



Meeting Announcement

Technical Working Group

Tuesday, September 20, 2022

4:00 p.m. – 5:30 p.m.

BY VIDEO CONFERENCE ONLY

Please click the link below to join the webinar:

<https://smcgov.zoom.us/j/97095497033>

Or Dial-in:

US: +1(669)900-6833 Webinar ID: 970 9549 7033

Note: To arrange an accommodation under the Americans with Disabilities Act to participate in this public meeting, please call (650) 363-4220 at least 2 days before the meeting date.

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

AGENDA

Call to Order

Public Comment on Items NOT on the Agenda

CONSENT AGENDA

1. Action to Set Agenda and Approve Consent Agenda

2. Brown Act Remote Meetings Resolution (5-min)

Attachments: Memo and Resolution of Approval

REGULAR AGENDA

3. NIITE/HUSSH

a. FAA Update

Joseph Bert, Team Manager, Western Service Center, FAA

b. Monitoring Discussion

Sam Hindi, Chairperson

4. SFO Updates

a. Ground Based Augmentation System (GBAS) Update

Attachments: SFO GBAS & GLS Presentation

Paul Hannah, Consultant Chief Airspace and Flight Operations Engineer, SFO

Christian Valdes, Senior Managing Consultant. SFO

Bert Ganoung, SFO Aircraft Noise Office Manager

i. GBAS 2A Concepts – Comments and suggestions from the public for GBAS 2A procedures

Paul Hannah, Consultant Chief Airspace and Flight Operations Engineer, SFO

b. ANEEM Update

Bert Ganoung, SFO Aircraft Noise Office Manager

5. Adjourn

****Instructions for Public Comment during Videoconference Meeting**

During videoconference of the Technical Working Group subcommittee meeting, members of the public may address the Roundtable 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 amontescardenas@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 12:00 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:

Spoken public comments will be accepted during the meeting through Zoom. Please read the following instructions carefully:

1. The Technical Working Group meeting may be accessed through Zoom online at <https://smcgov.zoom.us/j/97095497033>. The meeting ID: 970 9549 7033. The meeting may also be accessed via telephone by dialing in +1-669-900-6833, entering meeting ID: 970 9549 7033, then press #.
2. 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.
3. 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.
4. When the Roundtable 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.
5. When called, please limit your remarks to the time limit allotted.



September 15, 2022

TO: Technical Working Group

FROM: Kathleen Wentworth, Roundtable Coordinator

SUBJECT: Resolution to make findings allowing continued remote meetings under Brown Act

RECOMMENDATION:

Adopt a resolution finding that, as a result of the continuing COVID-19 pandemic state of emergency declared by Governor Newsom, meeting in-person would present imminent risks to the health or safety of attendees.

BACKGROUND:

On June 11, 2021, Governor Newsom issued Executive Order N-08-21, which rescinded his prior Executive Order N-29-20 and which waived, through September 30, 2021, certain provisions of the Brown Act relating to teleconferences/remote meetings. The Executive Order waived, among other things, the provisions of the Brown Act that otherwise required the physical presence of members of a local agency or other personnel in a particular location as a condition of participation or as a quorum for a public meeting. These waivers set forth in the Executive Order were to expire on October 1, 2021.

On September 16, 2021, the Governor signed Assembly Bill (AB) 361, a bill that codifies certain teleconference procedures that local agencies have adopted in response to the Governor's Brown Act-related Executive Orders. Specifically, AB 361 allows a local agency to continue to use teleconferencing under the same basic rules as provided in the Executive Orders under certain prescribed circumstances or when certain findings have been made and adopted by the local agency.

In order to continue to hold video and teleconference meetings, the Technical Working Group (TWG) of the San Francisco Airport/Community Roundtable will need to review and make findings every 30 days or thereafter that the state of emergency continues to directly impact the ability of the members to meet safely in-person and that state or local officials continue to impose or recommend measures to promote social distancing. If the TWG does continue to hold video and teleconference meetings, to meet the requirements of AB 361, the TWG will need to adopt a resolution at every meeting.



The San Mateo County Board of Supervisors has adopted a resolution to continue remote meetings and encouraged other local agencies to make similar findings.

The membership previously found, and it remains the case, that public meetings pose high risks for COVID-19 spread for several reasons. These meetings may bring together people from throughout a geographic region, increasing the opportunity for COVID-19 transmission. Further, the open nature of public meetings makes it difficult to enforce compliance with vaccination, physical distancing, masking, cough and sneeze etiquette, or other safety measures. Moreover, some of the safety measures used by private businesses to control these risks may be less effective for public agencies.

These factors continue to combine and directly impact the ability of members of the TWG to meet safely in person and to make in-person public meetings imminently risky to health and safety.

