



September 11, 2018

TO: Roundtable Representatives, Alternates, and Interested Persons

FROM: James A. Castañeda, AICP, Roundtable Coordinator

SUBJECT: Roundtable Technical Working Group September 13, 2018 Overview/Packet

The purpose of this meeting is to wrap-up the discussions from the past four Technical Working Group (TWG) meetings where the FAA's responses to the Roundtable's recommendations to the 2016 FAA Initiative were discussed and discuss the Roundtable's future engagement with the FAA as they begin to re-engage with the Roundtable at our meetings.

The first objective is to prioritize those items of which to be advanced by the Roundtable in the short term, as well as use that information to 1) help guide development of topics and questions to engage with the FAA, and 2) develop the forthcoming Roundtable Annual Work Plan. The second objective of this meeting is to formalize the process of determining which topics and questions will be presented to the FAA to be prepared to be discussed at a future TWG meeting. In the interest of time, the Roundtable Chairperson, with the advisement of staff, has selected the topics/questions for the FAA to address at for the August 1, 2018 regular meeting, and the forthcoming October 3, 2018 regular meeting (attached). The goal is to develop a process to evaluate and strategize on our proposed topics to take advantage of our engagement opportunities with the FAA that yields useful information and productive technical dialogue.

Attached is a list of potential priority items based on the discussions had during the last four TWG meetings in 2018, as well as other inquiries/questions submitted from Roundtable members and constituents to discuss as future topics/questions.

AGENDA

1. Work Plan Update Status
2. Review of Priority Work Plan Items from prior 2018 Technical Working Group meetings
3. Formalize Vetting and Prioritization Process of Future FAA Discussion Topics and Questions
4. Discuss and Formalize FAA Discussion Topics/Question for next TWG Meeting
5. Ground-Based Augmentation System (GBAS) Update
6. Summarize Action Items
7. Public Comments on Items NOT on the Agenda
8. Adjourn

Attached:

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| 1) Possible Work Plan Items and Initial Prioritization Based on 2018 TWG Summaries | pg 2 |
| 2) Summary of TWG meetings | pg 4 |
| 3) Questions submitted for 10/3/2018 Roundtable Regular Meeting | pg 28 |
| 4) Suggested Questions from Public Member "AI" (8/15/2018) | pg 30 |
| 5) Suggested Questions from City and County of San Francisco Board of Supervisors (8/27/2018) | pg 38 |
| 6) Suggested "MENLO" proposed rewording, Darlene Yaplee (9/3/2018) | pg 43 |



September 11, 2018

TO: Roundtable Members and Interested Parties

FROM: Justin W. Cook – INCE, LEED GA
Roundtable Technical Consultant - HMMH

SUBJECT: Possible Work Plan Items and Initial Prioritization Based on 2018 TWG Summaries

The initial prioritization done below was based on the 2018 Technical Working Group (TWG) summaries of the meeting discussions.

1. Nighttime Operations – NIITE/HUSSH South Transition (GOBBS) Over Bay
 - Maximize use of procedures that route aircraft over the Bay (GOBBS) when departing to southerly destinations.
 - Note e-mail concern from Elizabeth Lopez.
Who to Work With? FAA
Provide Relief to Communities Such As: Brisbane, Daly City, Pacifica
Shifting Noise? No – Over Bay

2. Nighttime Operations – Use Decommissioned DUMBARTON Procedure or Create New Procedure that Mirrors It
 - This procedure was mainly used in the winter during winds coming from the South.
Who to Work With? FAA
Provide Relief to Communities Such As: Brisbane, Daly City, Pacifica
Shifting Noise? No – Over Bay

3. Nighttime Operations – South Arrivals Route to Terminate East of Bay to Runway 28R
 - FAA response appeared to be focused on daytime hours in regards to SJC and complicated airspace. Focus is on the nighttime when less airspace traffic and SJC has curfew.
Who to Work With? Northern California TRACON
Provide Relief to Communities Such As: Foster City, East Palo Alto
Shifting Noise? No – Over Bay

4. Nighttime Operations – Runway 01 Departures – 050 Degree Heading
 - Utilize the heading without increasing the number of departures utilizing Runway 01.
 - Note that since this conflicts with BDEGA East Downwind procedure, a percentage and/or priority may need to be established between these two.
Who to Work With? Northern California TRACON
Provide Relief to Communities Such As: Brisbane, Daly City, Pacifica
Shifting Noise? No – Over Bay

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5. Near Bay Daytime Operations – Runway 01 Departures – SSTIK

- SSTIK currently does not include the SEPDY waypoint although most aircraft on this procedure pass over it. An analysis should be done on where to move the SEPDY waypoint and how to incorporate into the procedure.

Who to Work With? FAA

Provide Relief to Communities Such As: Brisbane

Shifting Noise? No – Over Bay

6. Near Bay Daytime Operations – Runway 28 Arrivals – MENLO

- Continue GBAS updates and discussions at future TWG meetings.
- Note e-mail and associated documents from Darlene Yaplee and Marie-Jo Fremont regarding proposed rewording support from Mayor Ohtaki on at or above 5,000 ft MSL.

Who to Work With? FAA

Provide Relief to Communities Such As: Foster City, East Palo Alto

Shifting Noise? No – Over Bay

7. Near Bay Daytime Operations – Runway 01 Departures – NIITE

- Working off of #1 above, add transition to NIITE to route over the Bay (GOBBS).

Who to Work With? FAA

Provide Relief to Communities Such As: Brisbane, Daly City, Pacifica

Shifting Noise? No – Over Bay

Attached: Summary of the 2018 Technical Working Group (TWG) Meetings



September 11, 2018

TO: Roundtable Members and Interested Parties

FROM: Justin W. Cook – INCE, LEED GA
Roundtable Technical Consultant - HMMH

SUBJECT: Summary of the 2018 Technical Working Group (TWG) Meetings Regarding the FAA Initiative Document

On August 15, 2017, the Roundtable's Technical Working Group held their first meeting that focused on reviewing the Federal Aviation Administration's (FAA) Phase 2 Initiative Document¹ and compared the Roundtable's recommendations to the FAA responses that were dated November 2016.

The purpose of the meetings in 2018 was to review and analyze the FAA's Update on Phase 2 Initiative Document² to: 1) determine how the Roundtable should go about monitoring those measures the FAA will implement and 2) determine if there are any opportunities to work with the FAA on items they found not feasible.

The FAA Update on Phase 2 Initiative Document was released in November 2017 and is an update to the interim Phase 2 Initiative Document released in July 2017. The update provides details on 203 items, which consists of the original 104 recommendations and their associated sub-recommendations.

Nighttime Aircraft Operations

Nighttime aircraft operations are generally most concerning to communities near airports and these operations contribute to the aircraft noise exposure due to the 10 decibel penalty added to the noise levels from 10 pm to 7 am in calculating the Community Noise Equivalent Level (CNEL) used for land use compatibility assessments in California. This section provides brief descriptions of the recommended nighttime measures, the FAA responses provided to date and the recommendations resulting from the TWG review grouped into the three areas: recommendations the FAA has or will address, recommendations requiring further analysis/information for the FAA to address and recommendations the FAA determined they would not address.

¹ FAA Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties, Phase Two, Compiled at the Requests of Representatives Farr (Panetta), Eshoo and Speier, July 2017

² FAA Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties, Update on Phase Two, Compiled at the Requests of Representatives Farr (Panetta), Eshoo and Speier, November 2017

Recommendations the FAA Has or Will Address

The following recommended measures include those that the FAA either has or will address through changes to their ongoing implementation of the Northern California Metroplex:

1. North Arrivals Assigned to Historical BDEGA East Downwind

FAA's Update on Phase 2 Initiative Document Reference: Page 24 – Item 7, Page 45 – Item 45, Page 46 – Item 50, Page 47 – Item 52

Summary of Recommendations: Maximize use of procedures that route aircraft over the Bay when arriving from the north, such as the BDEGA East Downwind, to avoid over flying noise sensitive communities during nighttime hours.

Summary of FAA Responses: The FAA will utilize the BDEGA East Downwind procedure to the extent operationally feasible. It was noted that the FAA stated that this recommendation conflicts with the recommendation that Runway 01 nighttime departures be issued the 050° heading and the recommendation that southerly arrivals be routed to an east of the Bay approach.

Summary of TWG Discussion: The use of this procedure can be monitored within the San Francisco International Airport's (SFO) Noise and Operations Monitoring System (NOMS). Begin monitoring the percentage use of the BDEGA East Downwind for all aircraft arrivals from the north during the nighttime hours of 10 p.m. to 7 a.m. The number of arrivals and departures during each nighttime hour can also be monitored to determine the hours in which the FAA should be able to route all arrivals from the north over the Bay. After a few months of monitoring is completed, the TWG can establish goals for the FAA to achieve.

2. Single Stream of Traffic to Runway 28R

FAA's Update on Phase 2 Initiative Document Reference: Page 26 – Item 14, Page 37 – Item 15, Page 45 – Item 44

Summary of Recommendations: Air Traffic Control (ATC) should make every effort, wind/weather permitting) to coordinate arrivals to create a single stream of traffic to land only on Runway 28R at nighttime.

Summary of FAA Responses: The FAA will utilize to the extent of operationally feasible. Runway 28R is listed within NCT's Standard Operating Procedure (SOP) as the preferred arrival runway.

Summary of TWG Discussion: Runway use is already being monitored and reported by SFO's Aircraft Noise Abatement Office (ANAO). The TWG can utilize these reports and additional information from the NOMS to monitor nighttime arrivals to both 28R and 28L. After a few months of monitoring is completed, the TWG can establish goals for the FAA to achieve.

3. NIITE/HUSSH South Transition (GOBBS) Over Bay

FAA's Update on Phase 2 Initiative Document Reference: Page 63 – Item 32

Summary of Recommendations: Maximize use of the NIITE procedure with a goal of 100% utilization from midnight to 6 a.m. and infrequent as possible during the other nighttime hours of 10 p.m. to midnight and 6 a.m. to 7 a.m.

Summary of FAA Responses: The FAA stated that the requirement to remain on NIITE/HUSSH procedures as much as operationally feasible was added to NCT's SOP in February 2017.

Summary of TWG Discussion: The use and whether aircraft stay on this procedure at nighttime can be monitored by creating one or more gates and flight density maps within SFO's NOMS. After a few months of monitoring is completed, the TWG can establish goals for the FAA to achieve.

4. 050 Degree Heading from Runway 01

FAA's Update on Phase 2 Initiative Document Reference: Page 28 – Item 24, Page 39 – Item 22, Page 40 – Items 26 and 28, Page 44 – Item 42, Page 65 – Item 44

Summary of Recommendations: Utilize the 050° heading from Runway 01 without increasing the number of departures utilizing Runway 01.

Summary of FAA Responses: The FAA will utilize to the extent of operationally feasible. The use is listed within NCT's Standard Operating Procedure (SOP). It was noted that the FAA stated that this recommendation conflicts with the BDEGA East Downwind procedure recommendation.

Summary of TWG Discussion: A percentage and/or priority may need to be established between this procedure and the BDEGA East Downwind procedure. The use of this procedure can be monitored by creating one or more gates within SFO's NOMS. After a few months of monitoring is completed, the TWG can establish goals for the FAA to achieve.

5. Preferential Runways for Night Departures

FAA's Update on Phase 2 Initiative Document Reference: Page 29 – Item 26, Page 41 – Item 30, Page 66 – Item 45, Page 67 – Items 50-52

Summary of Recommendations: Utilize SFO's long-standing preferential runways for departures during the nighttime: Runway 10 then Runway 28 and then Runway 01.

Summary of FAA Responses: The FAA stated that while Runway 10 remains the preferred departure runway, the FAA stated that opposite direction operations makes the use highly restrictive. Runway 28 remains the second preferred and Runway 01 the third preferred departure runway.

Summary of TWG Discussion: This is currently being monitored by SFO and contained as an element within their Fly Quiet program. The TWG can utilize these reports and additional information from the NOMS to monitor the runways utilized for nighttime departures.

