed) and understanding that the FAA would finish their modeling for Big Sur flight path improvements, and then the SERFR flight path would revert back to the previous Big Sur flight path no later than March of last year.

The SCSC Roundtable was then formed to oversee and assure compliance and assure a timely implementation of these Select Committee decisions.

It is long past time for the Select Committee decisions and directives to be prioritized, implemented and for all current stake holders to be held accountable for meeting timelines, job performance requirements and for bringing this 5 year to it's successful conclusion.

Please provide an update of when the SERFR flight path change will be implemented and what steps are being taken by the SCSC Roundtable to assure timely compliance by all stakeholders to the final Select Committee directives and recommendations.

Thank You, Todd Anderson, 4610 Jewel St, Capitola, Ca. 95010



March 30, 2020

From

- SCSC Roundtable - RESPONSE

To

Todd Anderson

Message

SCSC Roundtable Response to Mr. Todd Anderson

Good evening Mr. Anderson,

On behalf of the SCSC Roundtable Chair, attached is a response from the SCSC Roundtable to your March 11, 2020 letter to the FAA. We hope you find this information useful.

Regards,

SCSC Roundtable Staff,

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SC | SC Roundtable

<https://scscroundtable.org>

Attachment Name

20200330_T_Anderson_Public_Final_SCSC Roundtable Response Letter



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

PO Box 3144
Los Altos, CA 94024

March 30, 2020

Mr. Todd Anderson
4610 Jewel Street
Capitola, CA 95010-3120

Subject: Response to Mr. Anderson - FAA forwarded letter - originally from Todd Anderson to FAA

Dear Mr. Anderson,

The Federal Aviation Administration (FAA) forwarded your March 11, 2020 letter regarding the Select Committee recommendations for returning the SERFR flight path to the Big Sur Arrival Route (BSR) to the Santa Clara/Santa Cruz Airport/Community Roundtable (SCSC Roundtable) for its awareness. While your letter was not sent directly to the SCSC Roundtable, I thought it would be helpful to respond to a few key points raised in your letter.

In your letter, you asked the FAA, “. . . why the Select Committee decision and direction to the FAA to move the SERFR flight path back to the Big Sur flight path has not yet occurred?” Only the FAA can answer this question as the responsibility for the use and management of the National Airspace System (NAS) rests solely with the FAA.

However, the FAA has reported at previous SCSC Roundtable meetings that it is performing an initial review of returning the SERFR arrival route to its previous (Big Sur) location and should it decide to move forward with developing the Big Sur arrival route, it indicated it would be an 18- to 24-month process to implement such a change.

The FAA also indicated that it would conduct public outreach as a part of its process and will conduct a review of the potential environmental impacts of the replacement route. The FAA stated that it would reach out to the SCSC Roundtable for suggestions on appropriate locations to conduct these outreach meetings at the appropriate time.

You also stated in your letter, “And most importantly ask the Roundtable to provide a firm date of when the flight path change implementation will occur?” As stated above, the FAA is solely responsible for the use and management of the NAS. Therefore, SCSC Roundtable has no authority over the timing of the FAA’s flight procedure development process.

Finally, you stated, “The SCSC Roundtable was . . . formed to oversee and assure compliance and assure a timely implementation of these Select Committee recommendations.” The SCSC Roundtable was not formed to oversee, assure compliance, and timely implementation of the Select Committee recommendations. Our mission is “To Address Community noise concerns and make recommendations to the Regional Airports and FAA on noise related issues.” In that role, we have a Work Plan Item (1.1.2),

Transition of SERFR STAR Back to the Big Sur (BSR) Ground Track and/or Replacement Procedure, which has the SCSC Roundtable tracking progress and providing input on the FAA's implementation of recommendations in Section 1.2 of the Final Report of Select Committee on South Bay Arrivals.

Like you, the SCSC Roundtable will be closely watching the FAA's progress on this Select Committee recommendation.

I trust this helps to clarify the SCSC Roundtable's role relative to the FAA.

Regards,

A handwritten signature in black ink that reads "Mary-Lynne Bernald". The signature is written in a cursive, flowing style.

Mary-Lynne Bernald
Chairperson, SCSC Roundtable

April 1, 2020

From

Michael Aguilar

To

Mary-Lynne Bernald

Message

Mercatus Center Releases State Rankings of Drone Readiness

Dear Ms. Bernald,

Across the United States, widespread deployment of commercial drones is difficult due to the lack of clarity with regard to the role of federal and state governments to manage low altitude airspace. Mercatus Center Senior Research Fellow, Brent Skorup, argues that states should take the lead by creating drone corridors above public roads.

Many states control the airspace above these roads and are best suited to establish rules governing their airspace. This new research includes a fifty-state report card that ranks the states' readiness to embrace new drone technology. North Dakota is ranked in first place with South Carolina at the bottom of the list.

To see how your state ranks, [click here](#).

In addition, last month Senior Research Fellows Robert Graboyes and Brent Skorup released a study on the use of medical drones. Skorup has also released a paper on [How Drones Can Help Fight the Coronavirus](#).

If you have any questions on the papers listed above, or would like to speak with Brent Skorup, I am happy to facilitate a briefing.

Sincerely,

Michael A. Aguilar

State Outreach Associate

Mercatus Center at George Mason University

April 7, 2020

From

Evan Wasserman

To

SCSC Roundtable

Message

IFP Gateway Memo on the SCSC Roundtable Website

Dear SCSC Roundtable and Interested Parties,

A summary memorandum regarding the Instrument Flight Procedures (IFP) Information Gateway, that is typically distributed at SCSC Roundtable meetings, has been posted to the SCSC Roundtable website for your reference. You can find the IFP Gateway Memo at the following link.

Thank you,

SCSC Roundtable Staff

Scscroundtable.org

April 8, 2020

From

Steve Alverson

To

Sky Laron

Message

TIPP TOE Visual Approach on the IFP Gateway

Hi Sky,

I hope this email finds you and your family staying well during this challenging time.

In ESA's monthly update of our IFP Gateway memo to the SCSC Roundtable, we noticed the FAA is proposing a change to the TIPP TOE Visual Approach to Runways 28L and 28R at SFO. This update is identified as Amendment 3. There are no details on the IFP Gateway about the changes to this visual approach on the IFP Gateway. Do you know what changes are being proposed? The visual approach overflies SCSC Roundtable communities, so we would like to inform them about the changes and their potential noise effects (if any).

I appreciate any information you have to share. Thank you.

Stay well.

Regards,
Steve
Steven R. Alverson
Senior Vice President
ESA | Environmental Science Associates

April 8, 2020

From

Mary-Lynne Bernald

To

John Leopold

Message

IFP Gateway Memo on the SCSC Roundtable Website

Dear Supervisor Leopold,

Thank you for your questions regarding the recent listing by FAA of the TIPP TOE Visual Approach to Runways 28R and 28L at SFO on the IFP Gateway.

You asked, if the 12/2/2021 TIPP TOE publication date is “. . .indicative of the FAA's SERFR timeline?” Not that we are aware of. If it were, we should also see the SERFR/Big Sur Overlay on the IFP Gateway as well, which it is not.

You also asked, “Can you confirm with the FAA they will proceed with an April announcement re: SERFR status that they spoke of when postponing their February announcement?” We have inquired with the FAA, but as of this moment we have no confirmation from the FAA regarding the timing of its update on its progress on developing the Big Sur Overlay.

Should we receive an indication that the FAA is prepared to report out on its work, we will definitely try to convene an SCSC Roundtable meeting to receive its report. Given the current restrictions on public gatherings, we are exploring options to conduct a meeting using videoconferencing, should it be necessary.

Thank you again for reaching out to the SCSC Roundtable.

Best to you! Stay well!

Mary-Lynne

April 8, 2020

From

Michelle Wu

To

SCSC Roundtable

Message

IFP Gateway Memo on the SCSC Roundtable Website

The sky seems a lot quieter now. Is it because of COVID-19 disruption?

April 8, 2020

From

Steve Alverson

To

Michelle Wu

Message

IFP Gateway Memo on the SCSC Roundtable Website

Michelle,

I hope this email finds you and your family doing well during this challenging time.

Thanks for your question. Yes, it is a lot quieter now as some airlines have canceled 80 to 90 percent of their flights due to COVID-19. Large portions of the airlines' aircraft fleets are parked at airports throughout the country on runways, taxiways, aprons, at shuttered terminal buildings – wherever they can fit. Unfortunately, millions of airport and airline workers have lost their jobs, which is contributing to the current economic collapse and upcoming recession.

Stay well.

Regards,

Steve

Steven R. Alverson
Senior Vice President
ESA | Environmental Science Associates

April 8, 2020

From

Tony Sloss

To

SCSC Roundtable

Message

IFP Gateway Memo on the SCSC Roundtable Website

Mary-Lynne and Steve,

This memo states work is happening on TIPP TOE Visual which is one of the final descent approaches to SFO that SERFR connects too. (SERFR terminates at waypoint EDDYY and TIPP TOE starts at EDDYY.) The publication date of the TIPP TOE work is listed as 12/2/2021. Is this date indicative of the FAA's SERFR timeline? Can you confirm with the FAA they will proceed with an April announcement re: SERFR status that they spoke of when postponing their February announcement?

Thank you,

John Leopold
County Supervisor, 1st District

April 9, 2020

From

Steve Alverson

To

Raquel Girvin

Message

Date of FAA's Announcement Regarding FAA's Progress on the SERFR/Big Sur Overlay

Dear Administrator Girvin,

I hope that this email finds you, your family, and your colleagues at the FAA all well during this challenging time.

On behalf of SCSC Roundtable Chairperson Mary-Lynne Bernald, we are following up on the topic of when the FAA expects that it will be providing an update on the SERFR/Big Sur Overlay procedure development process. There was an expectation that the FAA would have an update of its report on its "Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties" and by default, an update on the SERFR/Big Sur Overlay procedure development process, at the February 26, 2020 SCSC Roundtable meeting. As you know that did not happen, as FAA was awaiting guidance from Congressional leadership, before making an announcement.

As we are now into the month of April, we are receiving inquiries as to when the FAA will be announcing its progress on the SERFR/Big Sur Overlay procedure development process. Would you please provide us with an update we can share with the SCSC Roundtable and interested public? Thank you. Stay well.

Regards,

Steve

Steven R. Alverson
Senior Vice President
ESA | Environmental Science Associates

April 13, 2020

From

Faviola Garcia

To

Steve Alverson

Message

Date of FAA's Announcement Regarding FAA's Progress on the SERFR/Big Sur Overlay

Hi Steve, I just wanted to acknowledge receiving your email and let you know that I will try to get back to you this week with a better update.

I hope you are all doing well and staying healthy.

Favi

Faviola Garcia
Senior Advisor
Federal Aviation Administration
Office of the Regional Administrator

April 14, 2020

From

Steve Alverson

To

Faviola Garcia

Message

Date of FAA's Announcement Regarding FAA's Progress on the SERFR/Big Sur Overlay

Favi,

Thanks for the acknowledgement Favi. We look forward to the FAA's update.

We are all doing well and staying healthy. We hope that you, your family, and your FAA colleagues are doing the same.

Stay well.

Regards,

Steve

Steven R. Alverson
Senior Vice President
ESA | Environmental Science Associates

April 15, 2020

From

Faviola Garcia

To

Karen Chapman; SCSC Roundtable

Message

Date of FAA's Announcement Regarding FAA's Progress on the SERFR/Big Sur Overlay

Hello Karen,

I'm forwarding the SCSC roundtable email recently received in our office.

We look forward to your input and guidance.

(All, I copied Kathleen L., understanding she has moved on, however, her email is being routed to someone else in Rep. Panetta's office.)

Thank you and wishing everyone good health.

Favi-

Faviola Garcia
Senior Advisor
Federal Aviation Administration
Office of the Regional Administrator

April 15, 2020

From

Evan Wasserman

To

SCSC Roundtable

Message

SCSC Roundtable - Notification of Legislative Committee Meeting 4/29/2020

Dear SCSC Roundtable Members and Alternates,

At the direction of SCSC Roundtable Chairperson Bernald, the following message is being sent to Roundtable Members and Alternates regarding an upcoming meeting of the Legislative Committee on Wednesday, April 29, 2020:

Dear Roundtable Members and Alternates,

As of Monday, April 13, 2020, the SCSC Roundtable Legislative Committee has a time-critical matter to address!

The Federal Aviation Administration (FAA) filed a Notice of Proposed Rulemaking (NPRM) regarding proposed noise certification standards for a specific category of Supersonic Transport (SST) airplanes. The 90-day comment period provided in the NPRM ends on July 13, 2020.

The Work Plan [3.4.2] gives me, as Chairperson, the Authority "on exception" to direct the Legislative Committee's work. Given the time-critical nature of this matter, I believe "on exception" is appropriate in this circumstance.

As Chair, I have affirmed that the Legislative Committee may proceed now that the NPRM has been published. Under that Work Plan [3.4.2], the Legislative Committee may "actively review and monitor proposed legislations and policy actions (including new rulemaking and FAA reauthorization bills.)"

Since this is a standing committee, the Legislative Committee's meetings are subject to the public meeting requirements of The Brown Act. This translates to:

- Due to the number of members (6) on the Committee, the Committee members must avoid communicating with other Roundtable members outside of a noticed meeting. To do so would result in a quorum or serial communication.
- An agenda must be prepared and distributed for the meeting(s).
- Do not "Reply All".
- Under the current state emergency provisions, the meeting(s) will be held virtually (a good test of any future approaches).
- The meeting(s) must be posted and recorded and a meeting recap distributed.
- Roundtable members may attend the Legislative Committee meetings as observers if they wish, but cannot participate in the Legislative Committee deliberations.
- The Legislative Committee and Technical Working Group may not work together because any discussion could lead to a quorum (7) of members.

At this time, the Legislative Committee's sole task is to evaluate the SST Noise Certification NPRM and to bring a recommendation in the form of a draft comment letter to the full Roundtable for possible action before the 90-day comment period ends. Any other efforts by the Committee are outside of the directed scope of work and are not needed by the Roundtable at this time.

As a starting point, I recommend you read the NPRM in Federal Register Notice, which Committee Chair Lisa Matichak has shared with the Legislative Committee, and, refer to the position

recommendation the entire Roundtable body made regarding the "Business and Supersonic Aircraft Noise Regulations" at our October 23, 2019 regular meeting:

The SCSC Roundtable fundamentally opposes FAA noise certification rules that would increase aircraft noise levels on a single-event basis as it would cause aircraft noise levels (and air pollution emissions) in our communities to increase without a corresponding benefit to those communities from the introduction of supersonic transport service. The SCSC Roundtable recommends that at a minimum, the new supersonic aircraft be required to meet current Stage 5 noise standards and would argue that with newer technology becoming available by the time these aircraft enter service, a standard lower than Stage 5 is warranted.

Thank you all!
Stay Safe, Stay Well, Stay Home!
Best Mary-Lynne Bernald
SCSC Roundtable Chairperson

Evan Wasserman
Senior Associate - Community Development Group
ESA | Environmental Science Associates

April 17, 2020

From

Steve Alverson

To

Lisa Matichak

Message

FAA Presentation on the SST NPRM

Lisa,

I hope this email finds you and your family doing well during this challenging time.

As a part of an industry committee reviewing the FAA's SST NPRM, I received the attached FAA presentation. I thought it would be helpful for others to review, so I requested and received permission to distribute it to the public.

The presentation is a revised version of a similar presentation that the FAA gave earlier this week to a working group of the International Civil Aviation Organization's Committee on Aviation Environmental Protection (CAEP). The FAA's presentation does a good job at distilling down the proposed rule and highlights some of its important aspects. I believe it would be helpful for the Legislative Committee and interested members of the public to review it prior to your April 29, 2020 Committee meeting.

Please let me know if you would like us to include it with the packet. Thanks!

Regards,

Steve

Steven R. Alverson
Senior Vice President
ESA | Environmental Science Associates

Attachment Name

20200417_S_Alverson_FAA Presentation on the SST NPRM

Supersonic Landing and Takeoff Noise

Overview of U.S. Notice of Proposed Rulemaking

Presented to:

By: Don Scata

Date: April 14, 2020



**Federal Aviation
Administration**

Page 276

U.S. Rulemaking Process

- **What is the U.S. Rulemaking Process?**

- The U.S. Rulemaking Process is designed to allow the public & stakeholders (both domestic and international) an opportunity to review and comment on proposed legislation.
- The process consists of a proposed rule (what we call a Notice of Proposed Rulemaking – NPRM) followed by a comment period, and then a final rule.
- Typically, the final rule is published within 18 months after the end of the comment period, however each Agency has discretion on timing.

- **What are the process details of this NPRM?**

- While FAA published the draft NPRM on FAA.gov, we did so to meet our legislative target.
- The NPRM was [officially posted on the U.S. Federal Register](#) on April 13, 2020. The comment period for this rule will be 90 days.
- The comment period started at time of publication and will end on July 13, 2020.
- We welcome comments from all stakeholders – including our international colleagues in CAEP.



Overview (1 of 2)

- **What does this rule propose to do?**

- This rule would set U.S. noise certification standards for new supersonic airplanes.
- These noise certification standards would apply to noise levels during landing and takeoff (when the airplane is operated at subsonic speeds).
- The rule would not change the existing prohibition on supersonic flight (Mach 1 or greater) over land in the United States, or otherwise address sonic boom.

