



# Meeting Announcement

## Technical Working Group

**Tuesday, January 17, 2023**

**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

Attachments: Memo and Resolution of Approval

pg.3

### REGULAR AGENDA

#### 3. Initial Feedback on SFO Roundtable Suggested GLS Procedures

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

Attachments: SFO GBAS & GLS Presentation

pg. 8

#### 4. Discussion of Initial Feedback on SFO Roundtable Suggested GLS Procedures

Sam Hindi, Chairperson

Eugene Reindel, Technical Consultant

Roundtable Members

#### 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](mailto: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.



January 13, 2023

**TO:** Technical Working Group

**FROM:** Kathleen Wentworth, Roundtable Coordinator

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

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**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 is 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 November 10, 2023, the TWG membership adopted a resolution wherein the membership found, among other things, 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.

**RECOMMENDATION:**

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 imminent risks to the health or safety of attendees. Adopt 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

Attachment(s):

a. Resolution TWG23-01

## RESOLUTION NO. TWG23-01

**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**

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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 November 10, 2022, the San Francisco Airport/Community Roundtable TWG 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 Technical Working Group has not met since its meeting in November 10, 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/TWG 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

Initial Feedback on SFO Roundtable Suggested GLS  
Procedures  
January 17, 2023





1. Initial Feedback on Roundtable Suggested Procedures
2. Process for Implementing 2A Procedures and Increasing Utilization
3. Next Steps

# Feedback on SFO Roundtable Suggested GLS Procedures



## SFIA GBAS Flight Procedures Subcommittee Feedback on Roundtable Suggested Procedures

Several of the suggested procedures will be explored through the Group 2A process

Procedures related to direct tie-ins to PIRAT and BDEGA (west) STARs have ATC automation constraints that will require them to be considered in Group 2B and 3

2 suggestions were considered beyond the scope of the GBAS project

1 suggestion can not proceed at this time due to safety issues encountered at other airports in the NAS with similar simultaneous approach designs

Possibility to explore a revised Increased Utilization via NCT LOA that would prioritize nighttime arrival/approach operations into SFO using increasingly overwater approaches to 28R (GLS-U, RNP-Y and Group 2A concepts)

# Overview of SFO Roundtable Suggested Procedures and SFIA GBAS Subcommittee Feedback

Suggested Procedure	Description	GBAS Project Team Feedback	Next Steps
1	Down the Bay to RNP-Y	Group 2A	Produce CFPPs in FEB/MAR23
2 A	RNP-Y / GLS-U Initial Approaches from BDEGA (West)	Group 2B or 3	Save and review during "Increased Utilization Phase" or during Group 2B/3 outreach
2 B	Slight Modification to RNP-Y / GLS-U	Group 2A	Produce CFPPs in FEB/MAR23
2 C	RNP-Y / GLS-U Initial Approaches from PIRAT	Group 2B or 3	Save and review during "Increased Utilization Phase" or during Group 2B/3 outreach
3 A	RNP-Y / GLS-U Initial Approaches from BDEGA (West)	Group 2B or 3	Save and review during "Increased Utilization Phase" or during Group 2B/3 outreach
3 B	Significant Modification to RNP-Y / GLS-U	Group 2A	Produce CFPPs in FEB/MAR23
3 C	RNP-Y / GLS-U Initial Approaches from PIRAT	Group 2B or 3	Save and review during "Increased Utilization Phase" or during Group 2B/3 outreach
4	Changes to STINS/STLER	Beyond GBAS Project Scope	Pursue via FAA CEO request or revisit following MARS criteria (Group 3)
5	Changes to Arrivals from the Southeast	Beyond GBAS Project Scope	Pursue via FAA CEO request
6	Revised 28L/28R Simultaneous approach Design	Non-GBAS Safety issues at other airports in the NAS	Revisit following FAA exploration of simultaneous approach criteria

# SFO Roundtable Community GLS Concepts: 1

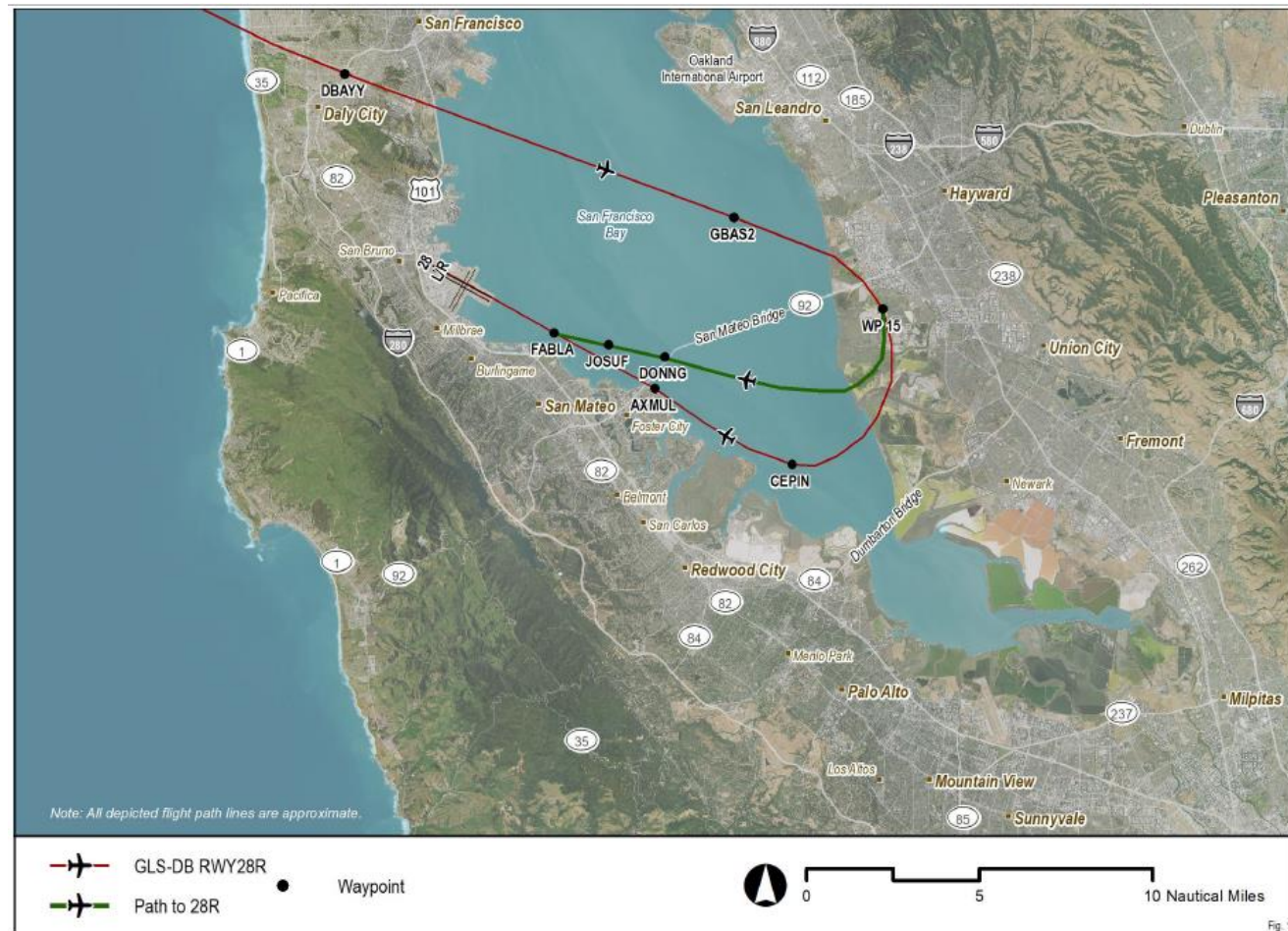
Suggestion 1: Down the Bay to RNP-Y / GLS-U