As noted above, under AB 361, local agency bodies were required to return to in-person meetings on October 1, 2021, unless they chose to continue with fully teleconferenced meetings and made the prescribed findings related to the existing state of emergency. At its meeting of August 3, 2022, the Roundtable membership continued to adopt a resolution wherein the membership found, and it continues to be the case that, among other things, as a result of the continuing COVID-19 state of emergency, meeting in-person would present imminent risks to the health or safety of attendees.

DISCUSSION:

We recommend that your subcommittee avail itself of the provisions of AB 361 allowing continuation of online meetings by adopting findings to the effect that conducting in-person meetings would present an imminent risk to the health and safety of attendees. A resolution to that effect and directing staff to return each 30 days with the opportunity to renew such findings, is attached hereto.

FISCAL IMPACT:

None

Attachments:

A. Resolution TWG22-04

RESOLUTION NO. TWG22-04

RESOLUTION FINDING THAT, AS A RESULT OF THE CONTINUING COVID-19 PANDEMIC STATE OF EMERGENCY DECLARED BY GOVERNOR NEWSOM, MEETING IN PERSON FOR MEETINGS OF THE TECHNICAL WORKING GROUP, OF THE SAN FRANCISCO INTERNATIONAL AIRPORT/COMMUNITY ROUNDTABLE, WOULD PRESENT IMMINENT RISKS TO THE HEALTH OR SAFETY OF ATTENDEES

RESOLVED, by the Technical Working Group that

WHEREAS, on March 4, 2020, the Governor proclaimed pursuant to his authority under the California Emergency Services Act, California Government Code section 8625, that a state of emergency exists with regard to a novel coronavirus (a disease now known as COVID-19); and

WHEREAS, on June 4, 2021, the Governor clarified that the “reopening” of California on June 15, 2021 did not include any change to the proclaimed state of emergency or the powers exercised thereunder, and as of the date of this Resolution, neither the Governor nor the Legislature have exercised their respective powers pursuant to California Government Code section 8629 to lift the state of emergency either by proclamation or by concurrent resolution in the state Legislature; and

WHEREAS, on March 17, 2020, Governor Newsom issued Executive Order N-29-20 that suspended the teleconferencing rules set forth in the California Open Meeting law, Government Code section 54950 et seq. (the “Brown Act”), provided certain requirements were met and followed; and

WHEREAS, on September 16, 2021, Governor Newsom signed AB 361 that provides that a legislative body subject to the Brown Act may continue to meet without fully complying with the teleconferencing rules in the Brown Act provided the legislative body determines that meeting in person would present imminent risks to the health or safety of attendees, and further requires that certain findings be made by the legislative body every thirty (30) days or when meeting next; and,

WHEREAS, the Technical Working Group has an important interest in protecting the health and safety of attendees, and welfare of those who participate in its meetings; and

WHEREAS, at its meeting August 3, 2022, the San Francisco Airport/Community Roundtable continued to adopt, by unanimous vote, a resolution wherein the membership found, *inter alia*, that as a result of the continuing COVID-19 state of emergency, meeting in person would present imminent risks to the health or safety of attendees: and

WHEREAS, The San Francisco Airport/Community Roundtable has not met since its regular meeting in August 3, 2022; and

WHEREAS, the membership has reconsidered the circumstances of the state of emergency and finds that the state of emergency continues to impact the ability of members of the Roundtable to meet in person because there is a continuing threat of COVID-19 to the community, and because membership meetings have characteristics that give rise to risks to health and safety of meeting participants (such as the increased mixing associated with bringing people together from across the community); and

WHEREAS, in the interest of public health and safety, as affected by the emergency caused by the spread of COVID-19, the membership deems it necessary to find that meeting in-person would present imminent risks to the health an safety of attendees, and thus intends to invoke the provisions of AB 361 related to teleconferencing;

NOW, THEREFORE, IT IS HEREBY DETERMINED AND ORDERED that

1. The recitals set forth above are true and correct.
2. The Technical Working Group finds that meeting in person would present imminent risks to the health or safety of attendees.
3. Staff is directed to return no later than thirty (30) days after the adoption of this resolution or at their next regular meeting to consider making the findings required by AB 361 in order to continue meeting under its provisions.
4. Staff is directed to take such other necessary or appropriate actions to implement the intent and purposes of this resolution.

* * * * *

Adopted at the Technical Working Group of _____.