- **Why is it necessary?**

- Existing FAA noise certification standards do not cover supersonic airplanes other than the Concorde.
- A noise certification standard will allow manufacturers to receive FAA Type Certification for new supersonic airplanes that are currently under development.
- Setting a noise certification standard will provide the regulatory certainty needed make critical design decisions and make substantial investments in airframe and engine programs.



Overview (2 of 2)

- **Why are we doing this now?**

- Several U.S. aerospace manufacturers are developing the next generation of supersonic airplanes for entry-into-service in the mid to late 2020s.
- In the FAA Reauthorization Act of 2018, Congress directed FAA to develop and issue a Notice of Proposed Rulemaking to set a noise certification requirement for supersonic airplanes by March 31, 2020.

- **Key Takeaway**

- This rule will enable innovation in supersonic aviation by filling a gap in existing noise certification requirements, removing uncertainty, and providing a necessary requirement for certification of new supersonic aircraft.
 - NOTE: Noise certification is just one element of the FAA type certification. New supersonic aircraft will need to go through a thorough application process to receive type certification.
- The NPRM process is a chance to comment on the proposal and provide feedback prior to FAA finalizing a rule.



Supersonic Noise & Certification Background (1 of 2)

- **Two types of noise** – There are two types of regulated noise from supersonic aircraft:
 - 1) landing and takeoff (LTO) noise; and
 - 2) sonic boom generated during cruise flight at supersonic speeds.
- **LTO noise**
 - During landing and takeoff, supersonic aircraft operate at subsonic speeds. FAA is required to regulate LTO noise by setting noise certification requirements.
 - There are two principal elements of a LTO noise certification standard:
 - 1) **Noise Level** – LTO noise certification standards set both individual noise levels for three measurement points (known as “lateral,” “flyover,” and “approach”) and a cumulative noise level for each aircraft type
 - 2) **Reference Procedures** – In addition to the noise levels, FAA requires that manufacturers follow a precise set of “reference procedures” (*i.e.*, specific requirements for how the plane is flown) when measuring noise. These reference procedures are indicative of how the plane will be flown in normal operations.



Supersonic Noise & Certification Background (2 of 2)

- **Unique design characteristics of supersonic aircraft**
 - Supersonic aircraft have unique design characteristics, such as a low-drag dart-like aerodynamic shape and engine design, that are necessary for achieving efficient supersonic flight at cruise altitude, and have implications for subsonic landing and takeoff performance and noise.
 - These characteristics make supersonic aircraft sufficiently distinct from today's subsonic aircraft to merit an independent analysis and a unique cumulative noise level for LTO noise certification.
- **Sonic Boom**
 - At cruise altitude, supersonic aircraft generate a sonic boom when flying faster than Mach 1. Concerns regarding sonic boom from the Concorde led to a ban on supersonic flight over land in the United States.
 - **This rulemaking does not address sonic boom**, and it is anticipated that the first generation of new supersonic aircraft will only operate at supersonic speeds over water.



Key Elements of Proposed Rule (1 of 2)

- **Weight and speed**

- The proposed rule applies to new supersonic aircraft that have a maximum takeoff weight of 150,000 pounds [~68 Tonne] (or less) and a maximum operating cruise speed of Mach 1.8.

- **LTO Noise Level**

- The proposal sets a proposed cumulative LTO noise level for new supersonic aircraft (SSL1).
 - Noise level based on extensive collaboration with NASA and data collection from industry projects
 - SSL1 is a level that is economically reasonable, technologically practicable, and appropriate for the applicable aircraft, while reducing noise to the greatest extent possible while allowing the airplane to operate safely.
- This creates a new level and limit for supersonic aircraft, but uses the same 'measuring stick' as subsonic – EPNdB.



Key Elements of Proposed Rule (2 of 2)

- **Reference procedure changes –**
 - The proposal includes changes to some elements of the existing reference procedures used to measure aircraft LTO noise levels during certification
 - These changes taking into account operational characteristics of supersonic aircraft, as well as technology advances
 - Allows for flexibility in takeoff reference speeds, but requires FAA approval
 - Allows for the use of Variable Noise Reduction Systems (VNRS)
 - If used for certification, requires the use of VNRS during normal operation
 - Requires the applicant to provide a way for the flight crew to verify that the VNRS is operating correctly before takeoff
 - Requires the applicant to demonstrate that ending Programmed Lapse Rate (PLR) does not produce a noise impact on the ground that exceeds the level at the certification measurement points



Regulatory Evaluation (1 of 2)

- **Supersonic aircraft potentially qualifying for type certification**

Based on data by aircraft developers and likely producers,

- Two supersonic airplanes *could* qualify for type certification as a result of this proposal and potentially begin production by 2025 assuming these airplanes would meet all existing requirements for certification.
- A production of 25 airplanes per certificate for 50 total airplanes per year, a production period of ten years, and airplane life of 20 years *could* be realized (likely upper bound).
- Fifty percent or more of production would be sold to foreign operators based on current market indicators.
- Therefore, the potential life cycle of the first U.S. civil supersonic fleet results in deliveries to U.S. operators of 25 airplanes per year (*same to foreign operators*) until the U.S. operating fleet reaches a potential peak of 250 airplanes in 2034.



Regulatory Evaluation (2 of 2)

- **Incremental change of proposed LTO cycle noise limits**

- The impact of the incremental change in the certificated noise level resulting from the proposed LTO cycle noise limits is low.
- The FAA looked at the noise level of airplanes in the future subsonic fleet and the noise levels of the 2- and 3-engine supersonic airplanes that would be covered under this proposed rule using the potential peak of 250 airplanes in 2034 previously discussed.
- The anticipated certification noise levels of the 2-engine supersonic airplane is in the 57th percentile of the subsonic fleet, and the anticipated certification noise level of the 3-engine supersonic airplane is in the 74th percentile of the subsonic fleet.
- In addition, the number of supersonic airplanes expected to be certificated is small and would represent less than three percent of the combined subsonic and supersonic U.S. fleet in 2034.



April 17, 2020

From

Lisa Matichak

To

Steve Alverson

Message

FAA Presentation on the SST NPRM

Hi Steve,

Thank you for sending this. I think it would be good to send this to all of the Roundtable members so that when the Leg. Committee shares our recommendation to the Roundtable everyone has the same information. We can also include it in the packet for the Leg. Committee.

Thanks again,

Lisa

Lisa Matichak
Councilmember
City of Mountain View

April 17, 2020

From

Steve Alverson

To

Lisa Matichak

Message

FAA Presentation on the SST NPRM

Lisa,

We will include the FAA's SST NPRM presentation in the Legislative Committee Agenda Packet. We'll be sure that it is distributed to the entire Roundtable as well. We have also placed it in the [Document Library](#) on the SCSC Roundtable website.

Have a great weekend and stay well!

Regards,

Steve

Steven R. Alverson
Senior Vice President
ESA | Environmental Science Associates

April 18, 2020

From

Karen Chapman

To

Faviola Garcia

Message

Date of FAA's Announcement Regarding FAA's Progress on the SERFR/Big Sur Overlay

Hello Favi,

Thank you on for following up with us.

Congresswoman Eshoo is Chairwoman of the Health Subcommittee of the Energy and Commerce Committee and all of her staff are working 24/7 on the health and economic crisis facing the 18th Congressional District and our nation as a result of the global pandemic. We know FAA and DOT are also facing dramatic new challenges related to the pandemic and hope that everyone is taking important steps to stay safe.

As far as an update to the Select Committee recommendations, we know the FAA has continued the work to identify what can be done to address the recommendations of the former body and our office is committed to continuing to work with the agency on it. In light of the pandemic, I ask that we get through this period and then discuss next steps in terms of providing an update. If constituents contact us about this we will confirm the work is ongoing. I checked and we have not heard from any constituents seeking an update on this issue.

Let me know if you or your team have questions.

My best,

Karen

Karen Chapman
District COS
Office of Congresswoman Anna Eshoo
698 Emerson Street
Palo Alto, CA 94301

April 20, 2020

From

Faviola Garcia

To

Karen Chapman

Message

Date of FAA's Announcement Regarding FAA's Progress on the SERFR/Big Sur Overlay

Karen, thank you so much for the update. We'll standby and monitor the current situation with COVID to give you some relief from our end. I'll check in with you in about 30 -45 days.

Take care and thank you for the guidance.

Favi

April 20, 2020

From

Mary-Lynne Bernald

To

Faviola Garcia

Message

Date of FAA's Announcement Regarding FAA's Progress on the SERFR/Big Sur Overlay

Favi, FYI. At this point, we are hoping to hold a (virtual) SCSC RT meeting in May.

Best to you and all!

Mary-Lynne

April 20, 2020

From

Faviola Garcia

To

Mary-Lynne Bernald

Message

Date of FAA's Announcement Regarding FAA's Progress on the SERFR/Big Sur Overlay

Thank you Mary-Lynne, we'll make note of that. Could you please ensure that Tamara also receives the invite or information you send out for participating?

I hope you are all well.

- Favi

April 24, 2020

From

Greg Hyver

To

SCSC Roundtable

Message

New submission from Contact us

I will be sharing this rather profane video (not made by me) to Save Our Skies Santa Cruz, Nextdoor and the Santa Cruz County Board of Supervisors. It's time to move the SERFR path back to the BSR Overlay and quit the bullshit. I will continue to show up at everyone of your meetings (once they recommence) until such time that the Roundtable quits dicking around and completes its core mission as demanded by the Select Committee Recommendations. NextGen was sold to the public as a cost-savings and safety-enhancing optimization model for flight routing. There has been no indication (according to a recent Congressional letter) that safety was improved in any way. As for cost-savings, does the airline industry really need more profits. Maybe this video will give you an indication of what is coming down the line and the anger that is bubbling up. Do you jobs and eliminate the SERFR path NOW!

<https://www.youtube.com/watch?v=wbdutQndKv8>

Video Attachment: "Ticked Off Vic: Arline Bailouts"

April 24, 2020

From

Evan Wasserman

To

SCSC Roundtable

Message

SCSC Roundtable - Legislative Subcommittee - Agenda Packet Posted

Dear SCSC Roundtable and Interested Parties,

The April 29th, 2020 Legislative Subcommittee meeting agenda packet is posted to the [SCSC Roundtable Website](#) for your convenience.

Have a great weekend!

Regards,

Evan Wasserman
Senior Associate - Community Development Group
ESA | Environmental Science Associates

April 26, 2020

From

Marie-Jo Fremont

To

SCSC Roundtable

Message

Agenda Item #4 of Legislative Committee Meeting of April 29, 2020 - Comment

I would like to offer a practical suggestion for the SCSC RT Legislative Committee to start tracking legislative and regulatory actions (task 2.1 of the Work Plan). Given that the meeting will be held only 3 days from now, I have copied the Chair of the Legislative Committee (Lisa Matichak) and my City representative on the Roundtable (Lydia Kou) to give them as much time as possible to consider my comment.

I suggest that the Legislative Committee obtain from Steve Alverson or Congressional Staff members a status update on the 10-noise related sections of the 2018 FAA Reauthorization Bill (see attached summary):

7 of the sections have due dates before May 2020 and one section did not have any due date.

The update should specify what progress if any has been made and in particular whether reports have been created and published if applicable.

The Committee should then build on the status update and identify specific actions to take on the various items.

Thank you for considering my suggestions.

Marie-Jo Fremont
Palo Alto resident

Attachment Name

20200426_M_Fremont_Agenda Item #4 of Legislative Committee Meeting

SECTION	SECTION TITLE	DUE	DATE	TEXT
176	Community Involvement in FAA Nextgen Projects Located in Metroplexes	6 months to complete review; 2 months after that to report to Congress	2019.04.05 to complete the review; 2019.06.05 to report to Congress	The FAA shall <i>review its community involvement practices</i> and produce a report on how to improve them for future projects
189	Study on Potential Health and Economic Impacts of Overflight Noise	Study initiated in 6 months; Concluded 3 years later	2019.04.05 to initiate study; 2022.04.05 conclude study	The FAA shall <i>enter into an agreement with an eligible institute of higher learning to study health impacts of noise from aircraft on residents exposed to a range of noise levels</i> from such flights. The study shall examine incremental health impacts, including sleep disturbance and elevated blood pressure, and be focused on residents in designated metropolitan areas (Washington, DC metro area is included) and under flight paths frequented by aircraft flying lower than 10,000 feet.
180	Regional Ombudsen	Within 1 year	2019.10.05	Within 1 year, the FAA is directed to <i>designate a regional ombudsman for each FAA region</i> , to serve as a community liaison, make recommendations to address community concerns, and be consulted on proposed airspace changes
188	Study Regarding Day-Night Average Sound Levels	Report in 1 year	2019.10.05	The FAA shall <i>evaluate alternative metrics to the current average day-night level (DNL) standard</i> , such as the use of actual noise sampling and other methods, to address community airplane noise concerns.
173	Alternative Airplane Noise Metric Evaluation Deadline	1 year	2019.10.05	The FAA shall <i>complete its ongoing evaluation of alternative metrics to the current Day Night Level (DNL) 65 Standard</i> .
181	FAA Leadership on Civil Supersonic Aircraft	NLT March 31, 2020	2020.03.31	The FAA is directed to <i>exercise leadership related to the certification and safe and efficient operation of civil supersonic aircraft</i> , including issuing a rulemaking on noise standards.

186	Stage 3 Aircraft Study	Report in 18 months	2020.04.05	The FAA is directed to <i>review the benefits, costs, and other impacts</i> to a variety of stakeholders, including communities surrounding airports, <i>from a phaseout of Stage 3 aircraft</i> .
179	Airport Noise Mitigation and Safety Study	Complete NLT 2 years	2020.10.05	The FAA shall <i>review and evaluate existing studies of the relationship between jet aircraft approach and takeoff speeds and corresponding noise impacts</i> on communities, including the advisability of using speeds as a noise mitigation technique, and whether any of the metropolitan areas identified in §189 would benefit from such mitigation techniques <i>without significantly impacting aviation safety or efficiency</i> .
187	Aircraft Noise Exposure Study	Report in 2 years	2020.10.05	The FAA shall <i>conclude its ongoing review of the relationship between aircraft noise exposure and its effects on communities around airports</i> . The report shall include preliminary recommendations for revising land use compatibility guidelines.
175	Addressing Community Noise Concerns	NA	NA	The FAA shall <i>consider dispersal headings or other lateral track variations if the airport operator requests it and the request would not conflict with the “safe and efficient” use of the national airspace</i> , when proposing or amending RNAV procedures that direct aircraft below 6,000 feet over noise sensitive areas.

April 27, 2020

From

Marie-Jo Fremont

To

SCSC Roundtable

Message

Agenda Item #4 of Legislative Committee Meeting of April 29, 2020 - Comment

I am not sure how the Committee will handle written comments submitted by the public before the meeting versus verbal comments that will be made by the public during the virtual meeting.

Given that I plan to attend the 04/29 Virtual Meeting, I would like to clarify that the Chair does NOT need to read the comment that I submitted by email yesterday on Agenda Item 4. I plan to make comments verbally during the meeting on this topic. Be assured that I will continue to respect the time limit for public comments.

Marie-Jo Fremont
Palo Alto resident

April 28, 2020

From

Marie-Jo Fremont

To

SCSC Roundtable

Message

2018 FAA document on noise limit standards (14 CFR Part 36) not applicable to supersonic aircraft

The following FAA document on the applicability of 14 CFR Part 36 to supersonic aircraft is relevant to Agenda Item 5 for the 04-29-2020 Legislative Committee meeting.

[https://www.faa.gov/about/office_org/headquarters_offices/agc/practice_areas/regulations/interpretations/data/interps/2018/executive%20director-ae-1%20-%20\(2018\)%20legal%20interpretation.pdf](https://www.faa.gov/about/office_org/headquarters_offices/agc/practice_areas/regulations/interpretations/data/interps/2018/executive%20director-ae-1%20-%20(2018)%20legal%20interpretation.pdf)

Please distribute to Committee members.

Thank you.

Marie-Jo Fremont
Palo Alto resident

Attachment Name

20200428_M_Fremont_2018 FAA document on noise limit standards




Federal Aviation Administration

Memorandum

Date: February 21, 2018

To: Executive Director, Office of Environment and Energy, AEE-1

From:  Assistant Chief Counsel for Regulations, AGC-200

Prepared by: Karen Petronis, Senior Attorney for Regulations, AGC-210

Subject: Applicability of part 36 to new supersonic aircraft

My staff was recently asked whether 14 CFR part 36, Noise Standards: Aircraft Type and Airworthiness Certification, would apply to an application for type certification of a new supersonic aircraft. Our interpretation is that it does not apply. A different means of noise certification of a supersonic aircraft would be required.

The applicability of part 36, as listed in §36.1(a)(1) is limited to “*subsonic* transport category large airplanes, and for *subsonic* jet airplanes regardless of type” (emphasis added). Section 36.1(a)(3) adds “Concorde airplanes.” No supersonic airplane other than the Concorde is included in the applicability for the part.

Regulatory history related to noise from supersonics

Historically, the FAA has never had the data to support promulgation of actual noise levels for supersonic aircraft, and thus never took an opportunity to broaden the applicability section to supersonic aircraft other than the Concorde.