Potential extension/progression of the Group 1 GLS-W procedure

Initial TARGETS/GPD evaluation shows that a turn from WP15 to GUTTS or DONNG can be achieved with RF legs (25 degree bank angle)

Direct turn to DONNG may encroach on Class B boundary

Proceed to Group 2A for noise analysis



EXAMPLE: suggested modification of the GBAS "Down the Bay" (red line) to incorporate an offset path to 28R until passing the San Mateo Bridge (green line)

Meeting 341  
Packet Page 34

# SFO Roundtable Community GLS Concepts: 2A

## Suggestion 2A: BDEGA (West) to RNP-Y / GLS-U

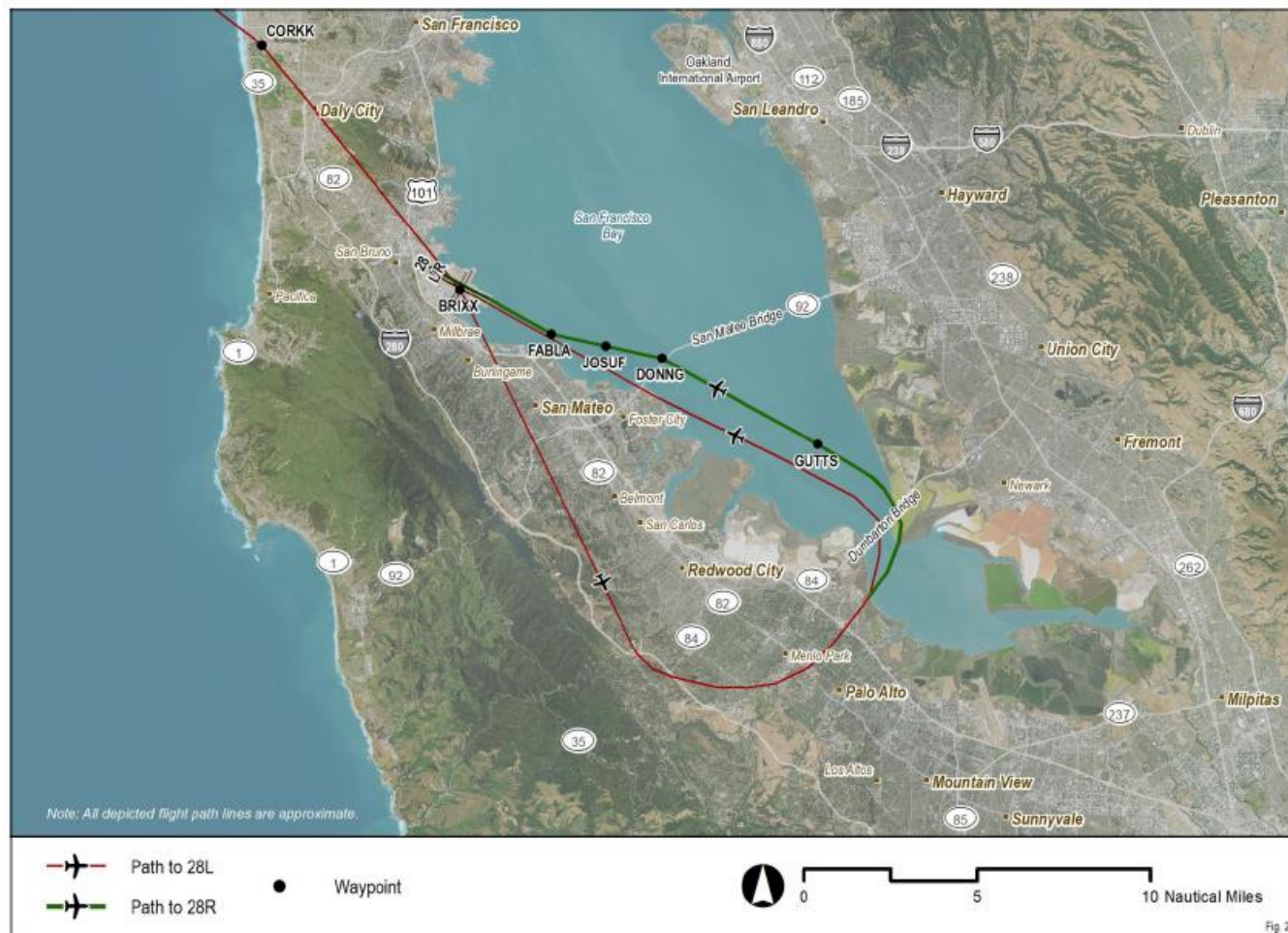
Create new initial approach transition from BDEGA West to RNP-Y / GLS-U

Initial TARGETS/GPD evaluation shows that the procedure is feasible with the introduction of new waypoints

SFIA GBAS Subcommittee has evaluated this concept in detail over the past 2-3 years and found that current aircraft separation practices require all (or most) BDEGA (West) aircraft to be vectored either laterally, vertically, or both

Due to current separation workloads any GLS procedures that connect to BDEGA (West) are currently considered to be Group 2B or Group 3 concepts

Consider pursuing increased use of RNP-Y (or GLS-U) during late night operations as a modification to the nighttime approach LOA



Green line: suggested offset path to 28R until passing the San Mateo Bridge

## Suggestion 2B: Slight Modification to GLS-U

Modify the GLS-U to split off towards GUTTS at a slightly different location over Highway 84

Current turn over the water occurs at SIDBY, proposed route would shift it closer to CHERA

Initial TARGETS/GPD evaluation shows that the procedure is feasible

Proceed to Group 2A for noise analysis



Green line: suggested offset path to 28R until passing the San Mateo Bridge

# SFO Roundtable Community GLS Concepts: 2B

## Existing Procedure Paths vs Potential Concept





# SFO Roundtable Community GLS Concepts: 2C

## Suggestion 2C: PIRAT to RNP-Y / GLS-U

Create new initial approach transition from PIRAT to RNP-Y / GLS-U

Initial TARGETS/GPD evaluation shows that the procedure is feasible with the introduction of new waypoints

SFIA GBAS Subcommittee has evaluated this concept in detail over the past 2-3 years and found that current aircraft separation practices require all (or most) PIRAT aircraft to be vectored either laterally, vertically, or both

Subcommittee also indicated that PIRAT STAR is currently not being used due to community noise concerns (though members would like to find a way to restore use of the STAR)

Consider pursuing increased use of RNP-Y (or GLS-U) during late night operations as a modification to the nighttime approach LOA



Red line: PIRAT Arrival track and 060° heading.  
Green Line: suggested offset path to 28R until passing the San Mateo Bridge

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Screen Capture from 20221114TWG.PDF

