



Meeting Announcement

Technical Working Group

January 18, 2023
3:30 p.m. – 5:00 p.m.
VIA HYBRID ACCESS

Foster City Council Chambers Conference Room
620 Foster City Blvd. – Foster City, CA 94404

Public may also join the webinar:

<https://smcgov.zoom.us/j/91896617186>

Or Dial-in:

US: +(669)900-6833 Webinar ID: 918 9661 7186

This meeting of the Technical Working Group (TWG) will be in person at the above-mentioned address. Members of the public will be able to participate in the meeting remotely via the Zoom platform or in person at 620 Foster City Boulevard, Foster City, CA 94404. For information regarding how to participate in the meeting, either in person or remotely, please refer to instructions at the end of the agenda.

HYBRID PUBLIC PARTICIPATION:

List of attendees (using zoom sign-in credentials) will be displayed periodically throughout the meeting.

The TWG Subcommittee meeting may be accessed through the above-mentioned Zoom webinar. Members of the public may also attend this meeting physically in the Foster City Council Chambers Conference Room at 620 Foster City Blvd. Foster City, CA 94404.

*Written public comments can be emailed to SFORoundtable@smcgov.org and should include the specific agenda item to which you are commenting.

*Spoken public comments will also be accepted during the meeting in-person or via Zoom on Items NOT on the Agenda and for each Agenda Item at the option of the speaker.

**Please see instructions for written and spoken comments at the end of this agenda.

ADA Requests

Individuals who require special assistance or a disability-related modification or accommodation to participate in this meeting, or who have a disability and wish to request an alternative format for the agenda packet or other writings that may be distributed at the meeting, should contact SFO Roundtable Staff at SFORoundtable@smcgov.org as early as possible but no later than 10:00am the day before the meeting at Notification in advance of the meeting will enable Staff to make reasonable arrangements to ensure accessibility to this meeting, the materials related to it, and your ability to comment.

AGENDA

Call to Order

Public Comment on Items NOT on the Agenda

REGULAR AGENDA

1. Performance Based Navigation and Environmental Processes

Joseph Bert, Team Manager, FAA Western Service Center

Attachment: Performance Based Navigation and Environmental Processes

2. Flight Procedures, Flight Tracks & Airport Director's Report Data

Bert Ganoung, SFO, Aircraft Noise Office Manager

Attachment: Airport Director's Report, SFO Layout, Arrivals & Departures Presentation

3. Adjourn

**Instructions for Public Comment during Videoconference Meeting

During the TWG Subcommittee hybrid meeting, members of the public may address the Membership as follows:

Written Comments:

Written public comments may be emailed in advance of the meeting. Please read the following instructions carefully:

1. Your written comment should be emailed to SFORoundtable@smcgov.org
2. Your email should include the specific agenda item on which you are commenting.
3. Members of the public are limited to one comment per agenda item.
4. The length of the emailed comment should be commensurate with two minutes customarily allowed for verbal comments, which is approximately 250-300 words.
5. If your emailed comment is received by 5:00 pm on the day before the meeting, it will be provided to the Roundtable and made publicly available on the agenda website under the specific item to which comment pertains. The Roundtable will make every effort to read emails received after that time but cannot guarantee such emails will be read during the meeting, although such emails will still be included in the administrative record.

Spoken Comments:

In-person Participation:

1. If you wish to speak to the Membership, please fill out a speaker's slip located at the entrance. If you have anything you wish distributed to the Membership and included in the official record, please hand it to the Clerk who will distribute the information to the Membership and Staff.

Via Teleconference (Zoom):

1. The TWG Subcommittee meeting may be accessed through Zoom online at <https://smcgov.zoom.us/j/91896617186> Webinar ID: 918 9661 7186. The meeting may also be accessed via telephone by dialing in +1-669-900-6833, entering webinar then press #.
2. Members of the public can also attend this meeting physically in the Foster City Council Chambers Conference Room at 620 Foster City Blvd, Foster City, CA 94404.

Technical Working Group

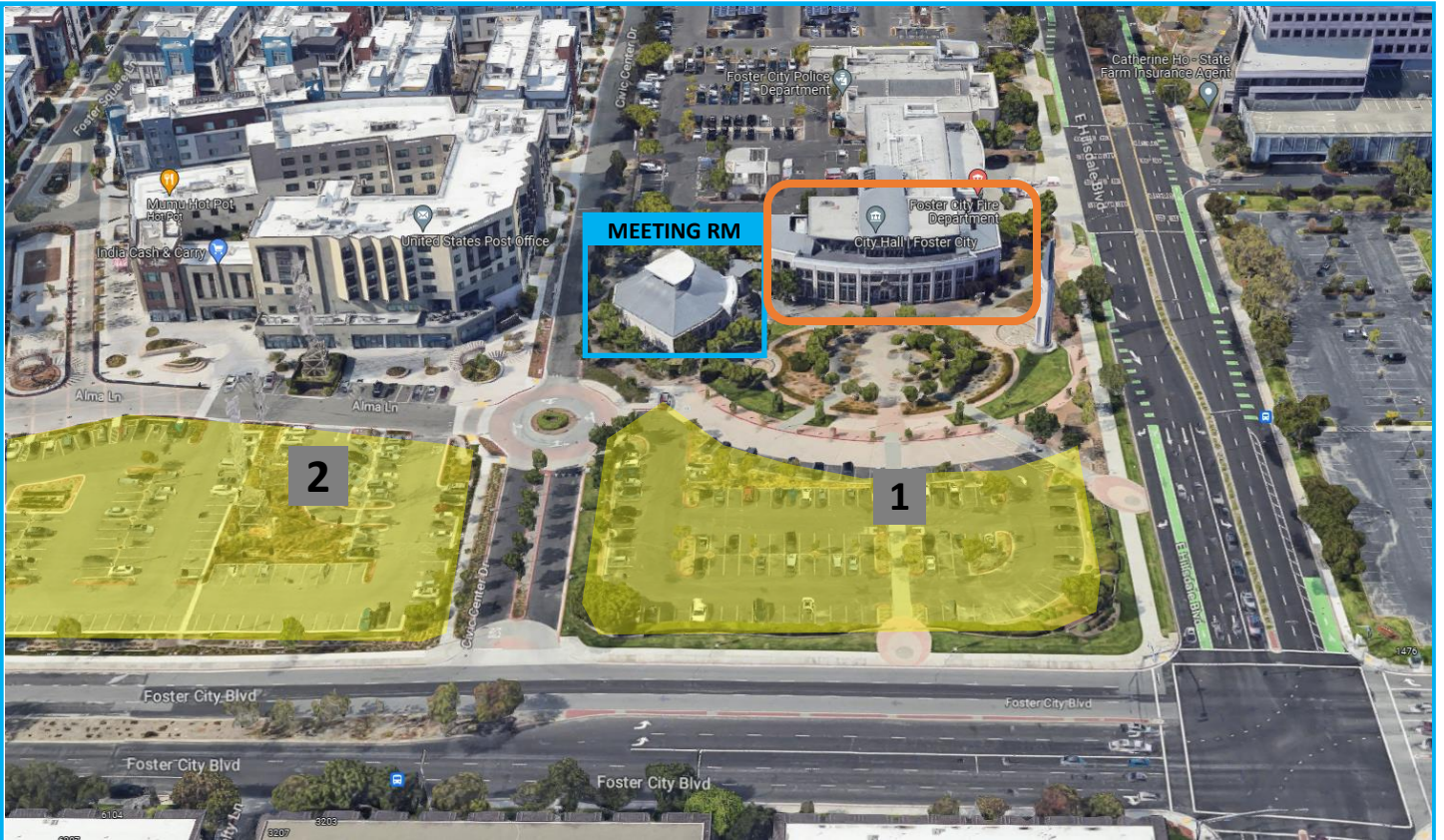
January 18, 2024

Page 3 of 3

3. You may download the Zoom client or connect to the meeting using the internet browser. If you are using your browser, make sure you are using current, up-to-date browser: Chrome 30+, Firefox 27+, Microsoft Edge 12+, Safari 7+. Certain functionality may be disabled in older browsers including Internet Explorer.
4. You will be asked to enter an email address and name. We request that you identify yourself by name as this will be visible online and will be used to notify you that it is your turn to speak.
5. When the Chairperson calls for the item on which you wish you speak click on “raise-hand” icon. You will then be called on and unmuted to speak.