In the 1970s, the FAA chose to call out the Concorde specifically for regulation as that airplane was beginning worldwide operations. The Concorde is specifically addressed in part 36 subpart D (including the Noise Control Act standard of §36.301(b)) concerning the lowest noise levels that were practicable and appropriate for the Concorde type design. The FAA would have to promulgate a change to part 36 applicability and new regulations on noise levels in Subpart D to account for any other supersonic aircraft design.

As early as 1986, the FAA expressed its interest in amending its regulations to account for the development of supersonic aircraft other than the Concorde. In an Advance Notice of Proposed Rulemaking (ANPRM), the FAA published notice of its intent to amend parts 36 and 91 to account for noise type certification and civil operation of supersonic aircraft (other than the Concorde, which was already covered).¹ The disposition of comments to that ANPRM² notes that commenters stated that there could be no focus on noise reduction technology until an aircraft manufacturer selects a propulsion system and the characteristics are known. Similarly, commenters said that the method of noise type certification could not be determined without knowledge of the aircraft design.

As noted in our subsequent proposed rule (NPRM) in 1990, commenters to the ANPRM also stated that Stage 3 (the certification standard then) should be a minimum requirement, and that anything less would be regressive. The 1990 NPRM proposed to remove the subsonic designation from §36.1, and to require future supersonic aircraft to meet (the then-current) Stage 3 noise levels. It also proposed an amendment to part 91 to require that any supersonic aircraft operating to or from a U.S. airport comply with Stage 3 noise levels, so as to preclude the operation of any future Stage 2 supersonic aircraft produced outside the United States. This proposal for mandatory operation at Stage 3 predated the Airport Noise and Capacity Act (1990), which required Stage 3 as an operational minimum for subsonic aircraft as of January 1, 2000.

In 1994, the FAA withdrew the 1990 NPRM.³ The withdrawal document stated only that further investigation and research was necessary before developing a final rule. On the same day the proposal was withdrawn, however, the FAA published a policy statement indicating that despite withdrawing the proposed rule, “the FAA has not changed its policy on noise issues involving the development of future-generation civil supersonic airplanes.” The published policy included a statement that any future supersonic aircraft would be expected to “produce no greater noise impact on a community than a subsonic airplane certified to Stage 3 noise limits.” (59 FR 39679, August 4, 1994). The FAA reiterated this expectation in a similar 2008 policy statement when the subsonic noise certification standard was Stage 4: “The latest noise limit in Part 36 is Stage 4, which applies to the development of future supersonic airplanes operating at subsonic speeds” (73 FR 62871, October 22, 2008). The same historic lack of data to establish full supersonic noise standards continues today.

New supersonic type certification today

If a person applies for a type certificate for a supersonic aircraft today, we are of the opinion that part 36 does not apply based on the language of §36.1. However, that lack

¹ ANPRM: 51 FR 39663 (October 30, 1986)

² Comment disposition in the NPRM preamble, 55 FR 22020 (May 30, 1990)

³ Withdrawal: 59 FR 39711 (August 4, 1994)

of regulation in part 36 does not mean that the applicant is free of noise requirements at certification.

The FAA has a statutory mandate to “protect the public health and welfare from aircraft noise and sonic boom” in 49 USC 44715. That language came from 49 USC App 1431 (the former codification of the Federal Aviation Act) and the Noise Control Act of 1972.

§44715(a) states that the Administrator “shall prescribe” –

- i) standards to measure aircraft noise and sonic boom, and
- ii) regulations to control and abate aircraft noise and sonic boom.

This duty continues to apply even in the absence of current regulations that would cover a particular type of aircraft. Accordingly, if a manufacturer applies for a type certificate for a supersonic aircraft before the FAA adopts noise standards for the aircraft type, that application would trigger the need for the FAA to do rulemaking to describe the noise standards that would apply to the aircraft. This is reinforced by the statute in §44715(a)(3) that states:

(3) An original type certificate may be issued under section 44704(a) of this title for an aircraft for which substantial noise abatement can be achieved only after the Administrator of the [FAA] prescribes standards and regulations under this section that apply to that aircraft.

Section 44715 also specifies that when prescribing such standards and regulations, the FAA “shall consider relevant information related to aircraft noise and sonic boom” (§44715(b)(1)), consult with other government authorities (§44715(b)(2)), and consider safety (§44715(b)(3)). Section 44715(b)(4) states that the Administrator must “consider whether the standard or regulation is economically reasonable, technologically practicable, and appropriate for the applicable aircraft.” This latter language comes from the Noise Control Act⁴ (1970), under which the FAA must make a determination at the time of each new type certification. The FAA had specifically incorporated the core of the Noise Control Act language in §36.301(b) that applied to the Concorde, requiring that:

...the noise levels of the airplane are reduced to the lowest levels that are economically reasonable, technologically practicable, and appropriate for the Concorde type design.

The FAA has a statutory duty to conduct rulemaking for any requirement that the Administrator finds appropriate for carrying out the purpose of §44715, and we would be

⁴ Most of the recodification of FAA authority in 1991 broke up pieces of older authorizing legislation, including the Noise Control Act standards, into new sections.

required to publish any proposed standards for public comment, even if the standards eventually apply only to one aircraft. The Administrative Procedure Act states that a --

“rule” means the whole or part of an agency statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy.... 5 USC 551 (4).

A new type certification application for a supersonic aircraft might well require adoption of standards that end up applying solely to that applicant for that aircraft (though it could form the basis for general rules that apply to future applicants). Legally, it would function as a rule of particular applicability rather than a rule of general applicability.

In forming an initial matrix of what noise requirements would apply to a supersonic aircraft design, we may first want to determine what current regulations may be appropriate rather than start from scratch. For example, the noise measurement standards of part 36 Appendix B were found to be appropriate for the Concorde, and could serve as the starting point for noise certification of a supersonic aircraft unless demonstrated by an applicant that the standards are not appropriate. Further, our policy history states that a new supersonic aircraft, when operating subsonically, would be expected to comply with the noise limits for subsonic aircraft unless the applicant can show that subsonic operation of its aircraft will differ so significantly from operation of subsonic aircraft of similar size and weight that different standards should apply. It would be up to the applicant both to suggest such a requirement and justify why it is appropriate for the FAA to consider. The special condition process defined in 14 CFR §§21.16, 11.19, and 11.38, including the development of issue papers to define the appropriate standards, may serve as a useful model for adopting other specific parts of a new set of noise standards. All of these processes are data driven.

The question of how a supersonic aircraft might be tested or its noise limits determined when operating at supersonic speed are still to be solved as a matter of certification. The operating rules of part 91 applicable to supersonic aircraft are discussed below. Operating rules neither drive nor limit certification standards under our regulatory scheme, since by definition operating rules apply to aircraft that were previously certificated and already in service.

Current supersonic operating rules

While this memo was intended to address the state of our certification rules, we are briefly addressing the operating rules in part 91 subpart I that have been the subject of recent questions.

The operating rule in §91.817(a) prohibits supersonic flight over land in the United States; it has no effect on the development of appropriate noise requirements under part 36. In fact, development of such requirements would be necessary before §91.817

could be changed to allow such flights if the FAA is to comply with its statutory duty to protect the public health and welfare.⁵ Similarly, §91.817(b) places limits on operations that might cause a sonic boom created outside U.S. airspace to reach the U.S. coastline. In order to determine how far out the supersonic signature (sonic boom) of an aircraft can be detected, there must be some kind of testing of the aircraft under those conditions to know what flight limitations would be appropriate; the FAA did this with the Concorde on approach to the east coast in the 1970s as its basis for this regulation. Other noise parameters that can only be created at supersonic speed may well be suggested and described by other entities of the U.S. government such as NASA, with whom the FAA has a significant historical working relationship regarding aircraft noise, and with whom the FAA is required to consult under §44715(b)(2).

Section 91.819 states that it applies to “supersonic airplanes that have not been shown to comply with the stage 2 noise limits of part 36 in effect” in 1977.

Read with historical context, this section placed limits on aircraft that met only Stage 1 noise limits.⁶ Since a reference to part 36 noise levels is made, there has been question whether part 36 actually applies to supersonic aircraft (other than the Concorde). We do not infer that an operating rule can, by historical reference, act to change the stated applicability of part 36. Further, any reference to the Stage 2 noise levels of part 36 suggests that the application is only to the subsonic operation of supersonic aircraft since no other noise levels exist in part 36.

Finally, concern has been raised about the effect of §91.821, an operating rule, which states that no one may operate a civil supersonic airplane unless it complies with the Stage 2 noise levels of part 36. Similar to the applicability of §91.819, the presence of this regulation raises the question whether new supersonic aircraft would have to be any quieter than Stage 2 to operate (the current *operational* minimum for subsonic airplanes is Stage 3).

The regulation was promulgated in 1978 (as an operating rule applicable to then-certificated, operational aircraft) and it remains in effect until the FAA changes it. When the regulation was adopted, the FAA stated in the final rule preamble that it was intended to apply to then-current supersonic airplane designs, and not to define requirements for future designs -

The rules do not establish certification noise limits for future design SST's, since the technological feasibility of such standards is at present unknown. The FAA's

⁵ The development of supersonic aircraft was foreseen and a method of authorizing developmental flights was adopted as Appendix B to part 91 at the same time the operational limits were put in place. The procedure remains available to all operators flying supersonic aircraft for development.

⁶ The FAA amended part 36 to include the Stage 3 noise limit in 1977 for new subsonic type certification. When the term “does not meet” is used, it means an aircraft does not meet the minimum, not that an airplane that “does not meet Stage 2” might actually refer to Stage 3. All aircraft that meet stage 3 are presumed to meet Stage 2 since the levels are progressively quieter.

goal is not to certificate, or permit to operate in the United States, any future design SST that does not meet standards then applicable to subsonic airplanes....

Accordingly, consistent with technological developments, the noise limits in this rule are expected to be made more stringent before a future design SST is either type certificated or permitted to operate in the U.S.

43 FR 28406 (June 29, 1978)

As an operating rule, §91.821 addressed the airplanes existing at the time of its adoption that would be operated in the United States, and was aimed at distinguishing the first Concorde produced from those produced later, and from other supersonic aircraft that were in development. Noise operating rules historically and necessarily lag significantly behind the certification standards because they apply to aircraft certificated to earlier standards. Although the FAA took the next step toward more stringent supersonic airplane operating requirements in 1990 when it proposed to increase the Stage 2 limit to Stage 3, that proposed rule was withdrawn.

For reference, we also note our legal interpretation provided to your office on February 29, 2016, that addresses §91.817 in greater detail.

April 28, 2020

From

Jennifer Tasseff

To

SCSC Roundtable

Message

SCSC Roundtable LEGISLATIVE COMMITTEE April 29, 2020 meeting - Agenda Item #5 - Review, Discussion, and Potential Action on the Proposed Noise Certification Regulations for Supersonic Airplanes

RE: Public comment -

SCSC Roundtable Legislative Committee April 29, 2020 meeting - Agenda Item #5 - Review, Discussion, and Potential Action on the Proposed Noise Certification Regulations for Supersonic Airplanes

[Attached Sunnyvale/Cupertino Airplane Noise Group letter previously forwarded to the FAA]

Hello Madam Chair Matichak (Legislative Committee):

In preparation for Agenda Item #5 Supersonic Airplanes, discussion and possible action-
Last August 2019 our Sunnyvale/Cupertino Airplane Noise Group prepared a letter for the FAA regarding the possible reintroduction of civil supersonic flights over the U.S. I have attached that letter for your reference.

Overview of the Sunnyvale/Cupertino Airplane Noise Group letter:

- Since Nextgen implementation, our Bay Area communities have experienced problems with airplane noise.
- FAA should not compound this problem by adding supersonic aircraft to the mix while people across the country are still suffering from NextGen.
- A high hurdle must be met in order to remove the existing civil supersonic flight ban over the U.S.

If civil supersonic flights are reintroduced over U.S. land:

1. There should be no audible sonic boom at ground level (including no sonic boom over pressure, no rattling, nor any other human annoyance at ground level)
2. All supersonic aircraft must meet or exceed the same noise standards and fuel-efficiency standards that apply to newly manufactured subsonic aircraft. (Current new aircraft manufacturing noise/fuel-efficiency standards)

I am hoping this letter will be helpful during the supersonic aircraft discussion. See you (virtually) tomorrow.

I have attached both a PDF copy and a MS Word version for your convenience.

Thank you,

Jennifer Tasseff

Attachment Name

20200428_J_Tasseff_SCSC Roundtable LEGISLATIVE

AIRPLANE NOISE GROUPS SUNNYVALE / CUPERTINO



Also submitted via <https://www.regulations.gov/document?D=FAA-2019-0451-0001>

August 27, 2019

Docket Operations, M-30
U.S. Department of Transportation (DOT)
1200 New Jersey Avenue SE (Room W12-140)
West Building Ground Floor
Washington, DC 20590-0001

Re: Sunnyvale/Cupertino Airplane Noise Group comments on *Special Flight Authorizations for Supersonic Aircraft*, Docket: FAA-2019-0451

Dear DOT Representative:

The Sunnyvale / Cupertino Airplane Noise Group appreciates the opportunity to provide comments to the Federal Aviation Administration (FAA) on their Notice of Proposed Rule Making (NPRM) on *Special Flight Authorizations for Supersonic Aircraft*.

The following document pertains to civil supersonic flights and aircraft.

Members of the Sunnyvale /Cupertino Airplane Noise Group have prepared a list of 5 recommendations (listed below) regarding civil supersonic aircraft reintroduction into the United States. We believe these recommendations will support new technological advances, without compromising U.S. residents on the ground. Since 1973, a ban on civil supersonic flights has existed over U.S. land. This was done to protect U.S. residents. A high hurdle should be met in order to remove this supersonic flight ban, and these new supersonic aircraft should meet stringent airplane noise and fuel-efficiency standards equivalent to newly manufactured subsonic aircraft.

Background:

The cities of Sunnyvale and Cupertino are located in the San Francisco Bay Area (NorCal) Metroplex. Since the implementation of NextGen, our cities have experienced a problem with aircraft noise. The FAA should not compound this problem by adding supersonic aircraft to the mix while people across the country are still suffering from NextGen.

Recommendation 1 – No audible sonic boom at ground level

Under no circumstances should any characteristic of a sonic boom be audible/detectable at ground level over the U.S. for civil supersonic flights.

This Recommendation includes:

- All test and normal operations
- All identifying characteristics of sonic booms at ground level including:
 - No audible boom
 - No measurable sonic boom overpressure
 - No rattling or other human annoyance related to a sonic boom event

Any civil supersonic flights that are not capable of meeting this recommendation under ALL conditions, must remain at a distance from U.S. land that ensures no audible/detectable sonic boom reaches any land surface in the United States. For these supersonic aircraft, the current ban on civil supersonic flights over land will remain in place.

Recommendation 2 – Same airplane noise standards for supersonic and subsonic aircraft

Within any U.S. Metroplex all supersonic aircraft must meet or exceed the same noise standards that apply to newly manufactured subsonic aircraft.**

This recommendation would include a stipulation that newly manufactured supersonic aircraft must meet all of the same airplane noise standards that are required for newly manufactured subsonic aircraft. Supersonic aircraft should not be exempted in any way from subsonic aircraft noise standards.

Any civil supersonic aircraft that are not capable of meeting this recommendation, shall not be permitted to enter any U.S. Metroplex**.

Recommendation 3 – Most stringent sonic boom criteria should be used for rulemaking

For rulemaking, use the strictest criteria for defining a sonic boom.

When considering the reintroduction of civil supersonic flights over the U.S., the strictest criteria should be used to confirm no detectable/audible sonic boom at ground level. The sonic boom criteria used may include a combination of no audible boom, no sonic boom overpressure, no rattling, nor any other human annoyance or environmental impact at ground level.

Note The current testing by NASA to identify “acceptable level of annoyance to sonic booms” is not acceptable. NextGen and the corresponding noise that has occurred for residents under the NextGen flights paths has shown that the FAA’s definition of no environmental impact is flawed, and should not be the sole criteria used when considering any rulemaking for civil supersonic over flights.

Recommendation 4 – Same airplane fuel-efficiency standards for supersonic and subsonic aircraft

All supersonic aircraft must meet or exceed the same fuel-efficiency standards that apply to subsonic aircraft.

The FAA clearly prioritizes safety and efficiency. Given the current carbon reduction goals, it is presumed that FAA considers “efficiency” to include airplane fuel-efficiency standards.

This recommendation would include a stipulation that newly manufactured supersonic aircraft must meet all of the same airplane fuel-efficiency standards that are required for newly manufactured subsonic aircraft. Supersonic aircraft should not be exempted in any way from subsonic aircraft fuel-efficiency standards.

Any planes that are not capable of meeting the above standard shall not be permitted to enter any U.S. Metroplex**.

Recommendation 5 – Ban supersonic aircraft in U.S. Metroplexes if standards not met

If the standards designated in Recommendation 1 and Recommendation 2 (as described above) are not met, then supersonic aircraft must be banned from flying within 70 miles of any U.S. Metroplex.**

Reference (above recommendations):

Recommendation 1 (no audible/detectable sonic boom at ground level)

Recommendation 2 (Meet all subsonic aircraft noise standards)

*****Definition of U.S. Metroplex: (for purposes of this paper)***

- All areas currently defined as U.S. Metroplexes by the FAA
 - For areas not defined by the FAA as a Metroplex, the following definition should apply:
 - Any two or more cities that share a border, each with a population density of 2,500 people/square mile or more. The controlled/restricted airspace of the metroplex shall extend at minimum 20 miles in all directions from any of the legal borders of the subject cities.
-

During Rulemaking - Please consider the risk to reward for civil supersonic flights

Supersonic flights over the U.S. could impact millions of residents on the ground.