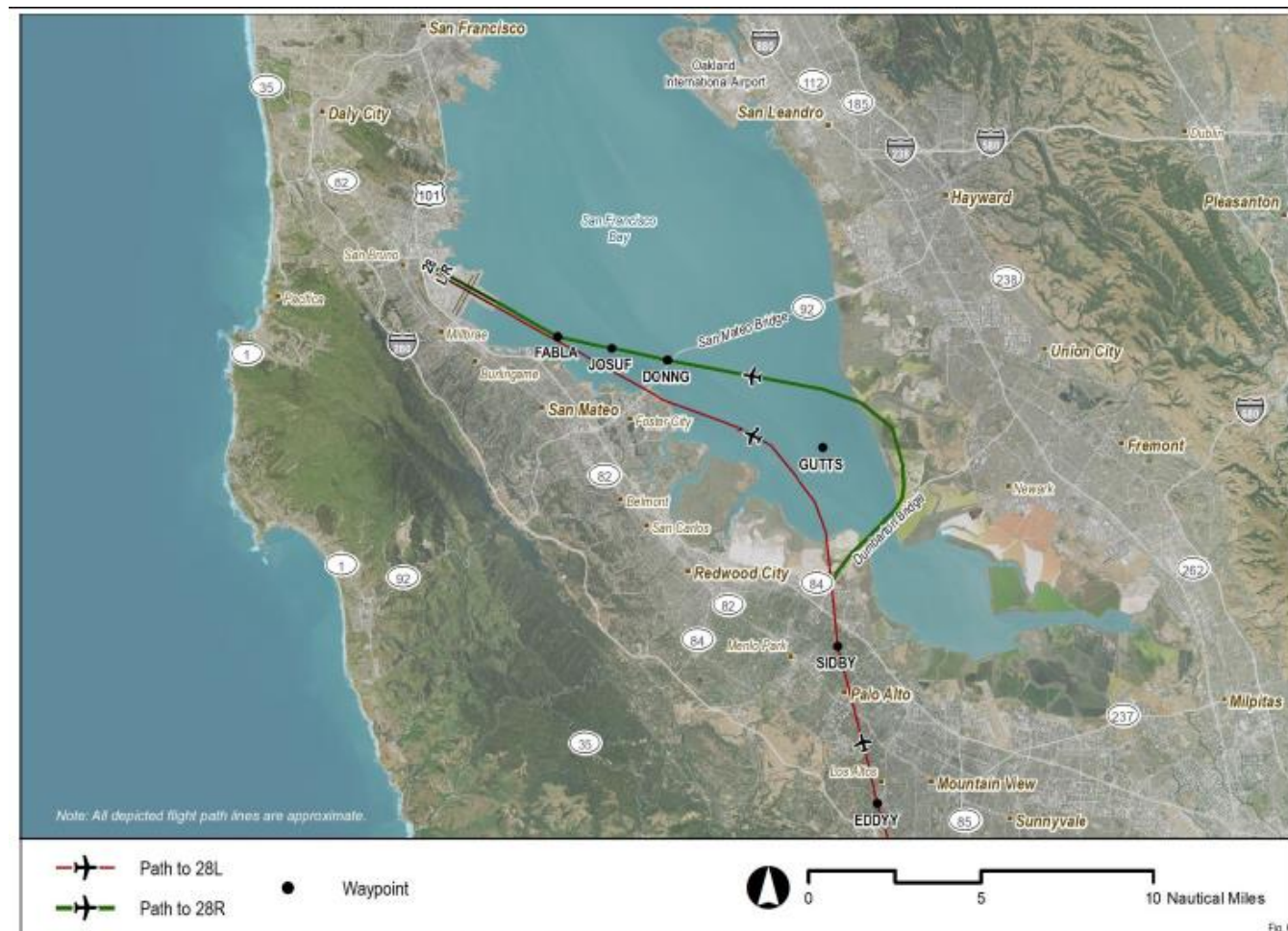
## Suggestion 3B: Significant Modification to GLS-U

Modify the GLS-U to split off towards GUTTS along the Dumbarton Bridge

Initial TARGETS/GPD evaluation shows that the procedure is feasible although it introduces 2-3 extra Nmi in track miles

Path will conflict with OAK arrivals, but may be possible for use under limited nighttime operations

Proceed to Group 2A for noise analysis

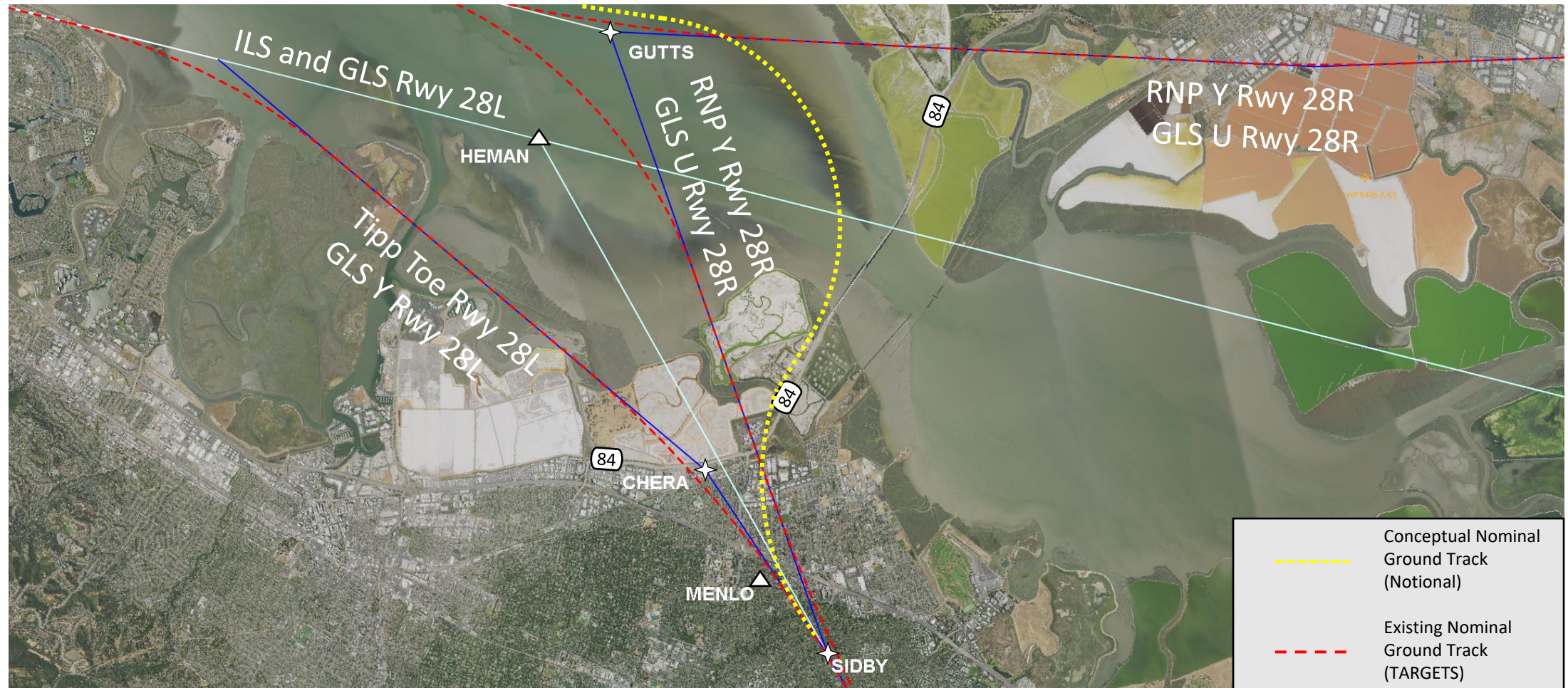


Green line: suggested wide circuitous offset path to 28R until passing the San Mateo Bridge