6. Use Bay for 100% Arrivals from North and West

FAA's Update on Phase 2 Initiative Document Reference: Page 34 – Item 3, Page 62 – Item 29

Summary of Recommendations: Maximize use of procedures that utilize the Bay for 100% of the arrivals from the north and west.

Summary of FAA Responses: The FAA will utilize the BDEGA East Downwind procedure to the extent operationally feasible. It was noted that the FAA stated that this recommendation conflicts with the recommendation that Runway 01 nighttime departures be issued the 050° heading and the recommendation that southerly arrivals be routed to an east of the Bay approach.

Summary of TWG Discussion: This can be lumped together with "North Arrivals Assigned to Historical BDEGA (East Downwind)". There was a suggestion to have supplemental noise monitoring done as part of tracking flights utilizing the BDEGA East Downwind procedure from the north and west. SFO may have permanent noise monitors terminals in the area that are already collecting this data and that can be utilized for monitoring.

7. Use GAP Departure for Runway 28 Departures

FAA's Update on Phase 2 Initiative Document Reference: Page 41 – Item #32

Summary of Recommendations: When Runway 28 must be utilized for nighttime departures, maximum use of the GAP procedure that does not have a top altitude restriction.

Summary of FAA Responses: The FAA stated that this procedure, which does not have a published 3,000-foot altitude restriction, is used as much as possible. It was noted that the FAA stated that when traffic dictates, these aircraft must be stopped at 3,000 feet as well.

Summary of TWG Discussion: This is currently being monitored by SFO and contained as an element within their Fly Quiet program. The TWG can utilize these reports and additional information from the NOMS to monitor the use during the nighttime. When feasible and operationally safe, it was suggested that aircraft should not be stopped at 3,000 feet in altitude.

Recommendations Requiring Further Analysis/Information for the FAA to Address

The following recommended measures include those that the FAA responded that additional analysis, investigations and/or information is required to proceed with changes to their ongoing implementation of the Northern California Metroplex:

8. NIITE/HUSSH South Transition (GOBBS) Over Bay

FAA's Update on Phase 2 Initiative Document Reference: Page 27 – Items 19-20, Page 30 – Item 33, Page 38 – Item 19, Page 43 – Items 39-40, Page 48 – Item 56, Page 35 – Item 9

Summary of Recommendations: Maximize use of procedures that route aircraft over the Bay when departing to southerly destinations.

Summary of FAA Responses: The FAA stated that this recommendation is feasible, but will not move forward until issues of congestion, noise shifting and flying distance have been addressed with the airline stakeholders and the affected communities by the Select Committee and/or SFO Roundtable.

Summary of TWG Discussion: This recommendation is intended at night when aircraft operations are much less frequent, thus congestion is not an issue. The recommendation shifts aircraft operations from land to the Bay and Pacific Ocean, thus noise shifting is not an issue. The FAA stated this recommended measure would add 32 miles to the flying distance for which the TWG suggests this small-added distance compared to the total flight distance is minimal and worth it to provide nighttime noise relief to the communities. The TWG believes that the FAA can be fully compliant with this recommendation during most of the nighttime hours other than the shoulder hours, e.g., 10 p.m. to 11 p.m. and 5 a.m. to 6 a.m.

Action Item for Roundtable Meeting on February 7, 2018: This is an action item. The Roundtable should draft a letter from the Roundtable to the FAA and Congressional Representatives reinforcing the recommendation was intended for nighttime operations when traffic volumes are low and accommodate the suggested procedure out to GOBBS; and request the FAA implement the change immediately during the nighttime hours of 10 p.m. to 7 a.m. or at least during most of the nighttime hours when traffic volumes are low.

Recommendations the FAA Determined They Will Not Address

The following recommended measures include those that the FAA rejected and stated changes to their ongoing implementation of the Northern California Metroplex will not occur:

9. South Arrivals Route to Terminate East of Bay to Runway 28R

FAA's Update on Phase 2 Initiative Document Reference: Page 25 – Item 9, Page 47 – Item 51

Summary of Recommendations: Determine if arrivals from the south (such as on the SERFR) could file a route which would terminate east of the Bay for an approach to Runway 28R.

Summary of FAA Responses: The FAA explanation for this recommendation appears to be focused on daytime hours only where airspace is very complicated, especially in the San Jose International Airport (SJC) area.

Summary of TWG Discussion: It was suggested that clarification be made to the FAA to consider this recommendation for nighttime hours, especially since SJC has a nighttime curfew and thus there would be less airspace traffic during this period.

10. Higher Altitudes

FAA's Update on Phase 2 Initiative Document Reference: Page 25 – Item 10, Page 45 – Item 46, Page 44 – Item 41

Summary of Recommendations: Every effort should be made to keep aircraft at a higher altitude during nighttime hours, especially whenever aircraft fly over residential areas.

Summary of FAA Responses: The FAA stated that aircraft that fly near MENLO with the intention of landing on Runway 28 are subject to the same descent requirements of those that cross MENLO. For safety and to fly a stabilized approach, aircraft must be descended in order to join the final approach course at or below the glideslope.

Summary of TWG Discussion: It was noted that GBAS might improve this (especially at the MENLO waypoint).

11. Runway 10 Departures to Use NIITE

FAA's Update on Phase 2 Initiative Document Reference: Page 27 – Item 21, Page 28 – Item 23

Summary of Recommendations: Determine if Runway 10 take-offs can be authorized to use the NIITE. If not, create a departure to allow Runway 10 take-offs to make a left turn up the Bay to NIITE. While waiting authorization for this, request made that aircraft are vectored to mirror the NIITE departure procedure.

Summary of FAA Responses: The NIITE departure procedure once contained a transition for both Runways 01 and 10, but Runway 10 was removed for safety concerns. Some pilots were not correcting their FMS when the runway changed and thus were turning in the wrong direction. Concerns regarding opposite direction operations as well.

Summary of TWG Discussion: What is the risk to safety? Can you document what are the safety concerns? According to Bert Ganoung of the Aircraft Noise Abatement Office, the FAA calculated it. Consensus to not pursue at this time. Note that heavier aircraft will be taking off from Runway 28.

12. QUIET Departure to GOBBS

FAA's Update on Phase 2 Initiative Document Reference: Page 28 – Item 22

Summary of Recommendations: Determine if aircraft can file for SFO QUIET departure or the OAK SILENT departure and then be vectored in accordance with NCT SOPs out to GOBBS and southbound from there.

Summary of FAA Responses: SFO QUIET departure is no longer a published procedure. Refer to Page 102 – 3.23 for route discussions to route via the Pacific Ocean and GOBBS.

Summary of TWG Discussion: Regarding route discussions to route via the Pacific Ocean and GOBBS, the legislative subcommittee is drafting a letter to the FAA/Congressional representatives regarding the NIITE/HUSSH South Transition (GOBBS) Over Bay SFO Roundtable Recommendation. This was an action item from the 2nd TWG meeting.

13. Raise 3,000' Altitude Straight Out Departure Limit

FAA's Update on Phase 2 Initiative Document Reference: Page 28 – Item 25, Page 44 – Item 43

Summary of Recommendations: Is there any ability to eliminate or raise the 3,000' altitude limit on straight-out departures?

Summary of FAA Responses: The GNNRR and WESLA contain a 3,000' altitude restriction for Runway 28 departures that may be required for safety. This altitude restriction can be waived by ATC if there is no traffic conflicts. The GAP procedure, which does not have a 3,000' altitude restriction, is used as much as possible. However, when traffic dictates, these aircraft must also be stopped at 3,000'.

Summary of TWG Discussion: All of the departure procedures are capped at 3,000 feet. Question of when they are transferred from the Tower to NCT. Bert Ganoung of the Aircraft Noise Abatement Office said about ¼ mile is when they are transferred. The GAP procedure existed before the introduction of RNAV. Consensus to not pursue at this time.

14. Use Decommissioned DUMBARTON Procedure

FAA's Update on Phase 2 Initiative Document Reference: Page 29 – Item 27

Summary of Recommendations: Using the decommissioned DUMBARTON procedure, either create a RNAV overlay of this procedure or create a new procedure with the same fixes used as waypoints for Runway 10.

Summary of FAA Responses: FAA does not support creating a departure procedure off Runway 10 for nighttime operations. This would counter the current FAA criteria for opposite direction operations.

Summary of TWG Discussion: This is an action item. SFO Roundtable should clarify this recommendation. The DUMBARTON procedure is used predominately in the winter during winds coming from the South. Consensus that the FAA missed the point.

Near Bay Daytime Operations – Runway 1 Departures Only

This section provides brief descriptions of the recommended measures, the FAA responses provided to date and the recommendations resulting from the TWG review grouped into the three areas: recommendations the FAA has or will address, recommendations requiring further analysis/information for the FAA to address and recommendations the FAA determined they would not address.

Recommendations the FAA Has or Will Address

The following recommended measures include those that the FAA either has or will address through changes to their ongoing implementation of the Northern California Metroplex:

1. CNDEL

FAA's Update on Phase 2 Initiative Document Reference: Page 30 – Item 30, Page 47 – Page 54, Page 48 – Item 57, Page 56 – Item 4, Page 57 – Item 7, Page 59 – Items 14-15

Summary of Recommendations: The procedure should be flown as charted including over the flyover CNDEL waypoint and flying to the PORTE fly-by waypoint. If vectoring over the Bay and Ocean, use NIITE and GOBBS for routing. Avoid vectoring for non-safety reasons prior to CNDEL waypoint.

Summary of FAA Responses: When departures from SFO and OAK allow aircraft to fly the SSTIK and/or CNDEL procedures as published, to the extent feasible those aircraft are instructed to do so. However, when lateral or vertical separation cannot be maintained, often times the safest and most efficient way to control these aircraft is to use lateral separation – achieved by vectoring the aircraft.

Summary of TWG Discussion: Question of how much higher are the aircraft when they turn prior to CNDEL. Is there a noise difference? Should modeling be conducted to see if there is a difference? This can be monitored within the San Francisco International Airport's (SFO) Noise and Operations Monitoring System (NOMS) by creating one or more gates and flight density maps.

2. SSTIK

FAA's Update on Phase 2 Initiative Document Reference: Page 31 – Item 37, Page 51 – Items 66-67, Page 53 – Item 75, Page 55 – Item 2, Page 57 – Item 6, Page 57 – Item 8, Page 58 – Items 10-12, Page 64 – Item 37, Page 67 – Item 49

Summary of Recommendations: Avoid non-safety vectoring prior to SEPDY waypoint. Avoid vectors down the Peninsula to waypoints beyond PORTE. Use the Bay and ocean for overflight as much as possible. Utilize existing areas of compatible land use for overflight. Provide community input to FAA for moving SSTIK waypoint to east and north of its current location; using SEPDY as a guide. Aircraft should be directed to fly as high as possible over SEPDY waypoint. Fly as charted to PORTE waypoint instead of clearing aircraft to subsequent waypoints downstream, bypassing PORTE. Delay assigning a southbound heading toward PORTE as long as feasible including flying to the ocean before turning south.

Summary of FAA Responses: The SSTIK departure, which serves as PORTE and OFFSHORE replacement for nearly all southbound aircraft, does not include the SEPDY reporting point. While not a

part of it, the point in space that is SEPDY already sees the majority of SSTIK departures passing through it. 99% of aircraft flying SSTIK departures in October 2016 are within 1NM of the SSTIK waypoint as per the procedure. NCT will continue to reinforce not intervening with aircraft until after the SSTIK waypoint. IFP Gateway entry has been made to move SSTIK waypoint 0.44NM east-southeast.

Summary of TWG Discussion: This is an action item. Consensus that this response by the FAA should not be accepted as such. There should be analysis done on where to move the waypoint.

3. NIITE

FAA's Update on Phase 2 Initiative Document Reference: Page 27 – Item 18, Page 39 – Item 20, Page 40 – Item 25

Summary of Recommendations: The procedure should be flown as charted including flying over the NIITE flyover waypoint. Keep on NIITE procedure as much as possible to reduce vectoring. Provide input regarding the new southbound transition and elicit community input.