Sam Hindi
Subcommittee Chairperson

Date



San Francisco International Airport

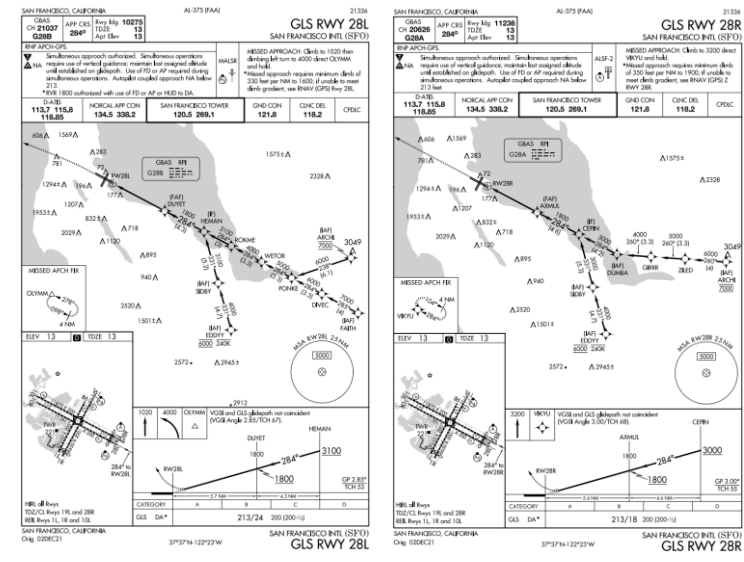
GBAS

San Francisco International Airport GBAS and GLS

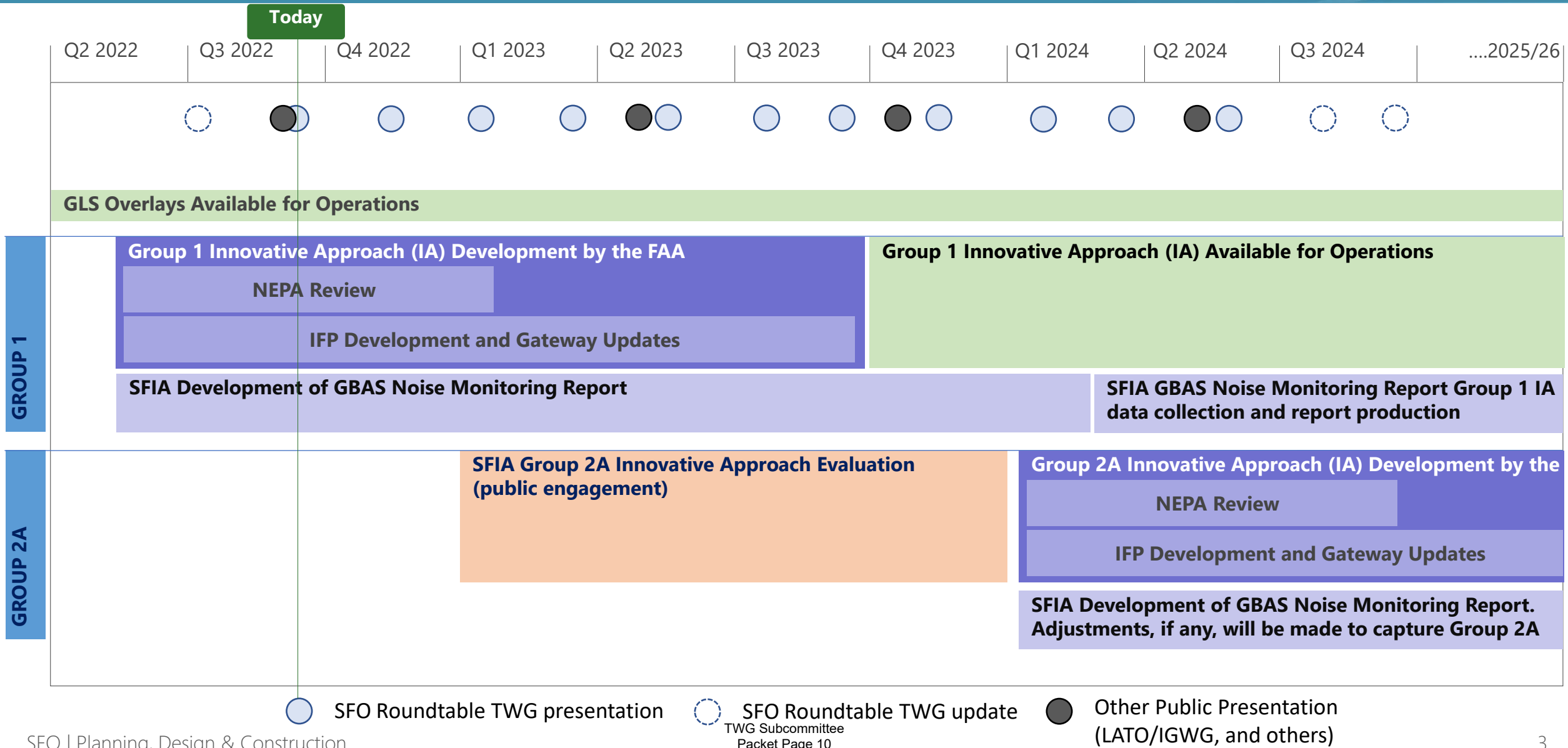
SFO Roundtable Technical Working Group
September 20, 2022