Screen Capture from 2022114TWG.PDF

# SFO Roundtable Community GLS Concepts: 3B

## Existing Procedure Paths vs Potential Concept



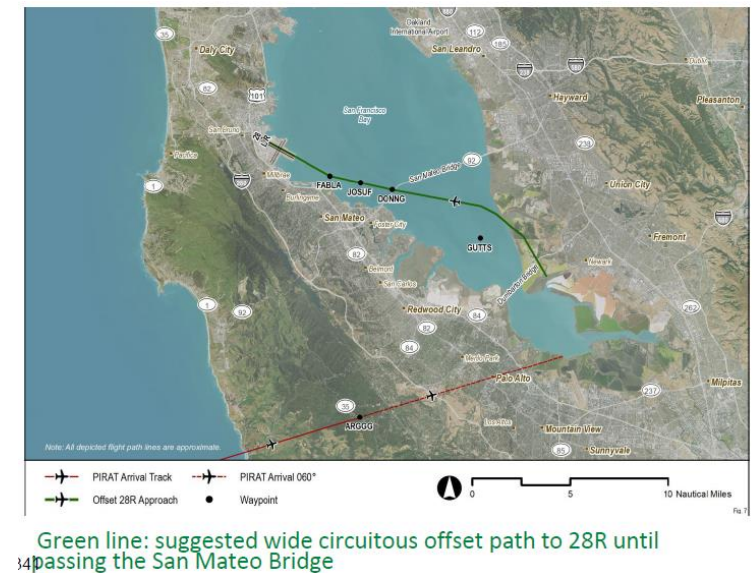
# SFO Roundtable Community GLS Concepts: 3A/3C

Suggestion 3A/3C: Significant Modification to GLS-U and connection to BDEGA (West) and PIRAT

Modify the GLS-U to split off towards GUTTS along the Dumbarton Bridge with connections to the BDEGA (West) and PIRAT STAR

Initial TARGETS/GPD evaluation shows that the procedures are feasible

Due to current aircraft separation workloads, GLS procedures that connect to BDEGA (West) or PIRAT are considered to be Group 2B or Group 3 concepts



Screen Captures from 20221114TWG.PDF

# SFO Roundtable Community GLS Concepts: 4

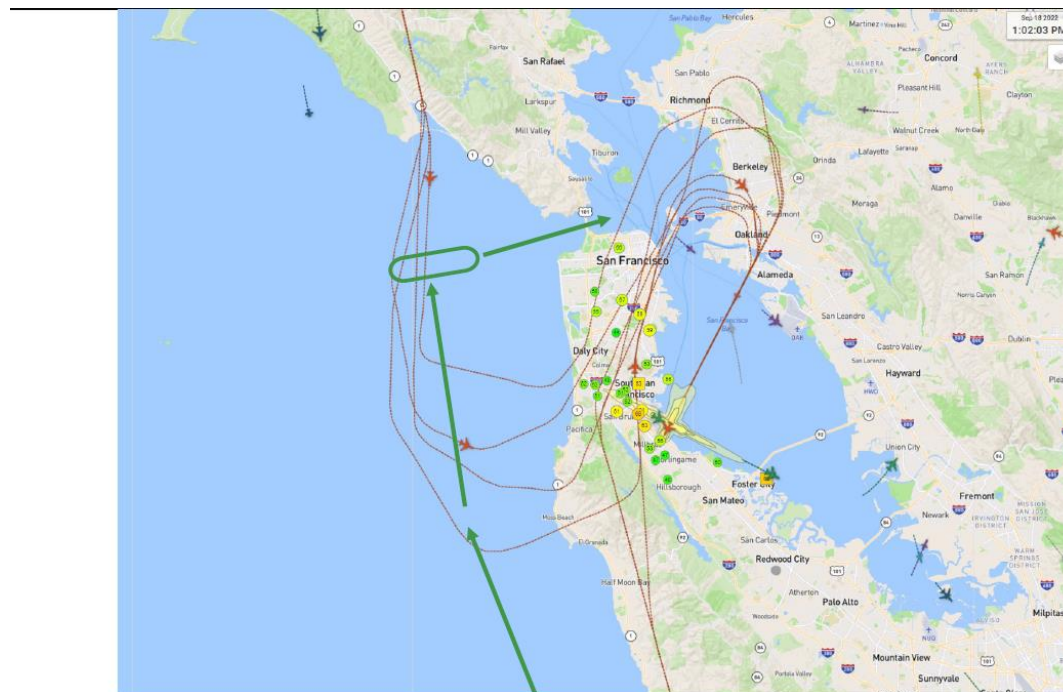
## Suggestion 4: New Arrival Procedure During Southeast Flow

Create a new arrival concept to sequence additional aircraft over the Pacific prior to arriving on the 19s

Concepts as shown was considered by SFIA GBAS Subcommittee to be a ZOA level change (Oakland Center) which is beyond the scope of the SFIA GBAS project

Subcommittee recommends pursuing this through the FAA CEO if interested

Current, and upcoming technology enhancements, are not likely to produce GLS approaches that will deconflict SFO 19R/19L approaches from OAK Rwy 12 arrivals until Group 3 (MARS)



Red lines indicate actual flight tracks over coast and San Francisco on September 18, 2022 from SFO Flight Trak website  
Green lines indicate a suggestion only for a possible GBAS procedure largely remaining over water

Screen Capture from 2022114TWG.PDF

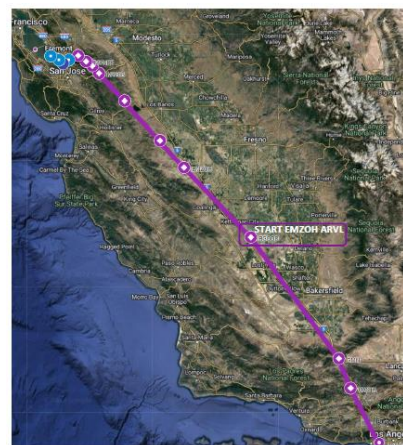
# SFO Roundtable Community GLS Concepts: 5