Summary of FAA Responses: The requirement for aircraft to remain on the NIITE / HUSSH departure procedures as much as operationally feasible was added to NCT's SOP in February 2017. An analysis of May 2017 traffic data revealed that 99% of NIITE aircraft and 70% of HUSSH aircraft passed within 1 NM of NIITE Waypoint. July 2015 showed 71% NIITE and 68% HUSSH compliance. NCT will continue to reinforce the use of this procedure to personnel through training and briefings.

Summary of TWG Discussion: This recommendation is not as critical as the others are. This can be monitored within the San Francisco International Airport's (SFO) Noise and Operations Monitoring System (NOMS) by creating one or more gates and flight density maps.

4. SEPDY

FAA's Update on Phase 2 Initiative Document Reference: Page 50 – Item 63, Page 50 – Item 64

Summary of Recommendations: Avoid issuing any non-safety vectors to aircraft for as long as feasible and no earlier than when an aircraft is over the SEPDY waypoint. Continue flight up the Bay to attain higher altitude. When left turn made, use a wide dispersion of flight paths to ocean. Fly as high as possible over the SEPDY waypoint and before turning over land.

Summary of FAA Responses: 99% of aircraft flying the SSTIK departures in October 2016 are within 1NM of the SSTIK waypoint, as per the procedure. Aircraft that fly this procedure, as with other procedures, use the aircraft's FMS to follow the procedure's requirements, while also safely accounting for the individual aircraft characteristics, e.g. heavier aircraft typically are slower to climb and take longer to turn than lighter aircraft – the FMS accounts for this. NCT will continue to reinforce not intervening with aircraft until after the SSTIK waypoint to personnel through training and briefings.

Summary of TWG Discussion: This can be lumped together with "SSTIK" above.

5. PORTE

FAA's Update on Phase 2 Initiative Document Reference: Page 48 – Item 58, Page 51 – Item 65

Summary of Recommendations: Assigning southbound vectors should be delayed until aircraft has reached the ocean and PORTE waypoint. Avoid vectoring aircraft down the Peninsula direct to waypoints beyond PORTE.

Summary of FAA Responses: (Similar) The FAA concurs with the recommendation that aircraft fly the CNDEL procedure as published to the extent operationally feasible. Vectoring aircraft is a necessary component to maintaining separation requirements for safety considerations. When departures from SFO and OAK allow for aircraft to fly the SSTIK and/or CNDEL procedures as published, to the extent feasible those are aircraft are instructed to do so. However, when lateral or vertical separation cannot be maintained, oftentimes the safest (with regards to frequency congestion) and most efficient (with regards to airport delays) way to control these aircraft is to use lateral separation - achieved by vectoring the aircraft to maintain lateral separation.

Summary of TWG Discussion: This can be monitored within the San Francisco International Airport's (SFO) Noise and Operations Monitoring System (NOMS).

Recommendations Requiring Further Analysis/Information for the FAA to Address

The following recommended measures include those that the FAA responded that additional analysis, investigations and/or information is required to proceed with changes to their ongoing implementation of the Northern California Metroplex:

6. CNDEL

FAA's Update on Phase 2 Initiative Document Reference: Page 29 – Item 29

Summary of Recommendations: Use Bay and ocean for overflights as much as possible. From CNDEL, direct aircraft to GOBBS and then south.

Summary of FAA Responses: As noted previously by the FAA, while this recommendation is feasible, the FAA will not move forward on this recommendation until issues of Congestion, Noise Shifting and Flying Distance have been addressed with the airline stakeholders and the affected communities by the Select Committee and/or SFO Roundtable. Once implemented, the 050° down the Bay option is still preferred.

Summary of TWG Discussion: The legislative subcommittee is drafting a letter to the FAA/Congressional representatives regarding the NIITE/HUSSH South Transition (GOBBS) Over Bay SFO Roundtable Recommendation. This was an action item from the 2nd TWG meeting. Question if the NIITE/HUSSH South Transition (GOBBS) Over Bay recommendation gets acceptance, is the 050° down the Bay option still preferred.

7. NIITE

FAA's Update on Phase 2 Initiative Document Reference: Page 39 – Item 23, Page 61 – Item 25

Summary of Recommendations: Add a transition to the NIITE departure for southbound aircraft. Once implemented, the 050-degree heading is still preferred. Request timeline from FAA for implementation (NIITE, GOBBS, WAMMY, PORTE), factoring in requirements to run through FAA Order JO 7100.41A.

Summary of FAA Responses: As noted previously by the FAA, while this recommendation is feasible, the FAA will not move forward on this recommendation until issues of Congestion, Noise Shifting and Flying Distance have been addressed with the airline stakeholders and the affected communities by the Select Committee and/or SFO Roundtable. Once implemented, the 050° down the Bay option is still preferred.

Summary of TWG Discussion: The legislative subcommittee is drafting a letter to the FAA/Congressional representatives regarding the NIITE/HUSSH South Transition (GOBBS) Over Bay SFO Roundtable Recommendation. This was an action item from the 2nd TWG meeting. Question if the NIITE/HUSSH South Transition (GOBBS) Over Bay recommendation gets acceptance, is the 050° down the Bay option still preferred.

8. PORTE

FAA's Update on Phase 2 Initiative Document Reference: Page 64 – Item 39

Summary of Recommendations: Define airspace limitations over the Golden Gate and ocean to the west of the peninsula for placement of a waypoint to replace or augment PORTE.

Summary of FAA Responses: The Northern California Metroplex project included a noise analysis and an overall assessment of aircraft noise associated with NCTs procedures, as well as vectoring and compatible land use. During the project, the FAA engaged the public and solicited comments during the environmental review. The FAA has the technical expertise to design safe flight paths that are within

criteria, as applicable, and does not expect the public to provide expertise in this manner. If a community requests that an FAA procedure be changed/moved, it is incumbent upon that party to present a suitable alternative for consideration through the FAA Instrument Flight Procedures Gateway online at https://www.faa.gov/air_traffic/flight_info/aeronav/procedures/. NCT will continue to be an active participant in Roundtable meetings, providing subject matter expertise in seeking solutions.

Summary of TWG Discussion: This should be a top priority and is very important. Consensus that the FAA should present a suitable alternative and not the community.

Recommendations the FAA Determined They Will Not Address

The following recommended measures include those that the FAA rejected and stated changes to their ongoing implementation of the Northern California Metroplex will not occur:

9. SSTIK

FAA's Update on Phase 2 Initiative Document Reference: Page 31 – Item 34, Page 32 – Item 38, Page 52 – Item 72, Page 53 – Item 74, Page 54 – Item 79, Page 56 – Item 5, Page 57 – Item 9, Page 58 – Item 13, Page 64 - Item 38

Summary of Recommendations: Use Bay and Pacific Ocean for overflights as much as possible. From SSTIK, direct aircraft to GOBBS and then south. Determine if minimum altitude required at SSTIK can be raised before a left turn. Determine if a reduced airspeed (~220kts) can be required until after established in the left turn from SSTIK so aircraft climb at a higher angle of climb approaching land. Move SSTIK waypoint north and east as much as feasible to allow maximum altitude gain, using SEPDY waypoint as guide. Create SSTIK transition to GOBBS and then GOBBS to WAMMY. Determine any conflicting airspace issues, which would not be available for the location for new SSTIK waypoint.

Summary of FAA Responses: The current SSTIK and CNDEL departures are dependent on each other – making a change to one affects the other procedure. Routing SSTIK aircraft to the west, across the peninsula to the ocean and south would likely necessitate CNDEL departures to be routed up the Bay, over the Golden Gate Bridge to GOBBS, and south. This recommendation would introduce operational strain to an already complex radar environment. See conflicts figure.

Summary of TWG Discussion: Consensus that this needs to be pursued and considered a higher priority. The legislative subcommittee is drafting a letter to the FAA/Congressional representatives regarding the NIITE/HUSSH South Transition (GOBBS) Over Bay SFO Roundtable Recommendation. This was an action item from the 2nd TWG meeting.

10. CNDEL

FAA's Update on Phase 2 Initiative Document Reference: Page 30 – Item 31, Page 30 – Item 32, Page 48 – Item 55, Page 49 – Items 59-60, Page 59 – Item 16

Summary of Recommendations: Determine if a revised southbound transition (over water) for the CNDEL procedure, could “contain” the flight paths further west (GOBBS and south) to allow expanded clear space for possible modification of the SSTIK departure. Use the Bay and ocean for overflight as much as possible. From CNDEL waypoint, go to GOBBS and then WAMMY.

Summary of FAA Responses: The current SSTIK and CNDEL departures are dependent on each other – making a change to one affects the other procedure. Routing SSTIK aircraft to the west, across the peninsula to the ocean and south would likely necessitate CNDEL departures to be routed up the Bay, over the Golden Gate Bridge to GOBBS, and south. This recommendation would introduce operational strain to an already complex radar environment. See conflicts figure.

Summary of TWG Discussion: As with “SSTIK” above, consensus that this needs to be pursued and considered a higher priority. The legislative subcommittee is drafting a letter to the FAA/Congressional representatives regarding the NIITE/HUSSH South Transition (GOBBS) Over Bay SFO Roundtable

Recommendation. This was an action item from the 2nd TWG meeting. Suggestion made to have the City of Newport Beach share recent experiences.

11. TRUKN

FAA's Update on Phase 2 Initiative Document Reference: Page 51 – Item 69, Page 54 – Item 78
Summary of Recommendations: For aircraft with southeast destinations use TRUKN departure with at transition at TIPRE or SYRAH. Work with noise office and NCT to research legacy LINDEN transition to determine why it has not been used and determine which aircraft can utilize this corridor via TIPRE or SYRAH.

Summary of FAA Responses: Capacity of a departure procedure is finite. Capacity cannot be added as you would by adding a lane to a freeway. This recommendation would combine aircraft currently assigned two departure procedures (SSTIK and TRUKN) to one departure procedure (TRUKN). Aircraft departing to the southeast would be restricted to a single departure that conflicts with the prevalent recommendations for wider dispersal of traffic. Additionally, changing an aircraft's departure direction (left turn to a right turn) will result in a shift of aircraft noise. One of the stated goals of NextGen activity is to develop and implement satellite-based arrival/departure procedures. Increasing the use of conventional procedures would be counterproductive to the Agency's vision and is not supported.

Summary of TWG Discussion: OAK has concerns regarding this recommendation. It was suggested that more analysis should be conducted – specifically looking at actual flight tracks and altitudes. This recommendation would be a lower priority than the rest.

12. SEPDY

FAA's Update on Phase 2 Initiative Document Reference: Page 52 – Item 70

Summary of Recommendations: Determine feasibility of depicting the SEPDY waypoint on the scopes in an effort for aircraft to stay over the Bay as long as possible.

Summary of FAA Responses: SEPDY is a reporting point from the conventional PORTE and OFFSHORE departure procedures, which are rarely used. The SSTIK RNAV departure, which serves as PORTE and OFFSHORE's replacement for nearly all southbound aircraft, does not include the SEPDY reporting point. Aircraft that file to fly a published departure enter that departure into their FMS once cleared for it, which happens when the aircraft is still on the ground. Under optimal conditions, once airborne the aircraft flies the departure procedure with little to no ATC intervention. Depicting SEPDY on the controller's scope would not change this. Aircraft that fly the SSTIK departure would still turn, without ATC instruction, at the SSTIK waypoint as published in the procedure. Adding notations and / or symbols to RADAR maps is not a step that is taken lightly in the FAA. Every effort is made by the FAA to reduce RADAR map clutter.

Summary of TWG Discussion: This can be lumped together with "SSTIK" above. It was mentioned that at San Diego International Airport, the controller does have the FAA noise dots on the radar screen for the purpose of reducing early turns, safety permitting.