1. Current GBAS Project Timeline
2. Group 1 IA Noise monitoring and reporting
3. Identifying GLS Flight Operations and Data Gathering
4. Next Steps



SFIA GLS Procedure Development Schedule and Planned Outreach



Acquisition

SFO Ground Based Augmentation System (GBAS) is the first navigational aid (NAVAID) of its kind in the world acquired with the primary goal of noise reduction

Design

SFO GBAS Landing System approach procedures (GLS) are designed via an airport lead initiative with input from FAA, Industry and the community

SFO GLS procedures undergo independent noise analysis and community review prior to FAA request for development

Operation

SFO GBAS is the first public use NAVAID of its kind in the Bay Area, California and the FAA Western Service Area

SFO GBAS is the first non-Federal NAVAID operated by SFO

Implementation & Enhancement

SFO is the first airport to measure and report on GLS procedures the overall NAVAIDs ability to deliver on the original project goals

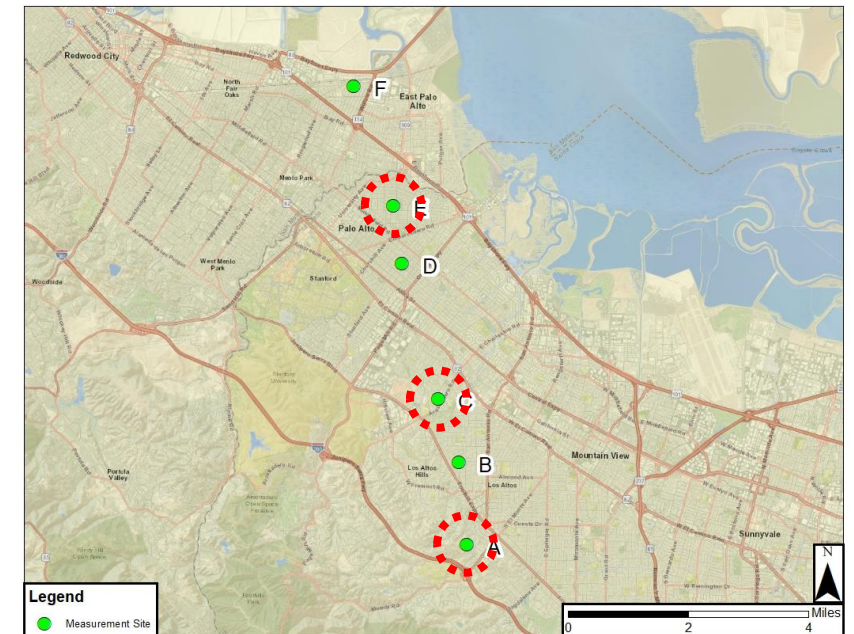
SFO is the only US hub airport with the ability to "turn off" a precision approach that doesn't meet the project goals

Group 1 Monitoring Following FAA Implementation

SFO is currently evaluating quarterly monitoring and reporting practices to be implemented upon FAA publication of Group 1 Innovative Approaches

Key Considerations:

- 3 temporary noise monitoring locations (A, C, E) , supplemented by permanent monitor site 12 data (Foster City)
- SFO GBAS Project team is working with FAA on how SFO will be informed about GBAS usage and specific GLS procedure utilization
- SFO will actively investigate GLS approaches that do not perform as expected
- SFO's noise reduction goal is for Group 1 GLS approaches to maintain average noise levels at each noise monitor that are lower than non-GLS approaches
- Similar to the GBAS Measurement Report, the GLS Monitoring Report will include Lmax and SEL noise levels, altitude, speed of GLS approaches and comparable non-GLS approaches and describe whether the GLS approaches are meeting the Airport's expectations