## Suggestion 5: Shared Southeast Arrival Stream OAK/SFO

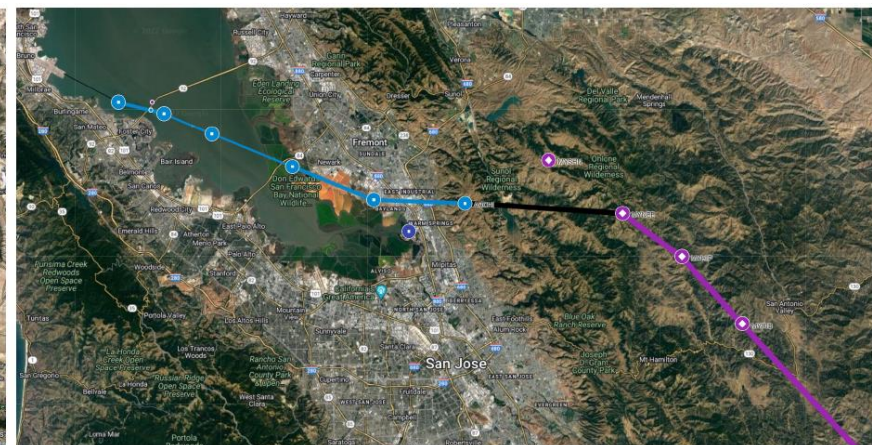
Modify the existing southeast arrival stream, during low traffic, to enable SFO and OAK arrivals to use EMZOH

Concepts as shown was considered by SFIA GBAS Subcommittee to be a ZOA level change (Oakland Center) which is beyond the scope of the SFIA GBAS project

Recommended to pursue this through the FAA CEO separate from the GBAS project



EXAMPLE: LAX to BAY AREA with (OAK) EMZOH Arrival [existing routing]



EXAMPLE: (OAK) EMZOH Arrival to MYNEE Waypoint [existing routing] TO [BLACK] ROUTE [not existing] TO OFFSET ARRIVAL to 28R (EXAMPLE shown here is the existing RNAV(RNP)Y to SFO)

Screen Captures from 20221114TWG.PDF

# SFO Roundtable Community GLS Concepts: 6

## Suggestion 6: Dual Offset Approaches to 28L and 28R

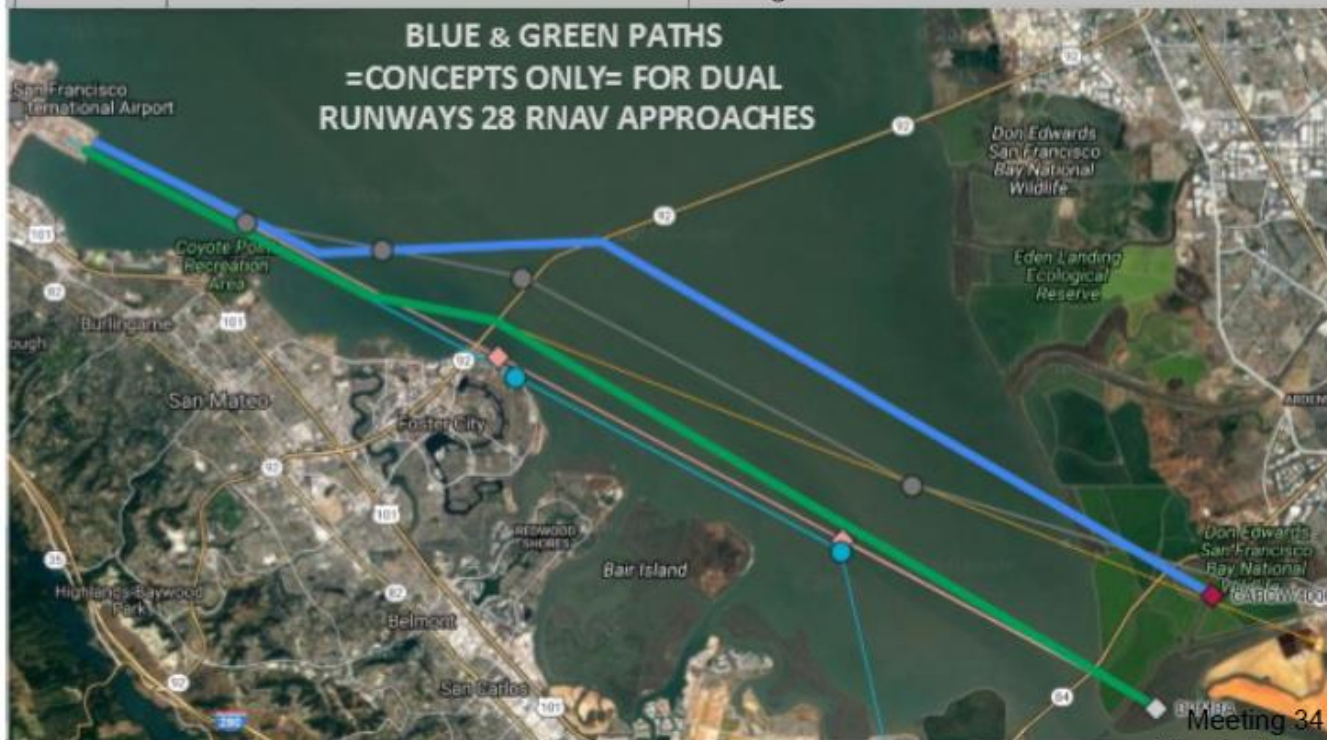
Standalone offset approaches to rwy 28L are possible under low traffic periods, however subcommittee participants prefer using offset approaches to 28R for noise abatement

Under simultaneous operations the concept of having both 28L and 28R intermediate or final approach paths "converging" (even slightly) has encountered safety issues related to TCAS at other airports in the NAS where this was evaluated

Subcommittee does not recommend pursuing this concept through the GBAS Project at this time until FAA ongoing evaluation of simultaneous approach operations has been completed (likely after Group 2A outreach is completed)

### EXECUTIVE WORKING OUTLINE SFO AIRPORT/COMMUNITY ROUNDTABLE RESPONSE TO FAA INITIATIVE

<b>RWY 28 APPROACHES</b> Foster City	Determine the feasibility of creating dual offset (VMC or IMC) RNAV, RNAV (RNP) or other type of approach to Runway 28L <b>and</b> to Runway 28R.	This requested concept would create two offset paths with both the 28L path and the 28R path remaining well clear of Foster City and other bayside communities until past the San Mateo Bridge when aircraft would then line up with each runway for landing.
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Screen Capture from 20221114TWG.PDF

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5	Changes to Arrivals from the Southeast	Beyond GBAS Project Scope	Pursue via FAA CEO request
6	Revised 28L/28R Simultaneous approach Design	Non-GBAS Safety issues at other airports in the NAS	Revisit following FAA exploration of simultaneous approach criteria



# Implementing Group 2A Procedures and Increasing Utilization



# Implementing Group 2A Procedures

## SFO GBAS Project Team Estimated Implementation Date for Procedure Group

2022	2023/24*	2025/26*	2026-28**	2030+**
<p><b>Gain Experience (Overlays)</b></p> <p>Overlay Approaches</p> <p>Stakeholder Training and Operations</p> <p>Maintain Non-Federal NAVAID</p>	<p><b>Expand Capabilities (Group 1)</b></p> <p>Down the Bay Approach</p> <p>Higher GPA Approaches</p> <p>GLS in CSPR</p> <p>Autopilot to Touchdown</p>	<p><b>Increase Utilization</b></p> <p>Nighttime GLS Ops</p> <p>Implement A-RNP with GLS</p>	<p><b>Innovate &amp; Improve (Group 2B)</b></p> <p>Utilize SFO A-RNP and GLS in Multiple Airport Route Separation (MARS) for Bay Area Airports</p> <p>Enhanced Dispersion with TBFM for SFO</p> <p>Enhanced Dispersion with TBFM for Bay Area</p>	<p><b>Innovate &amp; Improve (Group 3)</b></p> <p>Virtual Displaced Threshold</p> <p>Terminal Area Path (GLS Precision for Aircraft Separation)</p> <p>Automated Dispersion (with TAP)</p> <p>GLS CAT III</p>
		<p><b>Innovate &amp; Improve (Group 2A)</b></p> <p>Higher altitude approach/arrivals</p> <p>GLS CAT II**</p>	<p>FAA ATCT Staffing/Technology</p>	

