



BRYANT L. FRANCIS, C.M.
Director of Aviation

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

Dear Administrator Roberts:

Welcome to the Western Pacific Region! We would welcome a visit by you and staff at any time you are ready to visit the Bay Area. We are providing this letter of introduction for you to provide some background and history on the attached letter from the Airport Community Noise Management Forum (Forum), a community group composed of elected officials and community members with an interest in Aircraft Noise related issue in the vicinity of Oakland International Airport (OAK).

OAK appreciates recent efforts by the FAA to engage with the Airport and the Community regarding NextGen Metroplex-related concerns as these issues have become increasingly important to the East Bay community as well as the Bay Area overall. The attendance of FAA personnel at noise-related meetings, and specifically the attendance of Glen Martin at the Fall 2016 Forum meeting, has been extremely beneficial towards opening the dialogue with the community; it is hoped that these efforts continue.

At that Forum meeting, Mr. Martin requested that the Forum address specific concerns related to NextGen and help propose solutions to those concerns. Shortly thereafter, the Forum developed a NextGen subcommittee that was comprised of Forum members as well as affected communities and this group identified three specific NextGen procedures, one arrival from the Northeast, one nighttime departure procedure, and one departure from SFO, that were causing noise concerns for communities. Additionally, this group identified additional procedures that might benefit from NextGen technology by moving flights away from populated areas.

The Forum, whose voting members consist of elected and community representatives from six communities near the Airport, approved the recommendations by the NextGen subcommittee and attached to this letter is the result of their work. Although the Forum typically advises the Executive Director of the Port of Oakland, it also possesses the authority to generate independent correspondence directly from the Forum and such is the case with the attached letter. Although attempting to recognize airspace and noise transference issues, no independent analysis was performed by this group or the Airport to determine the feasibility of proposed tracks or whether or not a move of such tracks would adversely impact other communities as it is anticipated that FAA will help perform this analysis.

Again, the Airport appreciates efforts by FAA to engage with airports and communities and we look forward to your attention to these issues that are so critical to the East Bay community. Please do not hesitate to contact us for any additional information or questions as you review the Forum's requests.

Sincerely,

Bryant L. Francis, C.M.

A handwritten signature in dark ink, appearing to read "Bryant L. Francis". The signature is fluid and cursive, with the first name "Bryant" being more prominent.

Cc: Kristi McKenney, Assistant Director of Aviation

Matt Davis, Operations Manager

OAKLAND AIRPORT-COMMUNITY NOISE MANAGEMENT FORUM

An Advisory Body to the Executive Director of the Port of Oakland

Co-Chairs

Benny Lee,
Elected-
representative
City of San Leandro

Walt Jacobs,
Citizen-
representative
City of Alameda

March 24, 2017

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

RE: Recommendations to Adjust/Revise Metroplex Procedures Affecting East Bay Communities

Members

City of Alameda

City of Berkeley

City of Hayward

City of Oakland

City of San Leandro

City of Union City

County of Alameda

Port of Oakland

Forum Facilitator

Michael R.
McClintock

Technical Advisors

Federal Aviation
Administration

Federal Express

KaiserAir, Inc.

Southwest Airlines

Harris Miller Miller &
Hanson, Inc.

Landrum & Brown

Hartmann &
Associates

Dear Administrator Roberts:

Long standing issues with, and changes to the San Francisco Bay Area airspace as a result of implementation of the Northern California Metroplex in November 2014 have resulted in significant increases in noise complaints from affected communities in the East Bay region of the San Francisco Bay Area, primarily Alameda and Contra Costa Counties. The Oakland Airport-Community Noise Management Forum (Forum) serves as an advisory body on community noise concerns to the Executive Director of the Port of Oakland and includes one elected official and one community member each from six neighboring cities, as well as Alameda County. The Forum represents a combined regional population of almost 2 million people.

Community issues and concerns over the implementation of certain NextGen air traffic management procedures were brought to the attention of your immediate predecessor, former FAA Regional Administrator Mr. Glen A. Martin. In response to consultations with, and at the behest of Mr. Martin, the Forum accepted the role as the link to the FAA on behalf of the affected communities and neighborhoods. This letter transmits the Forum's report prepared in response to Mr. Martin's entreaty at the October 19, 2016 Forum meeting for the Forum to provide the FAA with its recommendations and proposals to adjust and/or revise published procedures to mitigate or alleviate community noise concerns resulting from NextGen implementation. The attached report supplements the Forum's June 17, 2016 letter and contains additional information in support of the Forum's requests. It is formatted to provide general information on OAK and SFO and their air traffic, and concludes by addressing requested changes first to OAK procedures followed by SFO flight paths and procedures.

The Forum respectfully requests the FAA consider the supplemental proposals set forth in the report to address and mitigate the NextGen noise impacts on the affected East

Bay communities. These proposals were developed by a special NextGen Subcommittee created by the Forum and approved by unanimous vote of the Forum at its regular meeting of January 18, 2017. The Forum looks forward to a full commitment on the part of the FAA in its development of workable operational and noise abatement alternatives. Progress will require ongoing dialogue; therefore, the Forum respectfully offers its input and willingness to engage in conversations regarding modifications, amendments and/or new procedures that are determined to be initially feasible and operationally acceptable to the FAA to mitigate aircraft noise. The Forum further requests direction and a timeline for the process moving forward.

Thank you for your consideration.

Sincerely,



Benny Lee, Co-Chair

Walt Jacobs, Co-Chair

cc: Senator Dianne Feinstein
Senator Kamala Harris
Rep. Barbara Lee (CA-13)
Rep. Eric Swalwell (CA-15)
Rep. Mark DeSaulnier (CA-11)
Rep. Mike Thompson (CA-5)
Mr. Glen A. Martin, FAA
Oakland Vice Mayor Annie Campbell Washington
Alameda County Supervisor Nate Miley, Dist. 4
Ms. Elizabeth Lewis, President, SFO Community Roundtable
Forum Members and Advisors
Save Our Skies East Bay
Alameda Citizens League for Airport Safety and Serenity
Berkeley Keep Jets Over the bay
Forum Facilitator

Supplemental Proposals to Revising the Northern California Metroplex For Alameda County/Contra Costa County

**Oakland Airport-Community Noise Management Forum
March 2017**

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ATTACHMENTS

Attachment A - Alameda County/Contra Costa County Proposals Summary Table

Attachment B – Resolution No. 86331 C.M.S. Resolution of the Oakland City Council Requesting the Federal Aviation Administration Address Increased Aircraft Noise in Oakland

Attachment C – Resolution No. 67,692-N.S. Requesting the Federal Aviation Administration to Address Increased Aircraft Noise in Berkeley

Attachment D – City of Alameda Resolution No. 15241 Requesting the Federal Aviation Administration to Address Increased Aircraft Noise in Alameda

Attachment E – Supervisor Nate Miley Alameda County District 4 - Letter of Support for Oakland Airport – Community Noise Management Forum Recommendations to Adjust/Revise Metroplex Procedures Affecting East Bay Communities

Attachment F – City of Oakland - Letter of Support for Oakland Airport – Community Noise Management Forum Recommendations to Adjust/Revise Metroplex Procedures Affecting East Bay Communities

Attachment G – Resolution No. 2017-029 Resolution Supporting Recommendations to the Federal Aviation Administration for Revisions to the Northern California Metroplex Procedures

INTRODUCTION

The airspace of Northern California is complex with traffic from multiple international and regional airports and military air activity. The interconnectedness of arriving and departing traffic from all are designed to maintain safety and efficiency. Arriving and departing flight paths and procedures for both Oakland International (OAK) and San Francisco International Airports (SFO) were greatly altered in the Federal Aviation Administration's (FAA) Next Generation program (NextGen) and have caused significant negative responses from multiple communities in Alameda County and Contra Costa County. With arriving and departing procedures from multiple airports being highly interdependent, they must be evaluated collectively for the East Bay. Aircraft noise issues for other counties in the Northern California Metroplex are being addressed independently from those in Alameda and Contra Costa Counties.

The widespread controversy and complaints after NextGen implementation in the NorCal Metroplex demonstrate that FAA noise metrics have not been successful in accurately predicting public annoyance and response to aircraft noise exposure in areas overflowed by aircraft following new OAK and SFO Nextgen RNAVs and procedures. Relying on technology and design to provide quieter aircraft will not solve the issues either, as the FAA stated on their website regarding *NextGen and Noise*:

“Most of the gains from quieter aircraft were achieved by 2000. There have been incremental improvements since that time. Absent further advances in noise reduction technologies and fleet evolution, the remaining problem must be addressed primarily through operational procedures and airport-specific noise compatibility programs.”

(https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/airport_aircraft_noise_issues/, accessed February 27, 2017.)

For this reason, the problematical NextGen published routing and procedures for departures from and arrivals into OAK and SFO must be addressed to effectively mitigate aircraft noise effects.

NextGen changes to aircraft routing and procedure affect the location, concentration, frequency and altitude of aircraft in Alameda and Contra Costa Counties. The resulting negative impacts due to aircraft noise exposure at less than DNL 65 dB may not rise to the level of “significant” as per current FAA noise criteria and policy determination, but that does not mean that the negative impacts associated with aircraft noise exposure less than 65 dB DNL are *insignificant* in these areas.

The dramatic increase in individual's complaints of aircraft over flight from both OAK and SFO after NextGen implementation clearly demonstrate annoyance with aircraft noise that has adversely affected enjoyment of property by its disturbance and interference with daily activities and sleep. Although this document does not address the adequacy of the FAA's aircraft noise metrics and its challenge to make a reliable prediction of community response to aircraft noise, it is respectfully requested that the changes proposed in this document be based and acted upon due to significant adverse community response. This approach has precedent in an Appeals Court review of *Helicopter Association International vs. FAA*, No. 12-1335, by the U.S. Court of Appeals for the District of Columbia Circuit on July 12, 2013.

In response to the dramatic increase in aircraft noise, annoyance complaints concerns from residents, and the request of the FAA, the Oakland Airport-Community Noise Forum (Forum) accepted the task of working with its members and community noise groups to provide the FAA with recommendations and proposals to adjust and revise published procedures to address NextGen noise concerns. In response, the FAA agreed to review such proposals and explore modifications to mitigate aircraft noise impacts that arose from NextGen in Alameda and Contra Costa Counties.

This document is written to supplement the Forum's request for revisions to procedures and operations as they currently fly from OAK and SFO in a letter submitted to the FAA on June 17, 2016 and contains the additional forthcoming proposals noted in that letter. It is formatted to provide general information on OAK and SFO airport air traffic, and continues by addressing requested changes first to OAK followed by SFO flight paths and procedures.

The Forum respectfully requests the FAA consider the supplemental proposals provided herein to address and mitigate the NextGen noise impacts on East Bay area communities. These proposals were produced by a special NextGen Subcommittee formed by the Forum. This subcommittee was tasked with considering and developing credible community-driven noise mitigation proposals that are reasonable, maintain aviation safety, as well as respect efficient fuel and airspace use. Proposed recommendations considered objective data about noise and population impact to help restore historical flight patterns communities developed under and to mitigate NextGen's RNAV concentration impacts to bring about a fairer distribution of aircraft noise burden amongst the areas benefiting from our airports.

The Forum appreciates that the FAA will undertake airspace and noise modeling for all of the proposals herein and respectfully requests the information for such studies be provided to the Forum. For any proposals that the FAA does not consider preliminarily feasible, the Forum requests the FAA provide specific reasons for such a determination. The Forum also welcomes any additional mitigation proposals or measures the FAA may introduce for consideration to address aircraft noise issues in Alameda and Contra Costa Counties.

The Forum appreciates that airspace in the Bay area is complex and a change to one aspect can negatively influence as well as positively affect other aspects. For this reason, consideration was given to all the proposals in this document to integrate positive effects for associated flight paths and procedures that could be affected.

Each of the requested changes includes the following sections:

Description – details the current aircraft departure and arrival procedures

Primary Impacted Cities – notes the cities that are most affected by the flight path(s) of the procedures being described.

Noise Issues – the primary existing noise issues due to the procedure as currently flown.

OAK Noise Forum Request – details what mitigation efforts the Noise Forum is requesting the FAA implement, either in the short or long term, depending on the detail of the request.

Initial Requested FAA Research – if applicable, requests the FAA research specific operational items related to the mitigation efforts.

GENERAL INFORMATION

Arriving and departing flights from OAK and SFO airports affect Alameda and Contra Costa Counties, California. New RNAV flight corridors and procedures for both OAK and SFO published after NextGen implementation have significantly altered flight track geometry, dispersion, altitude, and relative frequency of flights over communities in Alameda, Oakland, Berkeley, San Leandro and other areas (Figure 1).

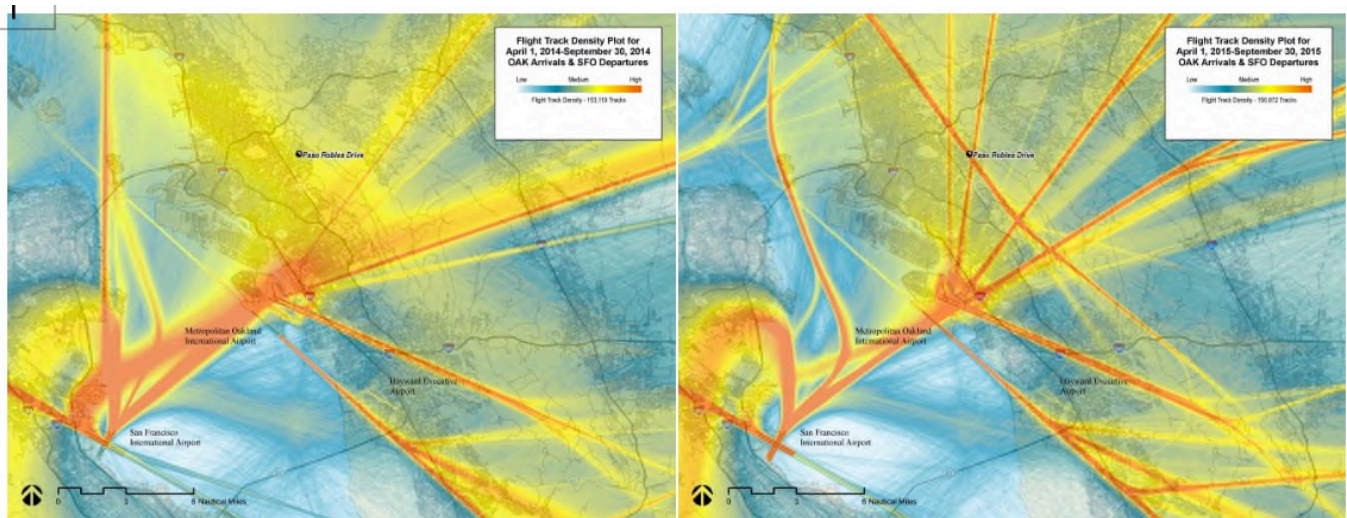
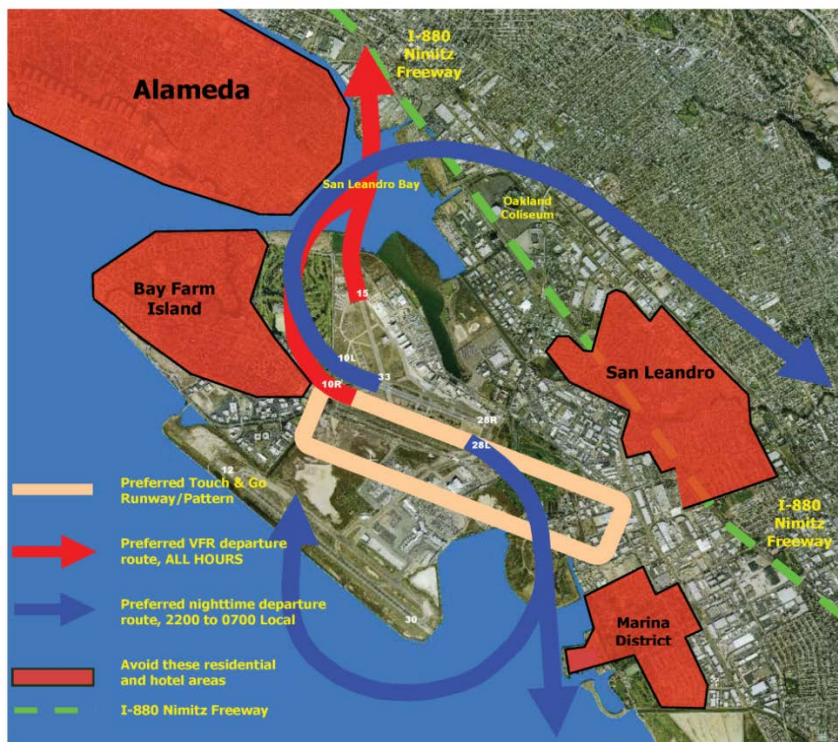


Figure 1. OAK Arrival and SFO Departure Jet Traffic: Pre NextGen traffic April – September 2014 (left) and Post NextGen Traffic April – September 2015 (right). (*Montclair Flight Track Analyses*, HMMH Inc., Technical Memorandum HMMH Project Number 302551.004, March 30, 2016.)

The two diagrams below illustrate the layout of OAK runways and the general parameters of the Oakland International Airport Fly Quiet program in a graphic format (Figures 2 and 3).



Figure 2. OAK layout and runways configuration.



Oakland International Airport NORTH FIELD Noise Abatement Procedures

Safety permitting, avoid flying over nearby residential areas when arriving or departing OAK. Please follow these procedures when safety, weather, and ATC instructions permit.

NOISE ABATEMENT PROCEDURES, DAY AND NIGHT

The following aircraft shall not depart Runways 28R/L, nor land on Runways 10R/L, except during emergencies. Use Runway 12/30.

- 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

AIRPLANES-DAYTIME, 7am - 10pm:

VFR DEPARTURES:

Runways 28R/L

- Make right crosswind turn over San Leandro Bay until reaching I-880 (Nimitz Freeway) and continue per ATC instructions.
- No straight out departures.

Runway 33

- Make right northerly turn, overfly San Leandro Bay until reaching I-880 (Nimitz Freeway) and continue per ATC instructions.
- No straight out or left crosswind/downwind departures.

VFR ARRIVALS:

- Avoid flying over residential areas as much as possible.
- No straight in arrivals to Runway 15, unless required by safety or wind conditions.

TOUCH-AND-GOES:

Runway 28L

- This is the preferred touch-and-go runway. Fly standard traffic pattern and avoid residential areas.

AIRPLANES-NIGHTTIME, 10pm - 7am:

DEPARTURES:

- Runway 10R is the preferred runway.
- Runway 28R is the preferred runway.
- 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.

Pilots may choose between the following Noise Abatement procedures, wind and weather permitting:

1. 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 island of Alameda.
- The SALAD Instrument Departure Procedure was published in August 2000. Please consult ATC instructions. Note: Do not use the OAK 310 radial departure.

2. VFR and IFR departures from Runway 10R/L

- For Runway 10R departures, use 180 departure headings when able for E/SE bound departures. Continue to use right turns over the airport for N/NE bound departures when able from Runways 10R or 10L.

ARRIVALS:

- Runway 28L is the preferred arrival runway.

HELICOPTERS, DAY AND NIGHT

DEPARTURES/ARRIVALS:

Fly over freeways and water as much as possible to avoid flying over hotels and residential areas.

Figure 3. OAK Noise Office Fly Quiet Program illustration.

San Francisco International Airport Layout

The diagram below illustrates the layout of SFO runways (Figure 4).