As you know, if sonic booms are permitted over land in the United States, for a single transcontinental supersonic flight, all residents across 2900 miles of the US could experience a sonic boom from the same flight. The sonic boom travels along the flight path in what is called a “boom carpet”. This would imply that thousands, maybe even millions of U.S. residents might be impacted by a single supersonic transcontinental flight.

In the past, the FAA has favored the airline industry and airline manufacturers, with little to no consideration regarding the impact of airline noise and the health ramifications to the U.S. public & environment. This favoritism toward the airline industry at the expense of U.S. residents on the ground needs to stop. Since 1973, a ban on civil supersonic flights has existed over U.S. land to protect U.S. residents.

The current testing by NASA to identify “acceptable level of annoyance to sonic booms” is not acceptable for civil supersonic flights. FAA needs to push back on industry regarding this matter – There can be no audible sonic boom at ground level under any circumstances.

The risk to reward for supersonic flights is questionable:

The reward - If a plane carries 50 passengers, and the flight time is reduced by 1 hour, then 50 total man-hours are saved. The risk - Impact to potentially millions of U.S. residents is incalculable – With loss of sleep, impact to school age children, health ramifications, etc.

The supersonic flight ban grants FAA complete control over this rulemaking process. Please do not succumb to the pressures from the industry to circumvent strict airplane noise/fuel-efficiency standards that currently exist for subsonic flights/aircraft. Newly manufactured supersonic aircraft should meet the same strict airplane noise/fuel standards that are required for newly manufactured subsonic aircraft. No exceptions.

Sincerely,

Tony Guan

Jennifer Tasseff

And members of the Sunnyvale /Cupertino Airplane Noise group
(Over 400 members strong)

April 28, 2020

From

Andi Jordan

To

SCSC Roundtable

Message

SCSC Roundtable Legislative Committee Meeting - tomorrow at 10AM

Hi Legislative Committee Members –

I wanted to let you know that there are two pieces of correspondence (one pdf file) that have been uploaded to the meeting page of the website.

<https://scscroundtable.org/meetings/sc-sc-roundtable-legislative-subcommittee-april-29-2020/>

You should receive a reminder email at 9AM with your unique sign in to meeting.

See you tomorrow,

~Andi

Andi Jordan
Executive Director
Cities Association of Santa Clara County

April 29, 2020

From

Marie-Jo Fremont

To

SCSC Roundtable

Message

Written version of the public comments I made today at the SCSC RT Legislative Committee on April 29, 2020

I am sending you a written version of my public comments on agenda items 3, 4, and 5 as it may be helpful to have a written version.

I also want to compliment you, and especially the Chair, for a well-run virtual meeting.

Marie-Jo

Attachment Name

20200429_M_Fremont_Written version of the public comments

Agenda Item 3: Public comments not on agenda

Marie-Jo Fremont from Palo Alto

- WHAT you work on is as important as HOW you do it.
- I would therefore encourage this Committee to think about the most effective ways to influence legislation in a proactive manner.
- In particular, I would recommend that this Committee collaborate with Congressional Offices (both House and Senate because they have legislative expertise) and with the SFO RT Legislative Committee (because there is power in numbers). Leveraging resources and collaborating with others will help you be more efficient and more effective. No need to do everything alone and reinvent the wheel.

Agenda Item 4: Review Role of Legislative Committee

Marie-Jo Fremont from Palo Alto

I have 3 suggestions as first operational steps for this Committee:

- **On Task 2.1 about tracking legislation & regulations:** As indicated in my April 26 email to the RT, I would recommend for the Committee to get from Steve Alverson or Congressional Staff members a status update on the 10-noise related sections of the 2018 FAA Reauthorization Bill. I provided a summary of the sections in my email. The update should specify what progress, if any, has been made and, specifically whether reports, if applicable, have been published. The Committee should then build on the status update and identify specific actions to take on the various items.
- **On Task 2.2 about proposing new legislation & regulations:** I would recommend for the Committee to create a list of items that have been discussed by the Roundtable over the last year (for example: metrics, 65 dB DNL standard etc.) and relate to legislation & regulations. For each item, it would be important to capture the essence of the problem and list the current relevant laws or rules. The Committee could then use that list to discuss later how to best address the issues.
- **On Task 2.3 about the FAA procedure and environmental review process:** I would recommend for the Committee to summarize issues with the current FAA processes using the information provided by the FAA at past meetings. Perhaps Steve can extract the critical issues from previous presentations and discussions. Then the Committee can use Steve's summary to discuss desired changes at future meetings.

Agenda Item 5: Proposed noise certification regulations for supersonic aircraft:
Marie-Jo Fremont from Palo Alto.

The FAA is proposing a new rule because they concluded in 2018 that 14 CFR Part 36 does not apply to supersonic airplanes.

You need to challenge that FAA decision because

1. The FAA conclusion reverses the position that they held for decades.

AND

2. The new rule, which allows for higher noise levels for supersonic planes, contradicts the FAA stated goal in their 2018 memo that they would not certify supersonic planes or allow them to operate if they didn't meet the standards then applicable to subsonic planes.

I would encourage you to read the [2018 FAA memo on the noise limits for new supersonic aircraft](#).

The FAA conclusion is a reversal of the previous FAA position, held for decades, that noise limit standards should also apply to supersonic aircraft.

Per the 2018 memo, here is a history of the FAA position on the topic:

- In 1990, the FAA proposed a new rule to require future supersonic planes to meet (the then-current) Stage 3 noise levels.
- In 1994, the FAA withdrew the proposed rule but stated that "any future supersonic aircraft would be expected to produce no greater noise impact on a community than a subsonic airplane certified to Stage 3 noise limits."
- In 2008, when subsonic noise certification standards went to Stage 4, the FAA reiterated that the "The latest noise limit in Part 36 is Stage 4, which applies to the development of future supersonic airplanes operating at subsonic speeds."

In addition, the FAA stated in the memo that their "goal is not to certificate, or permit to operate in the United States, any future design SST [Supersonic Transport] that does not meet standards then applicable to subsonic airplanes."

April 29, 2020

From

Jennifer Landesmann

To

SCSC Roundtable

Message

Public Comment April 29, 2020 Meeting - Agenda Items 4, 5, 6, 7

Dear Members of the Legislative Committee - SCSC Roundtable,

I am submitting for your consideration three key Recommendations from the Select Committee on South Bay Arrivals which pertain to noise measurements, metrics, and noise mitigation processes.

The full recommendations can be found on page 24 and page 26 of the SC's final report.

FAA nor Congress have responded to communities on these recommendations, and the 2018 FAA Reauthorization noise metrics provisions. It is a flawed process for FAA to have any rule making actions when FAA ignores their noise metric inadequacies - or given that **FAA practices have failed to assess or model noise adequately for every Nextgen project launched**.

If the SCSC Legislative is to be of help to communities, it must please make more NOISE about these problems.

Thank you,

Jennifer Landesmann

FOR LEGISLATIVE FOLLOW UP
SELECT COMMITTEE RECOMMENDATIONS – 3.3, 4.1, and 4.2

3.3 Noise Measurement

Recommendation: The Select Committee recommends that the U.S. Congress require the FAA to adopt supplemental metrics for aircraft noise that characterize the true impact experienced by people on the ground. (Vote: __12__ Aye, __0__ Nay, __0__ Absent or Abstain)

EXCERPT:

More specifically, the use of a Day-Night Average Sound Level (DNL) alone is ill-suited to assess ground level impacts, particularly from the standpoint of amplitude, duration, time of occurrence, and repetitiveness (concentration of flight paths). In addition, noise analysis at a community level (i.e., over a relatively broad swath) results in a blending of noise that does not reflect more localized impacts. Measuring noise more locally and precisely (e.g., at the census block level) would avoid this “blending” and diluting of noise exposure. The Committee also notes that, on the national level, numerous studies of alternative noise metrics highlight the deficiencies of DNL.

Further, the FAA’s metrics rely on A-Weighting to measure sound pressure levels (e.g., the way the ear hears), commonly expressed in dBA. A-Weighting was originally intended only for the measurement of low-level sounds. Yet it is now commonly used for the measurement of environmental and industrial noise, including aircraft noise, as well as when assessing potential hearing damage and other noise health effects at all sound levels. However, because A-Weighting is applicable to only low levels, it tends to devalue the effects of low frequency noise in particular.

*Other frequency weighting, such as “C-” and “Z-” Weightings are available. Use of these frequency weightings yields measurements of **all** noise, instead of only a small fraction of it.*

4.1 Who Makes Recommendations to Whom

Recommendation: Should a similar process be employed here or elsewhere in the country in the future, the Select Committee recommends that, to the greatest degree possible, the FAA be charged with the responsibility for identifying and

proposing solutions to mitigate noise concerns, and that community groups and elected officials be consulted for review and comment, and to offer additional suggestions. (Vote: __12__ Aye, __0__ Nay, __0__ Absent or Abstain)

EXCERPT:

Simply put, notwithstanding the FAA's good faith effort to provide technical expertise to the Committee, the Committee's view is that the process is fundamentally backwards – the FAA should be going to Members of Congress and their affected constituencies with proposals for review and comment, not the other way around.

4.2 Need for Before/After Noise Monitoring

Recommendation 1: The Select Committee recommends that the FAA and/or SFO monitor and document noise exposure of any feasible solutions before and after FAA implementation to ensure impacts are verified, and to determine whether results are of a discernible benefit. (Vote: __12__ Aye, __0__ Nay, __0__ Absent or Abstain)

Recommendation 2: The Committee recommends the implementation of a set of regional noise monitoring stations that will adequately monitor aircraft noise levels at carefully selected points in the San Francisco Bay Area and the three Congressional Districts represented on the Select Committee. Collected data shall be made available to citizens upon request. (Vote: __12__ Aye, __0__ Nay, __0__ Absent or Abstain)

EXCERPT:

Looking ahead, the Committee is concerned that if the FAA fails to perform “before and after” noise measurements related to the implementation of Recommendations contained in this Report, there will likewise be an inability to measure, analyze and verify, and document the desired improvements. Accordingly, the Select Committee offers the following Recommendation.

April 29, 2020

From

Steve Alverson

To

Lisa Matichak; SCSC Roundtable – Legislative Committee

Message

FWD: Public Comment April 29, 2020 Meeting - Agenda Items 4, 5, 6, 7

Lisa,

I am passing along this email from Jennifer Landesmann to members of the Legislative Committee.

Regards,

Steve

Steven R. Alverson
Senior Vice President
ESA | Environmental Science Associates

As shown above, forwarded of email from Jennifer Landesmann
FWD: Public Comment April 29, 2020 Meeting - Agenda Items 4, 5, 6, 7

May 4, 2020

From

Evan Wasserman

To

SCSC Roundtable

Message

FAA Report to Congress, Reaffirms DNL as agency metric

Dear SCSC Roundtable Members and Alternates,

On April 14, 2020, the FAA released its Report to Congress on the use of the DNL metric. [The document is attached for your review/use and can be found on the SCSC Roundtable website.](#)

Specifically, FAA's Report to Congress is an evaluation of alternative noise metrics as directed by the requirements of Section 188, "Study regarding day-night average sound levels", of the FAA Reauthorization Act of 2018. Section 188 of the Act directed the FAA to submit a report evaluating alternative noise metrics to the current average day-night level standard to the appropriate Congressional committees. In Summary:

- The FAA reaffirms the use of DNL, finding that "Noise modeling is the only practical way to predict geospatial noise effects in a surrounding community when analyzing proposals related to aviation noise. Noise modeling is also necessary for a wide variety of other proposed federal actions, such as those resulting from airfield changes or changes in airspace management. The assessment of these actions requires the review of future case proposals and can therefore only be considered through predictive modeling."
- The FAA also notes that "... while the DNL metric is FAA's decision-making metric, other supplementary metrics can be used to support further disclosure and aid in the public understanding of community noise effects."

Of course, the State of California specifies the use of the Community Noise Equivalent Level or CNEL when describing aircraft noise exposure. However, the FAA accepts the use of CNEL in California and considers DNL and CNEL to be relatively equivalent.

We hope that you, and your constituents find this information useful.

Regards

SCSC Roundtable Staff
Evan Wasserman
Senior Associate - Community Development Group
ESA | Environmental Science Associates

Attachment Name

20200504_E_Wasserman_FAA Report to Congress Reaffirms DNL



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

Office of the Administrator

800 Independence Ave., SW.
Washington, DC 20591

April 14, 2020

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

Dear Mr. Chairman:

This letter transmits the Federal Aviation Administration's (FAA) report to Congress on an evaluation of alternative noise metrics as directed by Senate Appropriations Report 116-109 (pg. 42) for fiscal year 2019 and the requirements of Section 188, "Study regarding day-night average sound levels", of the FAA Reauthorization Act of 2018 (the Act) (Pub. L. 115-254).

Section 188 of the Act directed the FAA to submit a report evaluating alternative noise metrics to the current average day-night level standard to the appropriate Congressional committees. While not directed by the Act to include as a report, the information contained in the document also fulfills the FAA's response to Section 173.

We look forward to continued collaboration with your staff and would be happy to schedule time to brief you further if desired.

We have sent identical letters to Chairman DeFazio, Ranking Member Cantwell, and Ranking Member Graves.

Sincerely,

A handwritten signature in black ink that reads "Steve Dickson". The signature is fluid and cursive, with the first name "Steve" and last name "Dickson" clearly legible.

Steve Dickson
Administrator



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

Office of the Administrator

800 Independence Ave., SW.
Washington, DC 20591

April 14, 2020

The Honorable Peter A. DeFazio
Chairman, Committee on Transportation
and Infrastructure
House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

This letter transmits the Federal Aviation Administration's (FAA) report to Congress on an evaluation of alternative noise metrics as directed by Senate Appropriations Report 116-109 (pg. 42) for fiscal year 2019 and the requirements of Section 188, "Study regarding day-night average sound levels", of the FAA Reauthorization Act of 2018 (the Act) (Pub. L. 115-254).

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We look forward to continued collaboration with your staff and would be happy to schedule time to brief you further if desired.

We have sent identical letters to Chairman Wicker, Ranking Member Cantwell, and Ranking Member Graves.

Sincerely,

Steve Dickson
Administrator



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

Office of the Administrator

800 Independence Ave., SW.
Washington, DC 20591

April 14, 2020

The Honorable Maria Cantwell
Committee on Commerce, Science,
and Transportation
United States Senate
Washington, DC 20510

Dear Senator Cantwell:

This letter transmits the Federal Aviation Administration's (FAA) report to Congress on an evaluation of alternative noise metrics as directed by Senate Appropriations Report 116-109 (pg. 42) for fiscal year 2019 and the requirements of Section 188, "Study regarding day-night average sound levels", of the FAA Reauthorization Act of 2018 (the Act) (Pub. L. 115-254).

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We have sent identical letters to Chairman Wicker, Chairman DeFazio, and Ranking Member Graves.

Sincerely,

Steve Dickson
Administrator



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

Office of the Administrator

800 Independence Ave., SW.
Washington, DC 20591

April 14, 2020

The Honorable Sam Graves
Committee on Transportation
and Infrastructure
House of Representatives
Washington, DC 20515

Dear Congressman Graves:

This letter transmits the Federal Aviation Administration's (FAA) report to Congress on an evaluation of alternative noise metrics as directed by Senate Appropriations Report 116-109 (pg. 42) for fiscal year 2019 and the requirements of Section 188, "Study regarding day-night average sound levels", of the FAA Reauthorization Act of 2018 (the Act) (Pub. L. 115-254).

Section 188 of the Act directed the FAA to submit a report evaluating alternative noise metrics to the current average day-night level standard to the appropriate Congressional committees. While not directed by the Act to include as a report, the information contained in the document also fulfills the FAA's response to Section 173.

We look forward to continued collaboration with your staff and would be happy to schedule time to brief you further if desired.

We have sent identical letters to Chairman Wicker, Chairman DeFazio, and Ranking Member Cantwell.

Sincerely,

Steve Dickson
Administrator



**Federal Aviation
Administration**

Report to Congress

FAA Reauthorization Act of 2018 (Pub. L. 115-254) Section 188 and Sec 173

April 14, 2020

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1. Introduction

Since its inception, the Federal Aviation Administration (FAA) has worked to better understand, quantify, and address noise concerns from aircraft. As part of this effort, various noise metrics have been developed over several decades of research to inform federal policies. As will be discussed in this report, no single metric can cover all situations due to the dynamic acoustical and operational characteristics of aviation noise. The appropriate use of noise modeling and noise measurement will also be reviewed and the context in which each are applicable are discussed.