Measure Utilization, System Availability, Noise, ATCT Feedback and Pilot Feedback

**Collaborate** Research, Technology, Criteria, Infrastructure and Experience through interactions with FAA, Global Aviation Community, Academia and Residents of the Bay Area

GLS CAT III in 2030+ is not a reflection of SFO desired timeline and may be relocated  
 Based on progress between FAA ANG, Honeywell and UIC Stakeholders

SFIA GBAS Flight Procedures Subcommittee is currently exploring the following procedures for Group 2A

- GLS CAT II Rwy 28R – Addition of CAT II minimums to current GLS overlay approach on Rwy 28R
- GLS CAT II Rwy 19L – Addition of CAT II minimums to current GLS overlay approach on Rwy 19L
- GLS SB Rwy 19L - New approach to Rwy 19L which overlays vector path used heavily by NCT during Southeast Flow
- GLS DBN Rwy 28R – Roundtable suggested procedure
- GLS OW1 Rwy 28R – Roundtable suggested procedure
- GLS OW2 Rwy 28R – Roundtable suggested procedure

SFIA GBAS Project team plans to produce CFPPs for these procedures for publication on the [noise.flysfo.com](https://noise.flysfo.com) website and present them to the SFO Roundtable TWG in MAR23

# Group 2A Concepts to CFPPs

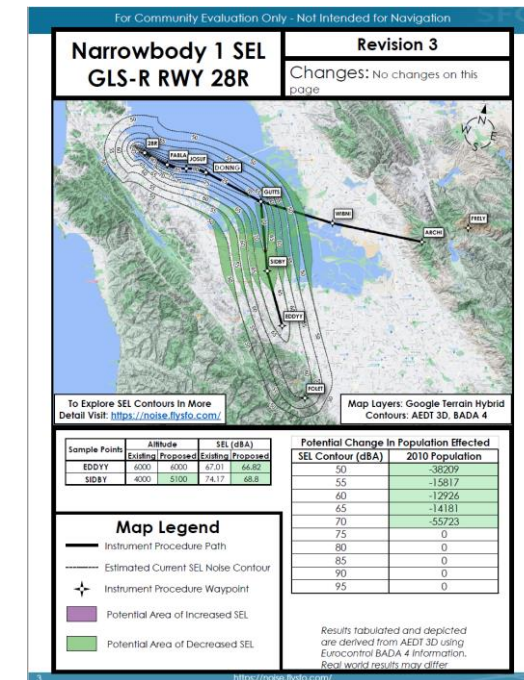
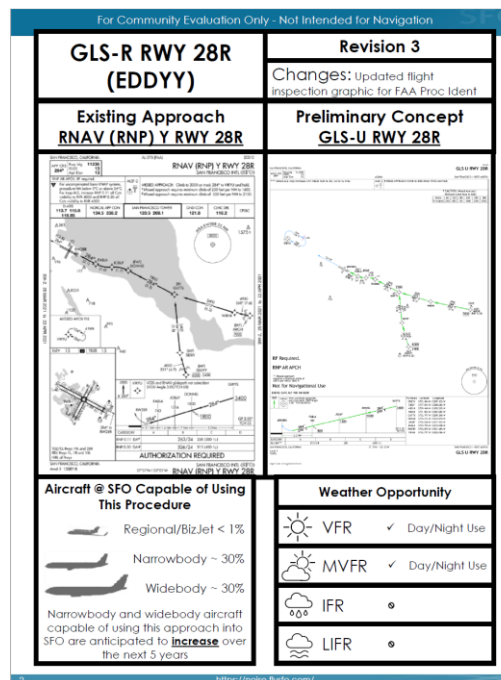
GLS DBN is considered a variation to the upcoming GLS W Rwy 28R (30NOV23)

GLS OW1 and GLS OW2 are considered variations to the upcoming GLS U Rwy 28R (30NOV23)

CFPP SEL noise comparisons for those approaches will compare the following

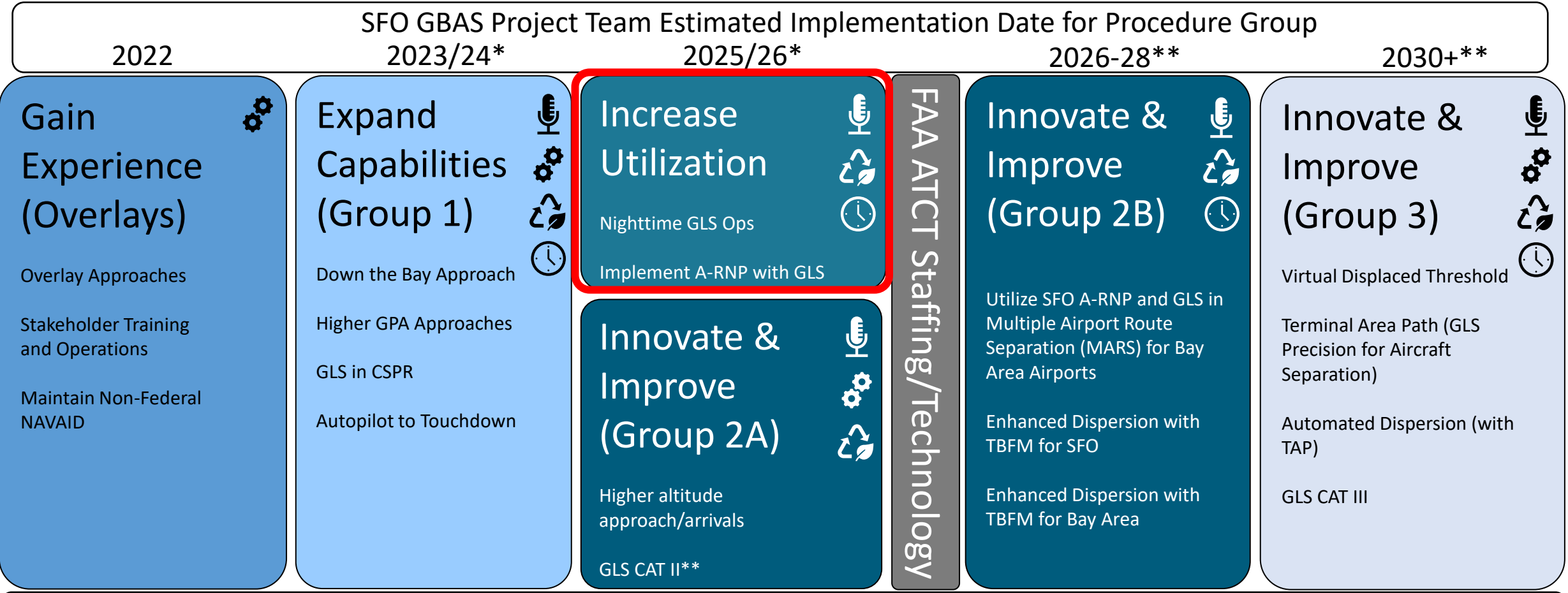
Preliminary Concept	Existing Approach
GLS DBN Rwy 28R	GLS W Rwy 28R
GLS OW1 Rwy 28R	GLS U Rwy 28R
GLS OW2 Rwy 28R	GLS U Rwy 28R