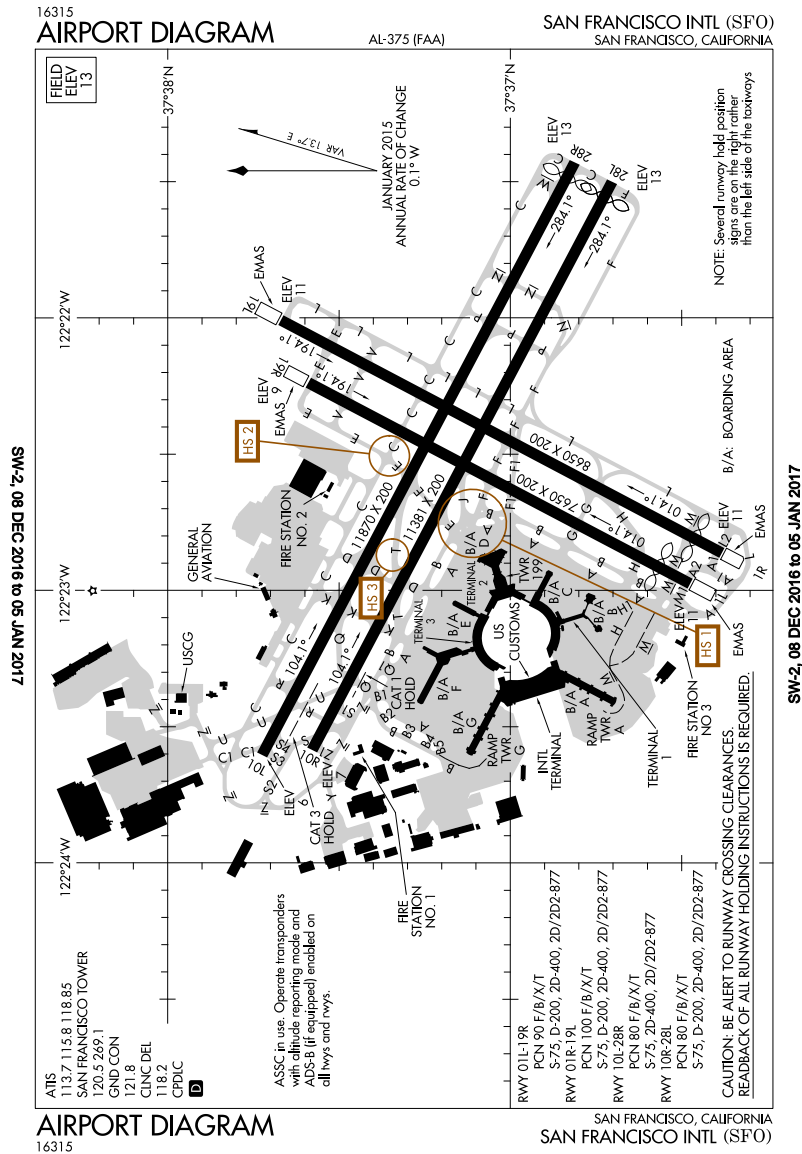


Figure 4: SFO layout and runway configuration.

REQUESTED ROUTE AND PROCEDURE PROPOSALS

The Forum respectfully requests the FAA consider the following proposals to minimize noise impacts to affected East Bay communities.

OAKLAND INTERNATIONAL AIRPORT PROPOSALS

PROCEDURE: HUSSH TWO DEPARTURE

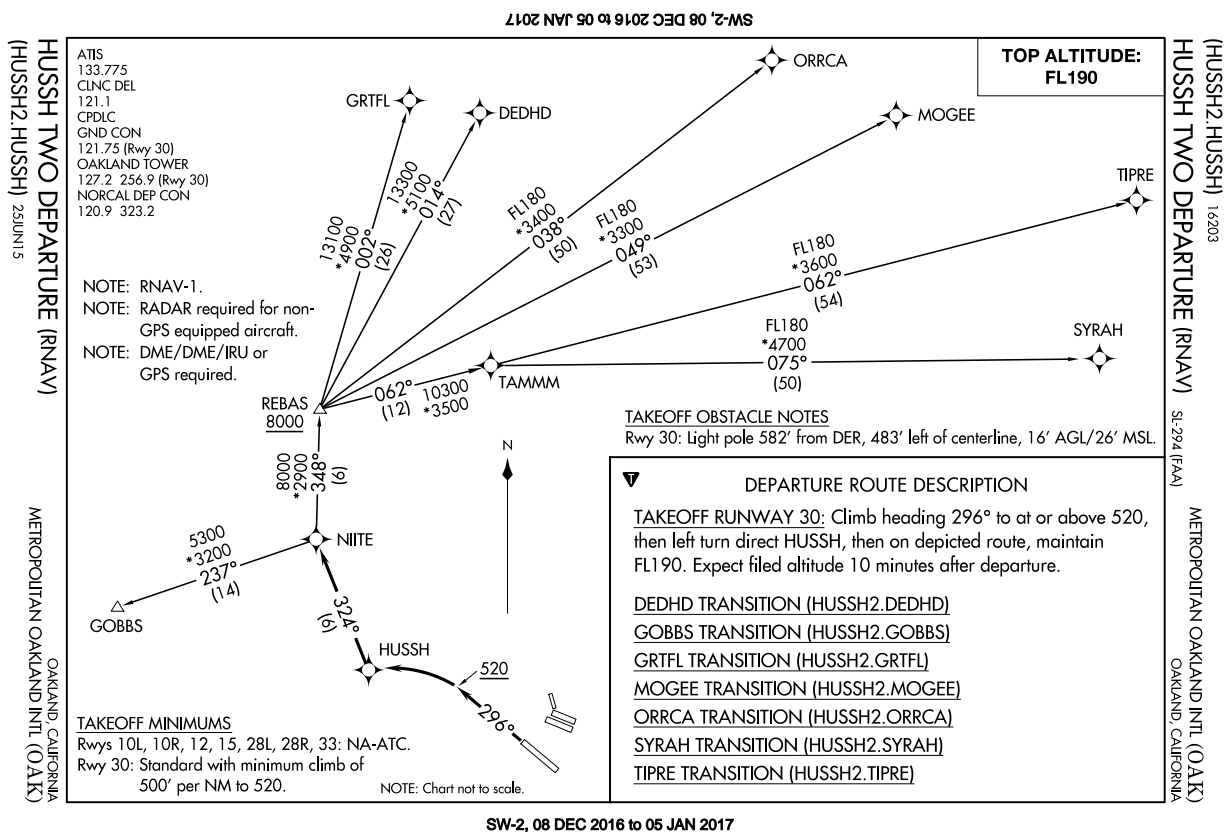


Figure 5. Published HUSSH TWO departure off OAK.

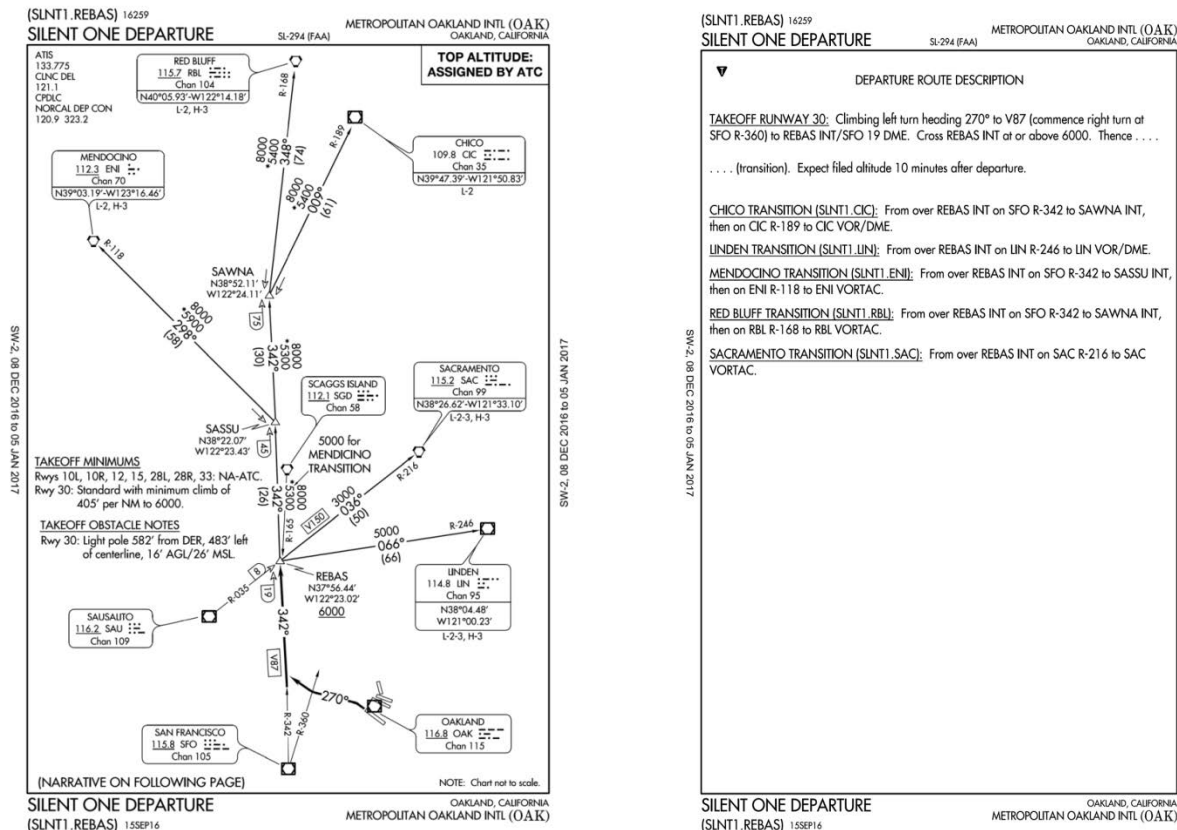


Figure 6. Published SILENT departure off OAK.

HUSSH TWO DESCRIPTION:

The HUSSH departure (DP) is intended to reduce nighttime aircraft noise to communities from Alameda Island and northward along the eastern side of San Francisco Bay including Oakland, Berkeley and others (Figure 5). The HUSSH DP is used by aircraft departing OAK Runway 30. After takeoff, the aircraft climbs on a 296° heading over the Bay, then turns left to the HUSSH waypoint.

This procedure was intended to overlay, and replace, the prior SILENT departure procedure, which turned aircraft departing OAK Runway 30 away from Bay Farm Island (BFI) and Alameda and routed them over the San Francisco Bay as soon as practicable (Figure 6). It was designed for noise abatement purposes and was charted to have aircraft fly to the REBAS waypoint at Point Richmond to keep aircraft over the water as much as possible during the lower portion of the aircraft climb profile. The SILENT procedure, which provided a significant benefit to BFI/Alameda residents for decades by reducing nighttime departure noise, accomplished this by requiring flight crews to turn left to 270° after departure (Runway 30 heading is 296°) and then by having them following this heading until intercepting the 342° radial from the SFO VOR/DME. Significant nighttime benefit to the hillside residential areas of Oakland, Berkeley, and northward was achieved by requiring that climbing aircraft remain over the Bay and not turn eastward until at higher altitudes

at the REBAS intersection over Point Richmond. The HUSSH procedure was developed to provide a similar nighttime benefit to BFI/Alameda and the hillside residential areas of Oakland, Berkeley, and northward by having aircraft, when at or above 520 feet, turn left direct to the HUSSH waypoint, which generally is located in the middle of the San Francisco Bay. After reaching HUSSH, aircraft generally follow a path that allows them to remain clear of both the west and east shorelines of San Francisco Bay until reaching a higher altitude when a turn over land is less disruptive to residents at the REBAS waypoint at Point Richmond. HUSSH replaced the SILENT Standard Instrument Departure (“SID”).

HUSSH TWO PRIMARY IMPACTED CITIES:

City of Alameda, particularly Bay Farm Island, Oakland, Berkeley, El Cerrito when flown with early turns. Point Richmond communities affected until REBAS intersection adjusted offshore.

HUSSH TWO NOISE ISSUES:

After analyzing flight tracks of aircraft on the HUSSH departure procedure as compared to the SILENT SID procedure (Figure 6), the Noise Forum has concluded that the HUSSH procedure is less effective at keeping aircraft away from BFI/Alameda as the initial turn over the San Francisco Bay occurs later and the turn itself is not as sharp. Because of this, aircraft departing OAK Runway 30 fly much closer to BFI/Alameda than they did previously under the SILENT. In the early morning and late night hours, aircraft noise is especially disruptive given the low ambient noise levels. Although the total number of nighttime flights may not seem high, the impact of these flights close to the shoreline throughout the night is very impactful to the residents.

To study the effectiveness of HUSSH departure, Oakland Airport installed a portable noise monitor at 551 Creedon Circle in Bay Farm Island and collected data for 44 days during the months of January and February of 2016. Varying weather conditions existed during the months of January and February of 2016. Data recorded by the Portable Noise Recorder showed no divergences in noise level between HUSSH and straight-out day time departures from Runway 30 at Oakland Airport (See Table 1). The recorded data showed noise events exceeding 80 dBA for individual aircraft departing off Runway 30 at Oakland airport (See Tables 1, 2, 3, and 4). These noise events are extremely disruptive and annoying to residents and have resulted in widespread controversy and complaints.

Analysis of aircraft flying HUSSH also demonstrates the overwhelming majority of flights are currently allowed early turns eastward over Oakland and Berkeley instead of flying the route as charted to REBAS. This places aircraft at least 1000 to 5000 feet lower in altitude during nighttime hours over densely populated areas in Oakland, Berkeley, and other areas. In the early morning and late night hours, aircraft noise is especially disruptive given the low ambient noise levels, which have been measured to drop as low as 29 dBA in the Montclair residential area of Oakland.

SILENT was designed for noise abatement and kept aircraft over the water during the lower portion of the aircraft climb profile to REBAS intersection. The NextGen HUSSH procedure eliminated the charted heavy line to REBAS that was published under SILENT. This elimination allowed greater discretion for early turns prior to aircraft reaching the REBAS waypoint and greatly undermining

noise abatement.

Table 1. Comparison of noise levels for HUSSH and straight-out (day time) departures from runway 30 at Oakland Airport, showing no divergences in the noise levels. Data collected for 44 days by portable noise monitor installed at 551 Creedon Circle in Bay Farm Island, Alameda by Oakland Airport noise office.

Days No.	HUSSH Mean (dB)	No. of HUSSH Flights.	Straight out Mean (dB)	No. of Straight Out Flights	HUSSH SEL Mean (dB)	Straight out SEL Mean (dB)
	71.92		72.69		82.74	83.41
2	74.52	29	73.48	143	83.78	84.20
3	72.57	15	72.59	96	82.54	80.91
4	71.46	19	73.5	127	81.64	83.48
5	73.10	27	72.91	140	82.92	83.27
6	69.87	28	73.37	150	78.09	83.15
7	72.16	29	73.13	126	82.57	82.90
8	71.34	28	72.39	134	80.25	81.61
9	73.78	22	72.96	159	83.33	83.62
10	69.75	25	71.76	133	78.01	80.36
11	73.65	16	74.15	147	83.04	84.39
12	72.63	26	73.24	132	83.70	83.30
13	72.41	27	72.69	144	82.73	83.28
14	69.79	25	74.11	173	77.94	83.56
15	73.08	28	69.67	94	82.15	76.79
16	70.04	17	73.68	230	80.43	83.89
17	71.67	31	72.19	130	82.28	82.98
18	71.71	30	72.56	145	81.43	83.03
19	71.57	31	72.80	138	82.33	83.29
20	69.57	19	72.74	753	79.47	83.32
21	72.58	20	74.14	126	82.71	83.42
22	71.88	17	72.93	91	81.64	83.37
23	72.66	7	72.66	123	79.87	82.57
24	72.68	13	72.21	125	82.83	82.31
25	72.53	29	72.53	121	82.85	81.53
26	72.35	28	72.74	149	82.46	83.19
27	72.02	24	72.86	178	82.66	82.42
28	71.45	25	72.45	178	82.1	82.64
29	70.62	15	72.11	119	80.66	82.20
30	72.96	37	72.90	144	81.30	82.08
31	71.91	25	72.82	226	82.48	81.87
32	71.30	27	72.08	149	81.60	80.10
33	71.42	27	72.35	143	81.34	83.04
34	71.33	21	72.03	155	82.15	82.64
35	72.24	27	72.10	142	83.10	82.96
36	70.82	14	72.63	94	81.81	80.71
37	71.37	9	71.40	110	81.13	81.96
38	71.35	25	71.71	140	81.06	82.32
39	69.70	7	72.59	142	78.17	82.86
40	74.64	30	71.13	126	84.25	79.00
41	73.60	21	74.88	162	83.20	84.41
42	72.31	23	72.01	124	81.84	81.16
43	71.39	16	72.78	98	81.38	83.00
44	70.16	17	72.70	127	80.20	83.26

Table 2. HUSSH departure sample showing noise levels for individual aircrafts off runway 30 at Oakland Airport for January 16, 2016. Data collected by portable noise monitor installed at 551 Creedon Circle in Bay Farm Island, Alameda by Oakland Airport noise office.

Date Time	Location ID	Max Level	SEL	Duration	Classification	Flight Number	Tail Number	Aircraft Type	Airport Code
1/16/2016 0:05	211	75.7	85.7	25	1	JBU168	N768JB	A320	OAK
1/16/2016 2:47	211	71.5	82.9	25	1	VOI5907		A320	OAK
1/16/2016 2:53	211	74.7	85.8	28	1	FDX1885		MD11	OAK
1/16/2016 3:11	211	76.5	87.7	33	1	FDX169		MD11	OAK
1/16/2016 3:14	211	73.8	84.7	23	1	FDX1857		MD11	OAK
1/16/2016 3:16	211	73.6	85.3	30	1	FDX1859		A306	OAK
1/16/2016 3:34	211	77.4	86.8	27	1	FDX25	N892FD	B77L	OAK
1/16/2016 4:21	211	78.9	88.6	29	1	FDX20	N601FE	MD11	OAK
1/16/2016 6:03	211	71.8	80.5	23	1	CPZ5743	N629CZ	E170	OAK
1/16/2016 6:09	211	69.5	79.9	18	1	ASA345	N477AS	B739	OAK
1/16/2016 6:11	211	69.3	78.2	17	1	DAL1408	N370NW	A320	OAK
1/16/2016 6:12	211	70.7	79.2	17	1	NKS188	N502NK	A319	OAK
1/16/2016 6:15	211	74.8	84.9	22	1	SWA2342	N486WN	B737	OAK
1/16/2016 6:16	211	77.1	85.4	17	1	SWA892	N359SW	B733	OAK
1/16/2016 6:19	211	73.2	80.5	22	1	AAL406	N678AW	A320	OAK
1/16/2016 6:20	211	69.9	77.7	15	1	SWA3060	N752SW	B737	OAK
1/16/2016 6:26	211	77.2	86.8	27	1	FDX3671	N68078	B763	OAK
1/16/2016 6:39	211	75.4	85.1	28	1	FDX3647	N357FE	DC10	OAK
1/16/2016 6:41	211	71.1	80.7	17	1	SWA2947	N8607M	B738	OAK
1/16/2016 6:49	211	70.3	76.9	10	1	SWA2835	N278WN	B737	OAK
1/16/2016 6:50	211	77.2	86.9	27	1	FDX831		MD11	OAK
1/16/2016 6:52	211	73.6	83.1	21	1	SWA3665	N925WN	B737	OAK
		1623.2	1833.3						
	Mean	73.78	83.33 db	22 Fls					

Table 3. HUSSH departure sample showing noise levels for individual aircrafts off runway 30 at Oakland Airport for February 7 and 8, 2016. Data collected by portable noise monitor installed at 551 Creedon Circle in Bay Farm Island, Alameda by Oakland Airport noise office.