Near Bay Daytime Operations – Runway 28 Arrivals Only

This section provides brief descriptions of the recommended measures, the FAA responses provided to date and the recommendations resulting from the TWG review grouped into the three areas: recommendations the FAA has or will address, recommendations requiring further analysis/information for the FAA to address and recommendations the FAA determined they would not address.

Recommendations the FAA Has or Will Address

The following recommended measures include those that the FAA either has or will address through changes to their ongoing implementation of the Northern California Metroplex:

1. BDEGA

FAA's Update on Phase 2 Initiative Document Reference: Page 23 – Item 1, Page 23 – Item 4, Page 34 – Item 1, Page 35 – Item 7, Page 36 – Item 11, Page 36 – Item 12

Summary of Recommendations: Return to historical use of the BDEGA East downwind prior to May 2010. Use all available opportunities to assign arrivals from the north and oceanic flight plans to an east downwind “down the Bay”. Compare current BDEGA arrival to previous Golden Gate arrival. Research reasons for continued increased use of BDEGA west from May 2010 to present.

Summary of FAA Responses: The FAA concurs with the recommendation to utilize the BDEGA “East Leg” to the extent operationally feasible; however, a return to “pre-May 2010 levels” is unlikely without a decrease in operations. The BDEGA East Leg shares a final for SFO’s Runway 28R with the DYAMD arrival, which contains the greatest share of SFO’s arrivals. DYAMD arrival aircraft are constrained by SJC airspace to the South and OAK airspace to the North, which inhibits ATC’s ability to vector these aircraft. Additionally, the density of aircraft on the DYAMD arrival is such that vectoring of aircraft creates a ripple effect, jeopardizing safety and resulting in delays. Because of this, aircraft flying the BDEGA arrival will only be assigned the East Leg when enough space exists between arrivals on the DYAMD to allow for it. As SFO and DYAMD traffic counts increase, opportunities to utilize the BDEGA East Leg will be affected.

Summary of TWG Discussion: FAA will try and maximize use of east leg for BDEGA but the FAA claims that there isn’t currently additional capacity. This is looking at only daytime operations currently. Community question on number of operations between Golden Gate Arrivals and BDEGA 2016 arrivals being shown in graphics. Community question on why the split for east vs west leg utilized differently. Up to controllers at this point to utilize BDEGA further as a question to ask the FAA. Since nighttime operations have already been discussed, we are focusing on daytime now. Discussion on how the DYAMD conflicts with BDEGA with Bert showing on the screen where they merge. DYAMD has less of a conflict with BDEGA west since they merge further out so the focus is on east. Community question 4-5 a.m. oceanic arrivals use BDEGA east since there is limited traffic conflict at that time of day. Can DYAMD land on 28L with an offset? Comments: suggestions from residence to go back to the FAA with understanding of conflicts and do their best to place traffic to the east with “what ifs”. Elizabeth asks how high (altitude) aircraft can be raised on arrivals. Gene recommends asking FAA to look into raising the arrival altitude and slope. GBAS technology is a little ways out but something the group can consider. Comment that altitudes coming into the U-turn on west BDEGA has been lower than historical traffic since the introduction of Metroplex. Commenter would like to see if there is a trend to identify changes in altitude before aircraft start to make their U-turn or as they come down the spine of the peninsula. FAA would want an updated procedure to implement this ask of increased altitude before their turn on west BDEGA. Burt provided altitudes at three points with an at or above 5,000’ as of March. Community question to have louder aircraft use East BDEGA. Gene’s response cautioned due to FAA perception of a use restriction and the need for a P161. Having a voluntary measure to request airlines to take the east vs west. Burt responded with visuals for pilots and many foreign carriers ask for right vs left due to safety.

2. Utilize Runway 28R

FAA's Update on Phase 2 Initiative Document Reference: Page 25 – Item 12, Page 26 – Item 13, Page 36 – Item 13, Page 37 – Item 14, Page 60 – Item 18, Page 60 – Item 21, Page 62 – Items 26-28

Summary of Recommendations: Whenever there is a single stream operation to only one runway, aircraft should approach and land only on Runway 28R. Aircraft landing 28R should be assigned noise friendlier approaches such as FMS Bridge Visual 28R, Quiet Bridge Visual, or RNAV (RNP) Y 28R. Increase controller awareness and pilots on keeping aircraft over water as much as possible, especially when aircraft are operating in a single stream and using Runway 28R.

Summary of FAA Responses: The FAA concurs with this recommendation to the extent operationally feasible. SFO’s Runway 28R is listed within NCT’s SOP as the preferred arrival runway. NCT will continue to reinforce the use of this procedure to personnel through training and briefings.

Summary of TWG Discussion: SFO should monitor the use of Runway 28R and provide recommendations on how to improve it, but FAA is in concurrence that Runway 28R is the preferred runway. Weather and times when low utilization, they use single stream. Gene discussed the monitoring items to compile in a full recommendation list and set priority based on what the Roundtable wants to see added to a report since workload can be an issue. Community request to use a different procedure as well as using Runway 28R to meet overall goal.

3. Dual Offset Approaches

FAA's Update on Phase 2 Initiative Document Reference: Page 38 – Item 18

Summary of Recommendations: Roundtable will provide information and community input to FAA regarding process of creating, if feasible, dual satellite-based Runway 28 offset approaches closer to middle of the Bay.

Summary of FAA Responses: NCT will continue to be an active participant in Roundtable meetings, providing subject matter expertise in seeking solutions. The FAA has no plans for creating a dual satellite-based Runway 28L and 28R offset approach. Part of the procedure development process is to ascertain how a proposed procedure could be separated from all surrounding procedures. Such separation is required in order for the procedure to be published. This allows ATC to place an aircraft on the published procedure with the certainty that it is automatically separated from all other aircraft on other published procedures. The FAA researched publishing an offset approach to RWY 28L in its NorCal Phase One Report, 1.b.iii. and Appendix C. While this request was for a single offset approach to only Runway 28L, in actuality it was also evaluated against the existing offset approach to Runway 28R (an offset approach to Runway 28L would not operate in a vacuum). This research determined that an offset approach to Runway 28L would not have the required separation standards with the Runway 28R offset approach, making it untenable. Because this research included both the offset approaches to Runway 28L and 28R, the FAA considers this recommendation as redundant.

Summary of TWG Discussion: Gene paused to note that AAE made a request of the FAA to return to the meetings they have committed to. Roundtable is on record of making a formal request to the FAA for their attendance. The single stream to Runway 28L can not be moved further to the east since Runway 28R shift will conflict with SJC airspace. Community note to collaborate with SJC since the items they are searching for conflict with SFO and vice versa.

4. Vectoring

FAA's Update on Phase 2 Initiative Document Reference: Page 61 – Item 24, Page 65 – Item 41

Summary of Recommendations: Roundtable requests to work with the FAA to determine where aircraft can be vectored with least noise impact and identify locations that have most compatible land uses. FAA should use FAA Initiative phase 1, Appendix B as a baseline to compare improvements in decreasing vectoring.

Summary of FAA Responses: NCT will continue to be an active participant in Roundtable meetings, providing subject matter expertise in seeking solutions. Aircraft vectoring is a tactical decision used by ATC to establish and maintain the sequence of aircraft to the airport. Due to safety considerations, the FAA cannot support a restriction on when ATC may or may not use a vital component of its sequencing tools.

Summary of TWG Discussion: Elizabeth gave some background on the intent of the request. Gene suggested that the Roundtable be more specific of the areas and where the group would support and not support vectoring it could maybe be part of the training for ATC. How much notice does ATC have before they vector? Discussion on situations when the need to vector is needed. Recommendation that if they need to vector, it should be done over the ocean to prep for a continuous descent and sequencing into the airport. Community comment on the habitual vectoring he sees (such as the OAK

CNDEL procedure), rather than a safety need that puts aircraft over Brisbane. Community comment to echo Gene's suggestion to be more specific and provide suggestions other than the ocean. Can CNDEL or STTIK be made noise abatement procedures on a regular basis? Discussion on areas of vectoring and procedures. Gene responded that this body can suggest to the Airport to make a procedure into a NADP and then SFO can include into their NCP – but it most likely will not meet the P150 requirements for FAA. Roundtable to reaffirm that they CAN vector since we do not want to take away their ability to vector to avoid potential emergencies. The refined ask is to vector further out when they know the need and provide suggested areas to reduce the vectoring that is occurring over populated areas or at a higher altitude. Discussion on community member concern of “railroad” overflights. Discussion on “noise footprint” and where to find a definition of land use compatibility. Request to look at OAK traffic and vectoring as well. Recommendation to look at flight percentages that utilize the published procedure. Request from community to adopt the BOS/MIT slower takeoff to reduce noise.

5. MENLO

FAA's Update on Phase 2 Initiative Document Reference: Page 55 – Item 1

Summary of Recommendations: Roundtable requests that the agreement stay in place (between noise office and NCT) where aircraft cross MENLO intersection during visual conditions at 5,000' AGL and 4,000' AGL during instrument conditions.

Summary of FAA Responses: The FAA agrees with this recommendation to the extent feasible. However, it should be noted that there is no such agreement as stated that references altitudes as Above Ground Level (AGL). The FAA, for clarity and consistency, typically references altitudes in Mean Sea Level (MSL) in orders, agreements and procedures. The FAA is in ongoing discussions with the SFO Airport to update the Fly Quiet program. *Consultant Note – I think AGL was a typo in the Roundtable recommendations and it should have been MSL like all other references.*

Summary of TWG Discussion: No discussion in the agreement on the visual vs the instrument and need for it to be 5,000' period. Burt gave a re-cap that FAA stated we could do it on the visual (which is 80% of the time) but FAA stated they could not do it for instrument. Burt mentioned the new procedure. Community member cautioned to declare victory at 5,000' and that what we are proposing conflicts with a 2,000' agreement and since there is a trend towards instrument this item will not be as useful in the future. Burt mentioned that it has been noted that pilots can fly quieter than auto-pilot. Summary of the discussion on Roundtable recommendation would be to go back on their FAA recommendation and not introduce the 4,000' and re-phrase to the intention of the request for a higher altitude.

Recommendations Requiring Further Analysis/Information for the FAA to Address

The following recommended measures include those that the FAA responded that additional analysis, investigations and/or information is required to proceed with changes to their ongoing implementation of the Northern California Metroplex:

6. BDEGA

FAA's Update on Phase 2 Initiative Document Reference: Page 24 – Item 6

Summary of Recommendations: FAA should study whether an increase in in-trail spacing on BDEGA arrivals will result in a decrease in vectoring over Peninsula.

Summary of FAA Responses: The FAA is continuously working to improve aircraft setup and sequencing between facilities. The BDEGA Arrival has the lightest traffic load (24% of SFO arrivals), as compared to the SERFR Arrival (29% of SFO arrivals) and DYAMD Arrival (39% of SFO arrivals), and as such is a candidate for this type of action.

Summary of TWG Discussion: Gene noted that FAA looking into further analysis to see if they can increase in-trail spacing to decrease in vectoring over the peninsula. Burt read an updated statement that confirms that the FAA is looking into the recommendation. Community comments, until we know

exactly what FAA will do this could result in louder noise to the community. Would like to ask the FAA for more specifics from the FAA. Burt gave a list of the entities that are taking the recommendation under review.

7. MENLO

FAA's Update on Phase 2 Initiative Document Reference: Page 26 – Item 17

Summary of Recommendations: Create a visual approach for Runway 28L with a MENLO crossing altitude at or above 5,000; MSL.

Summary of FAA Responses: NCT supports the development of an RNAV visual approach to SFO's Runway 28L. Due to safety considerations and current criteria, development of this type of procedure is on hold. The FAA is currently evaluating methods for overcoming these concerns.

Summary of TWG Discussion: Continuation on #5 about the 5,000' of MENLO. FAA needs more information due to safety concerns.