***Additional Information:**

For any questions or concerns regarding Zoom, including troubleshooting, privacy, or security settings, please contact Zoom directly.



SFO Roundtable -- Technical Working Group Meetings
Foster City Council Chambers Conference Room
620 Civic Center Drive, Foster City



- PARKING:** 1. Parking in front of City Hall
2. Parking in adjacent parking lot

ENTRANCE: Main entrance will be locked. Follow signs to a secondary entrance **to the right of the main entrance.**



Performance Based Navigation and Environmental Processes

Presented to the SFO Roundtable Technical Work Group



**Federal Aviation
Administration**

Performance Based Navigation (PBN) Process

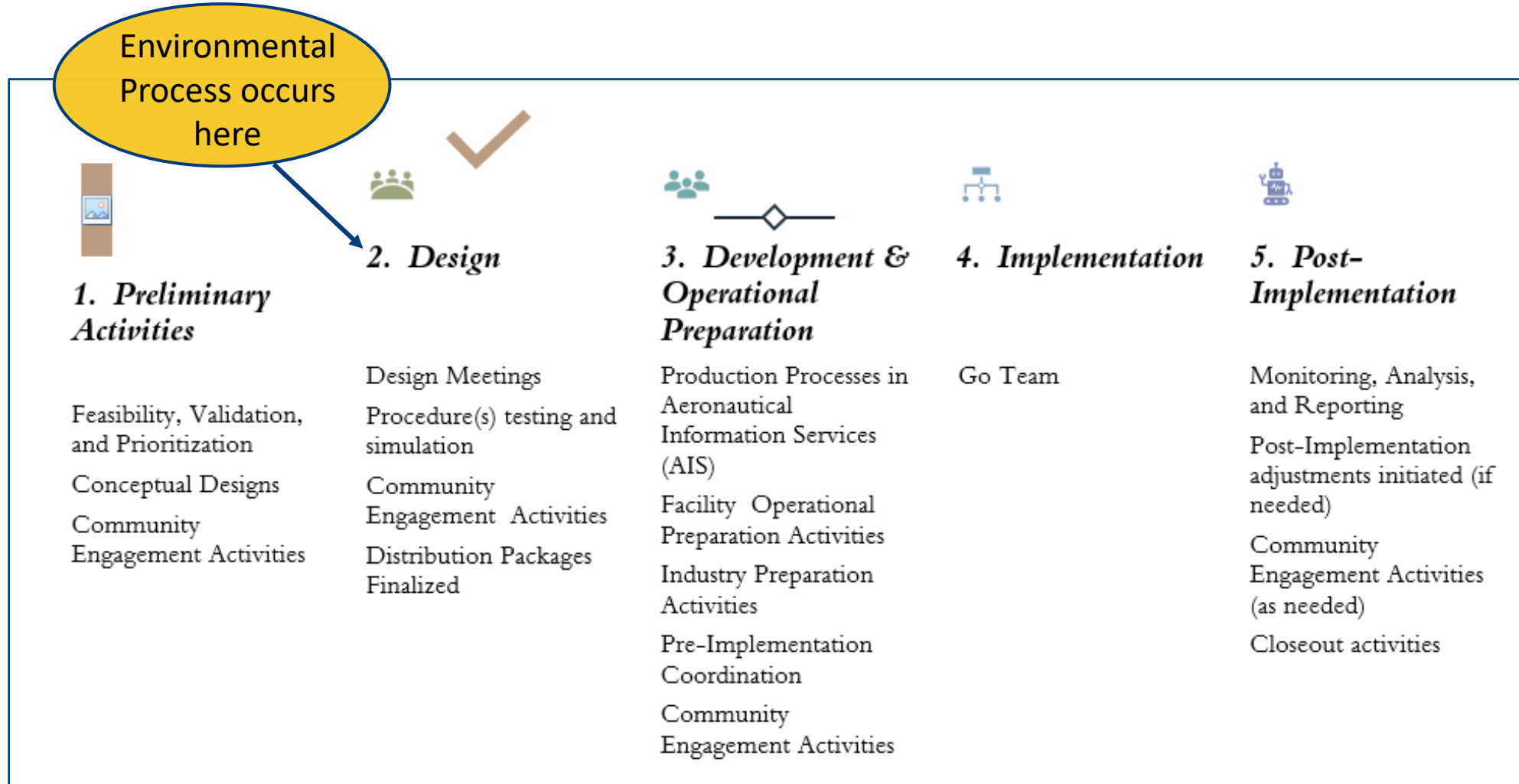


PBN Process

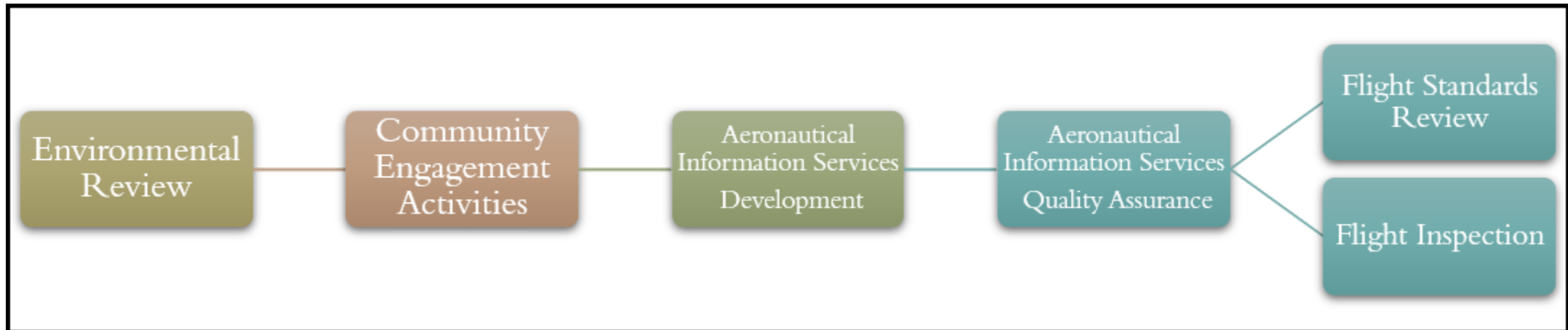
FAA Order JO 7100.41 outlines the process for new and amended PBN procedures and routes to include:

- Area Navigation (RNAV)/Required Navigation Performance (RNP) Standard Instrument Departure (SID) Procedures;
- RNAV Standard Terminal Arrival (STAR) Procedures
- RNP Authorization Required (RNP-AR) Standard Instrument Approach Procedures
- RNAV Routes: including Q, T, Y, Z, and TK (helicopter) routes.