Date Time	Location ID	Max Level	SEL	Duration	Classification	Flight Number	Tail Number	Aircraft Type	Airport Code
2/7/2016 22:00	211	77.8	86.1	17	1	N23LT	N23LT	F2TH	OAK
2/7/2016 22:02	211	69.5	76.6	10	1	PXT499	N499GB	C680	OAK
2/7/2016 22:08	211	67.6	74.1	7	1	N601FR	N601FR	CL60	OAK
2/7/2016 22:11	211	85	91.8	18	1	VHT11	N111HC	GLF3	OAK
2/7/2016 22:12	211	67.1	72.8	6	1	DPJ817	N817LF	C56X	OAK
2/7/2016 22:16	211	80	87.6	18	1	XOJ557	N557XJ	CL30	OAK
2/7/2016 22:18	211	67.9	75.6	9	1	XOJ747		C750	OAK
2/7/2016 22:22	211	76.2	84.7	16	1	N469MW	N469MW	GALX	OAK
2/7/2016 22:24	211	80.8	88.6	21	1	N702SS	N702SS	C650	OAK
2/7/2016 22:25	211	75.6	83.5	20	1	PWA138	N138BG	C680	OAK
2/7/2016 22:28	211	77.5	84.9	20	1	CFDOL		CL30	OAK
2/7/2016 22:29	211	73	81.3	13	1	GAJ512	N512UP	C56X	OAK
2/7/2016 22:30	211	80.9	88.5	17	1	CGWPB	CGWPB	GALX	OAK
2/7/2016 22:33	211	78.4	85.9	18	1	N815PA	N815PA	GL5T	OAK
2/7/2016 22:38	211	74.7	83.3	16	1	DJR8		C560	OAK
2/7/2016 22:43	211	74.6	81.8	17	1	N1980Z	N1980Z	CL30	OAK
2/7/2016 22:57	211	68.9	78.9	17	1	N770X		LJ60	OAK
2/7/2016 23:13	211	67.5	76.2	13	1	SWA8239	N250WN	B737	OAK
2/7/2016 23:14	211	71.8	80.6	21	1	SWA8240	N448WN	B737	OAK
2/7/2016 23:28	211	69.1	79.6	22	1	UPS2943		B763	OAK
2/7/2016 23:38	211	66.2	72.3	6	1	JNY771	N771AV	GLF4	OAK
2/8/2016 0:09	211	71.6	82.3	23	1	JBU168	N618JB	A320	OAK
2/8/2016 1:18	211	70.8	79.7	15	1	VOI903		A320	OAK
2/8/2016 2:34	211	73.7	85.2	27	1	EAL5001	N280EA	B738	OAK
2/8/2016 4:23	211	67.1	74.2	8	1	CFWKX		F900	OAK
2/8/2016 4:57	211	70.1	80	17	1			C650	OAK
2/8/2016 5:57	211	73.3	83.4	22	1	SWA2672	N394SW	B733	OAK
2/8/2016 6:04	211	76.1	84.3	24	1	ASA345	N590AS	B738	OAK
2/8/2016 6:10	211	71.1	78.5	13	1	CPZ5743	N619CZ	E170	OAK
2/8/2016 6:12	211	76	84.5	25	1	SWA1692	N658SW	B733	OAK
2/8/2016 6:13	211	74	82.4	18	1	DAL1408	N329NW	A320	OAK
2/8/2016 6:15	211	70.2	78.9	16	1	AAL489	N174US	A321	OAK
2/8/2016 6:34	211	66.5	75.6	12	1	N619KS	N619KS	GALX	OAK
2/8/2016 6:40	211	70.4	78.6	20	1	SWA300	N708SW	B737	OAK
2/8/2016 6:41	211	71.5	79.7	16	1	SWA890	N830SE	B738	OAK
2/8/2016 6:57	211	73.1	82.1	19	1	SWA2640	N345SA	B733	OAK
2/8/2016 6:59	211	73.9	84.1	22	1	SWA2701	N495WN	B737	OAK
		2699.5	3008.2						
	Mean	72.96 db	81.30 db	37 Fls					

Table 4. HUSSH departure sample showing noise levels for individual aircrafts off runway 30 at Oakland Airport for February 20 and 21, 2016. Data collected by portable noise monitor installed at 551 Creedon Circle in Bay Farm Island, Alameda by Oakland Airport noise office.

Date Time	Location ID	Max Level	SEL	Duration	Classification	Flight Number	Tail Number	Aircraft Type	Airport Code
2/20/2016 22:01	211	66.5	73.1	7	1	NKS510	N508NK	A319	OAK
2/20/2016 22:26	211	74.5	83.6	24	1	JBU168	N587JB	A320	OAK
2/21/2016 1:12	211	69.7	75.2	7	1	CMD8	N838CS	HELO	OAK
2/21/2016 1:21	211	70.4	78.9	18	1	VOI903	N512VL	A320	OAK
2/21/2016 1:37	211	73.9	85.2	33	1	UPS947		B763	OAK
2/21/2016 3:36	211	69.5	81.9	26	1	FDX79	N883FD	B77L	OAK
2/21/2016 4:03	211	73.8	85.3	28	1	FDX845	N613FE	MD11	OAK
2/21/2016 4:43	211	75.2	86.1	26	1	FDX614		MD11	OAK
2/21/2016 5:58	211	74.2	85.8	26	1	FDX690	N566FE	DC10	OAK
2/21/2016 6:01	211	73.7	83.3	26	1	FDX831	N383FE	DC10	OAK
2/21/2016 6:07	211	68.8	79.2	18	1	ASA345	N493AS	B739	OAK
2/21/2016 6:09	211	68.8	77.5	17	1	CPZ5718	N608CZ	E170	OAK
2/21/2016 6:10	211	67.2	77.9	19	1	DAL1408	N377NW	A320	OAK
2/21/2016 6:11	211	71.1	80.5	19	1	SWA1626	N7750A	B737	OAK
2/21/2016 6:12	211	72.8	84.5	31	1	FDX859	N591FE	MD11	OAK
2/21/2016 6:56	211	72.2	84.1	30	1	HAL23	N379HA	A332	OAK
		1142.3	1302.1						
	Mean	71.39 db	81.38 db	16 Fls					

HUSSH TWO — NOISE FORUM REQUESTS:

Short Term

The current routing of the HUSSH TWO brings aircraft ground tracks closer to BFI, Harbor Bay, and Alameda resulting in increased noise. The short-term solution would be for Air Traffic Control to assign headings to aircraft departing OAK runway 30 that restore the initial SILENT ground track. Other issues with the HUSSH TWO departure and proposed solutions are detailed in this document and are addressed separately. Additionally, the FAA should ensure aircraft remain on their filed route and not turn prior to REBAS intersection and secure a decreased level of night time noise by issuing an FAA memorandum of understanding with ATC to keep aircraft on the route as published to the REBAS intersection unless safety dictates otherwise.

Longer Term

The Noise Forum requests the FAA evaluate the HUSSH procedure and adjust it to replicate the SILENT SID ground track and require aircraft to fly to REBAS unless safety dictates otherwise and adjust the REBAS intersection offshore to keep aircraft over the water instead of turns over land.

The Noise Forum requests the FAA consider the following:

1. moving HUSSH waypoint southward as much as feasible to facilitate a sharper left turn by aircraft after departing OAK Runway 30; and
2. regulate and eliminate turns off of HUSSH prior to the REBAS intersection and secure a decreased level of night time noise by creating an FAA memorandum of understanding with ATC to keep aircraft on the route as published to the REBAS intersection for

published noise abatement purposes unless safety dictates otherwise.

3. moving the location of REBAS over the Bay to mitigate noise from concentrated traffic turning eastward over communities in the Point Richmond area; and
4. adjusting night time hours for noise abatement operations from the current 2200 – 0700 local time Monday through Saturday, 2200 to 0800 local time on Sunday to new night time hours of noise abatement procedures of 2100 – 0800 local time daily, seven days a week for relief as flight curfews are not an option; and
5. as OAK departures over Berkeley and Oakland are lower in altitude and markedly louder than SFO departures, implement the adjusted HUSSH procedure all the way to REBAS and then onto next fix for all northerly OAK departures from Runway 30 so that the HUSSH DP is in effect 24 hours a day for these flights instead of only at night to decrease the noise burden on Oakland, Emeryville, Berkeley, Albany, and Kensington.

HUSSH TWO REQUESTED INITIAL FAA RESEARCH:

The Forum requests the FAA provide modeling or other tools to determine the effects of different REBAS waypoint location options to best mitigate aircraft noise for the Pt. Richmond area and Marin County on the other side of the Bay.

PROCEDURE: WNSDR TWO ARRIVAL

WNSDR TWO ARRIVAL DESCRIPTION:

The OAK WNSDR TWO ARRIVAL is a new NextGen RNAV route used by all aircraft arriving from the north and northeast direction (including polar routes). Aircraft track from the WNSDR waypoint 159° to cross WEBRR between 9000 feet and 13000 feet then remain on track to cross BOYSS at 7000 feet, then on track 129° to cross HOPTA at 5000 feet with the remainder of the approach at 5000 feet on two different tracks to AAAME to land at Runway 28L/R or to ALLXX for a Runway 30 landing.

WNSDR TWO ARRIVAL PRIMARY IMPACTED CITIES:

Berkeley, Oakland, San Leandro

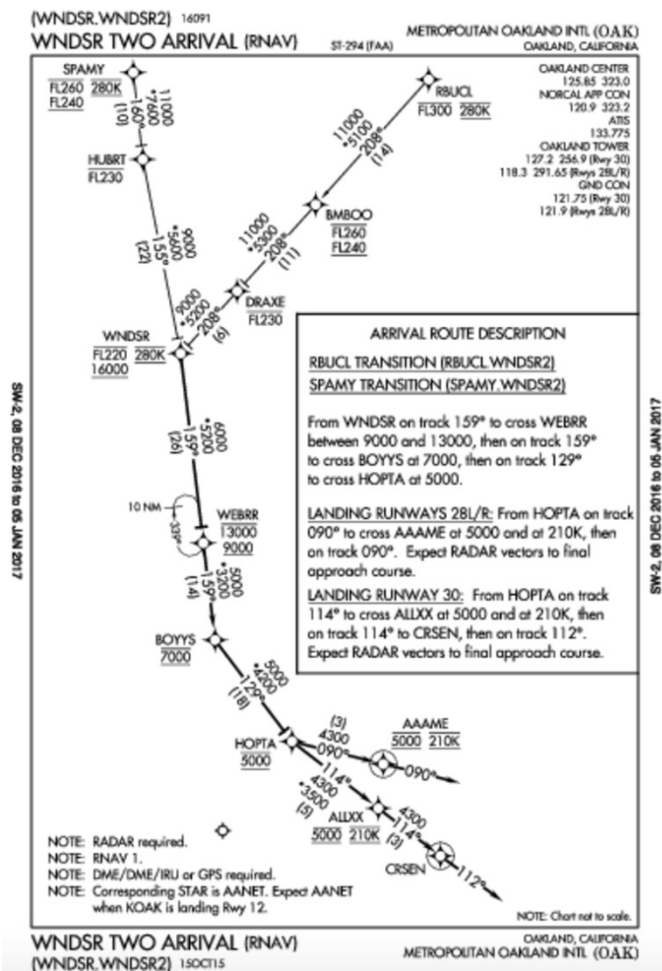
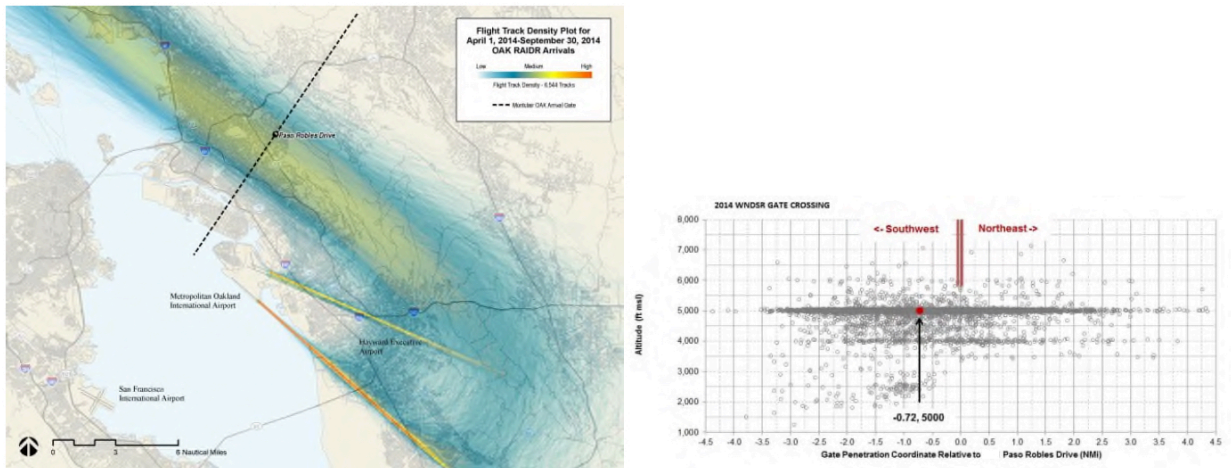


Figure 7. Published WNSDR TWO arrival into OAK.

WNSR TWO ARRIVAL NOISE AND SAFETY ISSUES:

OAK arrivals from the north were previously vectored over a seven-mile-wide corridor prior to NextGen. (Figure 8a) Creation of the WNSR RNAV to handle this previously dispersed traffic shifted and concentrated all traffic to a corridor less than 0.5 miles wide over the topographically highest area of the East Bay Hills. (Figure 8b) This dramatically and adversely impacted densely populated residential areas including Berkeley, Oakland, San Leandro and others. Daytime ambient monitored noise levels are less than 50dB and typically less than 45dB in much of these areas. Single aircraft noise levels over 78dB have been measured.

a. Pre- NextGen Traffic Pattern



b. Post- NextGen Traffic Pattern – the new WNSR RNAV

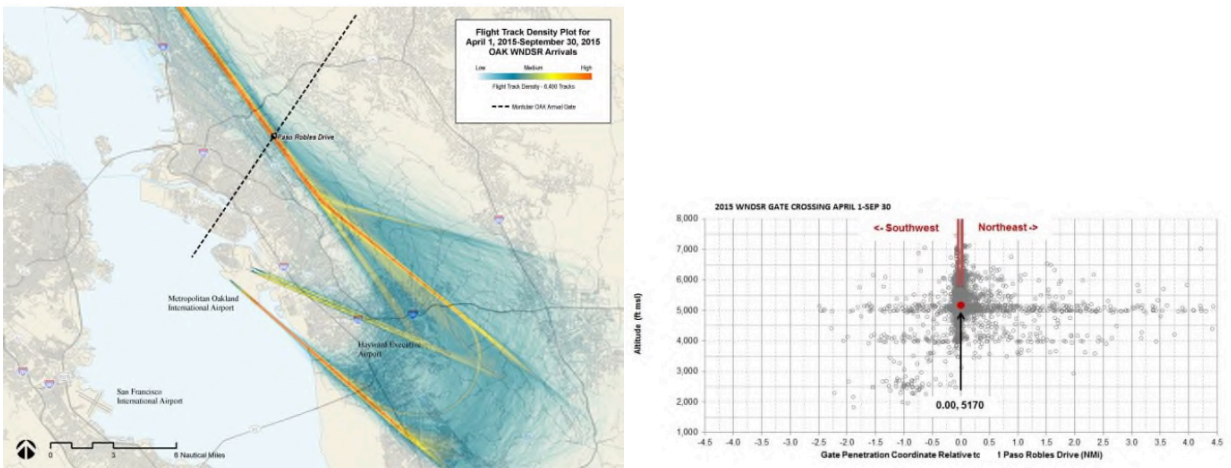


Figure 8. OAK arrivals of traffic from the north and north east including polar traffic Pre NextGen April – September 2014 (a.) and Post NextGen April – September 2015 (b.). Traffic is significantly concentrated and shifted eastward from the Bay and lower elevation areas to over the topographically higher East Bay Hills. (Montclair Flight Track Analyses, HMMH Inc., Technical Memorandum HMMH Project Number 302551.004, March 30, 2016.)

WNDSR TWO is designed for arriving traffic from the north and north east including polar traffic. This traffic must fly a considerable distance westward to pick up the WNDSR arrival and then subsequently fly eastward again where it is vectored and merged into the OAK arrival procedure. WNDSR can lengthen flight paths and its procedure reduces efficiency.

The WNDSR TWO procedure requires level or nearly level flight in an approximately 0.5 mile wide corridor under higher thrust for over 23 nautical miles at altitudes commonly down to 4000 feet MSL along the East Bay Hills which rise up to 1700 feet MSL. This causes excessive fuel burn, particulate emissions and adverse concentrated noise impacts. Further, as the ridgeline under WNDSR TWO rises up to 1700 feet MSL, it procedurally shifted and concentrated noise to the topographically highest area of Alameda County for planes that must remain low for safe separation from SFO departures above them. Moving WNDSR TWO would free airspace for departing OAK and SFO traffic and increase safety by reducing potential conflict with OAK arrivals.

WNDSR TWO ARRIVAL — NOISE FORUM REQUESTS:

Long Term

The Forum requests that the current WNDSR TWO flight track be eliminated and the FAA consider options to replace this RNAV to another location that allows for geographically shorter flight paths and quiet, fuel efficient optimized descents into OAK.

NEW OAK ARRIVAL PROPOSAL ALTERNATIVE ONE (PREFERRED):

The Forum requests the FAA consider establishing the preferred alternative of OAK arrivals to the east. This alternative proposes the FAA consider an RNAV somewhere within a corridor (Figure 9) generally encompassing the Mendocino VOR to the Santa Rosa VOR to RAGGS fix then airway V494 towards EMBER and then towards the SHARR fix and joining the MADWIN SIX arrival for flights arriving from the north. Flights originating from the east could use a corridor towards the SHARR or BANND/TOOOL waypoints for joining the OAKES TWO arrival (See Figures 9, 10 and 11). Crossover from the PYE navaid routing to the east towards SHARR or BANND/TOOOL waypoints can be accomplished further north in Oakland Center's airspace at their discretion.

This routing can shorten flight time and flight paths of arriving traffic by eliminating the current deflection to the west to achieve BOYSS waypoint. It also allows better sequencing as NextGen navigation tools develop. OAK arrivals are currently vectored past the CRSEN waypoint, and it is hoped that merging traffic patterns can be modeled to echo current patterns. Consider appropriate adjustments to avoid population centers such as Manteca and Sunol. It is anticipated airspace and noise analyses will modify and identify appropriate adjustments for a final track to avoid population and best achieve flight track efficiency and quiet descent procedure.

This routing allows aircraft to join established arrival routes from a high altitude (>10,000 feet) over

areas with low population density and utilize a quiet, fuel efficient reduced power descent into Oakland Airport. This alternative does move the existing RNAV, but is not “noise shifting” considering a definition of noise shifting as taking existing noise conditions/impacts and replicating that same noise burden in another area. This alternative does not simply move the same noise burden inherent in WNDSR TWO, as it does not involve aircraft under thrust in level flight for 23 continuous miles not uncommonly down to 2500 feet AGL over densely populated residential areas (Figure 8b). Joining established arrival routing eliminates a new RNAV arrival having to be developed and implemented. Increases safety for SFO and OAK departures due to reduced potential conflict with OAK arrivals. Another advantage in that it frees airspace so that SFO and OAK departures can eventually adopt quieter and more fuel efficient continuous climbing procedures.

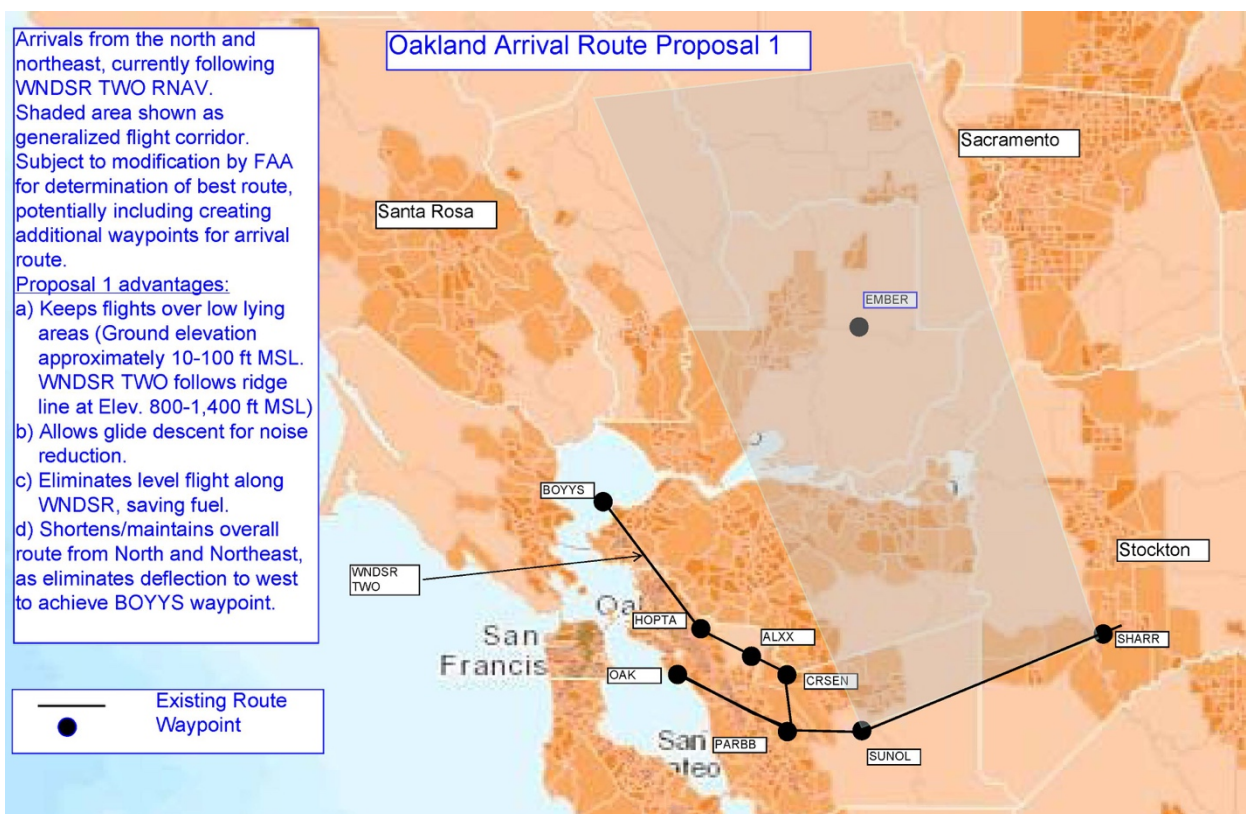


Figure 9. Preferred alternative to current WNDSR TWO overlaying 2012 USA Population Density Map (ESRI, ArcGIS, <https://www.arcgis.com/home/item.html?id=302d4e6025ef41fa8d3525b7fc31963a>, accessed December 18, 2016.). The darker the orange color, the denser the population. WNDSR TWO and the end section of the MADWIN SIX and OAKES TWO arrivals from SHARR are shown for comparison as solid lines. Gray shading indicates a generalized area the proposed route could be established within to eventually join the established OAK arrivals and should only be considered approximate. It is anticipated airspace and noise analyses would modify and identify appropriate adjustments for a final track to avoid population and better achieve flight track efficiency and quiet descent procedure.