Recommendations the FAA Determined They Will Not Address

The following recommended measures include those that the FAA rejected and stated changes to their ongoing implementation of the Northern California Metroplex will not occur:

8. BDEGA

FAA's Update on Phase 2 Initiative Document Reference: Page 23 – Items 2-3, Page 24 – Item 5, Page 34 – Item 4, Page 36 – Item 10, Page 46 – Item 49, Page 62 – Item 30

Summary of Recommendations: Explain the limitation of using BDEGA East downwind. Reinstate the FNISH transition in order to facilitate use of the BDEGA East downwind and create a connection between FNISH waypoint and a turn on to Runway 28R. Determine if BDEGA West downwind can be flown at a higher altitude or over compatible land uses. The BDEGA TWO procedure include the waypoints for a down the Bay procedure as done in BDEGA ONE.

Summary of FAA Responses: The Runway 28R and 28L transition (that contained the FINSH waypoint) was removed due to safety concerns. The issue stemmed from the necessity of pilots to program a transition into their FMS when issued the Standard Terminal Arrival (STAR) descent by the Center controller. However, this happens well before the TRACON controller advises the aircraft what runway and associated transition to expect – which is determined by traffic demands and sequencing needs as the aircraft gets closer to the airport. This led to a number of pilots arbitrarily selecting a transition, resulting in aircraft not flying as controllers expected, frequency congestion, and confusion during their approach and landing - a critical phase of flight. The FAA does not support the reinstatement of separate runway transitions to SFO's Runway 28R and 28L.

Summary of TWG Discussion: Gene read the summary and noted that the FAA will not address/implement any further. Elizabeth noted that SFO had runway confusion lately and there was a resolution made this week to correct the confusion. Burt gave a summary of the changes that have been made and how the problem areas have been addressed based on the changes. Elizabeth stated that if FAA believes due to safety concerns this cannot be implemented she is okay with that.

9. DYAMD

FAA's Update on Phase 2 Initiative Document Reference: Page 25 – Item 11

Summary of Recommendations: FAA should increase the in-trail spacing of aircraft on the DYAMD arrival to allow additional opportunities for aircraft to use the BDEGA east arrival, down the Bay.

Summary of FAA Responses: This recommendation conflicts with the Recommendation to route aircraft from the south to an arrival east of the bay, which would *increase* the number of aircraft arriving from the east. The SERFR and DYAMD arrivals contain 68% of SFO's arrival traffic. The SERFR

arrival typically contains aircraft arriving from points to the South and Southeast, such as LAX, SAN, PHX and MMMX (Mexico City). The DYAMD arrival typically contains aircraft from points to the East, such as DEN, ATL, BOS, EWR, JFK, LAS and ORD. These aircraft are directed to their respective arrival because it's the shortest and most efficient route. The FAA is continuously working to improve aircraft setup and sequencing between facilities.

Summary of TWG Discussion: See #1.

10. Dual Offset Approaches

FAA's Update on Phase 2 Initiative Document Reference: Page 26 – Item 15, Page 37 – Item 16, Page 60 – Item 19

Summary of Recommendations: Determine feasibility of creating dual offset RNAV, RNAV (RNP) or other types of approaches to Runway 28.

Summary of FAA Responses: Part of the procedure development process is to ascertain how a proposed procedure could be separated from all surrounding procedures. Such separation is required in order for the procedure to be published. This allows ATC to place an aircraft on the published procedure with the certainty that it is automatically separated from all other aircraft on other published procedures. The FAA researched publishing an offset approach to RWY 28L in its NorCal Phase One Report, 1.b.iii. and Appendix C. While this request was for a single offset approach to only Runway 28L, in actuality it was also evaluated against the existing offset approach to Runway 28R (an offset approach to Runway 28L would not operate in a vacuum). This research determined that an offset approach to Runway 28L would not have the required separation standards with the Runway 28R offset approach, making it untenable. Because this research included both the offset approaches to Runway 28L and 28R, the FAA considers this recommendation as redundant.

Summary of TWG Discussion: Gene noted it is the same ask as #3 and received the same FAA response.

11. MENLO

FAA's Update on Phase 2 Initiative Document Reference: Page 26 – Item 16

Summary of Recommendations: Aircraft should cross the vicinity around the MENLO waypoint at or above 5,000' MSL. Aircraft within the vicinity of MENLO should use the 5,000' altitude when able.

Summary of FAA Responses: The average altitude of vectored traffic in the vicinity of MENLO waypoint is approximately 4,600 feet MSL. During the design phase of the SERFR arrival, the major airline carriers were present in order to ensure that the SERFR would be safe for their aircraft. During those discussions it was determined that in order to accommodate the majority of aircraft into SFO, the descent gradient into RWY 28 would need to be between 2.72° – 2.85°. With the altitude restriction of MENLO at 4,000 feet, the descent gradient to RWY 28L is 2.85°. The published altitude at MENLO cannot be any higher without jeopardizing the safe operation of each aircraft. The higher an aircraft flies while in the vicinity of MENLO, the farther away from the SFO airport the aircraft must travel in order to descend to the appropriate altitude for approach.

Summary of TWG Discussion: Continuation on MENLO. Gene mentioned the GBAS is a potential solution. Community commented that the data he received shows the altitude is closer to 4,000' not 4,600' as the FAA states. Discussion on OPD angle and the argument of efficient vs safe operation. Desire to have vectored flights consistent with RNAV procedure altitudes. Community wants to be on record stating the Roundtable does not agree with the FAA response and recommends re-wording the recommendation to the FAA. Burt stated that new airplanes will need to apply speed breaks and come in 'dirty' in order to slow down which could create more noise. Burt believes with GBAS the FAA will be able to introduce a 5,000' waypoint. Statement to re-visit this recommendation and re-word.

12. Vectoring

FAA's Update on Phase 2 Initiative Document Reference: Page 63 – Item 31

Summary of Recommendations: Determine altitudes to turn aircraft for vector purposes that minimizes noise.

Summary of FAA Responses: Aircraft vectoring is a tactical decision used by ATC to establish and maintain the sequence of aircraft to the airport. Due to safety considerations, the FAA cannot support a restriction on when ATC may or may not use a vital component of its sequencing tools.

Summary of TWG Discussion: Looking at altitudes for vectoring rather than ground location, which was discussed under the previous item.

13. Utilize Runway 28R

FAA's Update on Phase 2 Initiative Document Reference: Page 35 – Item 8

Summary of Recommendations: Airlines file routes from the south to a point east of the Bay in order to use a noise-friendlier approach to Runway 28R.

Summary of FAA Responses: The Bay Area airspace is very complicated due to the presence of three major airports in close proximity to each other. Without coordination with the SJC controller, NCT must keep their aircraft at a minimum of 1.5 miles away from SJC's airspace. The FAA cannot endorse modifying SJC's Class C airspace, as that would limit SJC's ability to safely manage aircraft. This recommendation conflicts with the Recommendation to increase the use of BDEGA East downwind arrivals. Routing aircraft arriving from the south to an arrival from the east would add more aircraft to an already saturated arrival stream, thereby reducing the available gaps for BDEGA arrivals to be routed to the East downwind. Shifting traffic that historically arrives from the South to a route that terminates east of the Bay (FAITH/DYAMD) would impact routes that currently arrive from the east and north, as well as shift aircraft noise.

Summary of TWG Discussion: Gene stated that San Jose's airspace is the conflict with moving southern aircraft arrivals to the east during high volumes of traffic. Community question on if the new software to help aircraft arrive on time will help the Roundtables request. Burt gave a summary of the GBAS and time based flow-monitoring technology and stated that this is putting the cart before the horse. This was an attempt to give RWY 28L residence a break.

Near Bay Daytime Operations – Runway 28 Departures Only

This section provides brief descriptions of the recommended measures, the FAA responses provided to date and the recommendations resulting from the TWG review grouped into the three areas: recommendations the FAA has or will address, recommendations requiring further analysis/information for the FAA to address and recommendations the FAA determined they would not address.

Recommendations the FAA Has or Will Address

The following recommended measures include those that the FAA either has or will address through changes to their ongoing implementation of the Northern California Metroplex:

1. 3,000' Altitude Restriction

FAA's Update on Phase 2 Initiative Document Reference: Page 29 – Item 28, Page 42 – Item 33

Summary of Recommendations: Determine if existence of a VFR flyway or other conflicting airspace use off the coastline in the vicinity of the extended Runway 28 centerline, leads to Runway 28 straight-out departures being required to level off at 3,000'.

Summary of FAA Responses: There are VFR flyways in the vicinity of SFO, however the altitudes are below 2,100 feet and therefore would not cause runway 28 straight out departures at 3,000 feet. Aircraft on GNNRR and WESLA departures may be required to level off at 3,000 feet for safety due to spacing.

Summary of TWG Discussion: TRACON takes over at the end of the runway and are in control of the aircraft and are responsible for the 3,000' limitation, community member asks why there is a conflict. Burt explained the charted rules and when ATC handoffs occur. Discussion of the communities that the straight out departure flies over. How can we get around the tendency of pilots to fly the departure as charted and get them to increase their altitude? Burt "find out how often they lift restriction right away" by asking TRACON and monitoring either radio or asking FAA to provide the figures. Trying to achieve a higher altitude by the time they are over Pacifica and Daily City. Discussion of conflicting departures from Runway 1. Concern from residence is the nighttime departures, so would like to see the restriction lifted. Typically the heavier flights with destinations to Asia are utilizing this departure. Discussion on keeping Runway 1 departures over the Bay and turning them at the Golden Gate Bridge. Gene stated that we did look at nighttime departures off Runway 1 to increase altitude for Runway 28 straight out departures. Discussion on Page 4 of NorCal Update dated April 2018 "NITE/HUSSH/CNDEL to GOBBS and South and to take this document into consideration when Roundtable formulates responses. Congestions, noise shifting and flying distance.

2. GNNRR

FAA's Update on Phase 2 Initiative Document Reference: Page 63 – Item 35

Summary of Recommendations: Remove GNNRR TWO in references to flying aircraft over less noise-sensitive areas and the associated inclusion in procedures used over less noise-sensitive areas that total 88%.

Summary of FAA Responses: GNNRR departure are not listed as a noise abatement procedure in any of the FAA's order or agreements. The Phase One Report does not list it as being used during nighttime hours. During these times, GNNRR departure is primary used by heavy aircraft that require the use of the long runways (Runway 28) and this procedure is for safety considerations.

Summary of TWG Discussion: Elizabeth is not exactly sure what the Roundtable was saying in their recommendation or what they were trying to achieve. Discussion on aircraft size trends (going smaller) and future need to utilize Runway 28. *Putting a pin in #2 to ask Kathleen the intent – is it for nighttime?*

Burt requests that in resubmittal of requests the items are clearly labeled and numbered with references to where they originated in order to trace the steps.

3. WESLA

FAA's Update on Phase 2 Initiative Document Reference: Page 56 – Item 3, Page 65 – Item 40

Summary of Recommendations: WESLA procedure should be flown as charted and allow aircraft to climb unrestricted when there are no other conflicts.

Summary of FAA Responses: The FAA concurs with the recommendation that aircraft fly the WESLA procedure as charted to the extent operationally feasible. However, this recommendation incorrectly suggest that the WESLA departure allows aircraft to climb unrestricted as published, when in actuality the WESLA departure requires aircraft to maintain 3,000'. The GNNRR and WESLA contain a 3,000' altitude restriction for safety – providing minimum vertical separation with Runway 1 departures that turn over the top. This restriction can be waived by ATC if there are no traffic conflicts.

Summary of TWG Discussion: Same item that was previously discussed. No controller is going to hold aircraft down if able to be cleared.

4. TRUKN

FAA's Update on Phase 2 Initiative Document Reference: Page 66 – Item 47

Summary of Recommendations: When conditions permit and aircraft use TRUKN departure off Runway 28, the Roundtable request the FAA conduct controller outreach to educate them about staying east of Highway 101.

Summary of FAA Responses: TRUCKN departure was designed so that most aircraft that depart Runway 28 would be able to make the right turn remaining east of Highway 101. Aircraft that fly this procedure use the aircrafts FMS to follow the procedure requirements. This phase of flight is typically done with no communication with ATC. NCT will continue to reinforce the use of this procedure to personnel through training and briefings.