Additional noise comparisons (beyond the CFPPs) may be generated and presented during future Roundtable TWG, OAK Noise Forum and/or other community aviation noise meetings



# Increasing Utilization

## SFO GBAS Project Team Estimated Implementation Date for Procedure Group



**Measure** Utilization, System Availability, Noise, ATCT Feedback and Pilot Feedback

**Collaborate** Research, Technology, Criteria, Infrastructure and Experience through interactions with FAA, Global Aviation Community, Academia and Residents of the Bay Area

GLS CAT III in 2030+ is not a reflection of SFO desired timeline and may be relocated  
 Based on progress between FAA ANG, Honeywell and UIC Stakeholders

# Increasing Utilization of GLS

## Process of Increasing GLS and Nighttime Instrument Approach Usage

Current GBAS Strategic Plan involves evaluation of innovative GLS procedures to identify which ones are the best candidates for

- Increased utilization during VFR conditions
- Increased nighttime utilization (LOA)
- Conversion into A-RNP

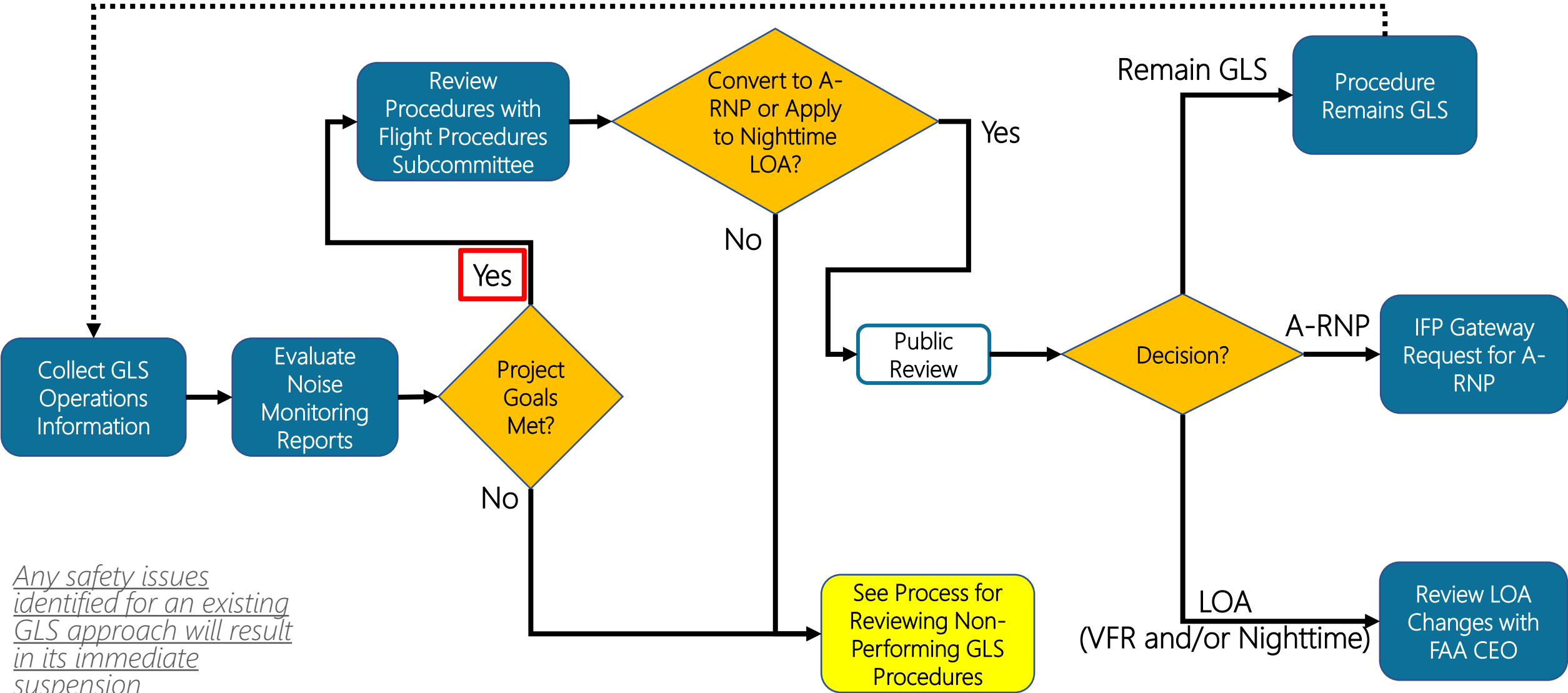
Once a GLS procedure is converted to A-RNP (with GLS mins) the approach path can be flown by other non-GLS aircraft

Once a GLS procedure is converted to A-RNP, SFIA can no longer deactivate its usage via the airport owned GBAS\*

Increased utilization procedure decisions will be evidence based and reflect community feedback to guide which procedures should be available for all aircraft at SFO and/or which ones should be used more extensively at nighttime via LOA

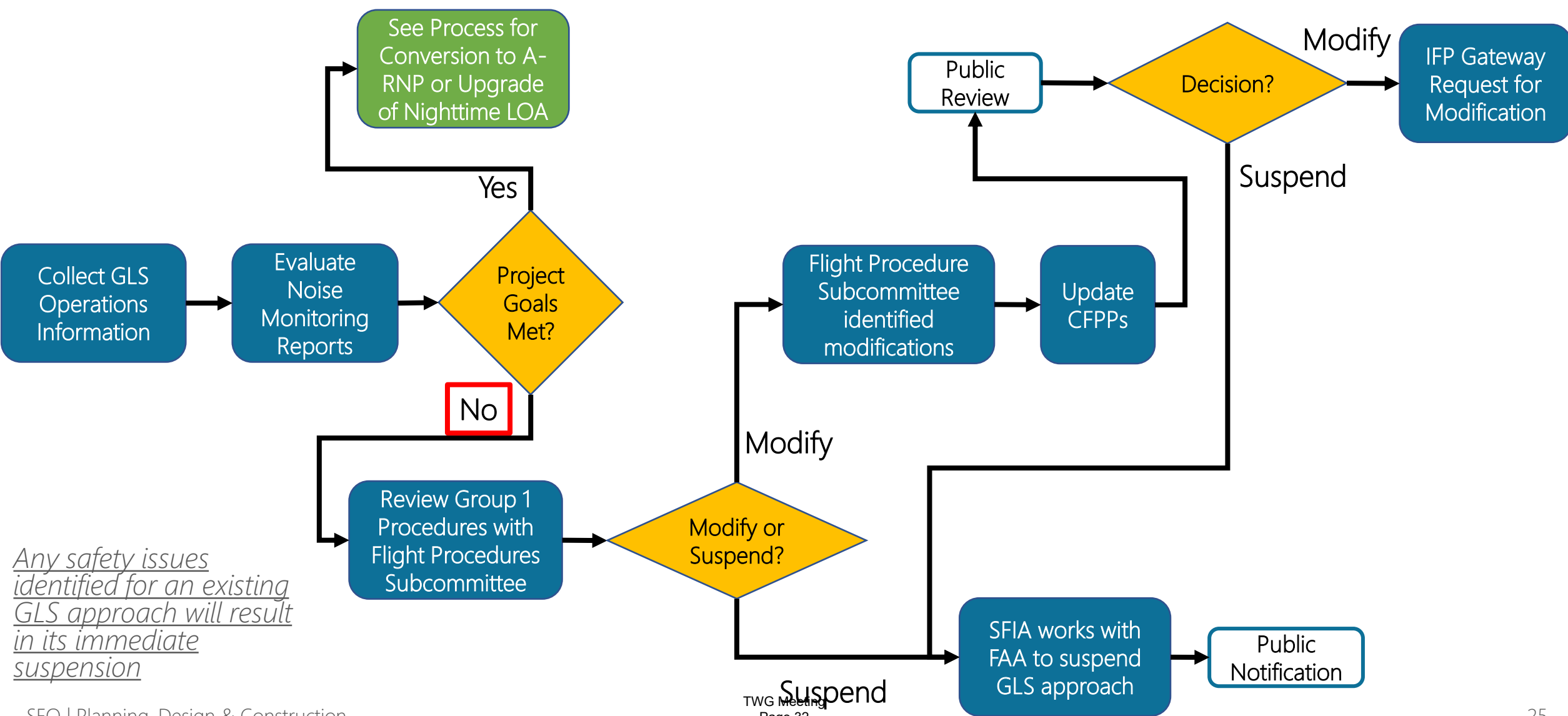
SFIA anticipates that the process of examining candidate procedures for could take between 6 to 24 months, following their implementation, to gather data, consider feedback and implement the changes