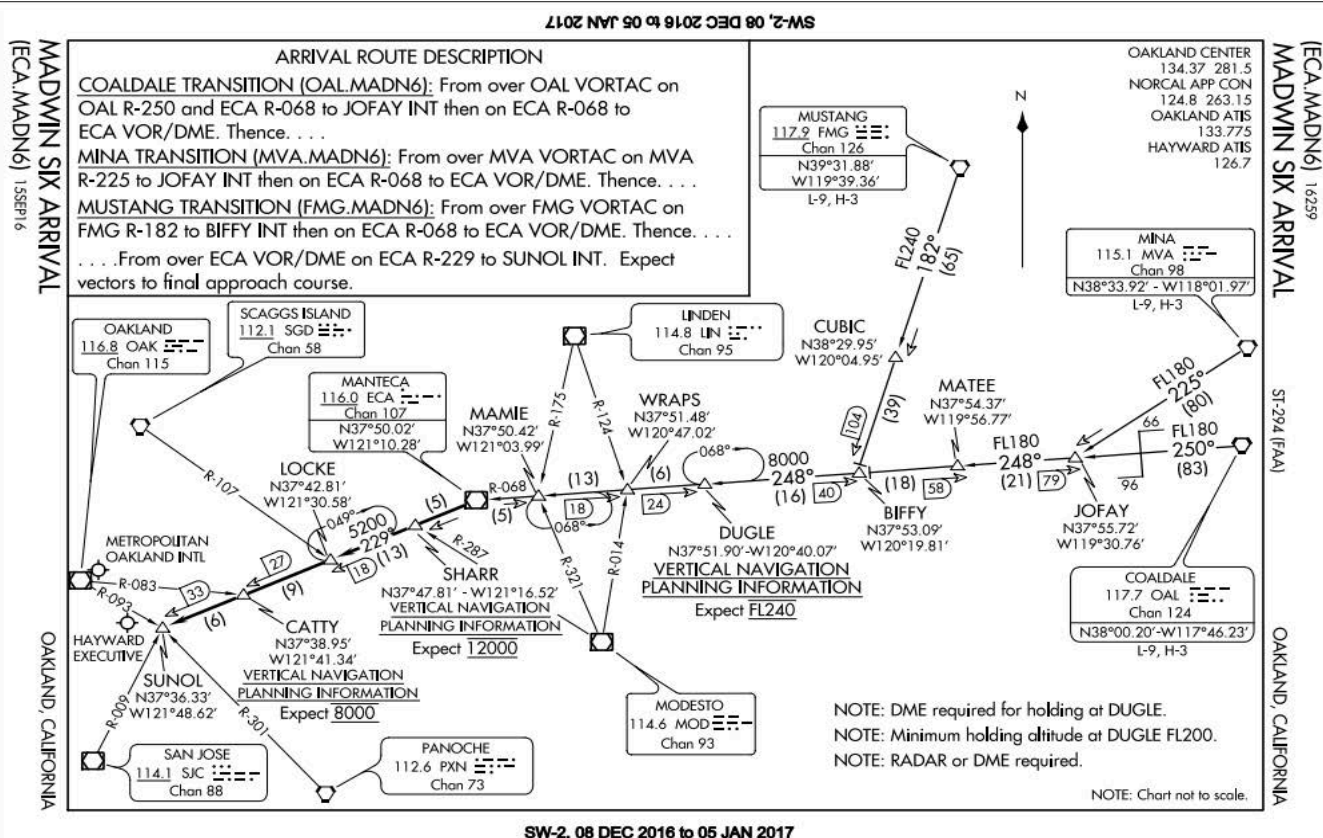


Figure 11. Published MADWIN SIX arrival into OAK.

REQUESTED INITIAL FAA RESEARCH FOR OAK ARRIVAL ALTERNATIVE ONE:

The Forum requests the FAA undertake airspace and noise analyses to identify appropriate adjustments to avoid population and better achieve flight track efficiency and quiet descent procedures into OAK.

NEW OAK ARRIVAL PROPOSAL ALTERNATIVE TWO:

The Forum requests the FAA consider a second, but less preferable, alternative of moving OAK arrivals to the east in the event that the Preferred Alternative is not deemed feasible. This second alternative proposes the FAA consider an OAK arrival RNAV somewhere within a corridor generally encompassing routing traffic towards the Mendocino VOR then towards the Santa Rosa VOR then towards the Concord VOR crossing the area near the Concord VOR at 10,000 feet and then routing down the California Interstate 680 highway corridor to the Oakland Runway 30 final approach (approximating the CCR 155 or 150 degree radial) (Figure 12). Establish routing to stay on the California Interstate 680 highway corridor at high altitude and enable a fuel efficient, quiet, reduced power descent approach to OAK. An alternative modification could use the initial WNSDR TWO arrival or Mendocino VOR to Santa Rosa VOR (or abeam it) toward Concord VOR at 10,000 feet.

This routing allows aircraft to be kept high for fuel conservation, a quiet, reduced power descent, and

Class B airspace protection from VFR aircraft starting at the CCR VOR. This routing and higher altitude follows the industrial areas and California Interstate 680 highway corridor and makes better use of compatible overflight land for noise abatement and using quieter, near idle descent at high altitude instead of placing flights over densely populated residential areas in topographically higher areas and restricting aircraft under thrust to level flight for tens of miles as low as 2500 feet AGL. Increases safety for SFO and OAK departures due to reduced potential conflict with OAK arrivals. Another advantage is that it frees airspace so that SFO and OAK departures can eventually adopt quieter and more fuel efficient continuous climbing procedures.

This routing can shorten flight time and flight paths of arriving traffic by eliminating the current deflection to the west to achieve BOYSS waypoint. It also allows better sequencing as NextGen navigation develops. OAK arrivals are currently vectored past the CRSN waypoint, and it is hoped that merging traffic patterns can be modeled to echo current patterns. It is anticipated airspace and noise analyses will modify and identify appropriate adjustments for a final track to avoid population, maintain flight tracks over compatible overflight land, best achieve flight track efficiency and quiet descent procedures.

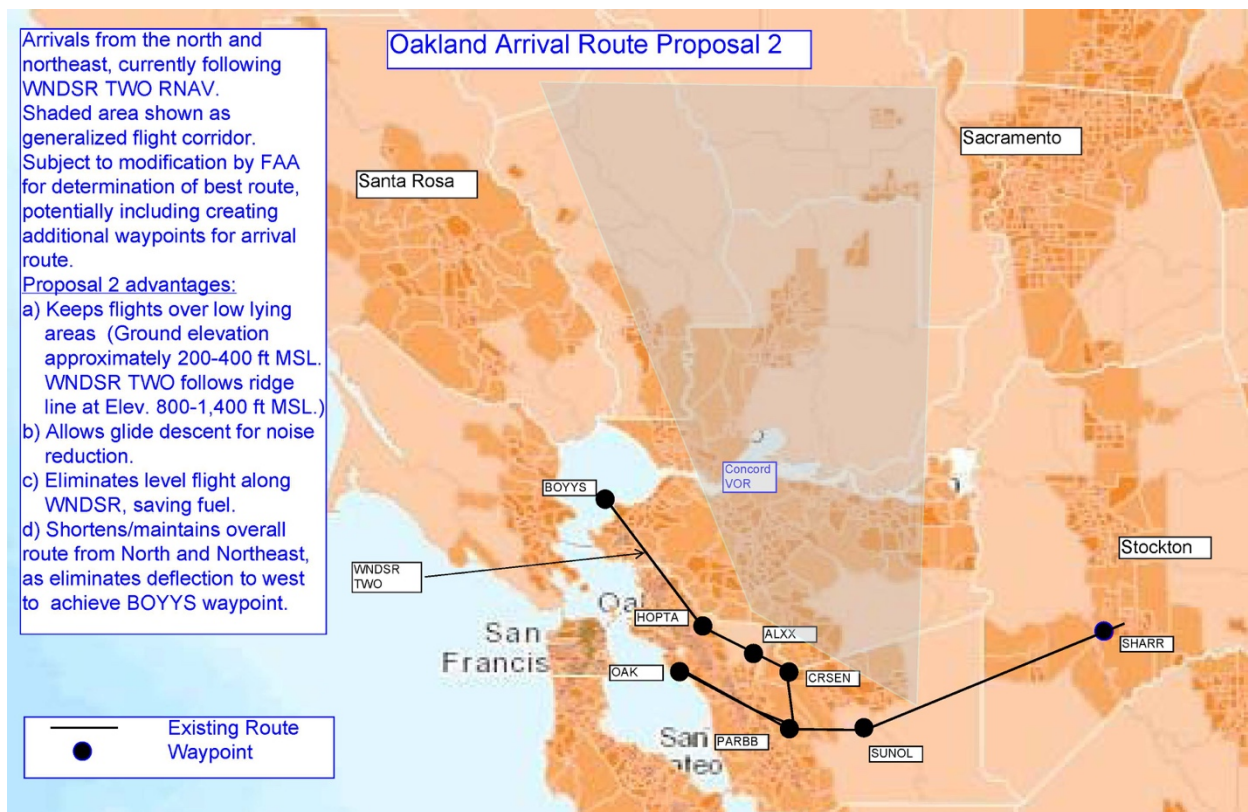


Figure 12. Alternative to current WNSR TWO overlaying 2012 USA Population Density Map (ESRI, ArcGIS, <https://www.arcgis.com/home/item.html?id=302d4e6025ef41fa8d3525b7fc31963a>, accessed December 18, 2016.). The darker the orange color, the denser the population. WNSR TWO and the end section of the MADWIN SIX and OAKES TWO arrivals from SHARR are shown for comparison as solid lines. Gray shading indicates a generalized area the proposed route could be established within to eventually join the established OAK arrivals and should only be considered approximate. It is anticipated airspace and noise analyses would modify and identify appropriate adjustments for a final track to avoid population and better achieve flight track efficiency

and quiet descent procedure.

REQUESTED INITIAL FAA RESEARCH FOR OAK ARRIVAL ALTERNATIVE TWO:

The Forum requests the FAA undertake airspace and noise analyses to identify appropriate adjustments to avoid population and better achieve flight track efficiency and quiet descent procedures into OAK.

PROCEDURE: OAKLAND NINE DEPARTURE

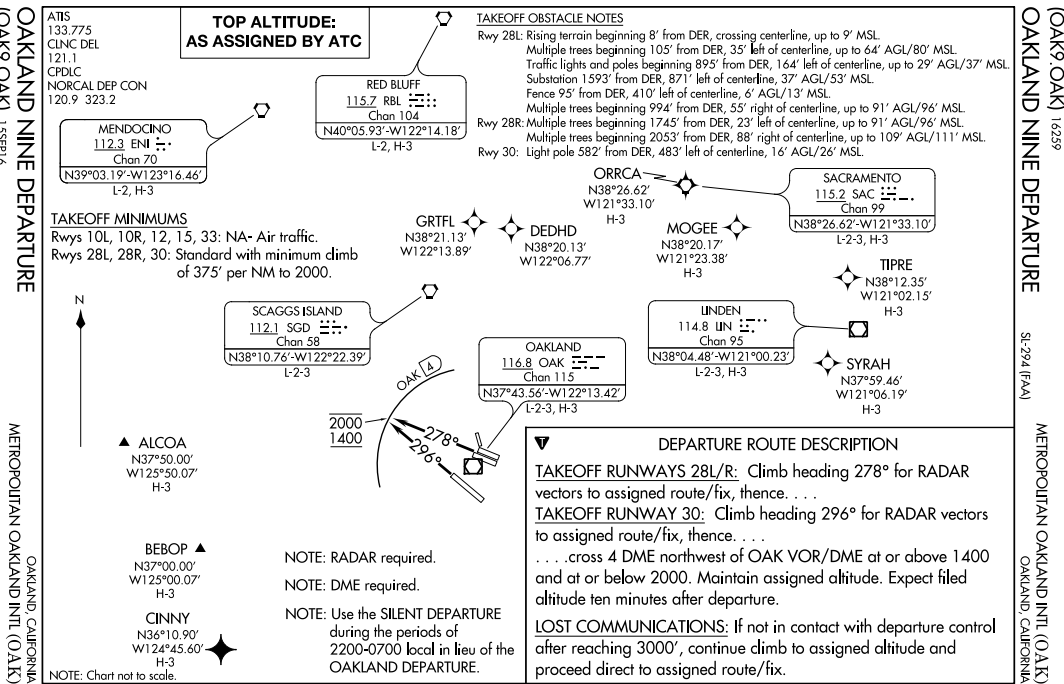


Figure 13. Published OAKLAND NINE departure from OAK.

OAKLAND NINE DESCRIPTION:

The OAKLAND NINE SID is typically used by aircraft departing OAK Runway 30 and OAK Runways 28L/R. From OAK Runway 30, after takeoff, the aircraft climbs on a 296° heading to 2000 feet for RADAR vectors to its assigned route (Figure 13).

From OAK Runways 28L/R, after takeoff, the aircraft climbs on a 278° heading to 2000 feet for RADAR vectors to its assigned route.

Additionally, current ATC procedures for noise mitigation direct controllers to not turn aircraft eastbound until leaving 3000 feet.

OAKLAND NINE PRIMARY IMPACTED CITIES:

City of Alameda, particularly the community of Bay Farm Island, Berkeley, Oakland

OAKLAND NINE NOISE ISSUES:

The imprecise nature of the OAKLAND NINE departure creates excessive noise for BFI, Alameda, and East Bay communities. Aircraft departing the Oakland Airport that are flying headings and receiving vectors do not fly a specific and consistent ground track that reduces noise. The implementation of NextGen technology and procedures as they apply to this departure can be leveraged to provide a solution and bring noise relief to East Bay communities.

OAKLAND NINE — NOISE FORUM REQUESTS

Short Term

The Forum requests that, in the short term, the FAA assign headings to aircraft after takeoff that direct aircraft turn left to a heading of 280° until reaching the OAK 4 DME arc, then proceed on the published departure.

The Forum requests that aircraft departing on the OAKLAND NINE not be turned eastbound until leaving 5000 feet (as opposed to 3000 feet in the current ATC directed noise mitigation procedures). The benefits Alameda residents and up to six schools in Alameda.

Longer Term

The Forum requests that the FAA evaluate the OAKLAND NINE (daytime departures) and adjust it so that the ground track is further away from BFI/Alameda. This could be accomplished by directing aircraft departing OAK Runway 30 to turn left to a heading of 280° until reaching the OAK 4 DME, then proceed on the published departure. The proposed adjustment would alleviate noise from aircraft flying too close to the BFI/Alameda shoreline. We also request the FAA consider creating an RNAV departure that replicates the newly proposed OAKLAND NINE above.

It appears that as long as the 2000 foot hold down restriction remains in-place, this proposed change would not create a conflict with SFO departures.

The Forum requests that aircraft departing on the OAKLAND NINE not be turned eastbound until leaving 5000 feet (as opposed to 3000 feet in the current ATC directed noise mitigation procedures).

OAKLAND NINE REQUESTED INITIAL FAA RESEARCH:

The Forum requests the FAA undertake airspace and noise analyses to identify appropriate adjustments and demonstrate that any proposed changes will result in noise reduction and not adversely impact other areas.

PROCEDURE: CNDEL THREE DEPARTURE

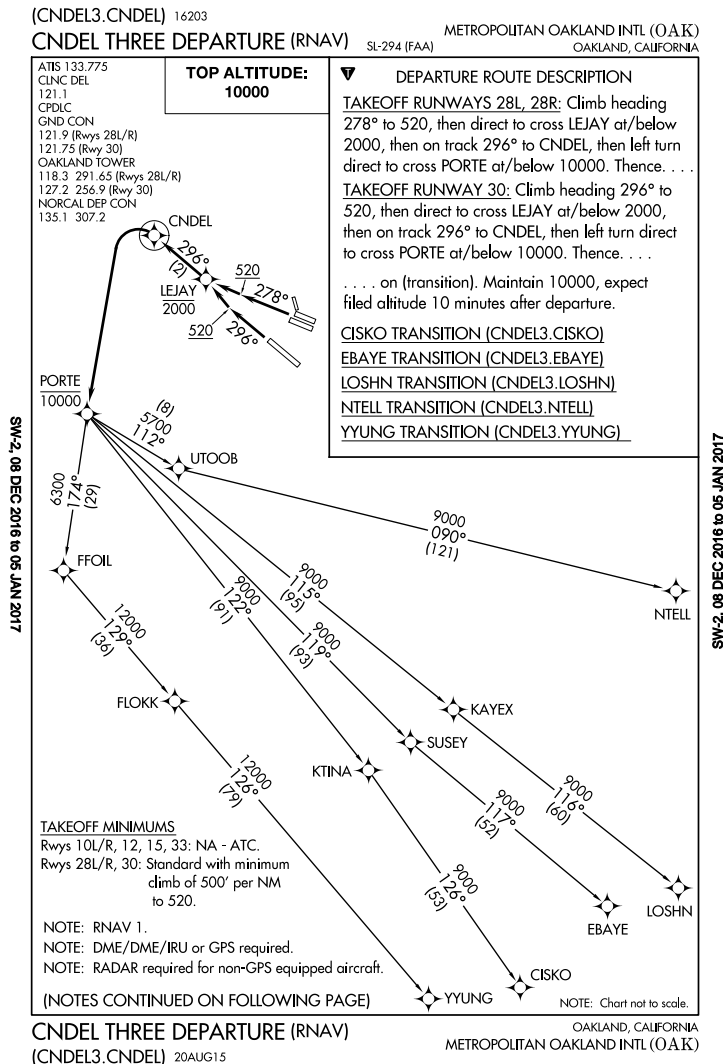


Figure 14. Published CNDEL THREE departure out of OAK.

CNDEL THREE DESCRIPTION:

The CNDEL RNAV departure is typically used by aircraft departing to the west from the Oakland Airport for southerly destinations. After take-off, the aircraft climbs on a 296° heading for runway 30 and a 276° heading for runways 28L and 28R. At 520 feet, these aircraft turn west to fly over the LEJAY waypoint at or below 2000 feet then on an RNAV track to CNDEL waypoint, followed by a left turn to cross PORTE at or below 10,000 feet (Figure 14).

CNDEL THREE PRIMARY IMPACTED CITIES:

City of Alameda, particularly the community of Bay Farm Island, Alameda.

CNDEL THREE NOISE ISSUES:

Aircraft ground tracks for this departure come significantly close to BFI and Alameda shorelines. A change to this departure as part of any Metroplex revisions would greatly reduce the noise impact of these flights.

CNDEL THREE — NOISE FORUM REQUESTS:

Consider adjusting CNDEL THREE departure so that the ground track for this departure is further away from BFI/Alameda. This could be accomplished by directing aircraft departing OAK runway 30 to turn left to a heading of 280° until reaching the OAK 4 DME arc. This OAK 4 DME arc could replace the LEJAY intersection. This requested change would direct aircraft away from the BFI/Alameda shoreline sooner, which would reduce noise to residents.