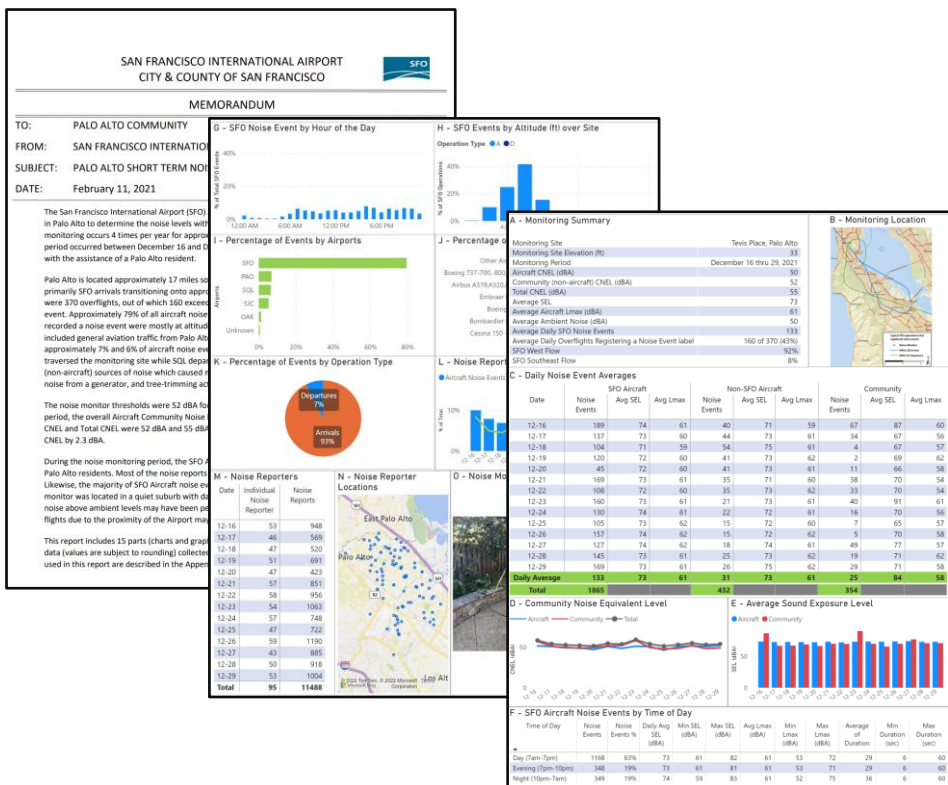


Areas considered for
Temporary noise monitors

Reporting on Innovative Group 1 GLS Approaches

Roundtable Portable Monitoring

GBAS Noise Measurement Report



GBAS Noise Measurement Report
 Group 1 Innovative Approach Procedures
 March 2022
 PREPARED BY
 San Francisco International Airport
 SFO

San Francisco International Airport
 March 2022

H - Noise Levels of the Most Frequent Aircraft

Aircraft / Events	Site A	Site B	Site C
266	67 54 37	66 53 40	67 53 40
A320 / 219	69 56 40	A320 / 270	70 57 39
B738 / 158	70 57 41	CRJ2 / 182	64 50 40

I - Noise Levels of Loudest SFO Aircraft Arrival Events*

Aircraft / Date / Time	Site A	Site B	Site C
B748 / 12/16/2021 0:39	82 74 59	B748 / 12/16/2021 0:39	83 74 69
B748 / 12/20/2021 0:38	82 70 62	B748 / 12/20/2021 0:38	82 70 66
B748 / 12/22/2021 0:13	81 71 38	B748 / 12/22/2021 0:13	82 72 56

*Noise events in BOLD were made up of simultaneous aircraft noise and community noise.

J - Comparison of Existing and GLS Approach Procedures (Boeing 737)

Approach Type	Number of Arrivals	Site A			Site B			Site C											
		Avg SEL / Lmax (dB)	Avg Altitude (ft)	Avg Speed (kts)	Avg SEL / Lmax (dB)	Avg Altitude (ft)	Avg Speed (kts)	Avg SEL / Lmax (dB)	Avg Altitude (ft)	Avg Speed (kts)									
Non-GLS Approaches	5	71/58	6,206	236	72/59	5,957	236	72/60	5,656	236	75/64	5,062	219	75/63	4,827	214	75/63	4,231	201
Test RNAV Approaches	4	68/56	5,900	252	68/55	5,799	253	68/55	5,505	254	71/59	4,912	251	71/59	4,673	245	75/62	4,174	229
Test GLS Approaches	3	66/54	5,883	252	67/54	5,833	251	67/54	5,625	253	72/57	5,199	238	72/57	5,010	232	69/56	4,472	229