PBN Phases



PBN Process, Second and Third Phases



Environmental Process



Federal Aviation Administration (FAA) Policy

- The FAA's primary mission is to provide the safest, most efficient aerospace system in the world. Compliance with the National Environmental Policy Act (NEPA) and other environmental responsibilities are integral components of that mission.
- The FAA is responsible for complying with the procedures and policies of NEPA and other environmental laws, regulations, and orders applicable to FAA actions.
- The FAA decision-making process must consider and disclose the potential impacts of a proposed action and its alternatives (such as no action) on the quality of the human environment.

National Environmental Policy Act (NEPA)

- NEPA was signed into law on January 1, 1970. The act requires the FAA to ensure that environmental considerations are factored into its decision-making process.
- NEPA reviews must be completed for actions that could cause reasonably foreseeable effects on the human environment, whether the actions are taken by the agency itself, or the actions are taken by airspace users seeking FAA authorization.
- The NEPA process ensures that the FAA:
 - Understands the potential environmental impacts of proposed authorizations;
 - Fully discloses the potential impacts to the human environment from the proposed activities; and
 - Evaluates the reasonable alternatives to the proposed activities.

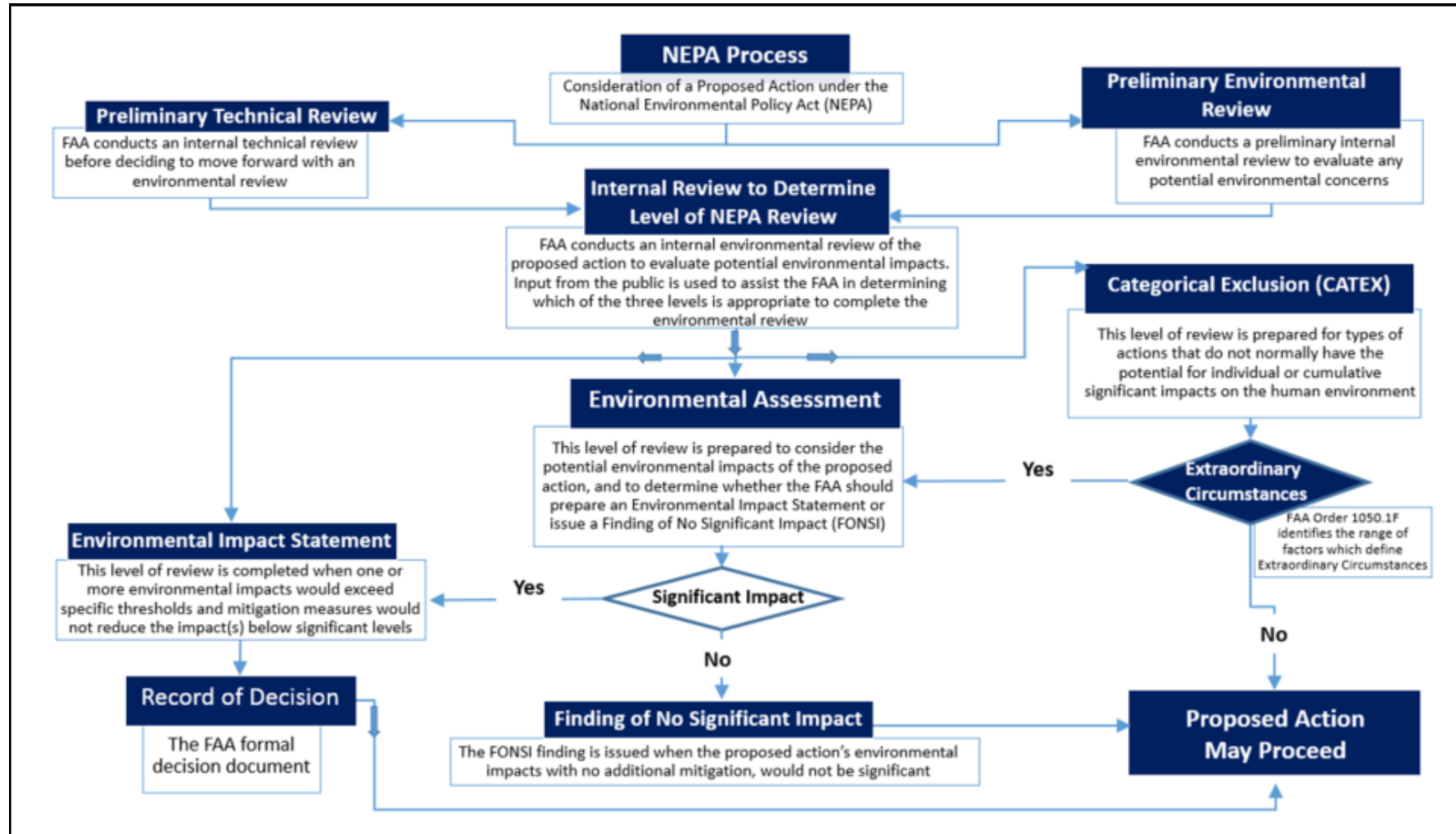
The Three Levels of NEPA Review

- **Categorical Exclusion (CATEX)** – established list of actions that do not, individually or cumulatively, have a significant impact on the environment. Additionally, the CATEX analyzes for the potential for extraordinary circumstances that could require a more detailed NEPA review.
- **Environmental Assessment (EA)** – is a concise public document that provides sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). The purpose of an EA level of review is to determine whether a proposed action has the potential to significantly affect the human environment. If none of the potential impacts assessed in the EA are determined to be significant, the responsible FAA official prepares a FONSI, which briefly presents, in writing, the reasons why an action, not otherwise categorically excluded, would not have a significant impact on the human environment.

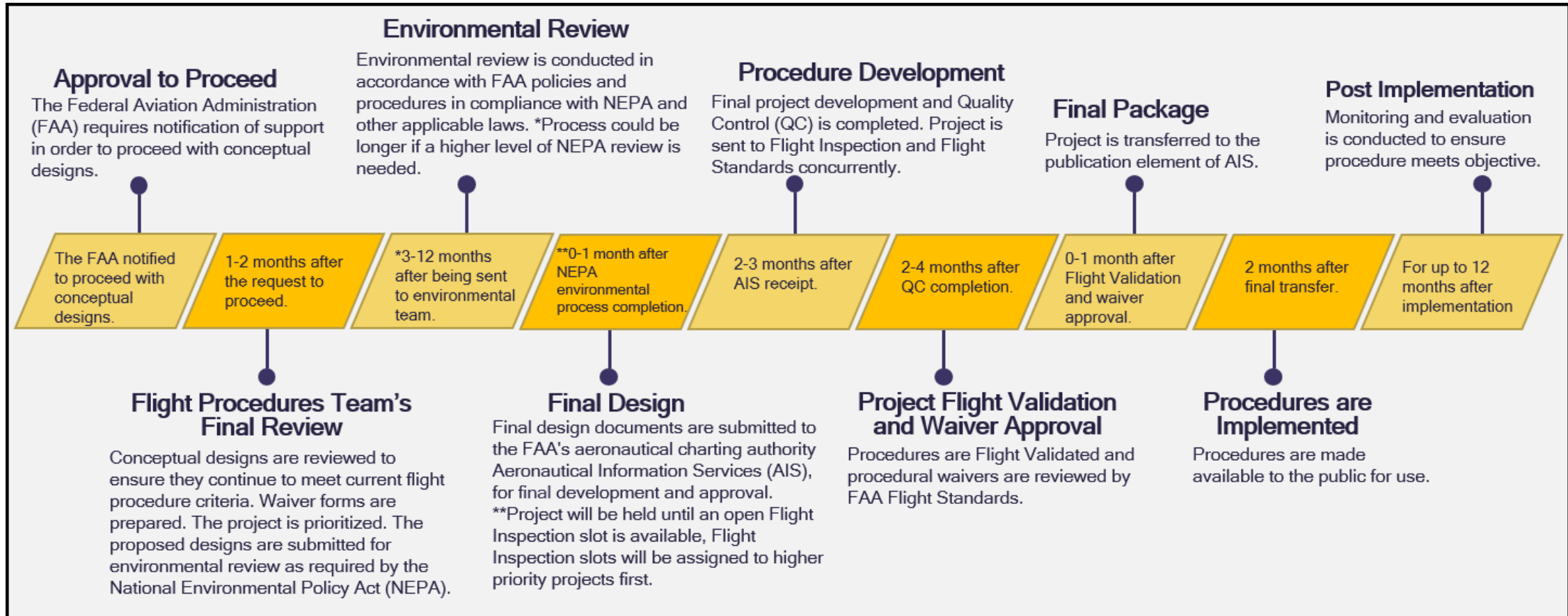
The Three Levels of NEPA Review (cont.)