Congress directed an evaluation of alternative metrics in Senate Appropriations Report 116-109 (pg. 42) for fiscal year 2019 and the FAA Reauthorization Act of 2018 (Pub. L. 115-254) requested the FAA to provide this report in response to **Sec. 188: Study regarding day-night average sound levels. Within 1 year the Administrator shall evaluate alternative metrics to current average day-night level standard, such as use of actual noise sampling to address community airplane noise concerns.**

While not directed to include in a report, the information contained in this document also fulfills the FAA's response to **Sec. 173: Alternative airplane noise metric evaluation. Within 1 year complete the ongoing evaluation of alternative metrics to the current Day Night Level (DNL) 65 standard.**

2. Purpose of Noise Metrics for Environmental Regulation and Policy

This section introduces the topic of noise and the FAA's use of noise metrics for environmental regulation and policy. "Noise" is defined as unwanted sound. The term "noise metric" refers to a type of noise measurement or noise descriptor. Sound itself is a complex phenomenon, which varies in level over time as well as frequency content.¹ Therefore, many noise metrics exist in order to capture and include the various aspects of sound; no single noise metric can cover all situations. The FAA uses noise metrics for two primary purposes:

1. To assess community noise exposure through requirements under the National Environmental Policy Act (NEPA) and other related noise programs like 14 CFR Part 150.
2. To assess aircraft certification through 14 CFR Part 36.

The noise metrics used for each of these purposes are different as they address different characteristics of noise as will be described below.

2.1 Community Noise Exposure

Community responses to noise vary from person to person, even if noise levels do not change. However, changes in noise exposure affect individual and community responses, and substantial increases in man-made noise can have a negative impact. Consequently, it is

¹ Frequency content refers to the timbre of a sound, often comprised of a collection of pitches, or frequencies.

important to understand which characteristics of noise cause a negative response and how exposure to noise with those characteristics affects people's lives.

In order to reflect human response to sound equitably across communities, a meaningful metric or set of metrics should:

- Have a highly reliable relationship between noise exposure and people's response to noise.
- Consistently be applied uniformly in communities surrounding airports.
- Account for noise level, duration, and time of occurrence.

The Day-Night Average Sound Level (DNL) incorporates all of these elements and is the metric FAA uses to inform environmental decision making for noise.

As stated in the previous section, "noise" is unwanted sound in a community. However, individual expectations regarding noise may vary based on different factors, including whether the community is in a quiet rural area or a bustling downtown city. For example, a new, potentially intrusive noise may generally be more noticeable in a quiet rural area compared to an urban environment, even though the overall noise levels can be higher in an urban environment. Thus, the ambient (or background) sound level affects how people perceive new noise sources. "Ambient" sound is defined as the existing acoustic environment to which a potential intrusive sound is being compared. Figure 1² shows typical existing ambient sound levels (i.e., Day-Night Average Sound Level [DNL]; see Section 3 for a discussion of DNL) ranging from a "small town residential area" to a "downtown city."

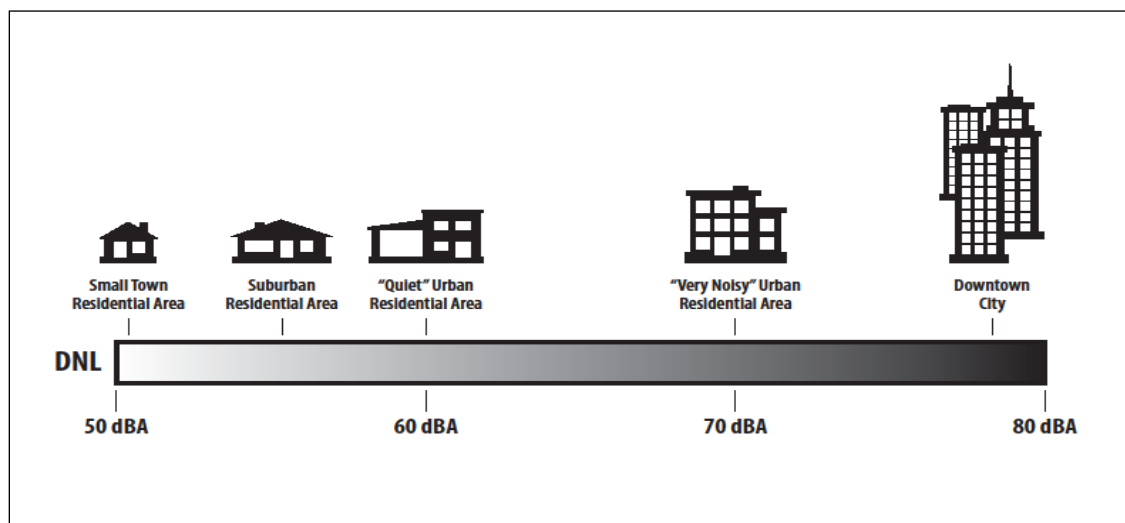


Figure 1. Typical Day-Night Average Sound Levels

Common community noise sources include sources inside and outside of buildings. For example, a person indoors can experience the noise from vacuum cleaners, air conditioners, televisions, etc. Example sources of outdoor noise entering a house include lawn mowers, vehicular traffic, railroads, and aircraft. A new, potentially intrusive noise source can range from acceptable to unacceptable depending on a number of factors, including the following:

² U.S. Environmental Protection Agency. 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.

- Magnitude of the noise level relative to ambient sound levels.
- Character of the noise.
- Number, time of day, and elapsed time of noise events.

For these reasons, a metric responsive to cumulative noise exposure over the full range of aircraft operational conditions is most appropriate to assess community noise exposure.

2.2 Aircraft Certification

The purpose of the noise certification process is to ensure that the latest available safe and airworthy noise reduction technology is incorporated into new aircraft designs, thereby minimizing aircraft noise levels experienced by communities.

The Federal Aviation Administration applies noise certification standards to regulate the maximum noise level that an individual civil aircraft can emit. The United States aircraft noise standards are defined in the Code of Federal Regulations Title 14 Part 36 – Noise Standards: Aircraft Type and Airworthiness Certification (14 CFR Part 36). Rigorous noise measurement procedures are used in the aircraft certification process. For aircraft certification, single aircraft event metrics are most appropriate for finding compliance. In the case of U.S. large airplane and helicopter regulations, the increased designation by “stage” for such applicable standards are an indication of noise stringency increases that lower the maximum allowable noise levels.

As noise reduction technology matures, the FAA works with the international community to determine if a new stringent noise standard is appropriate. If so, the international community, through the International Civil Aviation Organization’s Committee on Aviation Environmental Protection, embarks on a comprehensive analysis to determine a new noise standard.

The FAA publishes certificated noise levels in the advisory circular, “Noise Levels for U.S. Certificated and Foreign Aircraft.” This advisory circular provides noise level data for aircraft certificated under 14 CFR Part 36 and categorizes aircraft into their appropriate “stages.” Any aircraft that is certified for airworthiness in the U.S. must comply with noise standard requirements to receive a type certificate.

3. Noise Metrics Acoustic Background and History

3.1 Background on Acoustical Frequency Weighting

Many metrics used to predict or describe noise effects corresponding to the human response to noise rely on A-weighting to express the spectral (frequency) content of noise as a single-valued number. First identified in the 1933 Fletcher-Munson curves,³ the A-weighting network intentionally focuses on frequencies in the mid-range and is less influenced by both low and high frequency sounds. A-weighted noise levels correspond better to human response to noise⁴ than do other weightings.

³ Fletcher, H. and W.A. Munson. 1933. Loudness, Its Definition, Measurement and Calculation. Journal of the Acoustical Society of America. Volume V. October.

⁴ Federal Railroad Administration. 2012. High-Speed Ground Transportation Noise and Vibration Impact Assessment. U.S. Department of Transportation. Office of Railroad Policy and Development. DOT/FRA/ORD-12/15. September.

The A-weighting network was originally developed for sounds of relatively low level. Additional B- and C-weighting networks were developed for application to sounds of increasing absolute level. The B-weighting network had little use in noise analyses, however, and was eventually dropped from the sound level meter standard. Figure 2⁵ shows the frequency response characteristics of A- and C-weighting.

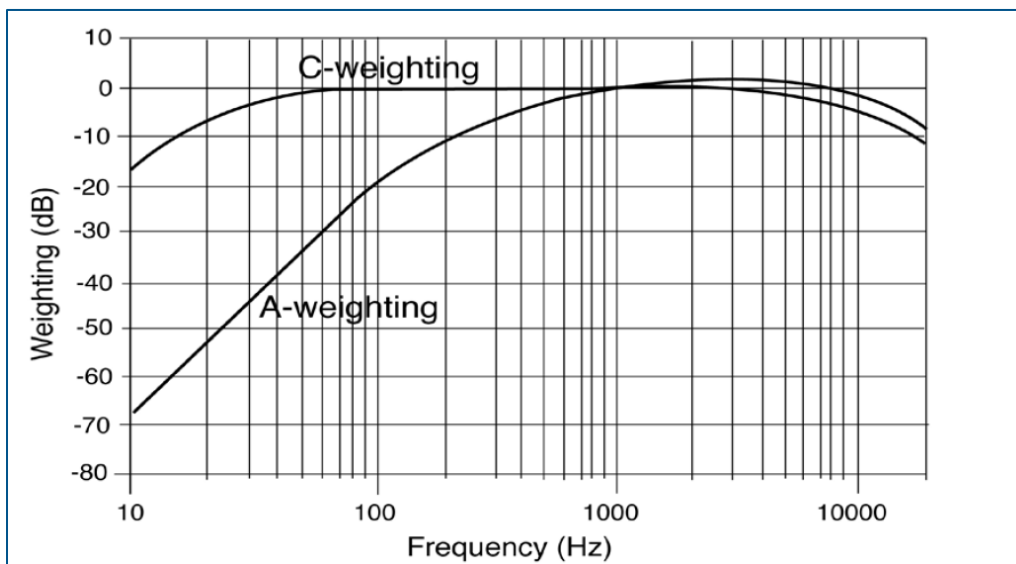


Figure 2. Frequency Response Characteristics of A- and C-Weighting.

The rationale for favoring A-weighted noise metrics can be traced to the very first community noise survey,⁶ and for the convenience of manufacturing analog sound level meters. Modern digital sound level meters can easily measure sound with various weightings and/or at individual frequencies.

In some cases, no weighting is used, which is referred to as a “linear” decibel value, and simply denoted dB.

C-weighting (dBC) is currently used for certain applications, such as loud, impulsive noise or noise sources with substantial low frequency content (e.g., sonic booms, commercial space launches, or artillery ranges). C-weighting has essentially little to no weighting between 31.5 hertz (Hz) and 8 kilohertz (kHz), and thus is similar to a “linear” decibel (dB) value.

Measurement of sound includes both frequency and temporal characteristics. Various frequency weightings, such as A-weighting as previously discussed, allow sound measurements with different frequency or spectral content to be represented by a single number.

The time varying nature of sound levels can be characterized by cumulative and single event metrics. Maximum sound level over a given time interval (L_{\max}) can be measured as well, but depending on how much levels vary, the L_{\max} may not be representative of longer-duration measurements.

⁵ ANSI S1.4 -1983 “Specification of Sound Level Meters.”

⁶ Fletcher, H., A.H. Beyer, and A.B. Duel. 1930. “Noise Measurement,” in City Noise, Report of the Noise Abatement Commission, Department of Health, City of New York.

3.2 History of Modern Noise Metrics

The framework of modern noise metrics (including DNL) can be traced back to the Composite Noise Rating (CNR) of the 1950s.^{7,8,9} The CNR began in a form where aircraft noise spectra¹⁰ were compared to reference spectra at various levels. The CNR included adjustments for time of day, ambient conditions, and other factors. By the 1960s, the CNR had evolved into the Noise Exposure Forecast (NEF)¹¹ which accounted for multiple noise events. These early noise metrics were later replaced due to the acknowledgement of the need to account for noise level, duration, the number of noise events, and time of day.

The effort to develop a noise metric to evaluate noise in the vicinity of an airport began in California in 1969 with the adoption of Public Utilities Code Section 21669:

The department [of Aeronautics] shall adopt noise standards governing the operations of aircraft and aircraft engines for airports operating under a valid permit issued by the department to an extent not prohibited by federal law. The standard shall be based upon the level of noise acceptable to a reasonable person residing in the vicinity of the airport.

In 1970, the California Aeronautics Board adopted the community noise equivalent level (CNEL) as the measurement of an airport's "noise footprint."¹²

In 1972, Congress passed the Noise Pollution and Abatement Act (commonly referred to as the Noise Control Act), which directed the U.S. Environmental Protection Agency (EPA) to coordinate the programs of all federal agencies relating to noise research and noise control and to publish information on the levels of environmental noise necessary to protect the public health and welfare with an adequate margin of safety;¹³ however, the authority to manage aviation noise was retained by the FAA. In 1974, EPA, in its "Levels"¹⁴ document, recommended DNL (also expressed as L_{dn}) as the best metric to describe the effects of environmental noise in a simple, uniform and appropriate way. DNL replaced or supplemented earlier noise metrics, including CNEL, for federal purposes.

⁷ Rosenblith, W.A., K.N. Stevens, and the staff of Bolt, Beranek, and Newman. 1953. Handbook of Acoustic Noise Control, Vol. 2, Noise and Man. USAF Report WADC TR-52-204.

⁸ Stevens, K.N., W.A. Rosenblith, and R.H. Bolt. 1953. Neighborhood Reaction to Noise: A Survey and Correlation of Case Histories (A). *J. Acoust. Soc. Am.* Vol 25(833).

⁹ Stevens, K.N., and A.C. Pietrasanta. 1957. Procedures for Estimating Noise Exposure and Resulting Community Reactions from Air Base Operations. USAF Report WADC TN 57-10.

¹⁰ "Spectra" refers to a frequency spectrum which typically includes the magnitude of individual frequencies from 31.5 hertz to 20 kilohertz. Hertz is equivalent to cycles/second.

¹¹ Bishop, D., and M.A. Simpson. 1970. Noise Exposure Forecast Contours for 1967, 1970 and 1975 Operations at Selected Airports. DOT/FAA Office of Noise Abatement, FA68WA-1900. September. BBN Report No. 1863.

¹² CNEL is still in use in California; FAA recognizes it as an alternative metric and has allowed California airports to present annual noise exposure in terms of CNEL, rather than DNL, for consistency with state protocols.

¹³ Congress discontinued funding for the EPA Noise Office in 1981.

¹⁴ U.S. Environmental Protection Agency Office of Noise Abatement and Control, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (Mar. 1974).

In 1979, Congress passed the Aviation Safety and Noise Abatement Act (ASNA), which required the FAA to establish:

- (a) A single system of measuring noise, for which there is a highly reliable relationship between projected noise exposure and surveyed reactions of people to noise, to be uniformly applied in measuring noise at airports and the areas surrounding such airports; and
- (b) A single system for determining the exposure of individuals to noise which results from the operations of an airport and which includes, but is not limited to, noise intensity, duration, and time of occurrence.¹⁵

Taking into consideration existing information on noise metrics, in 1981, in accordance with ASNA, the FAA adopted DNL as its standard metric. The FAA uses the DNL metric for purposes of determining an individual's cumulative noise exposure and for land use compatibility under 14 CFR part 150. The FAA also uses DNL for assessing the significance of predicted noise impacts under NEPA.

4. Noise Metrics Overview

This section provides background on the range of noise metrics most commonly used for evaluations of transportation noise or for other related purposes. Sections 5 and 6 will then introduce where these metrics are in active use by the FAA or other agencies for regulatory purposes.

4.1 Cumulative Metrics

Cumulative noise metrics consider both the sound level and the duration, and are useful in quantifying long-term community noise exposure. Depending on the situation, different length of time periods, such as hourly, daily or annual can be considered by cumulative metrics.

The following are examples of cumulative noise metrics.

Level Equivalent (L_{eq})

The Level Equivalent (L_{eq}) is the equivalent continuous sound level in decibels, equivalent to the total sound energy measured over a stated period of time. L_{eq} is essentially the average sound level during the measurement interval and takes into account the cumulative effect of multiple noise events.

Day-Night Average Sound Level (DNL)

The DNL noise metric captures all the acoustic energy within a 24-hour period, adding a 10 dB penalty between the hours of 10:00 p.m. and 7:00 a.m. to account for people's increased sensitivity to noise at night. Night-time ambient sound levels are often approximately 10 dB lower than daytime sound levels, so the 10 dB adjustment can also be thought of as

¹⁵ 49 U.S.C. § 47502(1)(A)(B), (2), (3).

compensating for this drop-in sound level. DNL is usually expressed in terms of A-weighted sound levels, but other frequency weightings can be used, such as C-weighting (i.e., CDNL).

DNL represents an average day of hourly weighted Leq noise levels as shown in the schematic below.



DNL is also most often considered commutatively over an Average Annual Day and provides a consolidated summary of the annual noise exposure. The American National Standards Institute (ANSI) comments¹⁶ on the appropriateness of the annual average DNL with respect to long-term community noise exposure: “Ordinarily, land-uses are long-term, continuing nature, and the yearly day-night average sound level is appropriate for these land uses. For other land uses, compatibility is to be assessed by the average sound level during the time interval of interest for the land use involved.”

Community Noise Equivalent Level (CNEL)

The Community Noise Equivalent Level (CNEL) metric, used in California¹⁷, is similar to the DNL metric, but in addition to the 10 dBA nighttime penalty, it also adds a 4.77 dBA penalty for sound levels occurring during the evening hours (7:00 p.m. to 10:00 p.m.).

4.2 Single Event Metrics

Single event metrics focus attention on the noise attributes of individual noise events such as an aircraft flyover.

Sound Exposure Level (SEL)

The SEL metric captures all the acoustic energy of a noise event and normalizes it as if the event occurred in one second. The SEL takes into account both sound level and duration, and therefore allows direct comparison between two different noise events with different durations and/or sound level. The SEL (in conjunction with number of daytime and nighttime noise events) also can be used to calculate DNL.