Summary of TWG Discussion: Gene stated that he sees the response that FAA is agreeing with the Roundtable and that Burt is monitoring for this. Burt gave a small history on the procedure with location and altitudes. Finding is that aircraft are not performing as well with the turn/benefit. This is due to the visual vs RNAV nature of the procedure and designs meeting the minimum abilities and rules for design.

5. GAP

FAA's Update on Phase 2 Initiative Document Reference: Page 64 – Item 36

Summary of Recommendations: When available, use the GAP SEVEN departure to avoid any top altitude restrictions for aircraft departing Runway 28 out the gap.

Summary of FAA Responses: The GAP departure, which does not have a published 3,000' altitude restriction, is a non-RNAV departure procedure and is used as much as possible. When traffic dictates, these aircraft must be stopped at 3,000 feet as well.

Summary of TWG Discussion: Same issue but different procedure. With the aircraft coming over the top dictate aircraft need to be held.

Recommendations Requiring Further Analysis/Information for the FAA to Address

The following recommended measures include those that the FAA responded that additional analysis, investigations and/or information is required to proceed with changes to their ongoing implementation of the Northern California Metroplex:

None

Recommendations the FAA Determined They Will Not Address

The following recommended measures include those that the FAA rejected and stated changes to their ongoing implementation of the Northern California Metroplex will not occur:

6. OFFSHORE

FAA's Update on Phase 2 Initiative Document Reference: Page 31 – Items 35-36, Page 51 – Item 68, Page 52 – Item 73

Summary of Recommendations: Create a RNAV overlay of the OFFSHORE ONE procedure to guide aircraft higher over the Bay before turning to a waypoint located in the ocean. Higher altitude over water is preferred. Use OFFSHORE ONE departure for Southern California destinations.

Summary of FAA Responses: OFFSHORE departure procedure is a conventional procedure and increasing its use would be counterproductive to the Agency's vision and is not supported. It has been replaced by the YYUNG transition on the SSTIK and WESLA procedures, both of which are RNAV. However, it has never been activated due to its close proximity to military airspace; however these procedures have since been corrected and are awaiting publication. There are no plans to develop any additional OFFSHORE RNAV overlays of the existing conventional.

Summary of TWG Discussion: More is to come from the FAA on this but the FAA has something but it's not exactly what we are asking for. Discussion on the military airspace and Burt's connection with NASA AIMS to move the military airspace. This helps Pacifica. Question: What is the YYUNG transition on the SSTIK and WESLA? Burt pulled up the Departure Procedure Chart to explain.

7. 3,000' Altitude Restriction

FAA's Update on Phase 2 Initiative Document Reference: Page 52 – Item 71

Summary of Recommendations: Determine if a reduced climb airspeed can be assigned until reaching 3,000' MSL or other higher altitude; a slower airspeed will allow the aircraft to climb to a higher altitude in a shorter distance before overflying noise-sensitive land uses.

Summary of FAA Responses: Aircraft that fly the SSTIK procedure use the aircraft's FMS to follow the procedure requirements, while also safely accounting for individual aircraft characteristics.

Summary of TWG Discussion: Previously discussed.

8. GNNRR

FAA's Update on Phase 2 Initiative Document Reference: Page 66 – Item 48

Summary of Recommendations: Aircraft climb unrestricted on the GNNRR procedure. Aircraft depart without a top altitude restriction when flying "out the gap" on Runway 28 and consider the use of the GAP departure that has no altitude restriction instead of GNNRR.

Summary of FAA Responses: FAA cannot agree with this recommendation for safety reasons. This altitude restriction provides the required minimum vertical separation with Runway 1 departures that turn over the top. This restriction can be waived traffic permitting.

Summary of TWG Discussion: Previously discussed.

Near Bay Daytime Operations – Runway 10 Departures Only

This section provides brief descriptions of the recommended measures, the FAA responses provided to date and the recommendations resulting from the TWG review grouped into the three areas: recommendations the FAA has or will address, recommendations requiring further analysis/information for the FAA to address and recommendations the FAA determined they would not address.

Recommendations the FAA Has or Will Address

The following recommended measures include those that the FAA either has or will address through changes to their ongoing implementation of the Northern California Metroplex:

1. SAHEY

FAA's Update on Phase 2 Initiative Document Reference: Page 43 – Item 38, Page 65 – Item 42

Summary of Recommendations: Roundtable to work with FAA to redesign the SAHEY departure to mirror historic flight tracks that keep aircraft over the Bay. When using, do not vector and fly procedure as charted.

Summary of FAA Responses: NCT will continue to be active participant in Roundtable meetings. FAA has no plans and is restricted from creating procedures that involve opposite direction operations. The FAA analyzed historic tracks for aircraft that filed the SAHEY procedure and found that 93% of those aircraft pass within 1 NM of the SAHEY waypoint. FAA concurs with recommendation that aircraft fly SAHEY procedure as published to extent feasible. NCT will continue to reinforce the use.

Summary of TWG Discussion: Justin gave a summary of SAHEY recommendation and FAA response. Discussion on previous items discussed in this group and how FAA does not want to conduct opposite direction operations. Question on what cities are most effected by the SAHEY Departure from RWY 10. Don't want to conflict with RWY 28 arrivals. RWY 10 Dep occur when there are winds from the east and the south (generally when rainy) so departures head toward the San Mateo Bridge and occur less than 15% of the time. RT position is that the FAA has misunderstood the recommendation and this is not an opposite direction issue. SAHEY is about 5 nmi out and FAA had a secondary departure off the 10s that went up to the east bay and what has happened is that 10L departure that did transition/turn left after SAHEY has been discontinued based on some aircraft being unable to make the crossing altitude. This procedure was flagged for safety as a conflict. Member question: Is this a safety due to weather issue or is it possible to push back and determine if the shortcuts can be

eliminated to provide relief during inclement weather? What aircraft cannot meet the climbing altitude requirements?

2. Create New Departure Procedure

FAA's Update on Phase 2 Initiative Document Reference: Page 42 – Item 36

Summary of Recommendations: SFO Roundtable will provide information to the FAA to assist in a review of options for aircraft to use Runway 10 that does not use same flight path as a Runway 28 arrival.

Summary of FAA Responses: NCT will continue to be active in Roundtable meetings to provide expertise in seeking solutions. Roundtable will provide information to FAA to assist in review of options for aircraft to use Runway 10 that does not use same flight path as Runway 28. However, FAA has no plans and is restricted from creating procedures that involve opposite direction operations.

Summary of TWG Discussion: Justin gave a summary on creating a new departure procedure recommendation and response. Options have not been provided to FAA on creating a new procedure. This concept was put forward before we had the understanding of FAA concerns on opposite direction traffic. This might be one that we don't expend much energy on. The payback on this one is low. James mentioned that the next meeting is going to begin to prioritize the list of recommendations to focus attention and go back to FAA with areas we can believe will have the most benefit. We want to evaluate gains and potential lift. Can we look at this as a peak vs non-peak hour recommendation?

Recommendations Requiring Further Analysis/Information for the FAA to Address

The following recommended measures include those that the FAA responded that additional analysis, investigations and/or information is required to proceed with changes to their ongoing implementation of the Northern California Metroplex:

None

Recommendations the FAA Determined They Will Not Address

The following recommended measures include those that the FAA rejected and stated changes to their ongoing implementation of the Northern California Metroplex will not occur:

3. NIITE

FAA's Update on Phase 2 Initiative Document Reference: Page 40 – Item 24, Page 46 – Item 48

Summary of Recommendations: The NIITE departure and all transitions be amended to include authorization for its safe use by aircraft taking off from Runway 10.

Summary of FAA Responses: The NIITE departure procedure once contained a transition for both Runways 01 and 10, but Runway 10 transition was removed for safety. FAA does not support the reinstatement of a Runway 10 transition to the NIITE procedure.

Summary of TWG Discussion: Justin gave a summary on recommendations FAA will not address starting with the NIITE procedure. This is a similar safety concern with opposite direction flow. If during RWY 10 operations there would be no need to turn the aircraft for southeast rainy flow. The FAA would default to using a straight out down the bay procedure during rainy weather anyway so the ask isn't gaining anything here. Opposite direction flow is a non-starter for FAA at this point.

4. 330 Degree Heading – Up the Bay

FAA's Update on Phase 2 Initiative Document Reference: Page 39 – Item 21, Page 41 – Item 29

Summary of Recommendations: NCT use its longstanding noise abatement procedure to vector Runway 10 departing aircraft up the Bay then vector as needed for routes of flight such as NIITE to GOBBS.

Summary of FAA Responses: The NIITE departure procedure once contained a transition for both Runways 01 and 10, but Runway 10 transition was removed for safety. FAA does not support the reinstatement of a Runway 10 transition to the NIITE procedure. A south transition for the NIITE departure procedure for southbound destinations is feasible but issues of congestion, noise shifting and flying distance remain

Summary of TWG Discussion: Justin gave a summary of 330 degree heading up the bay. Shifting noise and congestion brought up as past discussed topics. If you are going out with RWY 10 and out the bay anyway we are not gaining any benefit by this, unless we are in opposite direction that will not go anywhere with FAA. Question from member: Is there a way to bring this over to an insulation program? Expand the eligibility criteria for Burlingame and Foster City. Since these departures occur 15% of the time, and the CNEL 65 dB is an annual average, it is unlikely to resolve the community noise issues. Discussion on sound insulation, FAA criteria, and guidelines.

5. FOGGG

FAA's Update on Phase 2 Initiative Document Reference: Page 63 – Item 34

Summary of Recommendations: When weather conditions dictate the use of Runway 10, we encourage the use of FOGGG as published and not vector off the procedure.

Summary of FAA Responses: The FOGGG departure procedure has a high climb gradient, requiring aircraft to cross the FOGGG waypoint at 4,000 feet MSL. OAK arrivals pass underneath this at 3,000 feet MSL; there is no room for error (minimum vertical separation between aircraft is 1,000 feet). Many aircraft have been unable to meet this requirement, primarily due to aircraft performance limitations (weight, weather, etc.). Therefore, this has led to the FOGGG departure being unused for safety.

Summary of TWG Discussion: Justin gave a summary of FOGGG recommendation and FAA response. The FOGGG has been decommissioned. Question of what aircraft cannot meet this requirement.

6. Create New Departure Procedure

FAA's Update on Phase 2 Initiative Document Reference: Page 42 – Items 34-35, Page 65 – Item 43, Page 66 – Item 46

Summary of Recommendations: Create a procedure that includes the ability of aircraft to depart Runway 10 on a heading that is not a direct path of aircraft arriving on Runway 28. Create a Runway 10 departure that mirrors the decommissioned DUMBARTON procedure.

Summary of FAA Responses: The FAA does not support creating a departure procedure off Runways 10 for nighttime operations. This would counter to current FAA criteria for opposite direction operations. Creating a procedure that contradicts this program is simply not permissible under opposite direction criteria.

Summary of TWG Discussion: Justin gave a summary of DUMNARTON procedure overlay recommendation and FAA response. Create an RNAV overlay of the DUMNARTON 24/7 use of Runway 10 and the prevailing RWY during Southeast flow. Need to discuss priority and benefits of not going out GAFFT and more over the bay. This one we can push back more than the others – recommendation to highlight (page 65) this is different than the previous cases of an opposite direction issue. Community comment: To try and reduce noise for our residence and keep the aircraft more over the bay, on departure once over the bay it goes over Palo Alto and then up and around.

Review/Analysis of Miscellaneous Topics

This section provides brief descriptions of the recommended measures, the FAA responses provided to date and the recommendations resulting from the TWG review grouped into the three areas: recommendations the FAA has or will address, recommendations requiring further analysis/information for the FAA to address and recommendations the FAA determined they would not address.