CNDEL THREE REQUESTED INITIAL FAA RESEARCH:

The Forum requests the FAA undertake airspace and noise analyses to identify appropriate adjustments and demonstrate that any proposed changes will result in noise reduction and not adversely impact other areas.

SAN FRANCISCO INTERNATIONAL AIRPORT PROPOSALS

PROCEDURE: NIITE THREE DEPARTURE

NIITE THREE DESCRIPTION:

The NIITE DP (Figure 15) is intended to reduce nighttime aircraft noise to communities along the western and eastern side of San Francisco Bay including Alameda, Oakland, Berkeley and others. The NIITE DP is used by aircraft departing SFO primarily to destinations to the north and northeast.

This procedure was intended to overlay, and replace, the prior QUIET DP (Figure 16). It was designed for noise abatement purposes and was charted to have aircraft fly to the REBAS waypoint at Point Richmond to keep aircraft over the water as much as possible during the lower portion of the aircraft climb profile. The QUIET procedure provided considerable nighttime benefit to the residential areas of Oakland, Emeryville, Berkeley, Albany, El Cerrito, Kensington, and northward by requiring that climbing aircraft under full thrust remain over the Bay and not turn eastward until at higher altitudes at the REBAS intersection by Point Richmond.

The NIITE procedure was developed to provide a similar nighttime benefit by overlaying the legacy QUIET procedure. SFO departing aircraft track to HUSSH and from there, track 324° to NIITE thence are charted to track to REBAS at Point Richmond and cross at 8000 feet. This route has aircraft following a path that allows them to remain clear of both the west and east shorelines of San Francisco Bay until reaching a higher altitude when a turn over land is less disruptive to residents at the REBAS waypoint at Point Richmond.

NIITE THREE DEPARTURE PRIMARY IMPACTED CITIES:

City of Alameda, Oakland, Berkeley, El Cerrito, Albany when flown with early turns prior to REBAS intersection. Point Richmond communities affected until REBAS intersection adjusted offshore.

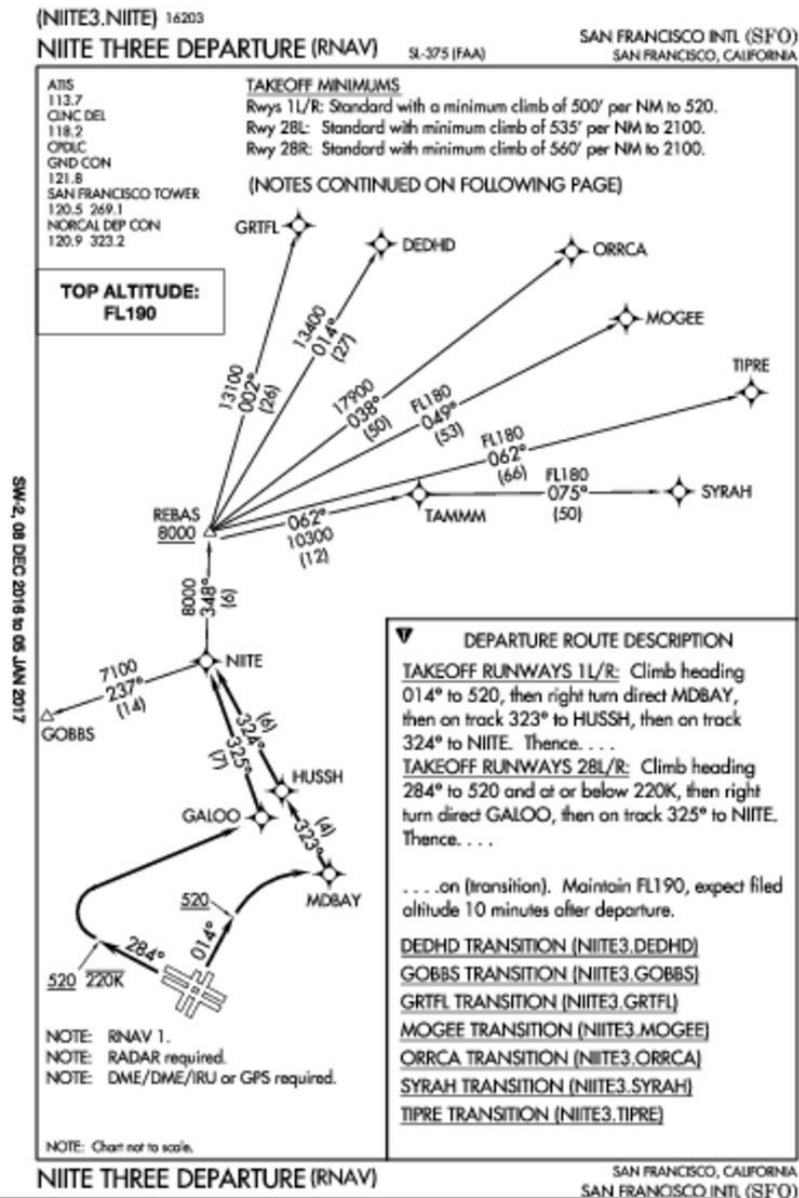


Figure 15. Published NIITE THREE departure out of SFO.

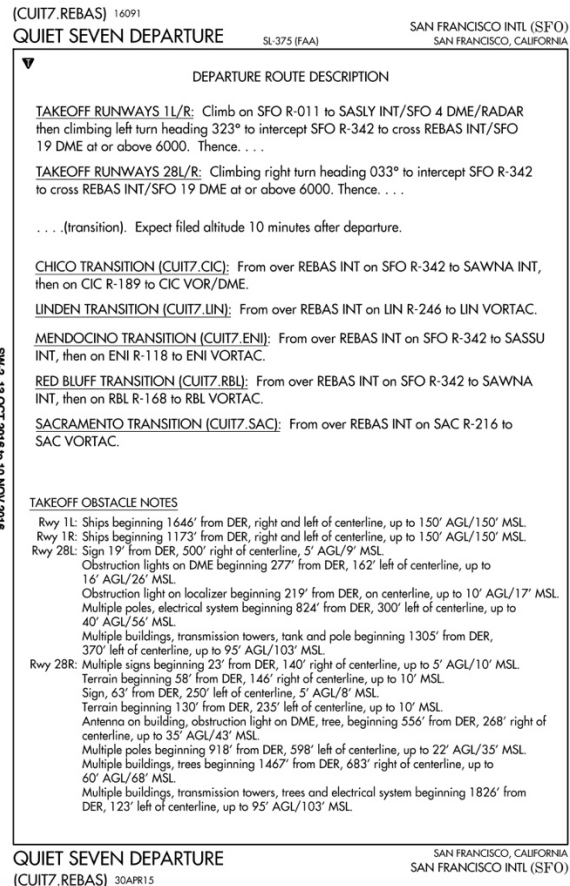
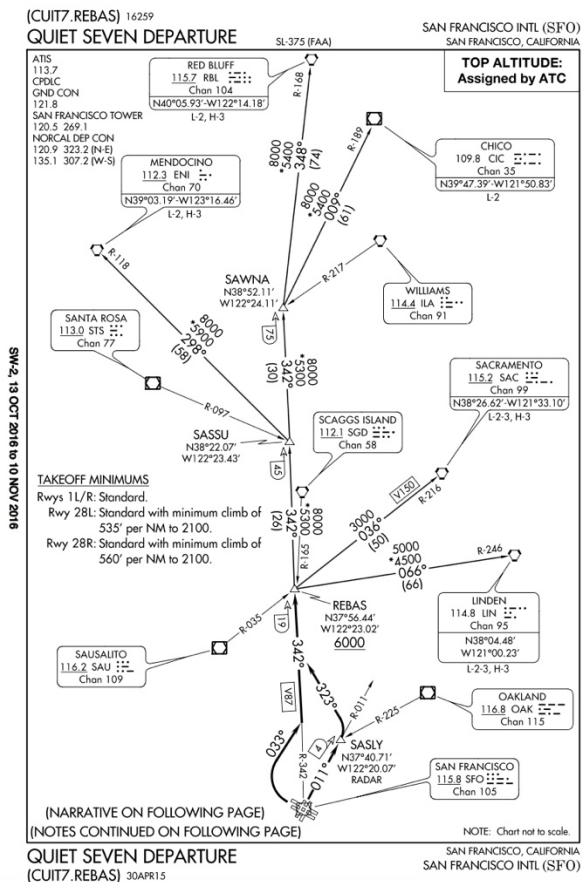


Figure 16. Published QUIET SEVEN departure out of SFO.

NIITE THREE DEPARTURE NOISE ISSUES:

QUIET was designed for noise abatement and kept aircraft over the water during the lower portion of the aircraft climb profile. The current SFO NIITE procedure eliminated the charted heavy line to REBAS that was published under QUIET. The elimination may have allowed greater discretion for early turns prior to aircraft reaching the REBAS waypoint and greatly undermining noise abatement.

Analysis of aircraft flying NIITE shows the overwhelming majority are currently allowed early turns instead of flying the route as charted to REBAS. This places aircraft at least 1000 to 5000 feet lower in altitude during nighttime hours over densely populated areas in Oakland, Berkeley, and other communities. In the early morning and late night hours, aircraft noise is especially disruptive given the low ambient noise levels which have been measured to drop as low as 29 dBA in the Montclair residential area in the hills of Oakland.

NIITE THREE DEPARTURE — NOISE FORUM REQUESTS:

The Forum requests that the FAA restore the requirements of the night time noise abatement flight procedure as charted under SFO QUIET to SFO NIITE. Restore the heavy charted lines from NIITE to REBAS to indicate this is the charted route to fly unless safety dictates otherwise and adjust the REBAS intersection offshore to keep aircraft over water instead of turning over land.

The Noise Forum requests the FAA consider:

1. regulating and eliminating early turns off of NIITE prior to the REBAS intersection and secure a decreased level of night time noise by creating an FAA memorandum of understanding with ATC to keep aircraft on the route as published to the REBAS intersection for published noise abatement purposes unless safety dictates otherwise; and
2. moving the location of REBAS to over the Bay to mitigate noise from concentrated aircraft traffic turning eastward over communities in the Point Richmond area; and
3. adjusting night time hours for noise abatement operations from the current 2200 0700 local time Monday through Saturday, 2200 to 0800 local time on Sunday morning to new night time hours of noise abatement procedures of 2100 – 0800 local time daily, seven days a week for relief as flight curfews are not an option.

REQUESTED INITIAL FAA RESEARCH:

The Forum requests the FAA provide modeling or other tools to determine the effects of different REBAS waypoint location options to best mitigate aircraft noise for the Pt. Richmond area and Marin County on the other side of the Bay.

PROCEDURE: TRUKN TWO DEPARTURE

TRUKN TWO DESCRIPTION:

TRUKN TWO is a new NextGen RNAV departure for eastward bound traffic from SFO. Aircraft from Runways 1L and 1R take off heading 014° to 520 feet in altitude then turn right direct to and cross TYDYE at or above 3000 feet. Aircraft departing off Runways 28L and 28R climb heading 284° to 520 feet in altitude then turn right direct to TRUKN at Oakland Airport. From TRUKN, traffic transitions to GRTFL, DEDHD, HYPEE or COSMC (FIGURE 17).

Prior to NextGen, SFO eastward bound departures were vectored over a wide corridor from Emeryville and southward to San Leandro (Figure 18a). However, flight paths indicate there were some legacy concentrations. NextGen created the new waypoint TRUKN at OAK together with four tracks splayed eastward from the TRUKN waypoint called (from north to south) GRTFL, DEDHD, HYPEE, and COSMC (Figure 18b). Creation of the TRUKN RNAV tracks to handle previously dispersed traffic maintained some of the historical concentrations that residential areas grew and developed under, but significantly shifted and concentrated portions of SFO traffic to new tracks over the topographically highest area of the East Bay where there had previously been no concentration and little SFO traffic. This dramatically and adversely impacted densely populated residential areas including Berkeley, Oakland, and San Leandro. Daytime ambient monitored noise levels are less than 50dBA and typically less than 45dBA in many of these areas.

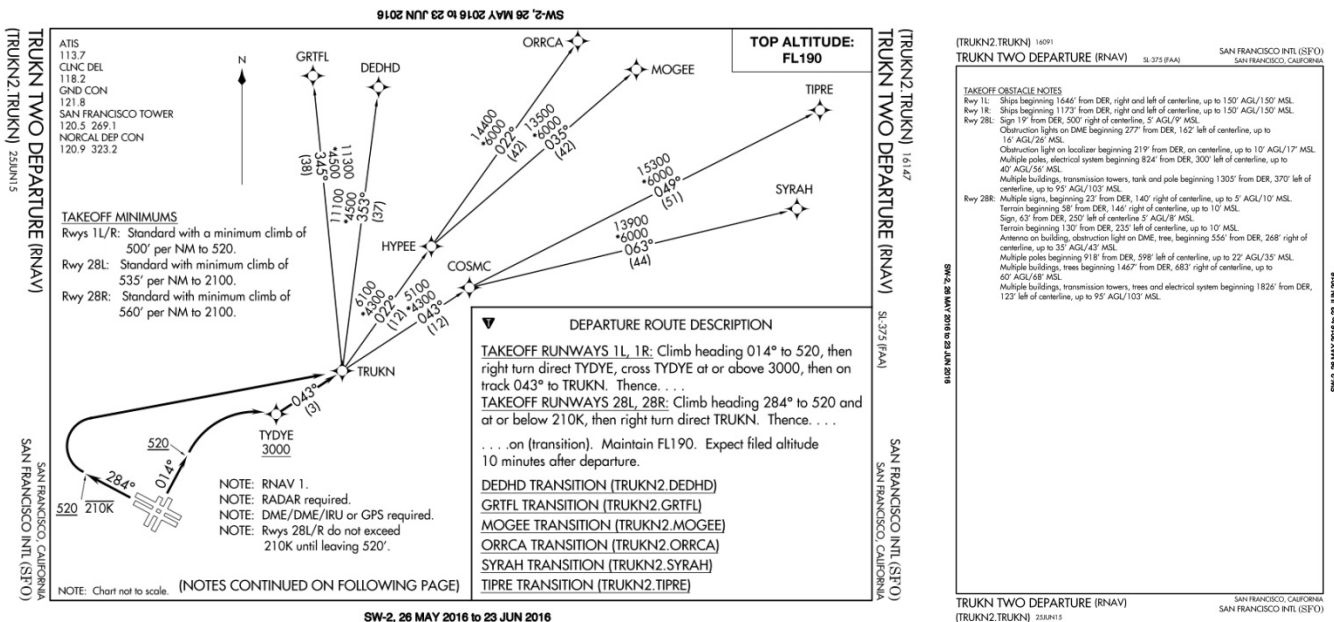


Figure 17. Published TRUKN TWO departure out of SFO.

TRUKN TWO PRIMARY IMPACTED CITIES:

Berkeley, Oakland, San Leandro

TRUKN TWO NOISE ISSUES:

It is useful to examine TRUKN in two sections – a northern area currently encompassing GRTFL and DEDHD and an eastern area encompassing HYPEE and COSMC. In this document, they will informally be referred to as TRUKN North and TRUKN East.

Prior to NextGen, SFO traffic in TRUKN North was vectored over a wide corridor from the San Francisco Bay to the Oakland Hills with the dominant majority of traffic concentrated over an almost due north corridor from Alameda and northward over West Oakland, the City of Piedmont, Berkeley and northwards (Figure 19). The turn northward after departure from SFO was further west over the Bay relative to the current TRUKN waypoint and kept traffic more westward than the current concentrated flight paths along GRTFL and DEDHD (compare Figures 19 and 20). The new procedure turned aircraft at TRUKN and shifted traffic from the Bay eastward. The new NextGen procedure may have also resulted in the lower altitude portions of the climb occurring over land and communities in Alameda, East Oakland and San Leandro instead of the Bay (Figure 18b).

The publication of GRTFL and DEDHD shifted traffic eastward from its historical pattern and concentrated it on two new RNAV tracks over the topographically higher areas of Berkeley and Oakland (Figures 20, 21). These areas now experience dramatic increased aircraft noise resulting from concentrated traffic on these new RNAV tracks where it did not exist prior to NextGen.

Examination of TRUKN East shows that prior to NextGen, SFO departing traffic was concentrated in two distinct corridors roughly corresponding to the NextGen HYPEE and COSMC RNAV tracks. However, there was a significant shift southeastward and concentration of traffic along HYPEE when it was published. This shifting concentrated traffic one mile south and dramatically and adversely increased aircraft noise for residential areas there.

An additional consideration for both TRUKN North and TRUKN East is the proposal in this document to move WNDSR eastward, which has the additional benefit of allowing SFO departures to adopt fuel efficient and noise mitigating ascent profiles in the future that would not be possible with the restrictions that the current WNDSR route imposes.

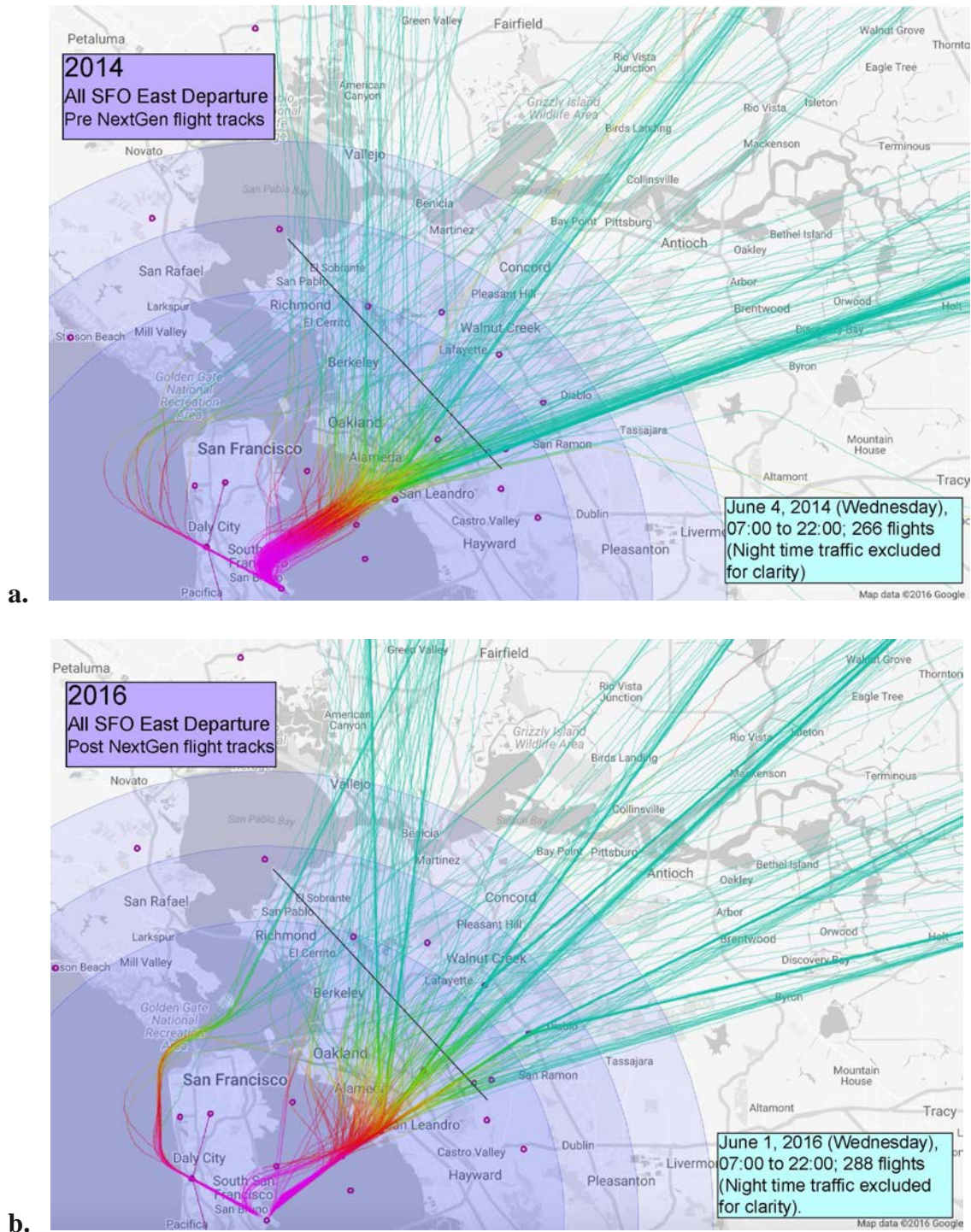


Figure 18. Sample daytime TRUKN North and East SFO departures Pre NextGen (a.) compared to Post NextGen (b.). Pre NextGen traffic was vectored over the area, but does show legacy concentrations to the south (a). Post NextGen traffic in the northern area was shifted eastward and concentrated over East Oakland and the topographically higher East Bay Hills along the new GRTFL and DEDHD tracks. Gradation of color in flight tracks from magenta to red to yellow and then blue represent generalized increases in aircraft altitude. Note: comparing Figure a. to Figure b. indicates that aircraft altitude has decreased over OAK for Post NextGen operations when compared to Pre NextGen operations. This apparent change to the procedure shifted the lower portion of the climb profile from the Bay to communities in Alameda, East Oakland and San Leandro.