Maximum Sound Level (L_{max})

Maximum sound level (L_{max}) is the maximum sound level measured within a desired measurement interval.

¹⁶ “Sound Level Descriptors for Determination of Compatible Land Use” (ANSI S12.40-1990).

¹⁷ CNEL may be used in lieu of DNL for assessment of FAA actions in California.

4.3 Operational-Acoustic Metrics

“Operational-Acoustic” refers to metrics such as Number-above (NA), Time-above (TA), and Time-audible. These types of metrics include non-acoustic information, such as number of aircraft or time elapsed exceeding a certain noise level threshold. This type of metric is a linear measure (as opposed to logarithmic), which in some situations can aid in providing supplemental noise information to the public. Contours (isopleths) of these of Operational-Acoustic metrics can be superimposed on maps showing noise level contours from acoustic metrics, such as DNL.

Number-above (NA)

The NA metric combines single event noise level information with aircraft movement data. NA contours commonly show the number of aircraft above a given noise level threshold over a specified time period (e.g., 70 dBA and 24 hours).

Time-above (TA)

The TA noise metric measures the total time, or percentage of time, that the A-weighted aircraft noise level exceeds an indicated level. TA correlates linearly with the number of flight operations and is also sensitive to changes in fleet mix.

Time-audible

The Time-audible metric quantifies the duration at which noise from a transient noise source occurs at a noise level greater than the existing ambient noise level. The noise source must also be detectable by a human observer with normal hearing, who is actively listening.

This metric is highly dependent upon an accurate representation of ambient sound levels, both temporally and geo-spatially. For example, a listener’s particular location and time at that location would need accurate and reliable ambient sound level data for comparison with accurate aircraft noise levels. For these reasons, the Time-audible metric can be difficult to represent accurately in areas with dynamic or variable ambient noise levels.

For typical vehicle noise levels, this metric is most applicable for projects within or involving noise sensitive areas at very low and constant ambient noise levels, such as national parks. Low and constant ambient noise levels are desired because this metric is most sensitive where the source noise is distinguishable from the ambient noise.

4.4 Low Acoustic Frequency Noise Metrics

Pounds Per Square Foot (PSF): A direct measure of the peak overpressure from an acoustical event. Most often considered for high intensity noise events where structural concerns are relevant.

C-weighted SEL (CSEL) and C-Weighted DNL (CDNL): Analogous to SEL and DNL, but incorporates a C-weighting to be more responsive to lower acoustic frequency noise. CSEL is the recommended¹⁸ metric for evaluating human response to sonic booms.

¹⁸ National Research Council. 1981. Assessment of Community Response to High-Energy Impulsive Noises. Report of CHABA Working Group 84, W. J. Galloway, Chairman.

5. Noise Metrics in use by FAA

As introduced in section 3.2, the DNL noise metric was adopted by FAA to meet the requirements established by ASNA and codified in 14 CFR Part 150. DNL is also used by the FAA in making determinations for Federal Actions it assesses under NEPA as specified under FAA Order 1050.1F. The DNL metric is an example of a cumulative A-weighted¹⁹ noise metric and represents the exposure level over a complete 24-hour period. DNL accounts for the noise level of each individual aircraft event, the number of times those events occur, and the time of day/night in which they occur. DNL includes a 10 decibel²⁰ (dB) noise penalty added to noise events occurring from 10:00 p.m. to 7:00 a.m. to reflect the increased human sensitivity to noise and lower ambient sound levels at night. To ensure that all of the variable operational conditions over the course of a year are considered, FAA considers the Average Annual Day when calculating DNL²¹. Average Annual Day DNL is used to assess noise from all fixed wing and rotorcraft aircraft in both the vicinity of airports and in the extended airspace.

In addition to regulation of aircraft operations, the FAA's Office of Commercial Space Transportation issues licenses to operate non-federal launch sites and to operate launch vehicles. Commercial space launch vehicles typically produce two different types of noise: launch noise (from rocket engines) and sonic booms (generated during supersonic flight). Launch noise can be assessed using several different noise metrics. The DNL metric has been used for commercial space projects for public disclosure and because the FAA uses the DNL metric when determining significance under NEPA, but its suitability is uncertain primarily because of the relatively small number of noise events (i.e., launches per year). CSEL and CDNL may also be considered in some cases for commercial space noise evaluations.

While DNL is used for all FAA noise-based decision-making purposes, the FAA encourages the use of other supplemental metrics as a communication tool to highlight unique situations where applicable. Section 8 will discuss the use of noise metrics for supplemental purposes.

6. Noise Metrics in use by U.S. and State Government (outside FAA)

Federal and state agencies other than the FAA employ similar noise metrics to evaluate a project's noise impacts. For example, the U.S. Department of Housing and Urban Development (HUD), Surface Transportation Board (STB), and U.S. Department of Defense (DOD) also employ the DNL metric to determine Land Use Policy according to Federal Land Use Policy guidelines. The Federal Highway Administration (FHWA) primarily uses the L_{eq} metric while the Federal Railroad Administration (FRA) and Federal Transit Administration (FTA) use both L_{eq} and DNL metrics. Daytime L_{eq} metrics are typically used for activities with little or no nighttime activity, while DNL is used to account for daytime and nighttime activity.

¹⁹ A-weighted metrics weight the acoustic frequency of noise to approximate that of human hearing.

²⁰ The decibel (dB) is a logarithmic relationship of sound pressure levels, which is designed to collapse a large range of pressure values into a more manageable range. A 10-dB increase is perceived as a doubling of loudness, while a 3-dB increase is perceived as just noticeable to most people.

²¹ Average Annual Day DNL may also be noted as Yearly DNL or YDNL

It is important to draw a distinction between a particular noise metric and any accompanying noise threshold values (in decibels) used to inform project or policy determinations. Determinations of threshold values depend on multiple technical and policy considerations that, while related to the choice of noise metric, require separate consideration.

The following examples illustrate how different agencies and departments apply various noise metrics.

6.1 Level Equivalent (L_{eq}) Metric

FHWA uses the loudest one-hour L_{eq} ²² to assess impacts associated with highway noise. FHWA's impact criteria for residential receptors has been 67 dBA (L_{eq}) (or 70 dBA L_{10}) at exterior use areas since 1976. In many cases, highway noise levels peaking in the range of 66 dBA (L_{eq}) often are in the range of 65 DNL if measured over a 24-hour period.

FHWA employs both "absolute" and "relative" noise impact criteria. "Absolute" refers to the 67 dBA (L_{eq}) threshold for noise-sensitive outdoor use areas, including those of residences. "Relative" noise criteria refer to a potential increase in noise level due to a highway project. FHWA allows individual states to determine their own "relative" noise criteria which can vary between 5 and 15 dBA above ambient sound levels, defined as a "substantial increase." Impacts can occur under one, the other, or both; at which point the highway agency must consider abatement for those impacts.

6.2 DNL and L_{eq} Metrics

Originating from FTA guidance²³, The FTA and FRA²⁴ essentially use the same noise metrics and procedures, including consideration of existing ambient noise levels and project noise levels for environmental noise impact analysis as shown in Figure 3.

For FTA, these procedures include how to calculate light rail transit noise levels for various trains using consistent configurations and distances from the rail line. Transit bus projects also often include highway elements and may require FHWA noise procedures to be used, in conjunction with FTA noise procedures. The FTA noise manual provides guidance on choosing the correct procedures for such multi-modal projects.

For FRA, existing and project noise levels are expressed in terms of dBA, delineated by times of use. Specifically, the manual requires: " L_{dn} is used for land use where nighttime sensitivity is a

²² Federal Highway Administration. 23 CFR Part 772: Procedures for Abatement of Highway Traffic Noise and Construction Noise -- Final rule. Federal Register Vol. 75, No. 133, 1 July 2010.

²³ Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment. FTA Report No. 0123. September.

²⁴ FRA follows FTA guidance for assessments of rail vehicles operating below 90mph. For rail vehicles operating above 90mph further guidance is provided in: Federal Railroad Administration. 2012. High-Speed Ground Transportation Noise and Vibration Impact Assessment. U.S. Department of Transportation. Office of Railroad Policy and Development. DOT/FRA/ORD-12/15. September.

factor; L_{eq} during the hour of maximum transit noise exposure is used for land use involving only daytime activities.”

Figure 3 is applicable to both L_{eq} and DNL. Figure 3 shows that the “allowable project noise level” decreases with decreasing existing ambient noise levels. It is interesting to note that a project noise level of DNL 65 dBA covers a wide range of typical ambient noise level conditions as an impact threshold.

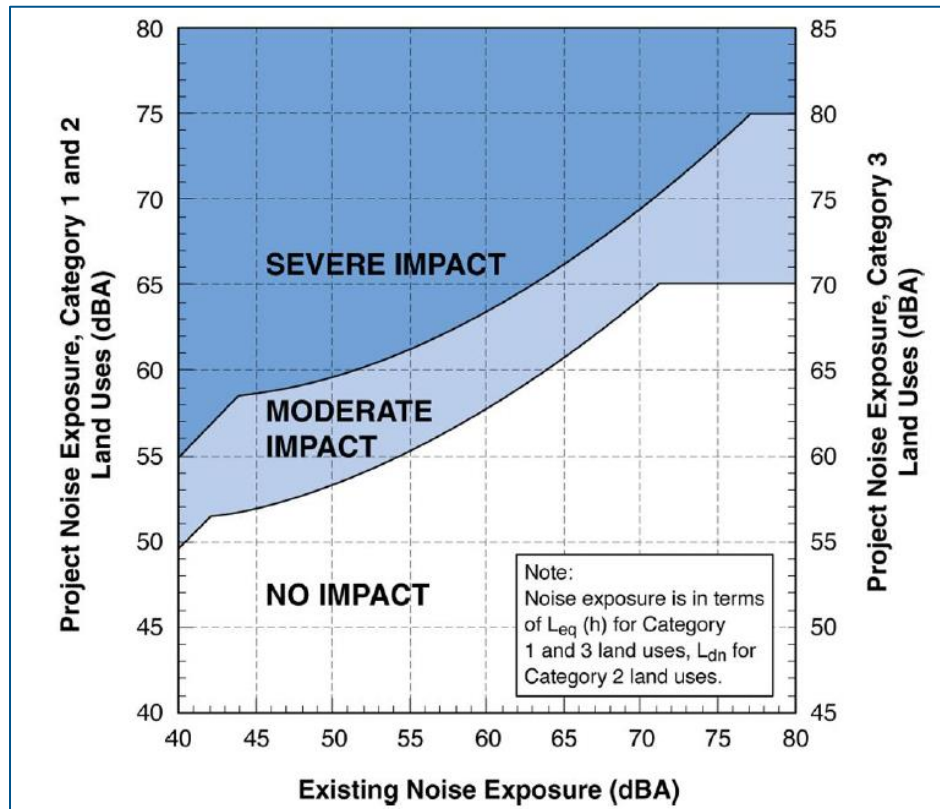


Figure 3. Federal Railroad Administration Noise Metrics/Criteria

6.3 30-Day Average DNL Metric

As an example of long-term versus mid- and short-term noise exposure, the FTA uses a 30-Day Average DNL for certain construction projects warranting a detailed construction noise analysis²⁵. Construction projects usually have noise metrics and thresholds which consider the temporary nature of construction projects.

²⁵ Specific procedures for assessing construction noise impacts are provided in 2018 FTA Report No. 0123

6.4 DNL Metric

Based on Federal land use guidelines²⁶ and similar to the way in which FAA assesses compatible land use²⁷, HUD²⁸ considers an environmental noise level of less than DNL 65 dB as acceptable, a noise level between DNL 65 and 75 dBA normally unacceptable, and a noise level above DNL 75 dB unacceptable. HUD also employs a building interior standard of DNL 45 dB. HUD noise analysis considers the effects of highways, railroads, airports, and military installations for all of its property related expenditures, including loans, planning assistance, and support of new construction. Common use of Federal land use guidelines, including the DNL noise metric, provides HUD with a consistent defensible method for considering aircraft noise in its decision making. Where aircraft noise is a consideration, use of a noise metric other than that considered by FAA, would add complexity and could negatively impact the process for granting home loans and property development.

The DOD primarily uses the DNL metric for environmental noise analysis with caveats: “Although local conditions regarding the need for housing may require residential use in these zones, residential use is discouraged in DNL 65-69 dBA and strongly discouraged in DNL 70-74 dBA. The absence of viable alternative development options should be determined, and an evaluation should be conducted locally prior to local approvals indicating that a demonstrated community need for the residential use would not be met if development were prohibited in these zones.”²⁹ Existing residential development is considered as pre-existing, incompatible land use.

The DOD promotes long-term compatible land use in the vicinity of military installations via the Air Installations Compatibility Use Zones (AICUZ) program. DOD employs detailed land use compatibility recommendations based on Standard Land Use Coding Manual (SLUCM) land use codes and DNL or CNEL noise areas on and around air installations.

AICUZ studies use the A-weighted DNL noise descriptor except in California, where the CNEL descriptor is used. Supplemental noise metrics may also be used to augment the DNL or CNEL analysis as noted by the Federal Interagency Committee on Urban Noise (FICUN). Since land use compatibility guidelines are based on yearly average noise levels, aircraft noise contours should be developed based on average annual day operations.

As a minimum, contours for DNL 65, 70, 75, 80, and 85 dBA are plotted on maps for Air Force, Navy, and Marine Corps air installations as part of AICUZ studies. The Army applies Operational Noise Management Program DNL designations of 60–65, 65–75, and greater than 75 dBA at its air installations. Contours below DNL 65 dB are not required but may be provided if local conditions warrant discussion of lower aircraft noise levels, such as in rural and desert areas, or where significant noise complaints have been received from areas outside DNL 65 contours.

²⁶ Federal Interagency Committee on Urban Noise. 1980. Guidelines for Considering Noise In Land Use Planning and Control. June.

²⁷ 14 CFR Part 150.

²⁸ 24 CFR Part 51.

²⁹ Department of Defense Instruction 4165.57 (August 31, 2018).

Supplemental noise metrics may be used to augment DNL and CNEL noise analyses to provide additional information to describe the noise environment in the vicinity of air installations.

The STB regulates and decides disputes involving railroad rates, railroad mergers or line sales, and certain other transportation matters. The STB environmental review regulations for noise analysis³⁰ have the following criteria:

- An increase in noise exposure as measured by a DNL of 3 dBA or more.
- An increase to a noise level of DNL 65 dBA or greater.

If the estimated noise level increase at a location exceeds either of these criteria, STB estimates the number of affected receptors (e.g., schools, libraries, residences, retirement communities, nursing homes) and quantifies the noise increase. The two components (3 dBA increase, DNL 65 dBA) of the STB criteria are implemented separately to determine an upper bound of the area of potential noise impact. However, noise research indicates that both criteria components must be met to cause an adverse noise impact.^{31,32} That is, noise levels would have to be greater than or equal to DNL 65 dBA and increase by 3 dBA or more for an adverse noise impact to occur.

6.5 Comparable International Noise Metrics (LAeq 16h, Lden)

Airports in the United Kingdom use similar cumulative noise metrics as used in the United States, such as the LAeq,16hr and L_{den} metrics.

6.5.1 LAeq,16hr

This noise metric is the A-weighted equivalent continuous noise level, assessed over an average daytime / evening period (7:00 a.m. to 11:00 p.m.) in the summer months. This metric was selected as a result of the United Kingdom Aircraft Noise Index Study³³ social survey which measured human response to aircraft noise expressed by a sample of people living at different places around five English and one Scottish airport. This study found that a ten-decibel nighttime noise penalty was not warranted for these particular airport communities.

6.5.2 L_{den}

In 2002, the European Commission published Directive 2002/49/EC, establishing a common environmental noise indicator for the European Union.³⁴ The L_{den} is the A-weighted equivalent continuous noise level, evaluated over an annual average 24-hour period, with a 10-dB penalty added to the levels at night (11:00 p.m. to 7:00 a.m.) and a 5 dB penalty added to the levels in the evening (7:00 p.m. to 11:00 p.m.) to reflect people's increased sensitivity to noise during these periods.

³⁰ 49 CFR 1105.7e(6).

³¹ Coate, D. 1999. Annoyance Due to Locomotive Warning Horns. Transportation Research Board, Transportation Noise and Vibration Subcommittee A1FO4. San Diego, CA. August 1-4.

³² Surface Transportation Board. 1998. Draft Environmental Assessment for Canadian National and Illinois Central Acquisition, Finance Docket No. 33556.

³³ Survey of noise attitudes 2014: Aircraft CAP 1506, 2017

³⁴ Survey of noise attitudes 2014: Aircraft CAP 1506, 2017

7. Role of Noise Measurements vs. Noise Modeling

Aircraft noise measurements and noise models have different attributes and roles.

Noise measurements are used for the aircraft certification process, as described in Section 2.2. Noise measurements are also an integral part of the data required for noise modeling; where carefully controlled measured aircraft (source) noise levels by aircraft type and model form the basis of the noise information utilized by aviation noise models. In contrast to these carefully controlled noise measurements, noise measurement data collected in dynamic “real world” situations from noise monitors in the vicinity of an airport can include various sources of error (as will be discussed later in this section).