San Francisco International Airport
 March 2022

Appendix A

Test Approach Noise Events

Site	Date/Time	Procedure	SEL (dB)	Lmax (dB)	Duration (s)
A	12/20/21 18:40	RNAV (GPS) RWY 28L	68.4	58	51
A	12/20/21 18:57	GLS-A RWY 28L	65.4	52.7	37
A	12/20/21 18:19	RNAV (GPS) 2 RWY 28R	68	63.1	32
A	12/20/21 19:38	GLS-A RWY 28R	65.8	52.8	57
A	12/16/2021 8:35	RNAV (RNP) Y RWY 28R	69.4	57.7	36
A	12/16/2021 8:53	RNAV (GPS) RWY 28L	69.3	56.7	31
A	12/16/2021 7:10	GLS-R RWY 28R	69.7	55.5	35
A	12/16/2021 18:40	GLS-A RWY 28L	67.6	55.9	41
B	12/20/21 18:57	GLS-A RWY 28L	65.4	51.3	56
B	12/20/21 18:19	RNAV (GPS) 2 RWY 28R	64.1	50.8	35
B	12/20/21 19:38	GLS-A RWY 28R	64.9	51.8	57
B	12/16/2021 8:35	RNAV (RNP) Y RWY 28R	69.5	58.5	36
B	12/16/2021 8:54	RNAV (GPS) RWY 28L	69.3	57.7	32
B	12/16/2021 7:10	GLS-R RWY 28R	69.9	57.7	42
B	12/16/2021 18:40	GLS-A RWY 28L	68.4	55.5	53
C	12/20/21 18:40	RNAV (GPS) RWY 28L	64.7	52.8	44
C	12/20/21 18:57	GLS-A RWY 28L	64.3	51.1	61
C	12/20/21 18:19	RNAV (GPS) 2 RWY 28R	64.9	51.8	49
C	12/20/21 19:38	GLS-A RWY 28R	64.2	51.5	48
C	12/16/2021 8:35	RNAV (RNP) Y RWY 28R	68.2	57.5	28
C	12/16/2021 8:54	RNAV (GPS) RWY 28L	70.1	62.4	33
C	12/16/2021 7:10	GLS-R RWY 28R	70.4	59.3	34
C	12/16/2021 18:40	GLS-A RWY 28L	68.8	57.6	35
D	12/20/21 18:41	RNAV (GPS) RWY 28L	68.6	58.3	33
D	12/20/21 18:57	GLS-A RWY 28L	69.3	62.2	45
D	12/20/21 18:19	RNAV (GPS) 2 RWY 28R	70.1	57.2	46
D	12/20/21 19:38	GLS-A RWY 28R	65.2	52.7	45
D	12/16/2021 8:36	RNAV (RNP) Y RWY 28R	70.5	59.5	32
D	12/16/2021 8:54	RNAV (GPS) RWY 28L	72.1	60.7	32
D	12/16/2021 7:11	GLS-R RWY 28R	72.8	65.2	35
D	12/16/2021 18:41	GLS-A RWY 28L	70.1	58.1	54
D	12/20/21 18:41	RNAV (GPS) RWY 28L	66.4	55.5	29
E	12/20/21 18:08	GLS-A RWY 28L	69.1	63	28
E	12/20/21 18:20	RNAV (GPS) 2 RWY 28R	72.8	63.6	34
E	12/20/21 19:40	GLS-A RWY 28R	64.5	53.1	26
E	12/16/2021 8:36	RNAV (RNP) Y RWY 28R	70.5	58.1	51

GBAS Noise Monitoring Report

Data Gathering and Identifying GLS Flight Operations

SFO identifies flight procedure utilization using established methods involving both human examination and machine processing of flight track data

This information enables the team to relate a flight number, aircraft type, aircraft altitude, speed and location on the ground to one or more noise events

The process of relating a GLS flight over portable noise monitors to a noise event is aided by technology (ANOMS) but this can still take several days to achieve an accurate result

In situations where it isn't clear which procedure was used, SFO works collaboratively with other stakeholders to examine and report on the flight operation

Data Gathering and Identifying GLS Flight Operations

Flight Procedure Information Available to Each Stakeholder

Flight Procedure Information	SFO	FAA	Airlines
Method of Data Collection	ANOMS (SWIM/ADS-B)	IOAA (SWIM/ADS-B, CPDLC)	Post Flight Reporting and Logbooks
Ground Track Information	Available	Available	N/A
Altitude	Available	Available	N/A
Indicated Airspeed	Calculated	Calculated	N/A
Noise	Monitored	N/A	N/A
GLS Procedure Usage	Inferred and available	As cleared or Inferred, when requested by an airport	As cleared or recorded, voluntary reporting from airlines only

Data Gathering and Identifying GLS Flight Operations

FAA/SFO have a limited ability to identify GLS approach operations under good weather conditions

- 85% of flight operations into SFO occur under visual meteorological conditions (VMC)
- During VMC, NCT/SFO ATCT will frequently clear flight crews to use either a named visual approach (Bridge Visual, Tipp Toe) or a generic visual approach
- If the flight crew accepts the visual clearance, they can choose to use one of the overlay or innovative GLS approaches* as a reference path to make the approach and landing, but NCT and SFO ATCT will not likely be aware of this decision
- Flight crews do not currently report which approach was used during a visual clearance to either SFO or FAA

When SFO is operating under visual conditions, there is a possibility that neither the FAA or SFIA will be aware of which aircraft flew a GLS approach requiring airlines assistance

*If the flight crew is cleared to a named visual approach (Tipp Toe, Bridge Visual) then they could only potentially use the corresponding Innovative Group 1 GLS procedure as a backup navigational aid

Data Gathering and Identifying GLS Flight Operations

Type of GLS Approach		ATC Clearance	
		Instrument Approach	Visual Approach
GLS Approach is Unique	Procedures	GLS Rwy 10L, GLS Rwy 10R, GLS-W Rwy 28R	N/A
	Method of Analysis	SFO ANOMS	
	Time to Identify	10 Days	
GLS Same Lateral Path, Unique Altitudes	Procedures	GLS-U Rwy 28R	N/A
	Method of Analysis	FAA IOAA	
	Time to Identify	90 Days	
GLS Identical to Existing Procedure	Procedures	GLS-Z Rwy 28R, GLS-Z Rwy 28L, GLS-Y Rwy 28L, GLS-X Rwy 28R, GLS-T RWY 28R, GLS Rwy 19R, GLS Rwy 19L	GLS-Z Rwy 28R, GLS-Z Rwy 28L, GLS-Y Rwy 28L, GLS-X Rwy 28R, GLS-T RWY 28R
	Method of Analysis	FAA IOAA	Airlines*
	Time to Identify	90 Days	60 Days*