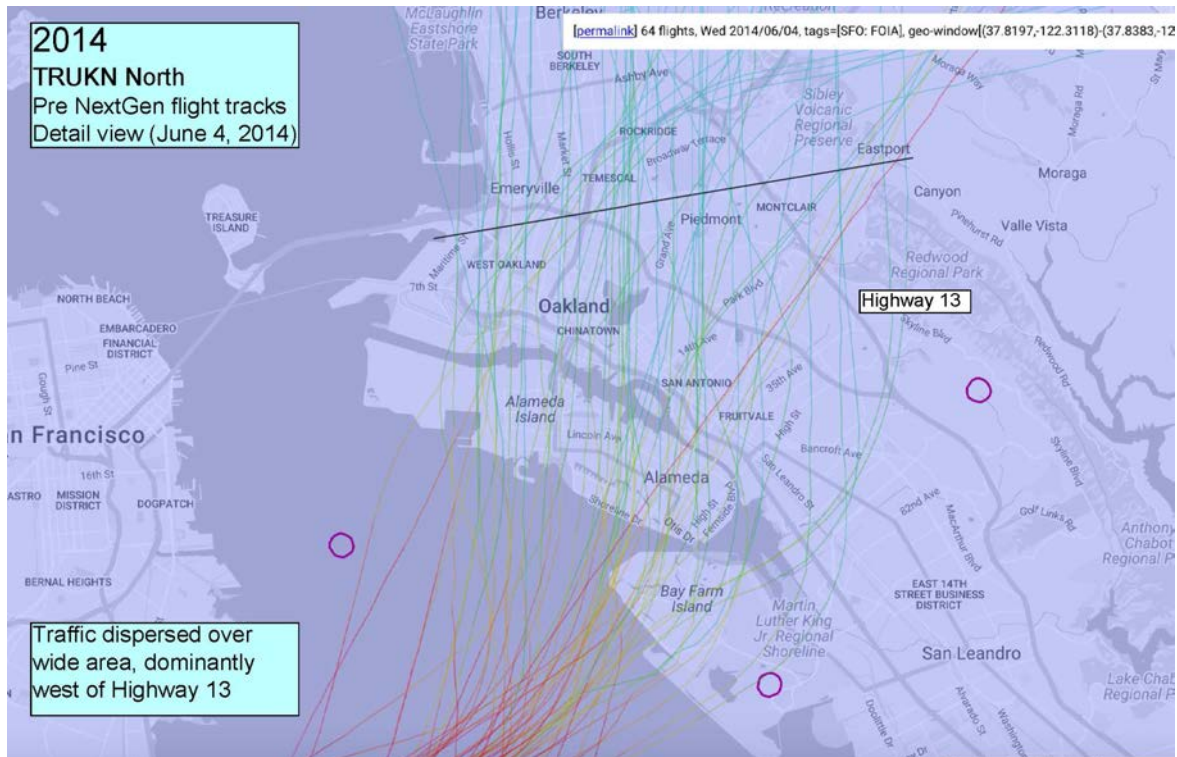


Figure 19: Detailed view of example TRUKN North Pre NextGen flight paths from Wednesday, June 4, 2014. Pre NextGen traffic shows legacy concentration west of Highway 13 and very little traffic east of Highway 13.

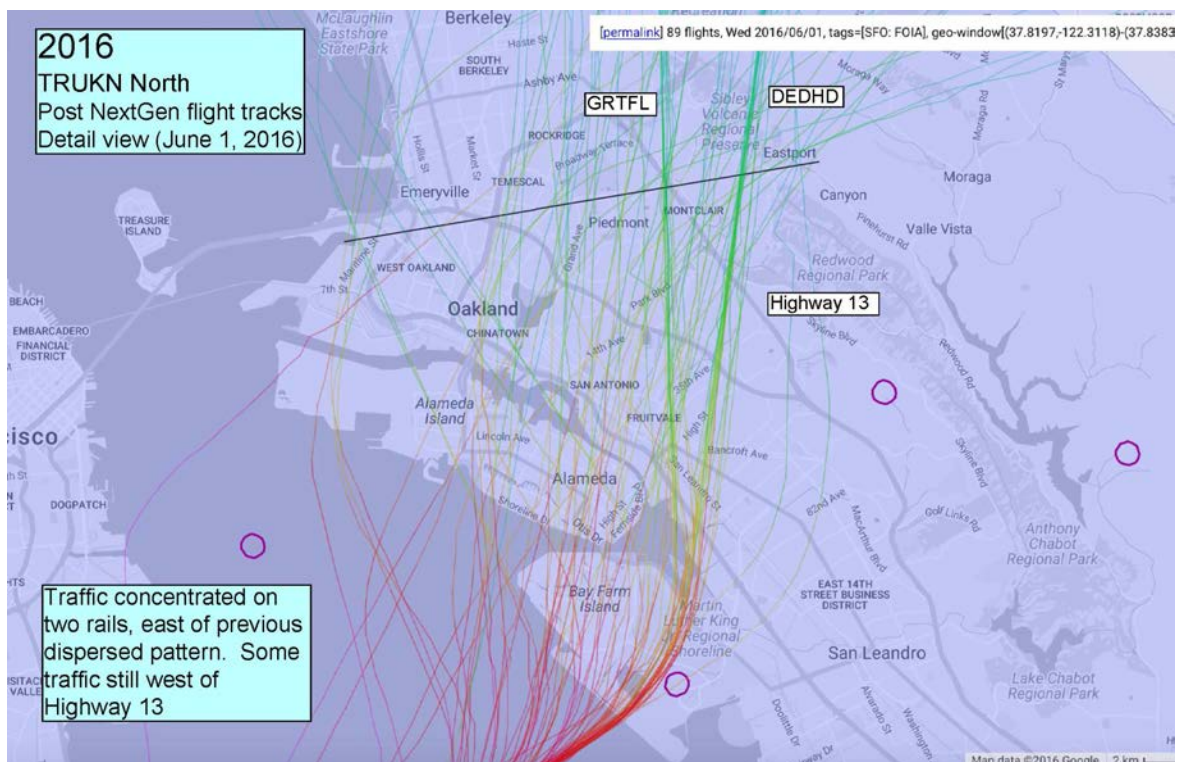


Figure 20: Detailed view of example TRUKN North Post NextGen flight paths on Wednesday, June 1, 2016. Post NextGen traffic pattern shows the new GRTFL and DEDHD tracks significantly shifted and concentrated traffic to eastern Oakland and the topographically higher areas east of Highway 13 where it did not exist prior to NextGen.

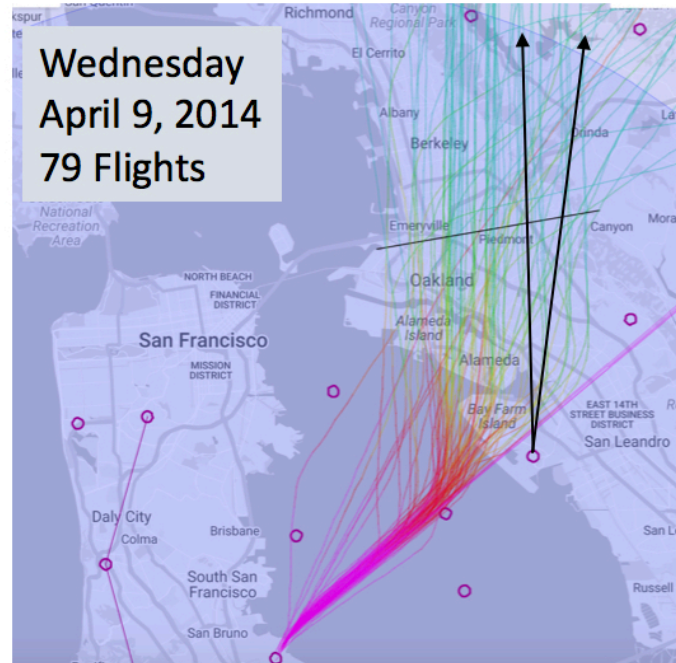
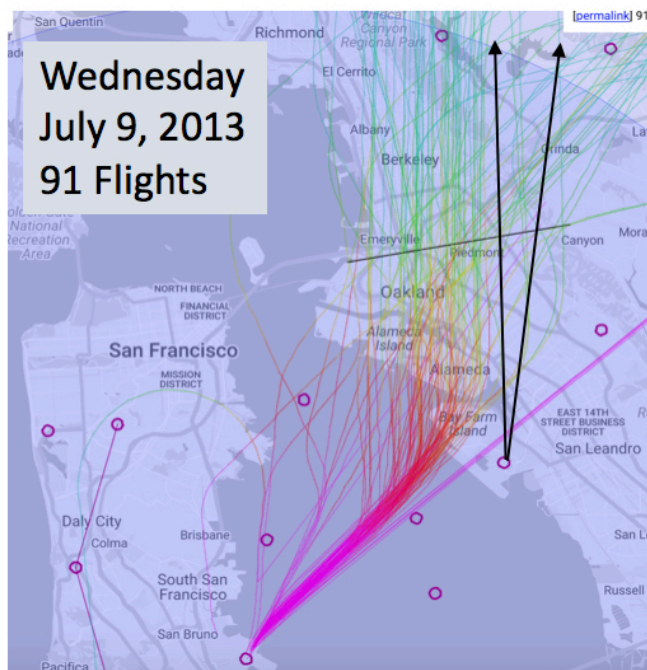


Figure 21. Additional examples of pre NextGen traffic in what would become the TRUKN North area showing most Pre NextGen traffic was well-established west of the current TRUKN North tracks - GRTFL and DEDHD. For comparison purposes, the solid arrows indicate the current TRUKN North tracks GRTFL and DEDHD from the TRUKN waypoint at OAK overlaying Pre NextGen traffic patterns.

TRUKN TWO — NOISE FORUM REQUESTS:

The Forum requests the FAA consider TRUKN proposals in two sections as detailed above – TRUKN North and TRUKN East. The Forum also requests the FAA consider the WNDSR proposals above as part of overall noise mitigation for TRUKN. As detailed above, moving WNDSR TWO has additional significant advantage in that it frees airspace so that SFO departures can eventually use quieter and more fuel efficient continuous climb procedures.

TRUKN TWO NORTH REQUEST:

The Forum requests that the FAA restore the historical traffic concentrations to the topographically lower areas where it existed prior to NextGen and that communities grew and developed under. To accomplish this, the Forum requests the FAA move the current GRTFL and DEDHD tracks westward of Highway 13 and eastern Oakland to reestablish and better restore historical patterns of SFO departing traffic in this area (Figure 22). It is anticipated FAA airspace and noise analyses would modify and identify appropriate adjustments for final tracks to best echo historical traffic patterns.

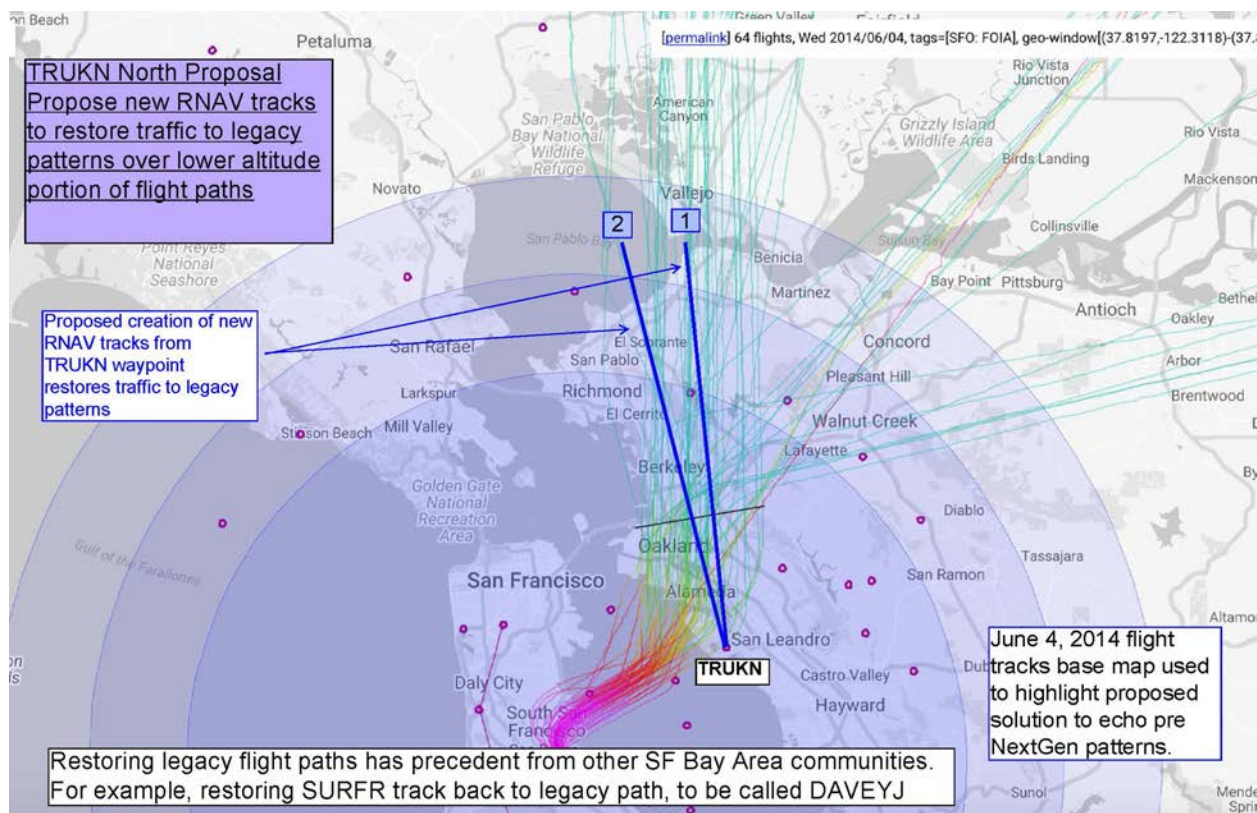


Figure 22. Preferred mitigation proposal to restore traffic patterns to TRUKN North. Figure shows traffic restored by a generalized sample adjustment of tracks westward to echo where traffic was prior to NextGen and under which communities developed and grew. Sample Pre NextGen 2014 flight paths shown to exemplify restoration of previous traffic pattern. Prior to NextGen, aircraft turned northward further west over the Bay which kept traffic over the water during the lowest part of the climb. TRUKN shifted traffic from the water to communities in Alameda, East Oakland and San Leandro. It is anticipated FAA airspace and noise analyses would modify and identify appropriate adjustments for final tracks to best echo historical traffic patterns.

TRUKN TWO EAST

The Forum requests the FAA restore historical traffic concentration to where it existed prior to NextGen and under which communities grew and developed (Figures 23 and 24). To accomplish this, the Forum requests the FAA consider adding a track to the area of the existing COSMC and HYPEE tracks and adjust to better echo legacy concentrations. The Forum additionally requests that the FAA direct Air Traffic Control to vector traffic along all resulting tracks in the TRUKN East area to better echo and restore historical concentration and dispersion of SFO departing traffic until FAA navigation procedures may be able to assign RNAV tracks automatically to simulate historical traffic concentrations along multiple RNAVS.

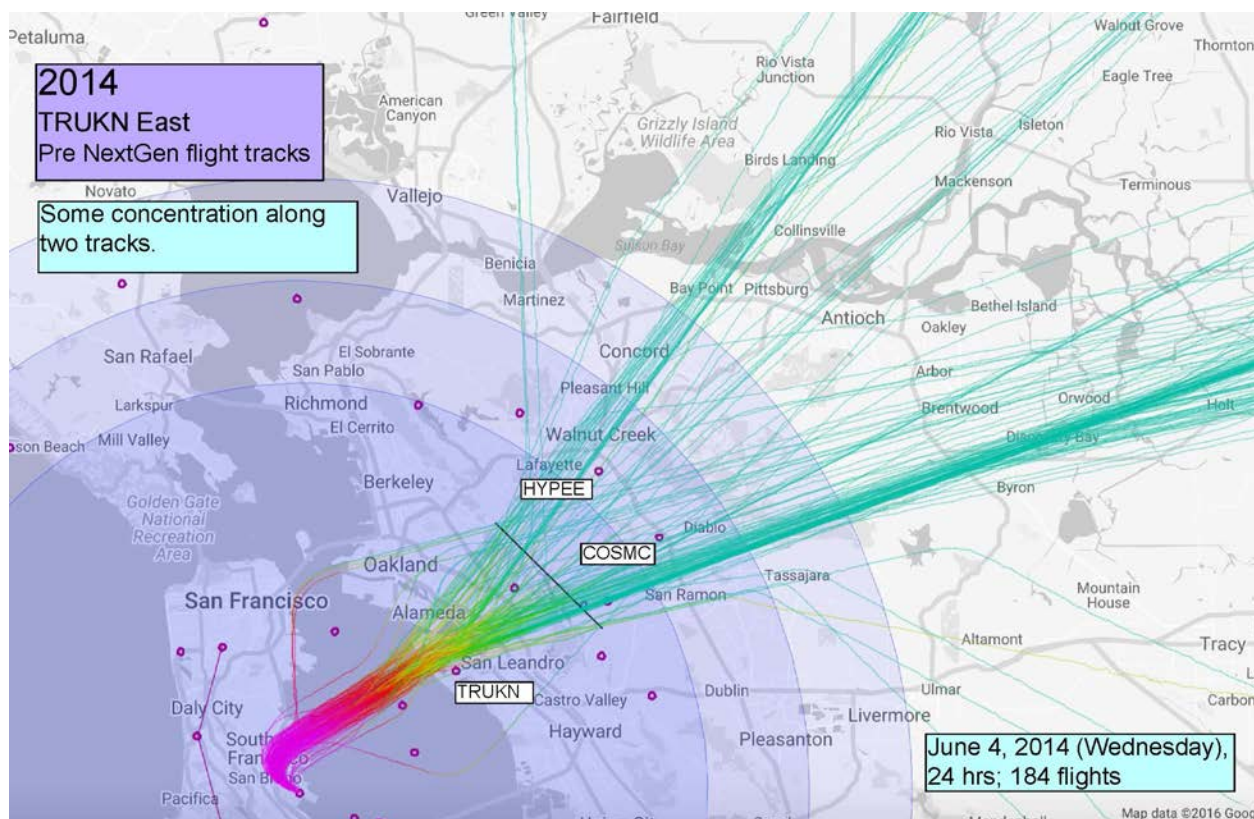


Figure 23. Sample daytime Pre NextGen east SFO departures in what would become TRUKN East after NextGen was implemented. Legacy concentrations did exist prior to NextGen. Current waypoints shown for comparison.