Noise modeling refers to the use of computational models to generate noise results at single locations, or over a grid of locations. Modeled noise contours at various noise levels, usually in units of decibels, can also be plotted to show regions of equal noise exposure. Noise measurements provide the aircraft source noise data for the various aircraft types and are used by the FAA Aviation Environmental Design Tool (AEDT)³⁵ for its noise calculations. These data are also validated against noise certification data to ensure accuracy. The FAA uses AEDT to dynamically model aircraft performance in space and time to predict fuel burn, air emissions, and noise levels. This type of modeling allows the input of detailed airport runway configurations, aircraft fleet mix and operations, flight corridors, and a detailed layout of land use and communities adjacent to the airport. Noise modeling allows the overlay of noise contours or single location noise values on detailed land use and community mapping. Noise modeling is used to assess a wide variety of proposed federal actions, such as those resulting from airfield changes or changes in airspace management. Many other federal and international agencies that are responsible for noise impact assessment also employ noise modeling techniques.

Due to the need to generate detailed noise results over large areas, noise modeling is the only practical way to accurately and reliably determine geospatial noise effects in the surrounding community when analyzing proposals related to aviation noise. The many challenges and limitations to using noise measurements for evaluating airport vicinity noise are summarized below:

- Non-aircraft sound can have a large influence on noise monitoring data, which can be difficult to separate from aircraft noise during data post-processing.
- Long-term (e.g., year-long) noise monitoring requires regular maintenance and calibration of the individual noise monitors on a continuous, year-round basis, which has considerable costs.
- To ensure the same accuracy and fidelity of data generated by noise models, an extremely large number of noise monitoring locations is required. (e.g. tens of thousands of noise monitors, collecting year-round data in the vicinity of an airport would be needed to match the fidelity and accuracy of noise modeling).
- Noise monitoring data is not capable of analyzing either “what if” scenarios or proposed future action airport and air space scenarios.

³⁵ Data is managed by the European Organization for the Safety of Air Navigation (EUROCONTROL) through the Aircraft Noise and Performance (ANP) database

Airport vicinity noise measurements are therefore not appropriate for assessing environmental project determinations or for considering single project validation of noise modeling results. While these limitations make it unsuitable for “real world” noise measurements to consistently inform environmental decision making, the FAA does review noise measurement data when provided as part of an environmental report. In cases where data from modern, well maintained noise monitoring systems are provided, a close agreement between measured and modeled results is typically found, which further validates noise modeling accuracy.

The different roles of aviation noise measurements and modeling are also understood in the international aviation community. For example, the European Civil Aviation Conference states that “the measurement of long-term sound exposures from aircraft is not normally possible as it would require acceptable weather conditions and 100% functional instrumentation and data collection for the entire time period of interest—normally up to 12 continuous months. (And to generate even rudimentary contours this would have to be done at a very large number of locations.)”³⁶ The United Kingdom’s Civil Aviation Authority states that provided “sufficient noise measurements are collected from a large enough number of locations and that the data is normalised appropriately, it is relatively straightforward to produce validated noise estimates. There are, however, a number of difficulties and limitations with such simplistic models. Data from a large number of measurement sites would be extremely expensive and time consuming to collect and process for a major airport, especially if aircraft noise contours were required on a regular basis. Further, such models do not provide a capability to assess the effects on the contours of changes to aircraft flight profiles, for forecasting or ‘what if’ analyses.”³⁷

Other domestic federal state and local agencies, including all federal domestic transportation agencies also employ modeling for noise level predictions when conducting noise measurements would be impractical.

While airport noise monitoring is not generally used for predictive purposes, a noise monitoring program is often a useful tool to inform the airport and neighbors about current aircraft activity and corresponding noise levels in the community. This type of noise monitoring may be accomplished via a permanent noise monitoring system; however, these systems can be quite sophisticated and require numerous permanent noise monitoring stations distributed throughout the community adjacent to the airport.

8. Role of Supplemental Metrics

As discussed in Section 3, FAA’s environmental decision-making for noise must use a metric that considers the magnitude, duration, and frequency of the noise events under study. The DNL noise metric uniquely meets these requirements. However, in specific situations, additional information focused on a more targeted type of noise exposure may require the use of supplemental noise metrics.

³⁶ European Civil Aviation Conference. 2016. CEAC Doc 29 4th Edition Report on Standard Method of Computing Noise Contours around Civil Airports Volume 1.

³⁷ D.P. Rhodes, and J.B. Ollerhead. 2001. Aircraft Noise Model Validation. Environmental Research and Consultancy Department, Civil Aviation Authority, Internoise.

Individually, supplemental metrics may not fully consider the magnitude, duration, and frequency of the noise events, but may be used to support further disclosure and aid in the public understanding of community noise exposure.³⁸ Supplemental noise analyses are often useful to describe aircraft noise exposure from unique operational situations or for noise sensitive locations to assist in the public's understanding.

For example:

- Single event metrics like SEL and Lmax or Leq-type metrics associated with specific time periods may be useful in categorizing the noise associated to short-term activities or from individual flights, but do not fully consider the number of flights or account for the operational variations over a longer-term period.
- Operational-Acoustic metrics like NA and TA provide an alternative way to consider noise exposures over longer time periods while emphasizing details about aircraft operational characteristics, but do not fully consider the cumulative intensity of aircraft noise.
- For typical vehicle noise levels, time audible provides a comparison of aviation noise to the underlying ambient noise levels, but is only a practical consideration where ambient noise occurs at relatively low constant levels.

There is no single supplemental metric that is preferable in all situations and the selection of an appropriate supplemental metric depends on the circumstances of each analysis. However, where warranted, consideration of established supplemental metrics is encouraged.

In addition to the established supplemental metrics discussed above, ongoing research activities sponsored by the FAA and the broader research community are working to develop a greater understanding of other noise-related impact criteria. New supplemental metrics based on this research could then be developed.

Examples of these potential supplemental metrics include:

- N75 (Speech Interference): Considers speech interference (i.e., disruption) between a speaker and listener at a normal conversation distance.
- % Awakening (Sleep Disruption): Based on a standard ANSI³⁹ developed to predict sleep disturbance in terms of the metric “percent awakenings” or numbers of people awakened.
- Leq (8) (Learning): Based on a standard ANSI has developed⁴⁰ to consider the effects of noise on classroom learning.

³⁸ For example, the FAA's 2005 Environmental Impact Statement for the Modernization of Chicago O'Hare International Airport provided supplemental noise metrics (SEL, Lmax, and TA).

³⁹ ANSI/ASA S12.9-2008. 2008. Part 6 Quantities and Procedures for Description and Measurement of Environmental Sound—Part 6: Methods for Estimation of Awakenings Associated with Outdoor Noise Events Heard in Homes.

⁴⁰ ANSI S12.60-2002. 2002. American National Standard Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools.

- $L_{\max}(c)$ (Rattle): Considers the effects from low frequency aircraft operations^{41,42} including the potential to induce “rattle” to structures.⁴³

9. Summary

In summary, no single noise metric can cover all situations. However, the DNL metric, and similar versions such as L_{den} , are being used world-wide to assess aircraft noise effects on communities. In 1992, the Federal Interagency Committee on Noise (FICON) report⁴⁴ concluded that DNL is the recommended metric and should continue to be used as the primary metric for aircraft noise exposure. The successor to FICON, the Federal Interagency Committee on Aviation Noise (FICAN) has also reaffirmed this recommendation in their 2018 report⁴⁵.

In accordance with ASNA, the FAA adopted DNL as its standard metric. The FAA uses the DNL metric for purposes of determining an individual’s cumulative noise exposure, for land use compatibility under 14 CFR part 150, and for assessing the significance of predicted noise impacts under NEPA. Federal and state agencies other than the FAA, as well as international agencies, employ similar noise metrics to evaluate a project’s noise impacts.

Table 1 compares the various noise metrics discussed in this report, specifically in terms of ASNA requirements for a metric to account for noise level, time of day, and number of events.

Table 1. Noise Metrics

	Noise Level	Time of Day	Number of Events
L_{eq}	✓		✓
DNL	✓	✓	✓
$L_{\text{Aeq}}(\text{hr})$ (e.g. 16hr, 8hr)	✓	✓	✓
L_{den}	✓	✓	✓
CNEL	✓	✓	✓
SEL and CSEL	✓		
L_{max}	✓		
PSF ^a	✓		
NA ^b	✓		✓
TA ^c	✓		
Time Audible ^d	✓		

^a PSF, or pounds per square foot, is functionally a measure of “noise level” instead of decibels. PSF is typically used as a measure of the peak overpressure of a sonic boom.

^b NA is the number of noise events above a certain noise level threshold.

⁴¹ Federal Aviation Administration. 2004. Nonmilitary Helicopter Urban Noise Study.

⁴² Schomer, P., and R.D. Neathammer. 1985. The Role of Vibration and Rattle in Human Response to Helicopter Noise. U.S. Army Corps of Engineers. Technical Report N-85/14. September.

⁴³ Hubbard, H.H. 1982. Noise Induced House Vibrations and Human Perception. Noise Control Engineering Journal. Vol. 19., No. 2.

⁴⁴ Federal Agency Review of Selected Airport Noise Analysis Issues (FICON), 1992

⁴⁵ FICAN Research Review of Selected Aviation Noise Issues (FICAN), 2018

^c TA is the time of noise events exceeding a certain noise level threshold.

^d Time Audible is the amount of time noise events exceed ambient sound levels. This could be interpreted as taking into account the number of noise events.

Noise modeling is the only practical way to predict geospatial noise effects in a surrounding community when analyzing proposals related to aviation noise. Noise modeling is also necessary for a wide variety of other proposed federal actions, such as those resulting from airfield changes or changes in airspace management. The assessment of these actions requires the review of future case proposals and can therefore only be considered through predictive modeling.

Finally, while the DNL metric is FAA's decision-making metric, other supplementary metrics can be used to support further disclosure and aid in the public understanding of community noise effects.

May 5, 2020

From

Jennifer Landesmann

To

SCSC Roundtable

Message

Public Comment April 29, 2020 Meeting - Agenda Items 4, 5, 6, 7

Dear SCSC Roundtable,

Since the Legislative Committee meeting, I have learned that FAA posted on their website a response to Congress on the noise metrics provisions in the 2018 Reauthorization that I referred to in my public comments.

A report to Congress on Sections 188 and 173 of the 2018 FAA Reauthorization Act.

Posted on the FAA website https://www.faa.gov/about/plans_reports/congress/

and the report is about Day Night Average Sound

Levels: https://www.faa.gov/about/plans_reports/congress/media/Day-Night_Average_Sound_Levels_COMPLETED_report_w_letters.pdf.

I am appreciative of FAA's report but there's needed follow up.

Preliminarily, I would say that the Report is helpful as a response to Section 188 (*In summary, FAA states that - no single metric can cover all concerns; noise modeling is the only practical method for predictive analysis, and that while DNL is FAA's decision making metric, "other supplementary metrics can be used to support further disclosure and aid in the public understanding of community noise effects."*) - but the report is not really adequate to respond to Section 173.

FAA explains in their cover letter that the report they wrote to respond to Section 188 fulfills Section 173.

Sections 188 and 173 are different questions.

Section 188 is about alternative metrics and Section 173 is about the use of the 65 DNL as a standard - which is a peg for far more decision-making items than those stated in the 188 report (DNL's use for NEPA disclosures and aircraft certification). For example, the 65 DNL standard is used for mitigation decisions and limits federal noise mitigation to insulation based on this standard. Most importantly, FAA also uses the 65 DNL standard to measure their performance in noise management. So when FAA reports to Congress they show only the people affected by 65DNL (severe airport noise), leaving out communities with other noise-- like all SCSC cities which are farther away from major airports but still experience heavy air traffic.

For your immediate purpose, it is relevant that the metric for aircraft certification cannot be considered sufficient for all concerns (per FAA's own summary) and rules for new aircraft proposals would need at the minimum supplemental analysis.

More broadly- I suggest you set up a meeting to discuss Section 173 because it is not fulfilled by Section 188.

Thank you,

Jennifer

May 6, 2020

From

Mike McClintok

To

SCSC Roundtable

Message

Port of Oakland Promotes Key Staff

Forum members and all:

There have been some recent promotions at the Port of Oakland that you should be aware of:

Kristi McKenney was appointed Chief Operating Officer for the Port in February. In her new role she is overseeing Port operations for Engineering Services, Environmental Programs and Planning, Utilities and Information Technology.

Craig Simon has been appointed Acting Assistant Director of Aviation, replacing Kristi McKenney.

Jesse Richardson was appointed to the position of Noise/Environmental Management Supervisor. Jesse had previously served as the acting

Noise/Environmental Management Supervisor.

Congratulations to all of them. We are looking forward to continuing to work with them.

Mike McClintock
Forum Facilitator

May 8, 2020

From

Evan Wasserman

To

SCSC Roundtable

Message

SCSC Roundtable - Reference to the Noise 101 presentation

Dear SCSC Roundtable Members and Alternates,

As it has been a little over a year since the Roundtable received its first Noise 101 presentation and there are new members, we thought it would be appropriate to send you the link to ESA's March 27, 2019 Noise 101 presentation. The presentation can also be found on the SCSC Roundtable website under the "Presentations" section of the Resources tab (sorted by posting date). You can also use the search feature to find the document by searching for "Noise 101".

In addition, the meeting video for the presentation can be found at the link below starting at the 1:03:00 mark.

https://www.youtube.com/watch?v=S14zXqCFHkI&feature=emb_err_watch_on_yt

We hope you have the opportunity to review the Noise 101 presentation as we are preparing to resume Roundtable meetings in the near future.

Thank you,

SCSC Roundtable Staff
Evan Wasserman
Senior Associate - Community Development Group
ESA | Environmental Science Associates

May 10, 2020

From

Greg Hyver

To

SCSC Roundtable

Message

New submission from Contact us

Please distribute this to all members of the Roundtable:

I personally invite each and every member of the Roundtable to my home (149 Ponza Lane, Soquel) during the shelter in place (keeping proper social distancing and the use of face masks) to experience the reasons that I purchased my property 20 years ago in the Santa Cruz Mountains: the tranquility and silence. There are no (or rarely) jets flying over my home beneath the SERFR flight path at this time (I can sleep again at night and catch up on my sleep on the weekend mornings). I will then invite you back to my home once the full SERFR flight path is restored back to its capacity so you fully understand how the FAA completely F-ed up my life.

Only then, will you understand that I will continue to attend your monthly meetings and remind (badger) you of your obligations to the Select Committee that you are to return the SERFR flight path back to the BSR Overlay ASAP. After an entire year+ of your existence, the Roundtable has shown how inept it is to effect any change whatsoever, and the FAA continues to insist on not providing the public with a date when the changeover will take place. In other words, the Roundtable is a JOKE and I'm wondering why you even assemble?

Personally, I think it is time to consider your obsolescence and that cities should launch lawsuits against the FAA in the same way that LA County has. You've had your chance to make real change to restore the lives of the citizens (without introducing the legal element) who are represented by a super-majority Select Committee vote. You have FAILED. Unless you start setting some solid dates for the changeover, then get out of our way and let the lawyers take over. QUIT PLAYING POLITICS!!!!

DO YOUR JOBS!!

May 11, 2020

From

SCSC Roundtable

To

Greg Hyver

Message

Response to Mr. Hyver - April 24, 2020 and May 10, 2020 emails

Dear Mr. Hyver,

The SCSC Roundtable received your emails (dated April 24, 2020 and May 10, 2020) regarding the Select Committee recommendations for returning the SERFR flight path to the Big Sur Arrival Route (BSR). In them, you asked the SCSC Roundtable to, "Do your jobs and eliminate the SERFR path NOW!" In addition, you noted that the SCSC Roundtable meet, "... obligations to the Select Committee that you are to return the SERFR flight path back to the BSR Overlay ASAP." Further, you asked that the SCSC Roundtable, "... completes its core mission as demanded by the Select Committee Recommendations."

The Federal Aviation Administration (FAA), not the SCSC Roundtable, is solely responsible for the use and management of the National Airspace System (NAS). The SCSC Roundtable's core mission, as indicated in the SCSC Roundtable Strategic Plan is "to address community noise concerns and make recommendations to the Regional Airports and FAA on noise-related issues." To that end, the SCSC Roundtable is dedicated to meeting its goals, and obligations to engage with the FAA to find solutions. The SCSC Roundtable will continue to "actively monitor and engage with the FAA on past or future actions, or inactions, related to the FAA addressing the recommendations and reports made by the Select Committee, the Ad Hoc Committee, and the SFO Roundtable."

The FAA has reported at previous SCSC Roundtable meetings that it is performing an initial review of returning the SERFR arrival route to its previous (Big Sur) location and should it decide to move forward with developing the Big Sur arrival route, it indicated it would be an 18- to 24-month process to implement such a change. The FAA also indicated that it would conduct public outreach as a part of its process and will conduct a review of the potential environmental impacts of the replacement route. The FAA stated that it would reach out to the SCSC Roundtable for suggestions on appropriate locations to conduct these outreach meetings at the appropriate time.