- **Environmental Impact Statement (EIS)** – is a detailed written statement required under NEPA when one or more environmental impacts would be significant and mitigation measures cannot reduce the impact(s) below significant levels. Direct, indirect, and cumulative impacts must be considered when determining significance. Where an EIS is prepared, the FAA will prepare a Record of Decision to document the FAA's decision on the proposed action, state whether all practicable means to avoid or minimize environmental harm from the selected alternatives have been adopted, and if not, why; and identify and discuss all factors, including any essential considerations of national policy, that were balanced by the agency in making its decision and state how those considerations entered into the decision.

NEPA Environmental Review Flow Chart



Conceptual Design Implementation Timeline



Airport Director's Report, SFO Layout, Arrivals & Departures

SFO Airport/Community Roundtable
Technical Working Group Meetings
August 29, and November 15, 2023

SFO

Agenda

1. Airport Director's Report Deep Dive
2. The Layout of SFO's Runways
3. Arrivals
4. Departures

The Monthly Airport Director's Report

A Deep Dive



Airport Director's Report

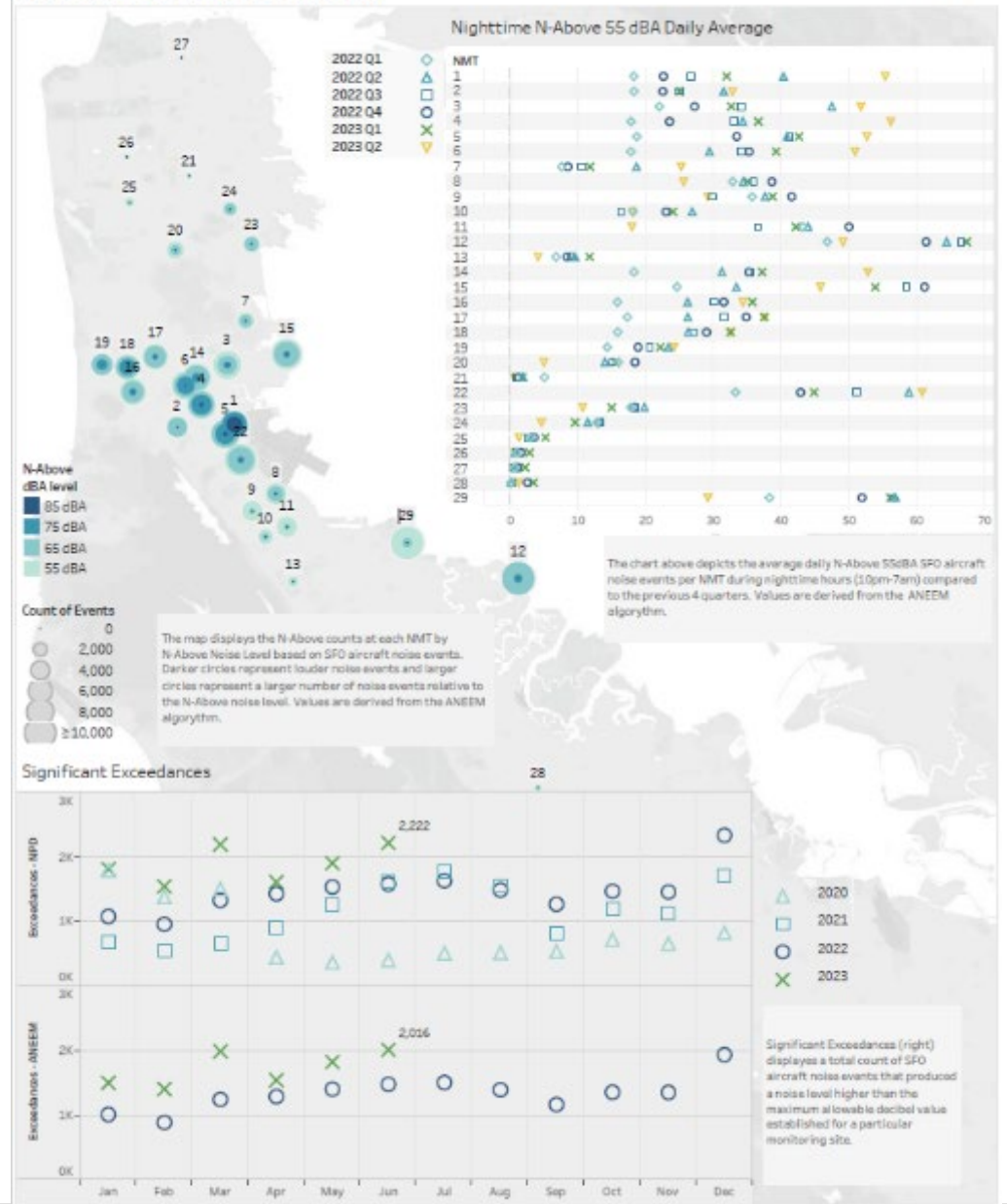
Presented at the August 2, 2023
Airport/Community Roundtable
Meeting

Aircraft Noise Office
June 2023



The Monthly Airport Director's Report

Aircraft Noise Levels Summary Page



The Monthly Airport Director's Report

Aircraft Noise Levels Details

Aircraft Noise Levels Details

June 2023

NMT	CRV	ANOMS						ANEEM			
		Noise Events (AVG Day)	CNEL (dBA)	SEL (dBA)	LMax (dBA)	CNEL (dBA)	Ambient Level (dBA)	Noise Events (AVG Day)	CNEL (dBA)	SEL (dBA)	LMax (dBA)
1	San Bruno	226	74	93	82	66	54	223	74	93	82
2	San Bruno	125	57	90	68	63	51	137	58	90	68
3	SSF	109	60	82	70	60	43	274	60	79	65
4	SSF	197	68	89	77	59	43	267	68	87	73
5	San Bruno	211	68	88	76	60	45	272	68	87	73
6	SSF	170	65	87	75	58	43	258	65	85	70
7	Brisbane	49	53	79	68	59	46	106	54	77	64
8	Milbrae	7	49	89	75	64	48	141	53	77	66
9	Milbrae	6	37	75	64	57	38	142	48	71	59
10	Burlingame	4	37	77	65	60	42	77	48	73	62
11	Burlingame	5	39	77	65	57	41	151	49	71	59
12	Foster City	393	63	82	71	58	42	455	63	81	69
13	Hillsborough	2	35	79	65	57	42	41	46	72	60
14	SSF	182	62	83	71	59	42	262	62	81	68
15	SSF	182	59	82	70	59	45	242	60	80	67
16	SSF	141	60	82	71	58	43	231	60	80	67
17	SSF	150	60	83	70	60	45	208	60	81	68
18	Daly City	147	64	87	75	59	45	208	64	85	71
19	Pacific	131	61	84	73	59	41	144	61	83	72
20	Daly City	81	50	77	66	60	43	116	50	75	63
21	San Francisco	32	44	76	64	61	52	18	42	75	65
22	San Bruno	141	59	81	71	61	43	334	60	78	67
23	San Francisco	60	53	79	69	60	45	110	54	78	65
24	San Francisco	82	57	84	71	70	50	96	51	77	65
25	San Francisco	10	42	77	65	56	42	39	42	73	61
26	San Francisco	9	42	80	66	61	46	21	42	74	62
27	San Francisco	4	38	80	67	57	43	20	40	74	62
28	Redwood City	6	36	76	64	51	32	30	39	71	59
29	San Mateo	122	52	78	65	59	47	345	53	73	61