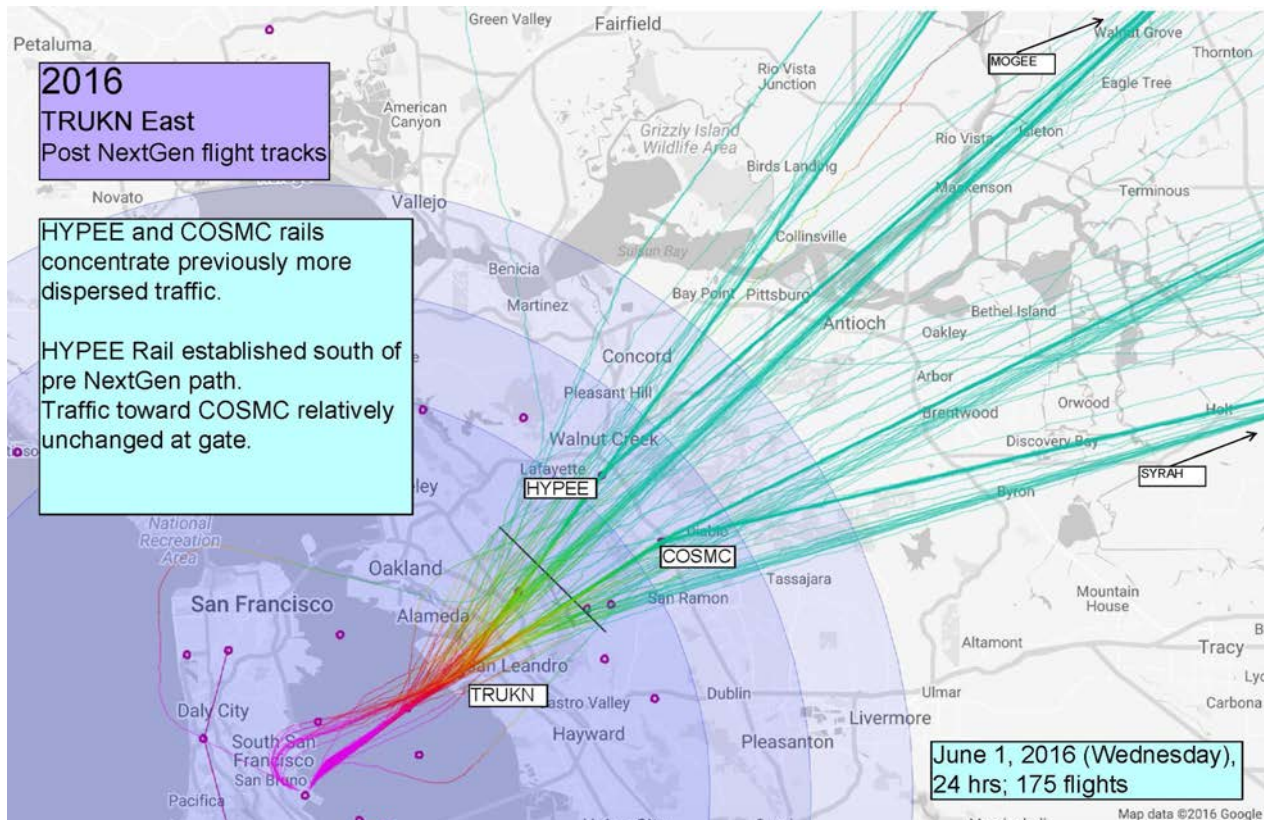


Figure 24. Sample daytime TRUKN East SFO departure traffic patterns (Post NextGen). Legacy concentrations did exist, however, Post NextGen traffic was shifted and concentrated about one mile southward along the new HYPER track (noted as a “rail” in figure). Gradation of color in flight tracks from magenta to red to yellow and then blue represent generalized increases in aircraft altitude. Note altitudes appear to have decreased over OAK Post NextGen when compared to Pre NextGen operations (See Figure 20).

TRUKN TWO REQUESTED FAA RESEARCH:

The Forum requests the FAA investigate for both TRUKN North and TRUKN East:

1. Airspace and noise analyses to identify appropriate adjustments to restore historical traffic patterns and conditions.
2. Analyze if a procedural decrease in altitude over TRUKN exists and whether higher altitudes can be restored.
3. Model how proposed changes will result in noise reduction.
4. If FAA automatic navigation procedures become able to assign RNAV tracks automatically to simulate historic dispersed traffic concentrations and legacy noise conditions experienced on the ground along multiple RNAV's, use the TRUKN procedures to test this capability.

CONCLUSION

The Forum looks forward to a collaborative commitment with the FAA to developing flight path and procedural alternatives to mitigate NextGen noise impacts on the East Bay.

The Forum appreciates that the FAA will undertake airspace and noise modeling for all of the proposals herein and respectfully requests the information from such studies be provided to the Forum. For any proposals that the FAA does not consider preliminarily feasible, the Forum requests the FAA provide specific reasons for such a determination.

Based on the outcome of the initial modeling, analyses and feasibility determinations for NextGen noise mitigation, it is understood that modifications may be made to the proposed procedures and/or airspace or operating procedures. Such analyses may identify additional procedures and/or issues to be addressed. Progress will require ongoing dialogue; therefore, the Forum respectfully requests some level of input and engagement in conversations regarding modifications, amendments and/or new procedures that are determined to be initially feasible and operationally acceptable to mitigate aircraft noise in the East Bay. The Forum requests that modifications and information requests be communicated expeditiously to keep the process moving forward as quickly as possible. The Forum also welcomes any additional mitigation proposals or measures the FAA may introduce for consideration to address aircraft noise issues in Alameda and Contra Costa Counties.

In the event that the Forum identifies additional community concerns during this process, the Forum will address any such concerns during this planning process in supplemental letters and documents to the FAA. The Forum further respectfully requests:

1. specific direction from the FAA for how the process is anticipated to move forward; and
2. an estimated timeline for the process; and
3. information on the means the FAA will employ to evaluate approved flight tracks and procedures for noise impacts on the communities over which they will fly.

Community outreach and education efforts for feasible proposals are still to be determined.

ATTACHMENT A

Alameda County/Contra Costa County Proposals Summary Table

Alameda County/Contra Costa County Proposals Summary Table

for Oakland Airport-Community Noise Management Forum Supplemental Proposals to Revising the Northern California Metrolplex For Alameda County/Contra Costa County

ST = Short Term Task

LT = Long Term Task

OAK= Oakland International Airport

SFO = San Francisco International Airport

Forum = Oakland Airport/Community Noise Management Forum

BFI = Bay Farm Island

ATC = Air Traffic Control

PROCEDURE	LT/ ST	REQUESTED CHANGE	COMMENTS
OAK HUSSH DP	ST	The Forum requests that the Air Traffic Control assign headings to aircraft departing OAK runway 30 that restore the ground track of the prior SILENT SID and make HUSSH a true overlay of the old SILENT track.	The current routing direct HUSSH brings aircraft ground tracks closer to BFI, Harbor Bay, and Alameda resulting in increased noise. The short-term solution would be for ATC to assign headings to aircraft departing OAK runway 30 that restores the initial SILENT ground track. Other issues with the HUSSH departure and proposed solutions are addressed separately in this summary table and detailed in the <i>Supplemental Proposals</i> document.
CONTINUES			

OAK HUSSH DP	LT/ST	<p>The Forum requests that the FAA evaluate the HUSSH procedure and adjust it to replicate the SILENT SID ground track and require aircraft to fly to REBAS unless safety dictates otherwise.</p> <p>The Forum requests the FAA consider the following:</p> <ul style="list-style-type: none"> - moving the HUSSH waypoint southward to facilitate sharper left turns for departures from OAK Runway 30; - secure night time decreased noise levels by issuing an FAA Memorandum of Understanding to ATC that aircraft fly the full HUSSH departure all the way to REBAS intersection for published noise abatement purposes unless safety dictates otherwise; - modifying the location of REBAS over the Bay to mitigate noise at Point Richmond; - adjusting night time hours for noise abatement operations to new night time hours of noise abatement procedures of 2100 – 0800 local time daily, seven days a week; - implement the adjusted HUSSH procedure all the way to REBAS and then onto next fix for all northerly OAK departures from Runway 30, so that the HUSSH DP is in effect 24 hours a day for these flights instead of only at night to decrease the noise burden on the Berkeley and Oakland areas. 	<p>These long-term solutions would enable RNAV equipped aircraft to proceed direct to HUSSH without increasing noise exposure for BFI, Harbor Bay and Alameda residents. In addition, the proposals reduce the considerable noise burden during night- time hours that the current ATC routine of early turns prior to REBAS places on East Bay Hills.</p>
CONTINUES			

OAK WNDSR ARRIVAL	LT	<p>The Forum requests that the current WNDSR TWO flight track be eliminated and the FAA consider options to replace this RNAV to another location that allows for geographically shorter flight paths and quiet, fuel efficient optimized descents into OAK.</p> <p>Alternative One (Preferred): consider establishing the preferred alternative of an OAK arrival RNAV from the Mendocino VOR towards the Santa Rosa VOR then towards RAGGS fix then airway V494 towards EMBER and towards the SHARR fix and joining the MADWIN SIX arrival or direct BANND/TOOOL waypoints for joining the OAKES TWO arrival. Crossover from the PYE navaid routing to the east towards SHARR or BANND/TOOOL waypoints can be accomplished further north in Oakland Center’s airspace at their discretion.</p> <p>Alternative Two: consider establishing an OAK arrival RNAV routing of traffic to the Mendocino VOR towards the the Santa Rosa VOR towards the Concord VOR crossing Concord VOR area at 10,000 feet and then routing down the California Interstate 680 highway corridor to the Oakland Runway 30 final approach (approximating the CCR 155 or 150 degree radial). Establish routing to stay on the California Interstate 680 highway corridor at high altitude to enable a fuel efficient, quieter, reduced power descent approach to OAK.</p>	<p>The WNDSR TWO procedure requires level or nearly level flight under thrust for over 23 nautical miles at altitudes commonly down to 4000 feet MSL along the East Bay Hills, which rise up to 1700 feet MSL. This requires excessive fuel burn and creates excessive particulate emissions. Further, as the ridgeline under WNDSR TWO rises up to 1700 feet MSL, it also results in dramatically concentrated noise impacts to residents of Berkeley and Oakland. An eastward location for OAK arrivals from the north will provide better opportunity for more efficient sequencing into OAK as well. Moving WNDSR TWO would free airspace for departing OAK and SFO traffic and increases safety by reducing potential conflict with OAK arrivals. Moving WNDSR has additional benefits by allowing SFO departures to adopt fuel efficient and noise mitigating ascent profiles in the future that would not be possible with the restrictions that WNDSR imposes.</p>
CONTINUES			

OAK OAKLAND NINE DP/	ST/ LT	The Forum requests that the FAA consider adjusting the OAKLAND NINE SID so that the ground track for this departure is further away from BFI/Alameda. This could be accomplished by directing aircraft departing OAK Runway 30 to turn left to a heading of 280° until reaching the OAK 4 DME arc, then proceeding on the published departure. The Forum requests that aircraft departing on the OAKLAND NINE not be turned eastbound until leaving 5000 feet (as opposed to 3000 feet in the current ATC directed noise mitigation procedures). We also request the FAA consider creating an RNAV departure that replicates the newly proposed OAKLAND NINE above.	The imprecise nature of the OAKLAND NINE departure brings aircraft closer to the BFI/Alameda shoreline than previously and creates excessive noise for BFI, Alameda, and other East Bay communities. The implementation of NextGen technology and procedures as they apply to this departure can be leveraged to provide a solution and bring noise relief to East Bay communities. This proposed adjustment would move aircraft ground tracks and noise contours away from the BFI/Alameda shoreline. It appears that as long as the 2000 ft. hold down restriction remains in place this change would not create a conflict with SFO. departures.
OAK CNDEL THREE DP	ST/ LT	The Forum requests that the FAA consider adjusting the CNDEL THREE departure so that the ground track for this departure is further away from BFI/Alameda. This could be accomplished by directing aircraft departing OAK runway 30 to turn left to a heading of 280° until reaching the OAK 4 DME arc. This OAK 4 DME arc could replace the LEJAY intersection.	This RNAV departure, along with the recent designation of this runway from 29 to 30, is bringing departing aircraft closer to the BFI/Alameda shoreline. This proposed adjustment would move aircraft ground tracks and noise contours away from the BFI/Alameda shoreline. It appears that as long as the 2000 ft. hold down remains in place this change would not create a conflict with SFO departures.
SFO NIITE THREE DP	ST	Request the FAA secure decreased night time noise levels by issuing a Memorandum of Understanding to ATC that directs planes to fly the full NIITE departure to the REBAS intersection for published noise abatement purposes unless safety dictates otherwise; adjust night time hours for noise abatement to new hours of 2100 – 0800 local time daily, seven days a week; move REBAS offshore to mitigate noise for Pt. Richmond area communities.	This procedure was designed for noise abatement and keeps aircraft over the water during the lower portion of the aircraft climb profile during nighttime hours. The overwhelming majority of planes are currently allowed early turns, which place planes at least 1000 to 5000 feet lower in altitude during nighttime hours over densely populated Berkeley, Oakland and others areas. Moving REBAS offshore will be important to have planes turn eastward over water instead of over communities in Pt. Richmond area.
CONTINUES			

<p>SFO TRUKN DP</p>	<p>The Forum requests the FAA consider TRUKN proposals in two sections informally defined as – TRUKN North (encompasses GRTFL and DEDHD) and TRUKN East (encompasses HYPEE and COSMC).</p> <p>TRUKN North: The Forum requests that the FAA restore the historical traffic concentrations in the topographically lower areas where it existed prior to NextGen and under which communities grew and developed. To accomplish this, the Forum requests the FAA move the current GRTFL and DEDHD tracks westward of Highway 13 and eastern Oakland to reestablish and restore historical patterns of SFO departing traffic in this area as the proposed mitigation.</p> <p>TRUKN EAST: The Forum requests the FAA restore historical traffic concentration where it existed prior to NextGen and where communities grew and developed under. To accomplish this, the Forum requests the FAA consider adding a track to the area of the existing COSMC and HYPEE tracks. The Forum additionally requests that the FAA direct Air Traffic Control to vector traffic along all resulting tracks in the TRUKN East area to better echo and restore historical concentration and dispersion of SFO departing traffic.</p>	<p>TRUKN North Comments - Prior to NextGen, SFO traffic in TRUKN North was vectored over a wide corridor from the San Francisco Bay to the Oakland Hills with the dominant majority of traffic concentrated over an almost due north corridor from Alameda and northward over western Oakland, the City of Piedmont, Berkeley and northwards. The turn northward after departure from SFO was further west over the Bay relative to the current TRUKN waypoint and kept traffic more westward than the current concentrated flight paths along GRTFL and DEDHD.</p> <p>TRUKN East Comments - Prior to NextGen, SFO traffic in the TRUKN East area was concentrated in two distinct corridors roughly corresponding to the NextGen HYPEE and COSMC RNAV tracks. However, there was a significant shift southeastward and concentration of traffic along HYPEE when it was published. This shifting and further concentration of traffic one mile south adversely increased noise for residential areas there.</p>
<p>END</p>		

ATTACHMENT B

Resolution No. 86331 C.M.S. Resolution of the Oakland City Council Requesting the Federal Aviation Administration Address Increased Aircraft Noise in Oakland

FILED
OFFICE OF THE CITY CLERK
OAKLAND

16 JUL 27 PM 3:32

Approved as to Form and Legality


City Attorney's Office

OAKLAND CITY COUNCIL

RESOLUTION NO. 86331 C.M.S.

INTRODUCED BY VICE MAYOR ANNIE CAMPBELL WASHINGTON AND
PRESIDENT PRO TEM LARRY REID

RESOLUTION OF THE OAKLAND CITY COUNCIL REQUESTING THE FEDERAL AVIATION ADMINISTRATION ADDRESS INCREASED AIRCRAFT NOISE IN OAKLAND.

WHEREAS, the Federal Aviation Administration (FAA) is implementing a planned transition to the Next Generation Air Transportation System (NextGen) to standardize arrival and departure routes through the use of GPS-based technologies in 21 identified metroplexes, which are regions with multiple airports serving major metropolitan areas where heavy airport activity and environmental constraints combine to hinder the efficient movement of air traffic; and

WHEREAS, the Northern California Metroplex is comprised of four commercial airports, San Francisco International Airport (SFO), Oakland International Airport (OAK), Mineta San Jose International Airport (SJC), and Sacramento International Airport (SMF); and

WHEREAS, as part of the transition to NextGen, the FAA recently changed the flight paths followed by commercial aircraft flying into and out of SFO, OAK, and SJC, as well as other airports in the Northern California Metroplex under a project the FAA calls the Northern California Optimization of Airspace and Procedures in the Metroplex (NorCal OAPM); and

WHEREAS, according to the FAA, the NorCal OAPM consists of new procedures and technologies to establish more direct flight routes intended to improve safety, efficiency, and reduce fuel burn and carbon emissions; and

WHEREAS, modernizing air space using a sophisticated satellite-controlled system and precision flying can embrace FAA goals alongside minimizing and equitably distributing noise impacts experienced on the ground; and

WHEREAS, on July 31, 2014, the FAA issued a Finding of No Significant Impact that NorCal OAPM would not have any significant noise impact on communities and surrounding areas based on sound metrics which did not reflect the true disturbance to the communities on the ground; and

WHEREAS, rather than acting to take advantage of geography and equitably distributing and minimizing the cumulative noise impacts over neighborhoods, the FAA has created great disturbance of certain areas in failing to consider noise and environmental impacts on a per flight basis; and, instead, developing the flawed Net Noise Reduction Method; and

WHEREAS, the new flight paths out of SFO, entitled TRUKN, GRTFL, DEDHD, HYPEE, and COSMC, the new flight path into OAK, entitled WNDSR, and increasing vectored OAK departures are primarily impacting residents of the City of Oakland, in areas including but not limited to Montclair, Piedmont Pines, Merriwood, Forestland, Forest Pool, Shepherd Canyon, Upper Rockridge, Panoramic Hill, Hiller Highlands, Claremont, Allendale, Redwood Heights, Sequoyah Hills, Grand Lake, Laurel, Dimond, Millsmont, Ridgemont, Trestle Glen, Seminary, and Lake Merritt due to the considerable increase in the number of flights overhead each day from narrowed flight corridors, lower flight altitudes, and powered descent procedures resulting in a significant increase in the amount of aircraft noise experienced on the ground; and

WHEREAS, significant environmental impacts created by the new flight paths adversely impact the enjoyment, preservation, and protection of natural, cultural, and scenic resources of the East Bay Regional Park District parklands, trails, and open spaces; and

WHEREAS, as evidenced by the increasing number of complaints received by the City of Oakland City Council and staff, as well as the complaints received by the SFO and OAK Noise Abatement Offices, the new routes have created noise impacts that appear to be far more adverse than those of the former routes for our residents; and

WHEREAS, in February 2015, SFO received an average of 12 noise complaints from Oakland residents, from 12 complainants, but by February 2016, the number of complaints had increased to 1,768, from 17 complainants, and in February 2015, OAK received an average of 6 noise complaints from Oakland residents, from 3 complainants, but by February 2016, the number of complaints had increased to 3,485 from 89 complainants; now, therefore be it

RESOLVED: That the Oakland City Council requests the FAA immediately mitigate the increased aircraft noise at ground level in Oakland caused by the NorCal OAPM project by expeditiously identifying all short- and long-term solutions and the expected timetable for their implementation and directs the City of Oakland's federal lobbyists to take action in furtherance of the goals stated in this resolution; and be it

FURTHER RESOLVED: That the Oakland City Council requests the FAA, as part of the above analysis of aircraft noise mitigation measures, consider the immediate solutions of raising altitudes on the SFO departure flight paths from TRUKN, vector a portion of SFO departures from TRUKN to disperse flights more equitably, vector a portion of OAK arrivals along WNDSR to echo previous dispersed flight paths, reduce OAK departures over the East Bay hills, work to reduce cargo flights over the East Bay

hills as these operations use noisier aircraft, and, as part of the longer-term solutions, consider a redesign of the flight paths within the Northern California Metroplex to disperse flights equitably, minimize single-event overflight noise, use continuous descent approaches, and take advantage of the Bay as a flight corridor provided, however, that such efforts shall not include "noise shifting," i.e., simply moving the noise from one community to another; and be it

FURTHER RESOLVED: That the Oakland City Council requests that the Congress of the United States amend the FAA Modernization and Reform Act to eliminate the availability of a categorical exclusion and bar the presumption of no significant impact on the quality of the human environment that currently applies to navigation performance and performance based navigation (PBN) procedures; and be it

FURTHER RESOLVED: That the Oakland City Council requests that the Congress of the United States implement statutory changes to the FAA that require more robust and substantive community engagement before flight paths are changed, more accurate measures using updated metrics and full spectrum acoustic impacts of aviation noise experienced on the ground and independent research on the health and environmental impacts of aviation noise, and requirements that the FAA take such research into account when making decisions regarding airspace design; and be it

FURTHER RESOLVED: That the Oakland City Council requests that the FAA continue to meet in good faith with community representatives and impacted residents from Oakland to further discuss and address these matters; and be it

FURTHER RESOLVED: That copies of this resolution be distributed to the offices of the members of the Bay Area Congressional Delegation, the Oakland Airport Community Noise Management Forum, and the offices of United States Senators Dianne Feinstein and Barbara Boxer.