* SFIA is currently exploring voluntary reporting options with airlines

Data Gathering and Identifying GLS Flight Operations

Initial GBAS noise monitoring report will likely be made available to the public several months following the start of Innovative Group 1 approach operations

Future GBAS noise monitoring reports will be provided at least 120 days following the period of operations

SFO GBAS Project team will continue working with air carriers on voluntary reporting of GLS usage to minimize the amount of time it takes to collect the data

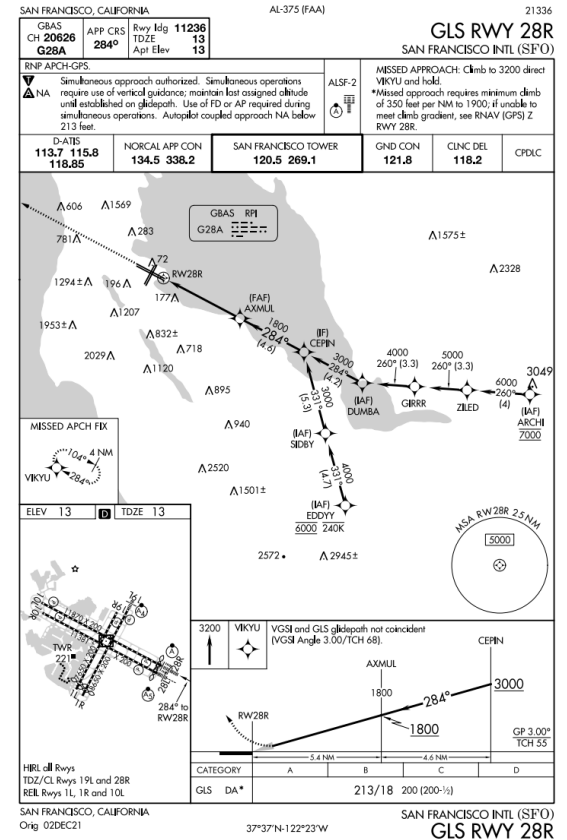
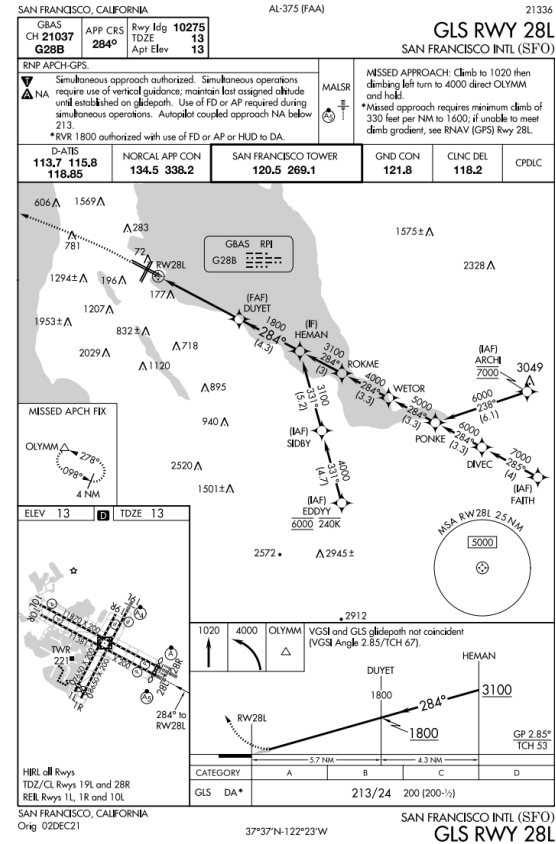
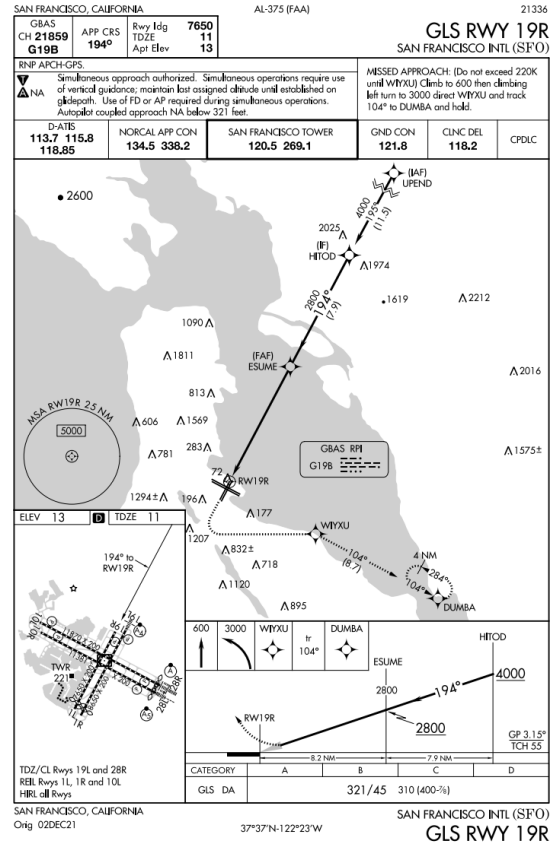
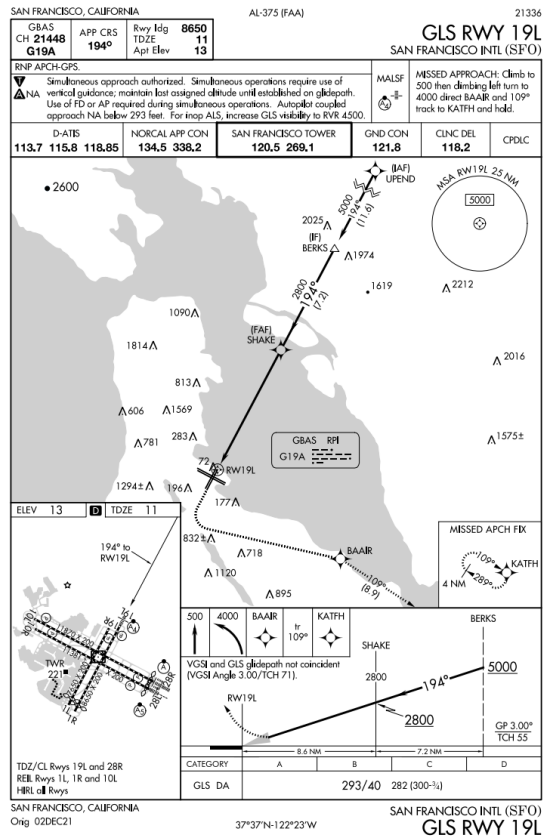
1. Continue to gain experience operating the GBAS
2. Refine GBAS Noise Monitoring Report
3. Continue to submit Group 2A procedure concepts to gbas@flysfo.com
4. Continue to answer questions from the public
(<https://noise.flysfo.com/2021/05/17/presentations-and-answers-to-public-questions-regarding-gbas/>)