Recommendations the FAA Has or Will Address

The following recommended measures include those that the FAA either has or will address through changes to their ongoing implementation of the Northern California Metroplex:

1. Land Use and Terrain Height Data

FAA's Update on Phase 2 Initiative Document Reference: Page 33 – Item 42

Summary of Recommendations: Roundtable will provide data regarding land use and terrain height for areas throughout the region to assist NCT in using less sensitive noise areas for vectoring. SFO and the Roundtable will work with airline representatives to encourage the use of “noise-friendlier” options for flight planning and operations. Roundtable provide community input to the FAA and make recommendations to the FAA based on community consensus for changes.

Summary of FAA Responses: NCT will continue to be an active participant in Roundtable meetings, providing subject matter expertise in seeking solutions.

Summary of TWG Discussion: Justin gave a summary of the land use and terrain height data recommendation and FAA response. The airport already has land use and terrain data to provide to the FAA, but the question is what will the FAA do with it. Discussion on what the determination of noise sensitive areas would be. The roundtable body or subcommittee has not worked to identify areas. Discussion on outsourcing this as a research project. James mentioned that this originally was to include information for vectoring.

2. Noise Modeling or Other Tools

FAA's Update on Phase 2 Initiative Document Reference: Page 50 – Item 62

Summary of Recommendations: Roundtable is available to provide community input to the FAA with the use of modeling or other tools to determine the effects of other “noise-friendlier” departure paths.

Summary of FAA Responses: NCT will continue to be an active participant in Roundtable meetings, providing subject matter expertise in seeking solutions.

Summary of TWG Discussion: Justin read the summary on noise modeling offer by the Roundtable to provide more data to the FAA. No discussion.

3. Pilot Outreach Program

FAA's Update on Phase 2 Initiative Document Reference: Page 59 – Item 17, Page 60 – Item 20, Page 61 – Item 22

Summary of Recommendations: Work with the SFO ANAO on a pilot outreach program to encourage aircraft to stay over water while on approach after receiving their cleared to land instructions.

Summary of FAA Responses: They reference “noise-friendlier” approach responses. When weather conditions and equipment/crew capabilities allow, the recommended approaches are used to the extent feasible.

Summary of TWG Discussion: Justin read the summary of a pilot outreach program. SFO staff is doing a good job of this (Fly Quiet Program). Not much response from the FAA. Recommendation to make the reporting more public on who is doing a good job. Tabled for further discussion (budget, who, where etc.)

4. HUSSH

FAA's Update on Phase 2 Initiative Document Reference: Page 63 – Item 33

Summary of Recommendations: Encourage use of HUSSH and reduce vectors off the HUSSH departure for the same reasons as NIITE.

Summary of FAA Responses: The requirement for aircraft to remain on NIITE/HUSSH departure procedures as much as operationally feasible was added to NCT's SOP in February 2017. May 2017 analysis of traffic data reveals that 70% of HUSSH aircraft passed within 1 NM of the NIITE waypoint. July 2015 it was at 68% compliance. NCT will continue to reinforce the use of this procedure. After February 2017 update to the NCT SOP, there has been a tradeoff. The capacity limitations of the departure corridor (which contains both NIITE and HUSSH procedures) remains unchanged. Therefore, in order for aircraft on the NIITE and HUSSH procedures to remain on their respective procedure until the NIITE waypoint while also maintaining the required minimum separation, ATC must delay aircraft on the ground prior to departure. June 2017 showed 103 reportable delays at SFO/OAK. June 2016 showed 1 reportable delay at SFO/OAK. (Reportable delay = 15 minutes or more).

Summary of TWG Discussion: Justin gave a summary of the HUSSH recommendation and FAA response. Question on what else is causing the delay, assumption is that it is more flights. Is there a way to ask for clarification of FAA response (and the data they use) because RT is trying to reduce the vectors. Wants to reduce ground-based noise and therefore reduce delays. Most of the delay occurs between 5:30 and 7:00 AM and the delay is therefore not pushing into nighttime hours. Input from SFO construction project manager that the runway overlay project occurred between March and June of 2016 and that the numbers reported by FAA do not state this and other timeframes should be looked at.

Recommendations Requiring Further Analysis/Information for the FAA to Address

The following recommended measures include those that the FAA responded that additional analysis, investigations and/or information is required to proceed with changes to their ongoing implementation of the Northern California Metroplex:

None

Recommendations the FAA Determined They Will Not Address

The following recommended measures include those that the FAA rejected and stated changes to their ongoing implementation of the Northern California Metroplex will not occur:

5. SERFR

FAA's Update on Phase 2 Initiative Document Reference: Page 24 – Item 8, Page 34 – Item 2, Page 35 – Item 5, Page 47 – Item 51

Summary of Recommendations: FAA increase the in-trail spacing of aircraft on the SERFR arrival, flying the procedure as charted, which will decrease need for vectoring. Increase the altitude of the arrivals. Roundtable will work with airline representatives and the FAA to request that all nighttime arrivals from south (SERFR) file for a routing and arrival that would terminate east of the Bay for connection to Runway 28R.

Summary of FAA Responses: FAA is continuously working to improve aircraft setup and sequencing between facilities. As identified in previous meetings with the Select Committee and Roundtable, the Bay Area airspace is very complicated with three major airports close together. SJC airspace lies two miles east of the SERFR arrival. Without coordination with the SJC controller, NCT must keep their aircraft at a minimum of 1.5 miles away from SJC's airspace. Directing aircraft east or north of MENLO will encroach upon it, which the FAA cannot endorse. The higher as aircraft flies while in the vicinity of

MENLO, the farther away from SFO it must travel in order to descend to the appropriate altitude for approach. The available airspace does not allow this.

Summary of TWG Discussion: Justin gave a summary of SERFR recommendation and FAA response. Discussion on SJC traffic at night and relation with SFO arrivals. Airspace discussion on interaction with SJC and SFO traffic. About 50% of the SERFR arrivals are being vectored off the procedure. Requested study of in-trail spacing. Recommend keeping the suggestion to terminate routing over the east bay.

6. HUSSH

FAA's Update on Phase 2 Initiative Document Reference: Page 49 – Item 61

Summary of Recommendations: Utilize the OAK HUSSH departure procedure during the day to avoid conflicts with SFO SSTIK, reduce vectoring, increase separation between the flight paths, and increase safety. From CNDEL, direct aircraft to GOBBS and south.

Summary of FAA Responses: Same concerns regarding congestion, noise shifting, and flying distance as previously discussed.

Summary of TWG Discussion: To be discussed at the next meeting.

7. Backblast Noise

FAA's Update on Phase 2 Initiative Document Reference: Page 32 – Item 40

Summary of Recommendations: SFO to allocate funds or work with the FAA to obtain grant money to commission an updated technical study of backblast noise from aircraft departures.

Summary of FAA Responses: Not FAA's action.

Summary of TWG Discussion: To be discussed at the next meeting.

8. Upgraded Radar Display Equipment

FAA's Update on Phase 2 Initiative Document Reference: Page 33 – Item 41

Summary of Recommendations: FAA determine if upgraded radar display equipment or notations on the map using symbols would be helpful to NCT to increase the use of less impactful areas if vectoring is required for safety.

Summary of FAA Responses: NCT is equipped with the latest radar equipment available to FAA Tracons, to include STARS, FUSION, and ADS-B. Adding notations and/or symbols to radar maps is not a step that is taken lightly in the FAA. Every effort is made by the FAA to reduce radar amp clutter for safety.

Summary of TWG Discussion: To be discussed at the next meeting.



August 31, 2018

TO: Maurice Hoffman, Airspace Services Director
Federal Aviation Administration

FROM: Elizabeth Lewis, Chairperson
SFO Airport/Community Roundtable

SUBJECT: Questions for the October 3, 2018 SFO Airport/Community Roundtable Meeting

The following are three (3) questions for the Federal Aviation Administration (FAA) to answer at the October 3, 2018 SFO Airport/Community Roundtable Meeting. Each item is broken out into three (3) parts: Roundtable Request from the FAA Initiative response, FAA Response to those requests, and Roundtable's question. The Roundtable requests that the FAA come prepared to discuss and provide graphics and other materials to help support responses to the following questions at the October 3, 2018 Regular Meeting:

Question 1:

Roundtable's Request: South arrivals route to terminate east of Bay to Runway 28R during the night.

FAA Response: Will not address but appears that the reasons were focused on daytime operations/procedures rather than nighttime.

Roundtable's Question: Routes such as the SERFR could terminate east of the Bay when arriving 28R. Why is it not possible for such procedure to be implemented at night when traffic volumes throughout the Bay Area are extremely low? What is required for the FAA to reconsider this request?

Question 2:

Roundtable's Request: Use decommissioned DUMBARTON Procedure during south winds, which mostly occurs during the winter

FAA Response: FAA does not support creating a departure procedure off Runway 10 for nighttime operations. This would counter the current FAA criteria for opposite direction operations.

Roundtable's Question: Would the FAA reconsider this measure as it appears the use of the DUMBARTON was limited to only south wind conditions during the winter? The FAA's response appeared to not acknowledge this fact.

Question 3:

Roundtable's Request: Create a Runway 10 departure procedures that mirrors the previous DUMBARTON procedure.

FAA Response: Will not develop a procedure that requires opposite direction operations.

Roundtable's Question: Can the FAA develop a Runway 10 departure procedure for use during southeast flow conditions – not opposite direction operations?

Subject: Re: Questions to the FAA
Date: Wednesday, August 15, 2018 at 10:12:58 PM Pacific Daylight Time
From: Al
To: elewis@ci.atherton.ca.us
CC: James A Castañeda, elopez@mreem.com
Attachments: BDEGA_back_to_Golden_Gate.png, golden_noise_triangle.png, complaints_data_2hrs.png

Hi Elizabeth

1. BDEGA/Golden Gate arrivals

I would like to also ask FAA to return BDEGA arrivals back to Golden Gate arrivals and have attached some info related to what I am describing.

2. Data

The FAA officials mentioned last time that the questions from the public were too general. I have also attached a airplane noise report filed for just a 2 hour window identifying the flights I had filed noise complaints on. I am not an aviation expert by any means but the report gives a vivid picture of noise complaints over our homes. I would like to add 1) SFO noise complaints before and after NextGen was turned on have been reported to have risen significantly after NextGen went online. 2) All across America many cities have raise voices through their elected officials and some had tried to sue the FAA. These 2 data points out that many communities are fed up with NextGen.

3. Golden Noise Triangle

I would like to ask FAA to investigate the "Golden Noise Triangle" over the Westlake neighborhood of Daly City. (STTIK, BDEGA, CNDEL, etc all intersect in this area from different directions, unlike other cities which get airplane noise from one direction for ex heading towards SFO , we get noise from plane heading to and leaving SFO)

Al

On Sunday, August 12, 2018, 9:27:53 PM PDT, Al <zonemgr@yahoo.com> wrote:

Hi Elizabeth

I was told that to submit questions to the FAA officials they need to be submitted through the SFO Roundtable. It would be good if they good accept pictures and powerpoints for their reviews sometimes it's easy to explain visually

I have several questions to submit:

1. To the east of the Oakland airport why can't the airspace over the mountain ranges be opened for OAK flights? This would allow the Bay water territory currently used by OAK to be used by SFO.

SFO as a major international airport is projected to process even more flights in the coming years and its flight volume is significantly more than OAK. See attached slide
oak_airspace_east_side.png.