IN COUNCIL, OAKLAND, CALIFORNIA,

JUL 26 2016

PASSED BY THE FOLLOWING VOTE:

AYES - BROOKS, CAMPBELL-WASHINGTON, GALLO, GUILLÉN, KALB, KAPLAN, REID AND
PRESIDENT GIBSON MCELHANEY - 8

NOES - 0

ABSENT - 0

ABSTENTION - 0

ATTEST:



LATONDA SIMMONS

City Clerk and Clerk of the Council of the
City of Oakland, California

ATTACHMENT C

**Resolution No. 67,692-N.S. Requesting the Federal Aviation Administration to Address
Increased Aircraft Noise in Berkeley**

RESOLUTION NO. 67,692–N.S.

REQUESTING THE FEDERAL AVIATION ADMINISTRATION TO ADDRESS
INCREASED AIRCRAFT NOISE IN BERKELEY

WHEREAS, the Federal Aviation Administration (FAA) is implementing a planned transition to the Next Generation Air Transportation System (NextGen) to standardize arrival and departure routes through the use of GPSbased technologies in 21 identified metroplexes, which are regions with multiple airports serving major metropolitan areas where heavy airport activity and environmental constraints combine to hinder the efficient movement of air traffic; and

WHEREAS, the Northern California Metroplex is comprised of four commercial airports, San Francisco International Airport (SFO), Oakland International Airport (OAK), Mineta San Jose International Airport (SJC), and Sacramento International Airport (SMF); and

WHEREAS, as part of the transition to NextGen, the FAA recently changed the flight paths followed by commercial aircraft flying into and out of SFO, OAK, and SJC, as well as other airports in the Northern California Metroplex under a project the FAA calls the Northern California Optimization of Airspace and Procedures in the Metroplex (NorCal OAPM); and

WHEREAS, according to the FAA, the NorCal OAPM consists of new procedures and technologies to establish more direct flight routes intended to improve safety, efficiency, and reduce fuel burn and carbon emissions; and

WHEREAS, modernizing air space using a sophisticated satellite controlled system and precision flying can embrace FAA goals alongside minimizing and equitably distributing noise impacts experienced on the ground; and

WHEREAS, on July 31, 2014, the FAA issued a Finding of No Significant Impact that NorCal OAPM would not have any significant noise impact on communities and surrounding areas based on sound metrics which did not reflect the true disturbance to the communities on the ground; and

WHEREAS, rather than acting to take advantage of geography and equitably distributing and minimizing the cumulative noise impacts over neighborhoods, the FAA has created great disturbance of certain areas in failing to consider noise and environmental impacts on a per flight basis; and, instead, developing the flawed Net Noise Reduction Method; and

WHEREAS, the new flight paths out of SFO, entitled TRUKN, GRTFL, DEDHD, HYPEE, and COSMO, the new flight path into OAK, entitled WNDSR, and increasing vectored OAK departures are impacting residents of the City of Berkeley, especially along the Berkeley hills due to the considerable increase in the number of flights overhead each day from narrowed flight corridors, lower flight altitudes, and powered descent procedures resulting in a significant increase in the amount of aircraft noise experienced on the ground; and

WHEREAS, significant environmental impacts created by the new flight paths adversely impact the enjoyment, preservation, and protection of natural, cultural, and scenic resources of the East Bay Regional Park District parklands, trails, and open spaces; and

WHEREAS, as evidenced by the increasing number of complaints received by the City of Berkeley City Council and staff, as well as the complaints received by the SFO and OAK Noise Abatement Offices, the new routes have created noise impacts that appear to be far more adverse than those of the former routes for our residents.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that it hereby requests the FAA immediately mitigate the increased aircraft noise at ground level in Berkeley caused by the NorCal OAPM project by expeditiously identifying all short and long-term solutions and the expected timetable for their implementation.

BE IT FURTHER RESOLVED that the Berkeley City Council requests the FAA, as part of the above analysis of aircraft noise mitigation measures, consider the immediate solutions of raising altitudes on the SFO departure flight paths from TRUKN, vector a portion of SFO departures from TRUKN to disperse flights more equitably, vector a portion of OAK arrivals along WNSR to echo previous dispersed flight paths, reduce OAK departures over the East Bay hills, work to reduce cargo flights over the East Bay hills as these operations use noisier aircraft, and, as part of the longer-term solutions, consider a redesign of the flight paths within the Northern California Metroplex to disperse flights equitably, minimize single event overflight noise, use continuous descent approaches, and take advantage of the Bay as a flight corridor provided, however, that such efforts shall not include "noise shifting," i.e., simply moving the noise from one community to another.

BE IT FURTHER RESOLVED that the Berkeley City Council requests that the Congress of the United States amend the FAA Modernization and Reform Act to eliminate the availability of a categorical exclusion and bar the presumption of no significant impact on the quality of the human environment that currently applies to navigation performance and performance based navigation (PBN) procedures.

BE IT FURTHER RESOLVED that the Berkeley City Council requests that the Congress of the United States implement statutory changes to the FAA that require more robust and substantive community engagement before flight paths are changed, more accurate measures using updated metrics and full spectrum acoustic impacts of aviation noise experienced on the ground and independent research on the health and environmental impacts of aviation noise, and requirements that the FAA take such research into account when making decisions regarding airspace design.

BE IT FURTHER RESOLVED that the Berkeley City Council requests that the FAA continue to meet in good faith with community representatives and impacted residents from Berkeley to further discuss and address these matters.

BE IT FURTHER RESOLVED that copies of this resolution be distributed to the offices of the members of the Bay Area Congressional Delegation, the Oakland Airport Community Noise Management Forum, and the offices of United States Senators Dianne Feinstein and Barbara Boxer.

The foregoing Resolution was adopted by the Berkeley City Council on September 27, 2016 by the following vote:


Ayes: Arreguin, Capitelli, Droste, Maio, Wengraf, Worthington and Bates.

Noes: None.

Absent: Anderson and Moore.



Tom Bates, Mayor

Attest: 

Mark Numaihville, City Clerk

ATTACHMENT D

**City of Alameda Resolution No. 15241 Requesting the Federal Aviation Administration to
Address Increased Aircraft Noise in Alameda**

CITY OF ALAMEDA RESOLUTION NO. 15241

REQUESTING THE FEDERAL AVIATION ADMINISTRATION TO
ADDRESS INCREASED AIRCRAFT NOISE IN ALAMEDA

WHEREAS, the Federal Aviation Administration (FAA) is implementing a planned transition to the Next Generation Air Transportation System (NextGen) to standardize arrival and departure routes through the use of GPS based technologies in 21 identified metroplexes, which are regions with multiple airports serving major metropolitan areas where heavy airport activity and environmental constraints combine to hinder the efficient movement of air traffic; and

WHEREAS, the Northern California Metroplex is comprised of four commercial airports, San Francisco International Airport (SFO), Oakland International Airport (OAK), Mineta San Jose International Airport (SJC), and Sacramento International Airport (SMF); and

WHEREAS, as part of the transition to NextGen, the FAA recently changed the flight paths followed by commercial aircraft flying into and out of OAK, SFO, and SJC, as well as other airports in the Northern California Metroplex under a project the FAA calls the Northern California Optimization of Airspace and Procedures in the Metroplex (NorCal OAPM); and

WHEREAS, according to the FAA, the NorCal OAPM consists of new procedures and technologies to establish more direct flight routes intended to improve safety, efficiency, and reduce fuel burn and carbon emissions; and

WHEREAS, modernizing air space using a sophisticated satellite controlled system and precision flying can embrace FAA goals alongside minimizing and equitably distributing noise impacts experienced on the ground; and

WHEREAS, on July 31, 2014, the FAA issued a Finding of No Significant Impact that NorCal OAPM would not have any significant noise impact on communities and surrounding areas based on sound metrics which did not reflect the true disturbance to the communities on the ground; and

WHEREAS, the new flight paths out of OAK entitled HUSSH and CNDEL; the existing flight path out of OAK entitled OAKLAND NINE; new flight paths out of SFO, entitled TRUKN, GRTFL, DEDHD, HYPEE, and COSMO; and increasing vectored OAK departures are impacting residents of the City of Alameda; and

WHEREAS, significant environmental impacts created by the new flight paths adversely impact the enjoyment, preservation, and protection of natural, cultural, and scenic resources along the Alameda Shoreline; and

WHEREAS, as evidenced by the increasing number of complaints received by the City of Alameda, as well as the complaints received by the OAK and SFO Noise Abatement Offices, the new routes have created noise impacts that appear to be far more adverse than those of the former routes for our residents; and

WHEREAS, on October 19, 2016, FAA Western-Pacific Regional Administrator Glen A. Martin announced at the OAK Noise Management Forum that possible resolution to Alameda concerns could come in six to eight months.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Alameda that it hereby requests the FAA's commitment to mitigate the increased aircraft noise at ground level in Alameda caused by the NorCal OAPM project by expeditiously identifying all short and long-term solutions and the expected timetable for their implementation; and

BE IT FURTHER RESOLVED that the Alameda City Council requests the FAA, as part of the above analysis of aircraft noise mitigation measures, consider the expeditious solution of adjusting the HUSSH procedure to be identical to the prior SILENT procedure, and, as part of the longer-term solutions, consider a redesign of the flight paths within the Northern California Metroplex to disperse flights equitably, minimize single event overflight noise, and take advantage of the Bay as a flight corridor provided, however, that such efforts shall not include "noise shifting," i.e., simply moving the noise from one community to another; and

BE IT FURTHER RESOLVED that the Alameda City Council requests that the Congress of the United States amend the FAA Modernization and Reform Act to eliminate the availability of a categorical exclusion and bar the presumption of no significant impact on the quality of the human environment that currently applies to navigation performance and performance based navigation (PBN) procedures; and

BE IT FURTHER RESOLVED that the Alameda City Council requests that the Congress of the United States implement statutory changes to the FAA that require more robust and substantive community engagement before flight paths are changed, more accurate measures using updated metrics and full spectrum acoustic impacts of aviation noise experienced on the ground and independent research on the health and environmental impacts of aviation noise, and requirements that the FAA take such research into account when making decisions regarding airspace design; and

BE IT FURTHER RESOLVED that the Alameda City Council requests that the FAA continue to meet in good faith with community representatives and impacted residents from Alameda to further discuss and address these matters; and

BE IT FURTHER RESOLVED to consider and implement recommendations set forth by the OAK Noise Management Forum on January 18, 2017 requesting the FAA to address increased aircraft noise; and

BE IT FURTHER RESOLVED that copies of this resolution be distributed to the offices of the members of the Bay Area Congressional Delegation, the Oakland Airport Community Noise Management Forum, the offices of United States Senators Dianne Feinstein and Kamala Harris, and the office of U.S. Representative Barbara Lee.

I, the undersigned, hereby certify that the foregoing Resolution was duly and regularly adopted and passed by the Council of the City of Alameda in a regular meeting assembled on the 7th day of March 2017, by the following vote to wit:

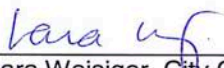
AYES: Councilmembers Ezzy Ashcraft, Matarrese, Oddie, Vella and Mayor Spencer – 5.

NOES: None.

ABSENT: None.

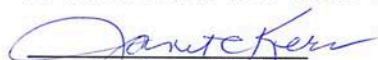
ABSTENTIONS: None.

IN WITNESS, WHEREOF, I have hereunto set my hand and affixed the seal of said City this 8th day of March 2017.



Lara Weisiger, City Clerk
City of Alameda

APPROVED AS TO FORM:



Janet C. Kern, City Attorney
City of Alameda

ATTACHMENT E

**Supervisor Nate Miley Alameda County District 4 - Letter of Support for Oakland Airport
– Community Noise Management Forum Recommendations to Adjust/Revise Metroplex
Procedures Affecting East Bay Communities**



Oakland Office
1221 Oak Street, Suite 536
Oakland, CA 94612
510-272-6694/510-465-7628 Facsimile

Eden Area District Office
20980 Redwood Road, Suite 250
Castro Valley, CA 94546
510-670-5717/510-537-7289 Facsimile

Pleasanton District Office
4501 Pleasanton Avenue, 2nd Floor
Pleasanton, CA 94566
925-803-7959

district4@acgov.org

Board of Supervisors

Nathan A. Miley
Supervisor, District 4

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

February 28, 2017

Re: Oakland Airport-Community Noise Management Forum Recommendations to Adjust/Revise Metroplex Procedures Affecting East Bay Communities

Dear Administrator Roberts,

I support the Supplemental Proposals to Revising the Northern California Metroplex for Alameda County/Contra Costa County submitted to the FAA by the Oakland Airport-Community Noise Management Forum (Noise Forum).

The proposals are designed to modify certain published flight paths and procedures to mitigate community noise concerns resulting from the implementation of the Next Generation Air Transportation System (NextGen) in the East Bay region of the San Francisco Bay Area. They were produced by a special Noise Forum NextGen Subcommittee tasked with developing reasonable proposals that: maintain and increase aviation safety, respect and improve efficient fuel and airspace use, and create a fairer distribution of noise. The proposals received unanimous support at the January 18, 2017 Noise Forum meeting. This letter is written in support of the Noise Forum's actions of January 18th.

Since NextGen flight paths and procedures were implemented in the area I represent as the County Supervisor, my office has received a significant number of complaints from Oakland communities impacted by dramatic increases in concentrated air traffic and noise pollution. While I acknowledge the importance of NextGen initiatives to modernize our national airspace, I also believe that the goals of this program can be met without sacrificing the health and well-being of our communities.

I appreciate your efforts and willingness to work with the Noise Forum to attend to our residents' noise concerns. I look forward to a full commitment on the part of the FAA in the development of mitigating noise abatement alternatives for our communities. I respectfully request that my office be kept informed of progress as this process moves forward.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Nate Miley".

Nate Miley, Supervisor
Alameda County District 4

Attachment E

Alameda County Supervisor Nate Miley Letter of Support

Page 2

cc:

Senator Dianne Feinstein

Senator Kamala Harris

Congresswoman Barbara Lee

Congressman Mark DeSaulnier

Congressman Eric Swalwell

Oakland Mayor Libby Schaaf

Oakland City Councilmembers

Mike McClintock, Forum Facilitator, OAK Noise Forum

Cliff Lentz, President, SFO Roundtable

Glen A. Martin, Vice President, Air Traffic Services, FAA

ATTACHMENT F

**City of Oakland - Letter of Support for Oakland Airport – Community Noise Management
Forum Recommendations to Adjust/Revise Metroplex Procedures Affecting East Bay
Communities**

CITY OF OAKLAND



CITY HALL • 1 FRANK H. OGAWA PLAZA • OAKLAND, CALIFORNIA 94612

City Council

(510) 238-3266
TDD: (510) 238-7413
FAX (510) 238-6129

February 27, 2017

Via U.S. Postal Service

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

Re: Oakland Airport-Community Noise Management Forum Recommendations to
Adjust/Revise Metroplex Procedures Affecting East Bay Communities

Dear Administrator Roberts,

I am writing this letter to inform you of the City of Oakland's support of the *Supplemental Proposals to Revising the Northern California Metroplex For Alameda County/Contra Costa County* submitted to the FAA by the Oakland Airport-Community Noise Management Forum (Noise Forum).

The proposals are designed to modify certain published flight paths and procedures to mitigate community noise concerns resulting from the implementation of the Next Generation Air Transportation System (NextGen) in the East Bay region of the San Francisco Bay Area. They were produced by a special Noise Forum NextGen Subcommittee tasked with developing reasonable proposals that: maintain and *increase* aviation safety, respect and *improve* efficient fuel and airspace use, and create a *fairer* distribution of noise. The proposals received unanimous support at the January 18, 2017 Noise Forum meeting. This letter is written in support of the Noise Forum's actions of January 18th.

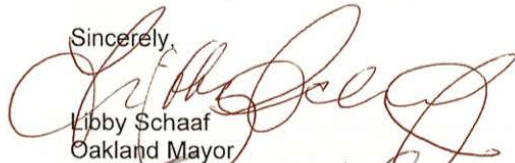
Since NextGen flight paths and procedures were implemented in our area, my office has received a significant number of complaints from Oakland communities impacted by dramatic increases in concentrated air traffic and noise pollution. While the City of Oakland acknowledges the importance of NextGen initiatives to modernize our national airspace, we also believe that the goals of this program can be met without sacrificing the health and well-being of our communities.

In support of our residents, the Oakland City Council unanimously adopted Resolution No. 86331 C.M.S. on July 26, 2016, urging the FAA to immediately address and mitigate increased noise from aircraft in Oakland as a result of NextGen implementation (see attached). We appreciate your efforts and willingness to work with the Noise Forum to attend to our residents' noise concerns.

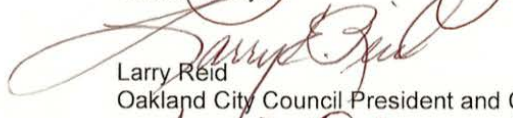
The City of Oakland looks forward to a full commitment on the part of the FAA in the development of mitigating noise abatement alternatives for our communities. We respectfully request that our office be kept informed of progress as this process moves forward.

Thank you for your consideration.


Sincerely,



Libby Schaaf
Oakland Mayor



Larry Reid
Oakland City Council President and City Councilmember, District 7



Annie Campbell Washington
Oakland Vice Mayor and City Councilmember, District 4

Enclosure:
Resolution No. 86331 C.M.S.

cc:
Senator Dianne Feinstein
Senator Kamala Harris
Congresswoman Barbara Lee
Congressman Mark DeSaulnier
Congressman Eric Swalwell
Alameda County Supervisor Nate Miley
Oakland City Councilmembers
Mike McClintock, Forum Facilitator, OAK Noise Forum
Cliff Lentz, President, SFO Roundtable
Dennis Roberts, FAA Western-Pacific Regional Administrator
Glen A. Martin, Vice President, Air Traffic Services, FAA

ATTACHMENT G

City of San Leandro

**Resolution No. 2017-029 Resolution Supporting Recommendations to the Federal Aviation
Administration for Revisions to the Northern California Metroplex Procedures**

IN THE CITY COUNCIL OF THE CITY OF SAN LEANDRO

RESOLUTION NO. 2017-029

**RESOLUTION SUPPORTING RECOMMENDATIONS TO THE FEDERAL AVIATION
ADMINISTRATION FOR REVISIONS TO THE NORTHERN CALIFORNIA
METROPLEX PROCEDURES**

WHEREAS, the Federal Aviation Administration (FAA) has implemented a transition to the Metroplex Air Transportation System (also known as NextGen) to standardize arrival and departure routes through the use of GPS-based technologies within the Northern California region; and

WHEREAS, as part of the transition to Metroplex, the FAA changed the flight paths followed by commercial aircraft flying into and out of the San Francisco (SFO) and Oakland (OAK) International Airports, as well as other airports in the Northern California Metroplex; and

WHEREAS, since implementation of Metroplex, the new flight paths out of SFO and into OAK and other airports have created environmental impacts in communities in Alameda and Contra Costa Counties, including in particular San Leandro, Oakland, and Berkeley; and

WHEREAS, the Oakland Airport/Community Noise Management Forum (Noise Forum), a collective body of East Bay communities committed to studying and resolving aviation concerns, developed Supplemental Proposals to Revising the Northern California Metroplex for Alameda County/Contra Costa County (Supplemental Proposals) in order to identify new flight paths and procedures to address newly created impacts on East Bay communities; and

WHEREAS, the Noise Forum is submitting the Supplemental Proposals to the FAA, asking that the FAA work with the Noise Forum to analyze and study the Supplemental Proposals expeditiously to find equitable resolutions to the environmental impacts created by Metroplex.

NOW, THEREFORE, the City Council of the City of San Leandro does RESOLVE as follows:

1. To request that the FAA immediately begin an analysis of the Supplemental Proposals submitted by the Noise Forum and work with the Noise Forum and other regional bodies to modify Metroplex to reduce noise and environmental impacts throughout the region; and
2. To distribute copies of this resolution to the offices of the members of the Bay Area Congressional Delegation and ask that they encourage the FAA to address the affected communities' concerns and the noise and environmental impacts created by the implementation

of the Northern California Metroplex.

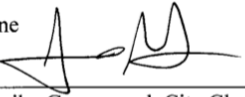
Introduced by Councilmember Lee and passed and adopted this 6th day of March, 2017, by the following vote:

Members of the Council:

AYES: Councilmembers Ballew, Cox, Hernandez, Lee, Lopez, Thomas;
Mayor Cutter (7)

NOES: None (0)

ABSENT: None (0)

ATTEST: 

Tamika Greenwood, City Clerk