Noise Monitor's CNEL values (above) are derived from actual measured events and are used to validate the 65dBA CNEL noise footprint. Aircraft monthly CNELs from both ANOMS and ANEEM algorithms for each monitor site are provided with daily average aircraft counts, the average Sound Exposure Level (SEL), and average Maximum Level (LMax). Noise levels from other noise sources in the community calculated by ANOMS is represented by the L90 noise value which is the noise level exceeded at the monitor for 90% of the time.

SFO N-Above NPD

SFO N-Above ANEEM

NMT	LMax	Min-Max								LMax	Min-Max							
		55 dBA	60 dBA	65 dBA	70 dBA	75 dBA	80 dBA	85 dBA	90 dBA		55 dBA	60 dBA	65 dBA	70 dBA	75 dBA	80 dBA		
1	66-101	6,034	6,834	6,834	6,549	5,695	4,361	56-101	6,658	6,652	6,633	6,387	5,566	4,237				
2	61-93	3,805	3,805	3,416	1,121	44	4	53-90	4,039	3,998	3,480	1,092	28	1				
3	62-90	3,234	3,234	2,915	1,263	506	123	53-87	7,289	6,224	3,346	1,244	476	117				
4	61-95	5,944	5,944	5,822	4,961	3,845	2,041	53-95	7,843	7,316	6,049	4,893	3,757	1,990				
5	63-92	6,330	6,330	6,309	5,628	3,403	1,395	53-92	7,945	7,718	6,952	5,771	3,819	1,349				
6	61-91	5,133	5,133	5,033	4,308	3,000	753	53-91	7,343	6,762	5,199	4,179	2,909	734				
7	61-80	1,348	1,348	1,134	454	89	2	53-80	2,601	2,140	1,739	474	73	2				
8	68-90	181	181	181	155	72	29	53-88	4,106	3,890	2,120	594	153	43				
9	59-74	95	92	37	1	0	0	53-78	3,577	1,611	306	37	3	0				
10	60-76	65	63	26	6	2	0	53-76	3,962	1,414	489	61	3	0				
11	60-75	45	45	21	4	1	0	53-66	3,769	1,517	357	54	5	1				
12	63-86	11,968	11,968	11,901	7,836	735	24	54-82	13,553	12,963	11,470	7,466	654	32				
13	59-74	27	25	17	7	0	0	53-73	950	479	125	5	0	0				
14	61-80	5,489	5,489	5,288	3,408	893	27	53-83	7,439	7,079	5,605	3,366	871	23				
15	61-84	5,504	5,504	5,227	2,709	387	11	53-84	8,448	7,808	5,782	2,737	391	5				
16	61-86	4,262	4,262	4,104	2,626	507	2	53-80	6,338	5,527	4,219	2,552	495	0				
17	60-92	4,552	4,552	4,355	2,504	382	26	53-90	5,989	5,653	4,362	2,301	312	9				
18	64-80	4,402	4,402	4,383	3,889	2,431	587	53-88	5,942	5,462	4,608	3,792	2,367	575				
19	65-84	3,954	3,954	3,954	3,114	1,113	53	54-84	4,320	4,273	3,997	2,967	1,062	50				
20	59-85	2,200	2,168	1,103	253	77	9	53-79	2,650	2,288	939	125	18	0				
21	59-79	418	405	146	10	1	0	60-72	265	265	136	6	0	0				
22	64-84	4,207	4,207	4,195	2,569	399	22	53-85	9,712	8,605	6,349	2,829	407	19				
23	63-83	1,670	1,670	1,600	525	40	3	53-79	2,479	2,256	1,634	468	27	0				
24	59-83	2,137	2,134	1,837	1,188	520	36	54-83	1,964	1,667	1,022	404	85	6				
25	58-79	171	154	179	38	4	0	53-75	732	473	159	16	0	0				
26	60-77	141	141	66	7	4	0	53-76	261	220	70	5	1	0				
27	60-78	21	21	14	8	1	0	53-78	122	86	25	8	1	0				
28	59-74	93	89	21	1	0	0	53-68	421	157	15	0	0	0				
29	59-85	3,941	3,884	1,349	361	90	8	53-79	10,322	6,767	911	66	3	0				

Noise Monitor N-Above values (above) are derived from actual measured events and assigned to aircraft overflights using both ANOMS NPD and ANEEM algorithms. N-Above represents the count of events where the peak noise (LMax) reached above the designated dBA value. Note, the charts on this page represent only SFO aircraft-related noise events.

The Monthly Airport Director's Report

Operations

Operations

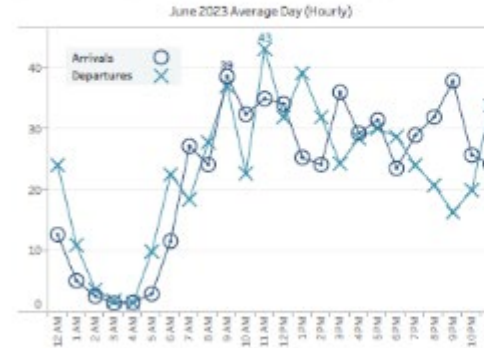
June 2023

Monthly Ops	AVG Daily Ops	12 Month AVG	YDY Growth
32,983	1,099	30,446	5%

Major Arrival and Departure Routes (West Flow)

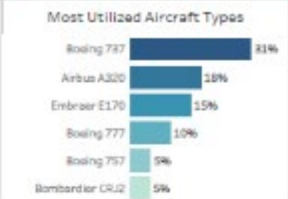
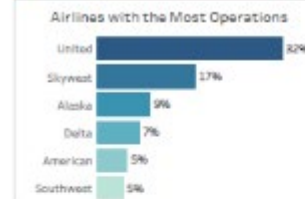


West Flow is depicted in the above image and is a predominant flow at SFO. West Flow 100%



Top Destinations			Down the Bay vs Peninsula	
Los Angeles	JFK	Seattle	1.1 Down the Bay Visual	30%
6%	4%	4%	1.2 BDEGA Arrival	64%

Arrival Route	Departure Route
1. BDEGA	A. GAP
2. DYAMD	B. SSTN
3. SERFR	C. NITE
4. FIRAT	D. TRUKN RWY 01
	D. TRUKN RWY 28



The Monthly Airport Director's Report

Runway Usage and Nighttime Operations

Runway Usage and Nighttime Operations

Leftmost Runway Utilization table shows percent of runway usage for arrivals and departures by runway based on all carrier operations using jet, regional jet, and turboprop aircraft. Late Night Preferential Runway Use table depicts departure runway usage between 1am - 6am for jet aircraft for the whole month (top) and during nighttime hours only (bottom). Percentages (%) are rounded to the nearest whole number.