Questions



<https://noise.fly.sfo.com>

Gain Experience: Current SFO GLS Overlay Approaches



GLS Overlays published on 02DEC21 with new missed approach on 19L/19R

19L ILS, RNAV and 19R RNAV missed approach updates are now scheduled to be published 15JUN23

GLS Updates in the IFP Gateway (16AUG22)

GLS RWY 10L, ORIG	SAN FRANCISCO INTL	SFO (KSFO)	SAN FRANCISCO, CA	6/15/2023	Pending	
GLS RWY 10R, ORIG	SAN FRANCISCO INTL	SFO (KSFO)	SAN FRANCISCO, CA	6/15/2023	Pending	
GLS U RWY 28R, ORIG	SAN FRANCISCO INTL	SFO (KSFO)	SAN FRANCISCO, CA	6/15/2023	Pending	
GLS W RWY 28R, ORIG	SAN FRANCISCO INTL	SFO (KSFO)	SAN FRANCISCO, CA	6/15/2023	Pending	
GLS X RWY 28R, ORIG	SAN FRANCISCO INTL	SFO (KSFO)	SAN FRANCISCO, CA	6/15/2023	Pending	
GLS Y RWY 28L, ORIG	SAN FRANCISCO INTL	SFO (KSFO)	SAN FRANCISCO, CA	6/15/2023	Pending	
GLS Y RWY 28R, ORIG	SAN FRANCISCO INTL	SFO (KSFO)	SAN FRANCISCO, CA	6/15/2023	Pending	

← GLS-A Rwy 10L

← GLS-A Rwy 10R

← GLS-R Rwy 28R

← GLS-DB Rwy 28R

← GLS-BV Rwy 28R

← GLS-TT Rwy 28L

← GLS-TT Rwy 28R

SFIA will be required to monitor the utilization, performance and noise of the procedures for at least 1 year following implementation

Anticipated publication date for these procedures will slip past 15JUN23

SFIA GBAS Project Team has updated CFPP Flight Inspection Graphics to reflect FAA approach ident

GLS-T Rwy 28R may need to be added for GLS-BVE due to challenge combining the Bridge Visual from ARCHI and the Bridge Visual from EDDYY to meet at the same IF.