# Increased Utilization: Process for Conversion of GLS to A-RNP or Upgrade of Nighttime LOA



*Any safety issues identified for an existing GLS approach will result in its immediate suspension*

# Process for Reviewing Non-Performing GLS Procedures



*Any safety issues identified for an existing GLS approach will result in its immediate suspension*



# Implementing Group 2A Procedures and Increasing Utilization Decisions

FAA has demonstrated outstanding willingness to achieve the SFIA GBAS project goals by developing innovative GLS procedures

There are limits on how many public GLS procedures can practically be maintained/used per runway

- SLS-4000 GBAS Can maintain 40 procedures
- By the end of Group 1 implementation
  - ✦ SFO will have 12 GLS Approaches serving 6 runway ends (tied with FRA)
  - ✦ Runway 28R will have a total of 14 GLS and Non-GLS approach procedures

Due to the large number of procedures serving Rwy 28R, some of the Group 2A procedures will need to be evaluated as an enhancement to existing GLS approaches (like the GLS-U) instead of as additional approaches

We will be seeking input on the Group 2A GLS OW1 Rwy 28R and GLS OW2 Rwy 28R concepts regarding whether the procedures are

- Acceptable for use and
- Preferred for use between the GLS U Rwy 28R, GLS OW1 Rwy 28R and GLS OW2 Rwy 28R

## FEB23:

- SFO to publish Group 2A concepts as CFPPs, including interactive SEL contours on [noise.flysfo.com](https://noise.flysfo.com)
  - GLS CAT II Rwy 28R
  - GLS CAT II Rwy 19L
  - GLS SB Rwy 19L
  - GLS DB1 Rwy 28R
  - GLS OW1 Rwy 28R
  - GLS OW2 Rwy 28R

## MAR23:

- SFO to review Group 2A CFPPs at the MAR TWG Meeting

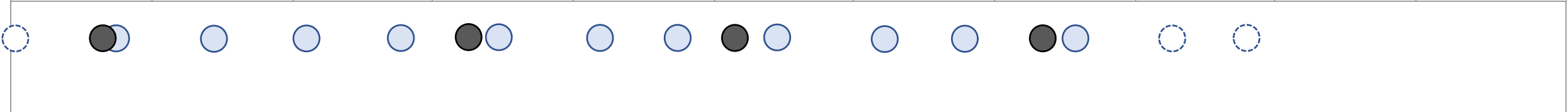
## MAR23 – DEC23:

- Public feedback on Group 2A CFPPs

SFIA GBAS Project team hopes for SFO Roundtable approval to proceed to IFP Gateway request for development by DEC23

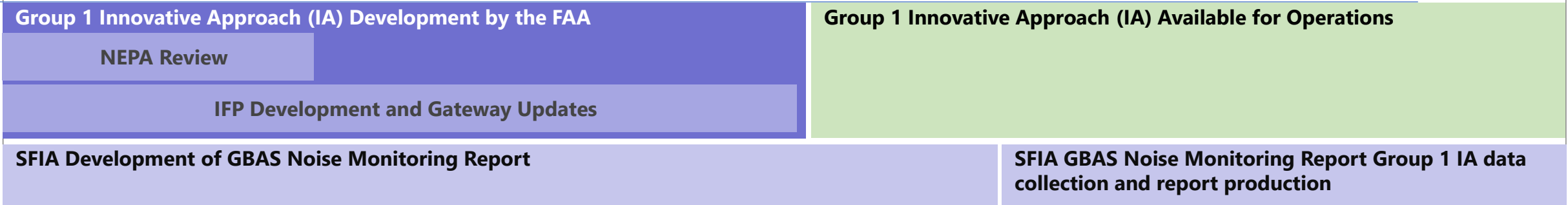
# SFIA GLS Procedure Development Schedule and Planned Outreach

Q3 2022 | Q4 2022 | Q1 2023 | Q2 2023 | Q3 2023 | Q4 2023 | Q1 2024 | Q2 2024 | Q3 2024 | Q4 2024 | ....2025/26

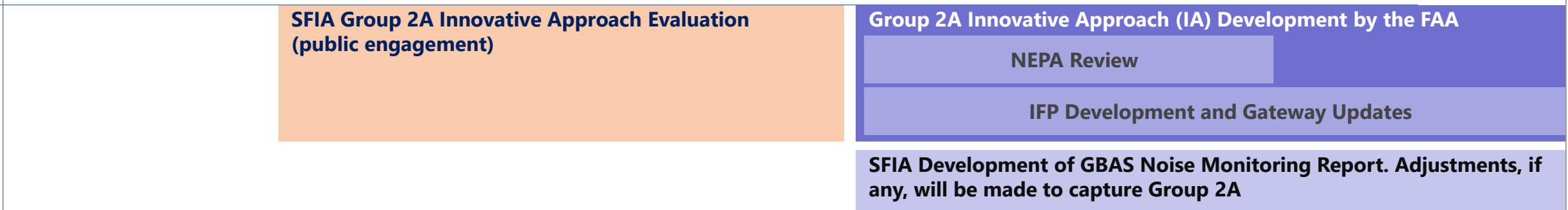


**GLS Overlays Available for Operations**

**GROUP 1**



**GROUP 2A**



- SFO Roundtable TWG presentation
- SFO Roundtable TWG update  
TWG Meeting  
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- Other Public Presentation  
(LATO/IGWG, and others)

# Questions?



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