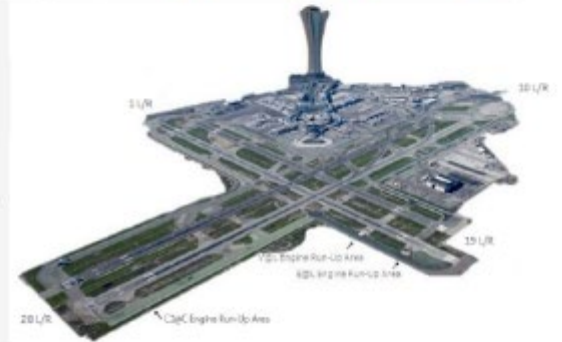


Nighttime Power Run-Ups (10pm-7am)

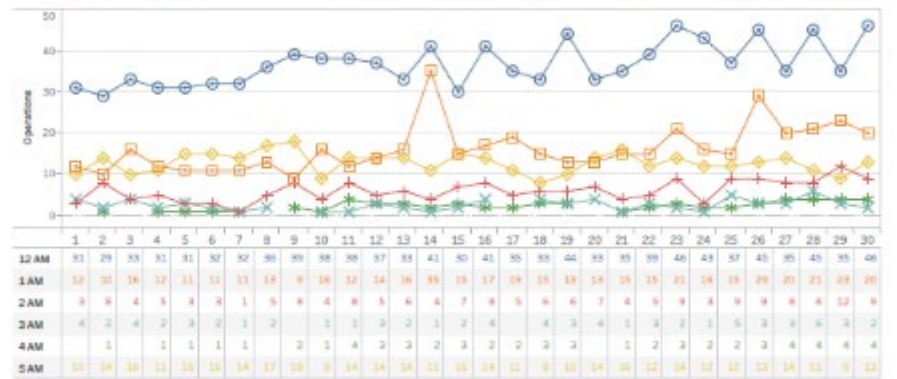
American Airlines: 4
United Airlines: 14

A power runup is a procedure used to test an aircraft engine after maintenance is completed. This is done to ensure safe operating standards prior to returning the aircraft to service. The Aircraft power settings range from idle to full power and may vary in duration.

Designated Power Runup locations are 19 L/R depicted on the airfield map (right) with airlines nighttime power runup counts shown above.



Hourly Nighttime Operations



The Monthly Airport Director's Report

Noise Reports

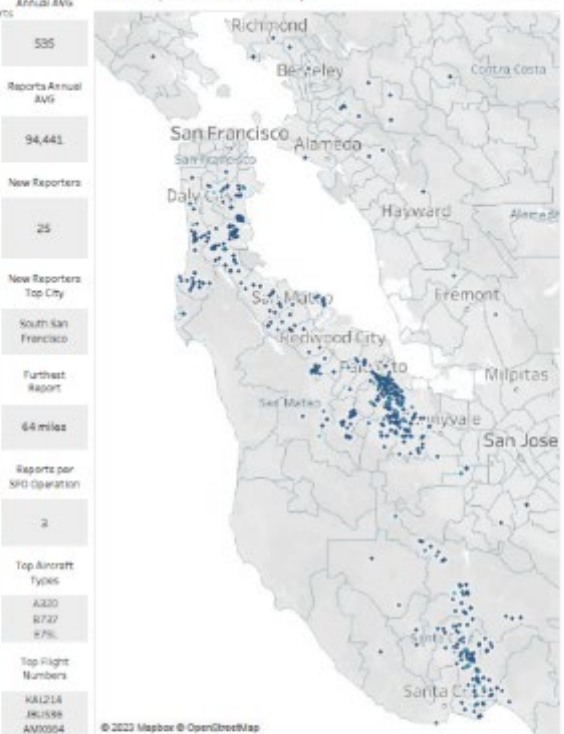
Noise Reports

	Noise Reporters / Noise Reports	Reporters Annual AVG
Atherton	2 / 258	535
Belmont	3 / 43	
Brisbane	20 / 706	Reports Annual AVG
Burlingame	4 / 7	
Colma	1 / 4	94,441
Daly City	10 / 1,897	New Reporters
El Granada	1 / 1,301	
Foster City	10 / 529	25
Hillsborough	2 / 76	New Reporters Top City
Menlo Park	11 / 893	
Millbrae	4 / 12	South San Francisco
Montara	2 / 572	64 miles
Pacifica	26 / 1,121	Reports per SFO Operation
Portola Valley	22 / 4,862	
Redwood City	5 / 368	2
San Bruno	9 / 378	Top Aircraft Types
San Carlos	2 / 7	
San Francisco	16 / 2,453	A320
San Mateo	12 / 438	B727
South San Francisco	33 / 1,062	87%
Woodside	6 / 1,814	Top Flight Numbers
Alameda	1 / 1	
Aptos	2 / 6	KAL218
Ben Lomond	1 / 6	JK1598
Berkeley	2 / 923	AMX994
Boulder Creek	2 / 5	
Capitola	2 / 59	
Castro Valley	1 / 25	
Cupertino	1 / 261	
East Palo Alto	2 / 6	
El Cerrito	1 / 1	
Emerald Hills	8 / 896	
Felton	3 / 107	
Fremont	1 / 325	
Lafayette	1 / 5	
Los Altos	50 / 8,966	
Los Altos Hills	12 / 788	
Los Gatos	31 / 4,703	
Mill Valley	1 / 1	
Morega	2 / 110	
Mountain View	18 / 3,366	
Oakland	8 / 3,625	
Orinda	1 / 19	
Palo Alto	115 / 22,527	
Richmond	3 / 221	
San Jose	4 / 4	
Santa Cruz	44 / 9,207	
Scotts Valley	26 / 4,216	
Soquel	25 / 2,986	
Stanford	4 / 535	
Sunnyvale	2 / 1,167	
Union City	1 / 251	
Watsonville	1 / 71	
Grand Total	577 / 84,170	

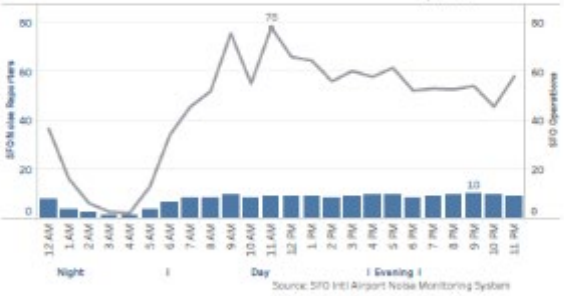
Notes:
 Address validation follows ICAO-provided ZIP Code look-up table and ICAO specified de facto city values.