You also stated in your emails that, "Unless you start setting some solid dates for the changeover, then get out of our way and let the lawyers take over." As stated above, the FAA is solely responsible for the use and management of the NAS. Therefore, SCSC Roundtable has no authority over the timing of the FAA's flight procedure development process. The SCSC Roundtable was not formed to oversee, assure compliance, and timely implementation of the Select Committee recommendations. The SCSC Roundtable's role is to help provide a forum for public input, and providing feedback to the FAA when appropriate. This should help avoid lengthy litigation, facilitate solutions, and keep all players at the table to improve communications and expedite the process. In that role, we have a Work Plan Item (1.1.2), Transition of SERFR STAR Back to the Big Sur (BSR) Ground Track and/or Replacement Procedure, which has the SCSC Roundtable tracking progress and providing input on the FAA's implementation of recommendations in Section 1.2 of the Final Report of Select Committee on South Bay Arrivals. This is the SCSC Roundtable's job, and we will continue to fill this role.

Like you, the SCSC Roundtable will be closely watching the FAA's progress on this Select Committee recommendation.

I trust this helps to clarify the SCSC Roundtable's role relative to the FAA.

Regards,

--

SC | SC Roundtable

<https://scscroundtable.org>

May 12, 2020

From

Greg Hyver

To

SCSC Roundtable

Message

Response to Mr. Hyver - April 24, 2020 and May 10, 2020 emails

Dear Sir/Madame:

I do give your credit for your reply to my contact message. If my understanding is correct, the Roundtable is nothing more than a hollow, powerless organization that acts as a conduit between the public and the FAA. The FAA is the almighty God that dictates to the rest of us, the taxpayers, by decree. That's all fine and dandy, but my concerns continue to fester for the reasons that I outline below.

1) Jan-20-2020 Letter to the RoundTable co-written by Santa Cruz Save Our Skies and Quiet Skies Norcal in which the letter strongly contradicts the mission statement that you provided to me. What you told me may be your "mission statement," but who's in charge of staying "on mission?" I feel it unnecessary to reiterate points in the letter that suggest that the Roundtable is exceeding your clearly scoped out mission, it this greatly concerns me. You underestimate the public if you believe that we are unaware of backroom decision-making by parties opposed to the removal of SERFR and that your organization is far from pure. To send me your pitch as a way of demonstrating your lack of power in positioning for or against BSR borders on insult.

2) You discuss your role as a public input conduit. For how long is this public input window to continue? You have been in existence as an organization since February 27, 2019 (nearly 15 months), yet you continue to seek public input for what? Hasn't the public already spoken through the Select Committee? Am I mistaken about this? Wasn't your mission clear to eliminate SERFR entirely? Is that so complicated? Why do Save Our Skies Santa Cruz and Quiet Skies Norcal feel that they must continue to closely monitor the Work Plan for conformance to the Select Committee objectives? Why?

3) In the final Roundtable meeting (which I attended) before the shelter in place froze future Roundtable meetings, why did certain members bring up the idea of exiting the Roundtable? Isn't this a sign that either your purpose has been corrupted or that you have become ineffectual delivering the outcome that a super-majority of the public has been waiting to happen? Why do you allow the FAA to run over you and not provide a milestone plan and schedule so you can deliver back to the public the most precious piece of information of all--when will this whole damn thing end? The FAA is only a tool of the public. They are not dictators over the public. We deserve transparency and accountability. I was also at the meeting months ago when it was held in Santa Cruz when the FAA smugly stated that it required another 24 months of "study" to assess the SERFR dissolution. You may not have been looking, but there were nothing but open jaws in the audience. Talk about a lack of accountability.

Your mission is not only to pass on public input, but to make the FAA accountable to the citizenry. This is what I meant when I said get out of our way if you plan on allowing the FAA to continue to run over you without schedules and to allow fellow members of the Roundtable avenues to subvert the Select Committee recommendations.

I assume you will lack a response to this message. That's OK. If I don't hear back from you, I'll be throwing our entire dialogue onto Save Our Skies Santa Cruz, Quiet Skies Norcal and Sky Justice National Network.

Citizens are tired of your inaction and excuses. Stand up to the FAA or let the litigators take charge. Your social experiment isn't working.

Sincerely,

Greg Hyver

Attachment Name

20200512_G_Hyver_Response to Draft Work Plan Dec 2019



www.sossantacruz.org

January 20, 2020

SCSC Roundtable

Sent via email: scscroundtable@gmail.com

Chair Burnell and members of the SCSC Roundtable,

After reading the Draft Work plan, (Revision December 16, 2019) it is apparent that the Ad Hoc Committee have no idea about what actually took place during the Select Committee. It would also appear that they have not made an attempt to understand the process and either innocently made a mistake while trying to re-open the work done during the months long public and private meetings with the FAA or they are trying to re-open the process due to nefarious ideals. This is truly getting old.

As is put forth in Item 1.1 Advance recommendations by the Select Committee on South Bay Arrivals, Sub-item 1.1.1 Select Committee on South Bay Arrivals, attempting to evaluate, model, review, or provide input on, is re-opening the work done by the Select Committee. As has been previously pointed out, proposed changes (during the Select Committee tenure) have been modeled; proposed changes have been held up to the public for comment, our elected officials held court and voiced their thoughts and opinions and the changes were voted on by 12 very educated individuals.

We are requesting that the 2nd, 3rd and 4th bullet points under 1.1.1 be removed from the Work Plan.

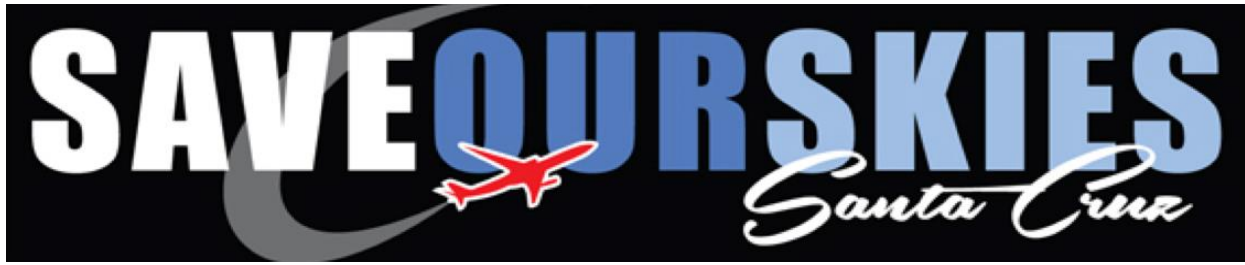
Item 1.1.3 Monitor the FAA's Effort to Transition SERFR STAR back to the Big Sur (BSR) ground track and /or replacement procedure, follows the same thought process. Reviewing proposals, providing input on the development and implementation of the BSR Overlay is not the purview of the SCSC Roundtable as put forward by our Congressional representatives. If the Roundtable needs a better understanding of the noise and environmental impacts to communities under the proposed BSR Overlay, they should review the work already done by the Select Committee and the FAA.

We are requesting that first sentence of item 1.1.3 be shortened to read simply "The Roundtable will track progress of the Final Report of Select Committee on South Bay Arrivals."

Under Desired Outcomes we request you remove "and provides input on the FAA's development and implementation of the BSR Overlay procedure and the practices to be associated with its use. "

We are requesting that Bullet point 3 and its sub-points be removed in their entirety.

P O Box 1071 Soquel, CA 95073 email: saveourskyssantacruz@gmail.com



www.sossantacruz.org

NORCAL, the METROPLEX FAA Air Traffic Control unit, employs aircraft vector procedures for various purposes dictated daily and hourly by SERFR, oceanic and north arrival traffic spacing as well as weather and SFO 28L airport requirements, emergencies, etc. Historic data is readily available that can be reviewed by the SCSC Roundtable if they do indeed need clarification on historical vectoring patterns.

Also of a concern to SOSSC is Item 3.4.1 Establish a Procedures Review Technical Working Group as a standing committee - this does not indicate if the Technical Working Group (TWG) will be addressing items from the Select Committee process or newly proposed work. This paragraph should be rewritten so all ambiguity is removed or the paragraph should be deleted.

Where the Roundtable can be effective is in fully educating themselves in the FAA processes, the political and financial needs of the San Jose and San Francisco airports and the respective airlines. Having a complete understanding of the desires for growth, remodeling, route changes and strategic plans of the airports and airlines will help the SCSC Roundtable to formulate responses to new issues.

Save Our Skies Santa Cruz applauds the SCSC Roundtable for their efforts; however, it is unfortunate that the Roundtable has not grasped the historic processes that have already taken place in our Metroplex since the implementation of NextGen in 2014. Clearly, it was stated by our Congressional Representatives that the work of the SCSC Roundtable was not to re-litigate the work completed by the Select Committee. It is crystal clear from the FAA that they will not participate if the Select Committee work is questioned by the SCSC Roundtable; why does this language remain in the Work Plan.

SOSSC hopes that the SCSC Roundtable will move forward with the monitoring and legislative agendas that have been mentioned in the Draft Work Plan and stop wasting time on items that were decided over 2 years ago and are outside of the directives that were given to them.

Respectfully,

Vicki Miller, Co-Chair
Save Our Skies Santa Cruz

Cc: Karen Chapman, Kathleen Lee, Supervisor Leopold, Carlos Palacios, Ed Bottorff

May 13, 2020

From

Steve Alverson

To

FAA - Raquel Girvin, Tamara Swann, Favi Garcia, and Sky Laron,

Message

Virtual SCSC Roundtable Meeting on May 27, 2020 from 1 to 4 pm

Raquel, Tamara, Favi, and Sky,

I hope that this email finds you and your families doing well and staying healthy during this challenging time.

On behalf of Chairperson Bernald, I am notifying you that the SCSC Roundtable will be holding its next regular meeting via webinar on Wednesday, May 27, 2020 from 1 to 4 pm PDT. Although you will be receiving a formal meeting invite with all of the meeting details within the next week, Chairperson Bernald wanted to personally extend an invitation to the FAA to virtually attend and participate in this meeting.

Please let us know if one or more of you will be able to participate and if you have any items you would like to have placed on the agenda.

We hope to see you on the 27th!

Regards,

Steve

Steven R. Alverson
Senior Vice President
ESA | Environmental Science Associates

May 14, 2020

From

Tamara Swann

To

Steve Alverson

Message

Virtual SCSC Roundtable Meeting on May 27, 2020 from 1 to 4 pm

Good afternoon Steve,

Thank you so much for the message yesterday and I apologize for my delayed response. First, thankfully, we are all staying healthy and safe. Thank you for asking. Yes, both Sky and I will attend the virtual meeting of the SCSC Roundtable on May 27. At this time, we have no agenda items. I hope everyone on this message is remaining happy and healthy.

Tamara A. Swann
Deputy Regional Administrator, AWP-2
Western-Pacific Region

May 13, 2020

From

Steve Alverson

To

FAA - Raquel Girvin, Tamara Swann, Favi Garcia, and Sky Laron,

Message

Virtual SCSC Roundtable Meeting on May 27, 2020 from 1 to 4 pm

Tamara,

Thank you for confirming that both you and Sky will be attending the May 27th SCSC Roundtable meeting virtually.

Earlier today, we received a request from Supervisor Leopold of Santa Cruz County to ask the FAA to give an update on their work to return the SFO Southern Arrivals to the Big Sur ground track at the May 27th SCSC Roundtable meeting. Based on the FAA's recent feedback and your indication below that the FAA has no agenda items at this time, would it be accurate to report to Supervisor Leopold that the FAA is not prepared to provide an update on your work to return the SFO Southern Arrivals to the Big Sur ground track or is the FAA prepared to give an update at the May 27th meeting? We appreciate your response as we want to be sure to respond to him accurately.

Thank you!

Regards,

Steve

Steven R. Alverson
Senior Vice President
ESA | Environmental Science Associates

May 14, 2020

From

Evan Wasserman

To

SCSC Roundtable

Message

SCSC Roundtable - Virtual Meeting - May 27, 2020

Dear SCSC Roundtable and Interested Parties,

This email notification is to confirm that the SCSC Roundtable will be holding its next regular meeting virtually via webinar on Wednesday, May 27, 2020 from 1:00 pm to 4:00 pm PDT. Additional meeting details, and virtual meeting registration information will be provided within the next week along with the agenda packet. Please continue to check this webpage for announcements related future Roundtable meetings. We hope that you are able to virtually attend and participate in this meeting.

Regards,

SCSC Roundtable Staff
scscroundtable.org

May 20, 2020

From

Evan Wasserman

To

SCSC Roundtable

Message

SCSC Roundtable - Virtual Meeting - May 27, 2020

Dear SCSC Roundtable Members,

The SCSC Roundtable will be holding its next regular meeting virtually via **Zoom Webinar on Wednesday, May 27, 2020 from 1:00 pm to 4:00 pm PDT.**

As SCSC Roundtable Members, you will be designated as panelists during the virtual meeting and **you should have received an official Zoom Webinar invite as a panelist that is unique to your particular email address. Please refer to that email and follow the instructions for registering and accessing the meeting** by providing your name and email address. If you did not receive a Zoom Webinar meeting invite, or are unable to attend, please let us know as soon as possible.

The agenda packet (with virtual meeting details) will be posted for your reference by the end of the day Friday. At the time of posting we will send an additional notification. As always, please continue to check the [webpage](#) for announcements, reference materials, and the meeting agenda packets prior to the meeting.

Members of the public wishing to observe the meeting live may do so at: https://www.youtube.com/channel/UCtPEqHsvTSnRcJUCQxX2Ofw?view_as=subscriber

[Youtube.com à SCSC Roundtable Channel](#)

We hope that you are able to virtually attend and participate in this meeting!

Regards,

SCSC Roundtable Staff
scscroundtable.org

May 20, 2020

From

Darlene Yaplee

To

SCSC Roundtable

Message

Follow up - Big Sur Overlay Update and Noise Monitor Letter

Chairperson Bernald and Steve Alverson,

In support of your efforts to lead the SCSC RT and engage the community I would like to follow up on two items:

1. Please clarify if a letter has been sent to the FAA requesting a presentation on the Big Sur Overlay.

At the January 22, 2020 meeting Roundtable, member Enander asked that there be a presentation by the FAA on the Big Sur Overlay (timestamp 2:23:55). This was followed by Chairperson Bernald who stated that a letter went out more than 30 days in advance requesting an update on the BSR update at the next meeting (February 26, 2020).

The Status Tracking Matrix, version February 22, 2020, does not list this letter to the FAA. I made a public comment at the February 26th meeting stating this as well as I thought a letter had been sent. I fully recognize that the FAA may not have been prepared to present on the Big Sur Overlay on Feb 26, which is different from the Roundtable sending a letter to request that they do so.

Additionally, while the Roundtable was discussing the Work Plan, there were two verbal requests made for the FAA to present an update on the Big Sur Overlay: one at the December 19, 2019 meeting to Sky Laron and the other at the January 22, 2020 meeting to Faviola Garcia.

I have since been informed that the Roundtable must vote to have a letter sent to the FAA. If a letter has not been sent to the FAA requesting an update on the Big Sur Overlay, then I would like to request that a vote be taken to do so.

2. Please provide the status of item 8 from the February 26, 2020 meeting - approval of the Roundtable Chair to write a letter to SFO airport supporting Palo Alto's request for a Noise Monitor and also mentioning consideration of further such requests, timestamp 3:06:23.

Thank you for posting the two Status Tracking Matrixes for letters to the FAA and Roundtable actions. The tracking fosters transparency, communication, and alignment.

Gratefully,

Darlene Yaplee

May 21, 2020

From

Jennifer Landesmann

To

Evan Wasserman

Message

Re: SCSC Roundtable - Virtual Meeting - May 27, 2020

Hi Evan,

Thanks for the info.

I have a question about the Legislative meeting Correspondence. It was mentioned that our written input would be part of the public record but am not finding my email to the SCSC in the correspondence packet.

Is there an updated public record for the Leg Committee?

Jennifer

May 21, 2020

From

Darlene Yaplee

To

SCSC Roundtable

Message

FAA follow up - 45 day requirement and PIRAT inconsistencies

SCSC Roundtable Members,

New FAA 45 day requirement for submitting questions

At the February 26, 2020 Roundtable meeting Faviola Garcia stated a new FAA time requirement for questions to be submitted to them 45 days in advance instead of the previous 30 days in advance (timestamp 3:20:55). The IFP Gateway comment period is 60 days. Therefore the new 45 day time requirement would eliminate the ability to read a new entry on the IFP Gateway, submit a question through the SCSC Roundtable (meets approximately every 2 months), and get a response from the FAA within 60 days.

This is counter to the FAA and SCSC Roundtable's guidance to members to use the SCSC Roundtable as the communication vehicle to the FAA. With the new 45 day requirement it will not be possible to respond to the IFP Gateway 60 day comment period through the SCSC Roundtable. Cities will have no choice in these situations, but to communicate directly to the FAA.

Additionally, it is unjust for the FAA to maintain its IFP Gateway 60 day comment period deadline when they are now requiring 45 days, an additional 15 days lead time to reply to comments.

I would urge the SCSC RT to send a formal letter stating the problems with the FAA's new 45 day requirement for questions.

Will address PIRAT inconsistencies

Regarding the inconsistencies in the PIRAT responses from the FAA, Faviola Garcia at the Feb 26th meeting stated that the same team has been working on both the PIRAT letter and the PIRAT presentation on Feb 26th (timestamp 3:21:24). She commented that if there are inconsistencies they will address these for clarification. She suggested that the Roundtable follow up with a new set of questions so the FAA can address those.

I would ask that the SCSC RT send the follow up questions on PIRAT to the FAA.

Gratefully,

Darlene Yaplee