Noise Reporters Location Map

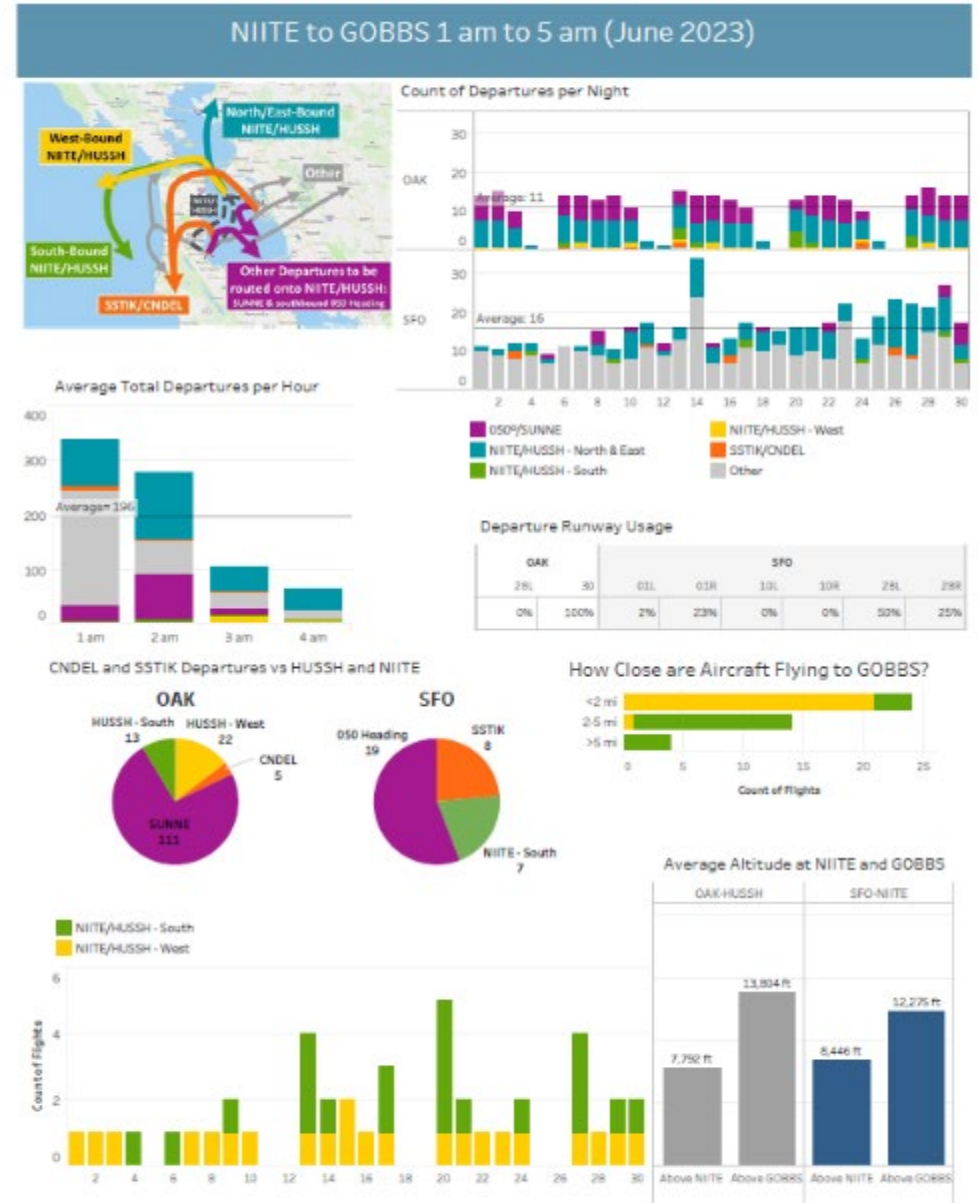


Hourly Noise Reporters (Average Day in a Month)



The Monthly Airport Director's Report

NIITE to GOBBS 1am to 5 am



The Layout of SFO

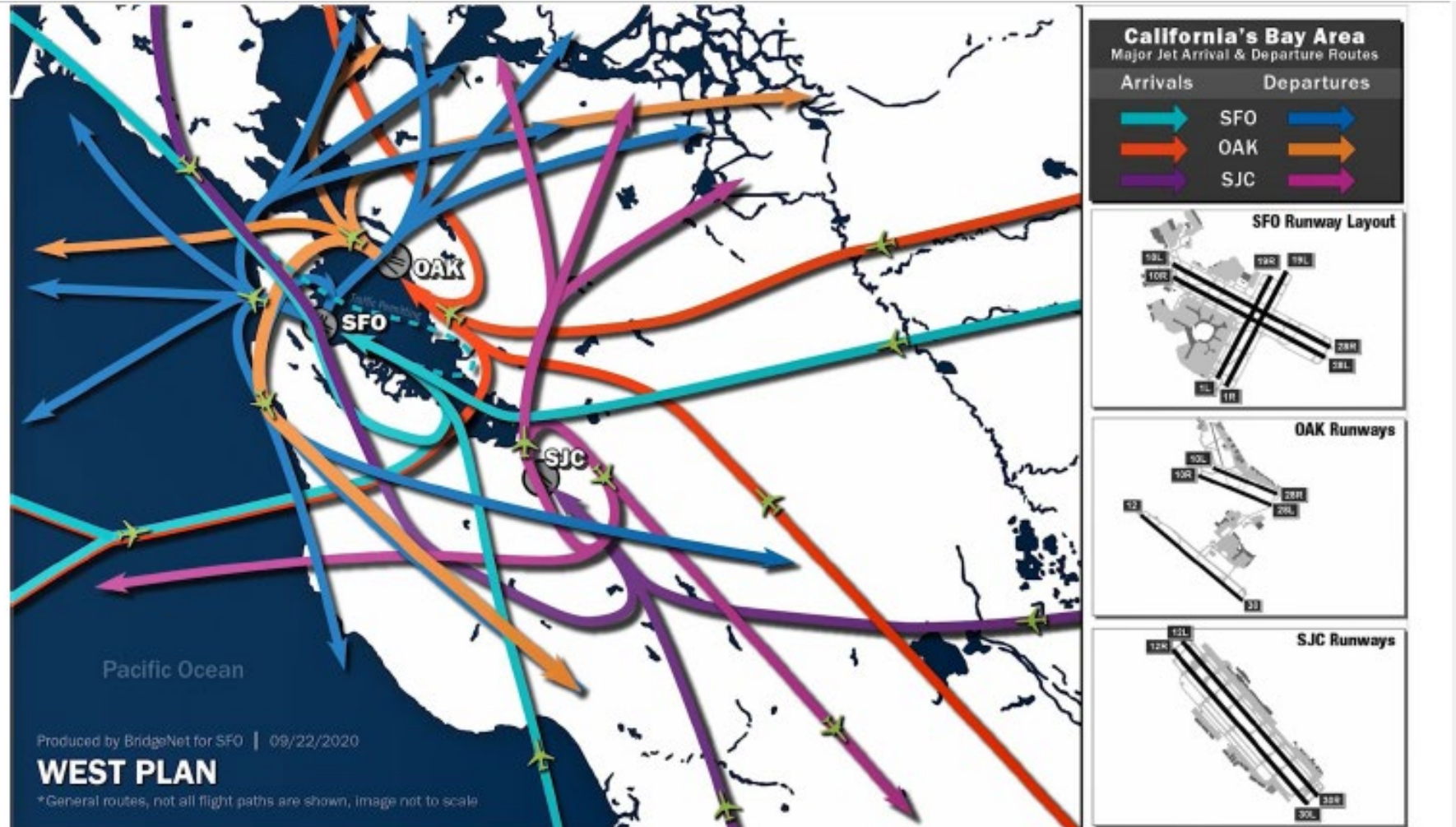
Runways:

- 01L
- 01R
- 10L
- 10R
- 19L
- 19R
- 28L
- 28R



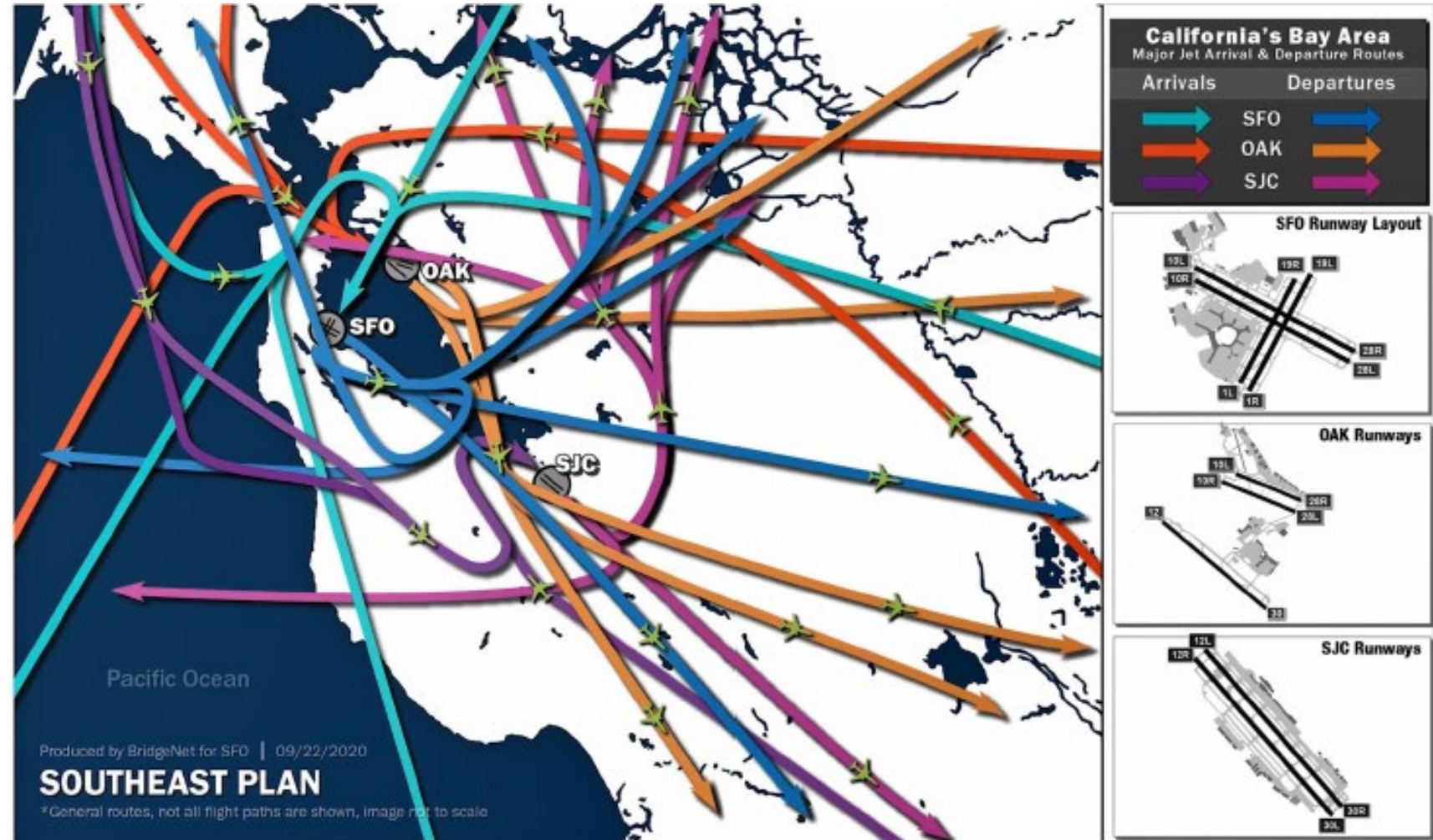
Bay Area Flight Operations

West Plan



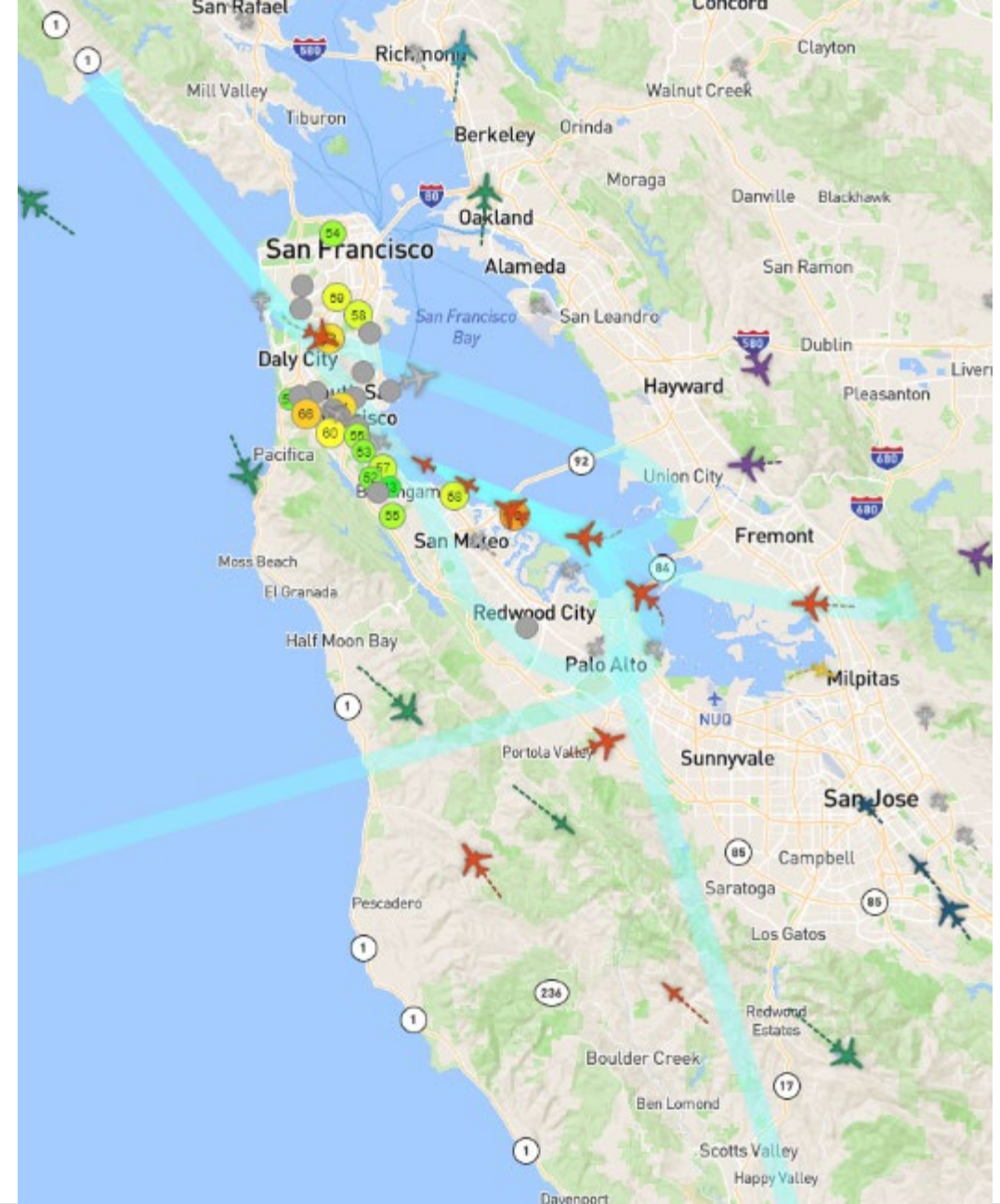
Bay Area Flight Operations

Southeast Plan



SFO Arrivals

BDEGA
Down the Bay
DYAMD
SERFR
Quiet Bridge
PIRAT



SFO Departures

SSTIK
NIITE
TRUKN
GAP
SNTNA