2. FAA officials said there is if I recall a 25 mile spacing for planes. On a horizontal plane that would be a wide separation between 2 planes but what if flights were separated more than 25 mile vertically?

a. Then flights flying in this arrangement could reduce early vectoring as on the horizontal plane planes would not need to fly further across from each other.

b. For the proposed HUSH/NIITE/GOBBS departure for southbound flights instead of CNDEL this would reduce conflict areas between SFO/OAK and SFO/SFO flights. See attached slide 25mile.png.

c. Also for the proposed HUSH/NIITE/GOBBS departure for southbound flights instead of CNDEL are flights SFO and OAK to be rerouted or is it just OAK departing flights? (Ideally SFO and OAK flights should be adjusted then outbound flights from these 2 airports would not loop into southern parts of SF, Daly City, Pacifica and Brisbane)

3.Regarding military air space off the coast putting restrictions on commercial flights, in terms of US territory and "international shipping waters" there seems to be a lot of wide open space to share with commercial flights. In the next decade SFO flights (and OAK flights) are projected to increase it makes sense for the FAA to request for more airspace for commercial flights for safety reasons with the military. The FAA's priority is air safety and this is a long term safety issue. If FAA could use more airspace farther off the coast BRIXX and BDGEDA flights from the north heading towards SFO/SJC could be routed over the Pacific Ocean and away from the peninsula before turning back towards SFO. Otherwise the other option would be to use the mountain ranges in the Easy Bay as described in item 1. See attached slides US_maritime_boundary.png and northern_arrivals_rerouting_proposals.png.

AI

The US has a lot of air space off the coast of San Francisco to revisit adjusting the airspace for more commerical flights

ArcGIS | U.S. Maritime Limits and Boundaries Webmap

Modify Map | Sign In

Find address or place

Share | Print | Measure

Legend

- US_Maritime_Limits_Boundaries
- 12NM Territorial Sea
- Territorial Sea
- 24NM Contiguous Zone
- Contiguous Zone
- 200NM EEZ and Maritime Boundaries
- US EEZ
- Maritime Boundary
- Maritime Boundary N EEZ
- Maritime Special Area
- Territorial Sea
- US Airspace Land Boundary
- Air Boundary

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> 25 mile vertical (not horizontal) separation could it address the 4confight areas/red circles below?

2.31 Determine if a revised southbound transition (with additional waypoints) for the CNDEL procedure could "contain" the flight paths further west (GOBBS and south) to allow expanded clear space for possible modification of the SSTIK departure.

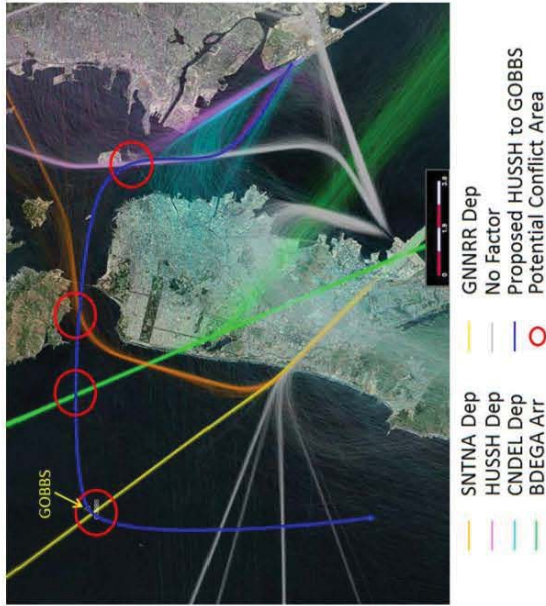


Figure D5: Graphical Depiction of Routes

In the above image (Figure D5), the teal tracks represent current CNDEL departures, while the

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BRIX tracks into SJC: June 2016

APPENDIX C: Maps of Selected Flight Paths: BRIX

FLY AWAY FROM PENINSULA

2 options:

1. West - FAR off coast then over open space towards SIC, merge into existing SIC path
2. East - Over mountain ranges then merge into existing SIC path

6% of BRIX are stored off prior to JUYTA

SCSBA: Air Traffic Control, South Bay, and the Proposed Operational Agreement Change

Report of the Select Committee on Environment and Natural Resources

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Arrivals into SFO

APPENDIX C: Maps of Selected Flight Paths: BDEGA, OCEANIC, SERFR, and DYAMI

(B)DEGA=BAD FOR PENINSULA Arrivals into SFO

1. Cuts across peninsula

Option 2: Fly over mountain ranges then merge into existing SIC path

Option 1: Fly WAY off coast then to open space then merge to SIC existing path

Key:

- BDEGA - 25% SFO Arrivals
- DYAMI - 40% SFO Arrivals
- SERFR - 30% SFO Arrivals
- Oceanic - 5% SFO Arrivals

Report of the Select Committee on South Bay Arrivals

Would like BDEGA to return to Golden Gate arrival that had a wider dispersion of flights entering into SF. It is the fixed flight path (and constant flights) flight resulting from NextGen that are annoying residents that are under those flight paths. Altitudes should also be raised along with the wider dispersion.

Wider **Narrowed**

The FAA provide data on Golden Gate/BDEGA lateral track locations pre-NextGen and post-NextGen and if new procedures can use headings, not tracks, in procedure design.




Figure A1: Comparison of Golden Gate arrivals (May 2014) and BDEGA arrivals (May 2016)

The FAA reviewed the identified arrivals; the Golden Gate and BDEGA arrivals. The Golden Gate arrival states, "...via SFO R-303 to SFO VOR/DME. Expect RADAR vectors to final approach course." Aircraft that flew this arrival navigated to the SFO VOR/DME via the SFO 303° radial, which is a conventional, or non-precision, method of navigation. Upon reaching the SFO VOR/DME, aircraft on the Golden Gate arrival were typically instructed to fly a 140° heading. Note, the Golden Gate arrival does not stipulate a 140° heading.

The BDEGA arrival states, "... track 126° to BRXXX, then on track 140°. Expect RADAR vectors to final approach course." For clarification, BRXXX is a waypoint near the SFO VOR/DME. Aircraft are instructed to "track 140°" after BRXXX. This is also a heading.

The "Golden Noise Triangle" in the Westlake neighborhood of Daly City



WN2082 / SWA2082
Southwest Airlines

SFO PHX

SAN FRANCISCO PHOENIX
PDT (UTC-07:00) MST (UTC-07:00)

DEPARTURE	ARRIVAL
SCHEDULED 6:15 PM	SCHEDULED 8:20 PM
ACTUAL 6:27 PM	ESTIMATED

MODELS CODE: AA97B8
REGISTRATION: N7818L
SERIAL NUMBER (MSN): AGE

TYPE (B737): Boeing 737-76N

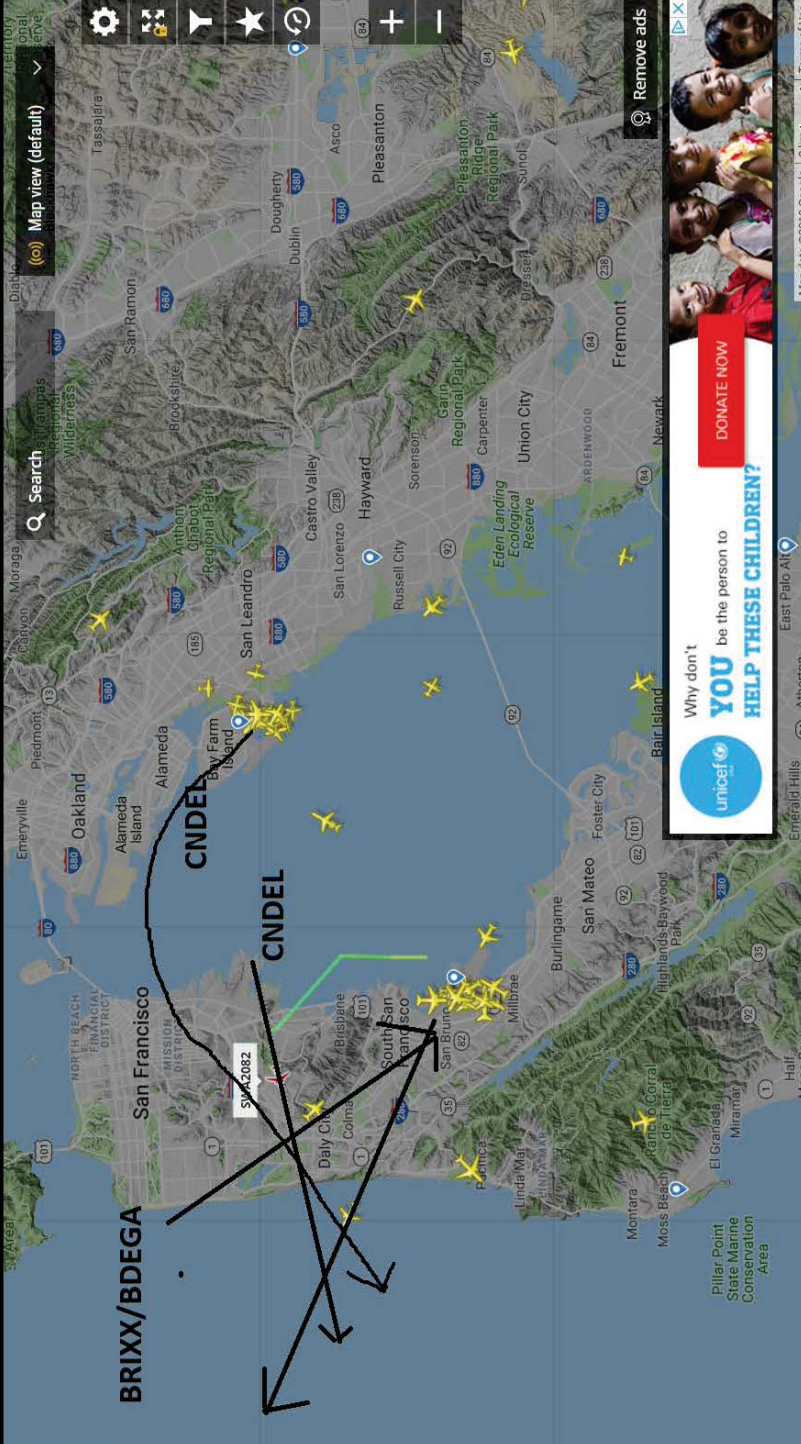
RECENT N7818L flights

unc 01:30

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Map view (default)

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After dinner, in a span of just 2 hrs from 8:30 pm to 10:30 pm constant flights over my home (~38 flights) even with my double glass windows closed over Westlake neighborhood in northwest Daly City. This goes on everyday/everynight. My home is at the intersection of (BRIXX, BDEGA, SSTIK, CNDEL, etc) in what I call the "Golden Noise Triangle".

Note before 2015 evenings were quiet throughout the night, windows could be opened all night. This is not normal but now the new norm, where is the quality of life FAA? :(Looking for relief and "continuous improvement" from the FAA.

According to Google maps my home is 12 miles from the SFO but the airplanes flying over at constant frequency makes it feel like I live much closer to the airport.

Today's 38 reports

[UPDATE/EDIT LIST](#)

Aug 14, 22:40:02 AC_568 (YVR-SFO A321 263K, 10975th)
 Aug 14, 22:39:03 (could not post a flight)
 Aug 14, 22:37:43 CX_872 (HKG-SFO B77W 284K, 10965th)
 Aug 14, 22:33:18 AS1758 (SEA-SFO A320 251K, 11000th)
 • Your notes: 5Y1820 /G11820 Polar Air Cargo
 Aug 14, 22:32:26 (could not post a flight)
 Aug 14, 22:31:32 MN1950 (SEA-SIC B737 350K, 14463th)
 Aug 14, 22:30:08 ML1510Z (SFO-TPE B744 203K, 3381th)
 Aug 14, 22:00:32 (could not post a flight)
 Aug 14, 21:58:46 (could not post a flight)
 • Your notes: UA2423 /UAL2423 United Airlines
 Aug 14, 21:58:31 (could not post a flight)
 Aug 14, 21:52:18 DL1505 (MSP-SFO B752 308K, 10959th)
 Aug 14, 21:41:17 AS_328 (SEA-SIC B739 335K, 13474th)
 Aug 14, 21:38:26 (could not post a flight)
 • Your notes: 5X961 /UPS961 UPS
 Aug 14, 21:38:16 (could not post a flight)
 Aug 14, 21:33:40 DL2345 (SFO-LAX B738 290K, 8805th)
 Aug 14, 21:26:03 UA2365 (SFO-LAS B739 281K, 7179th)
 Aug 14, 21:23:56 LH_459 (SFO-MUC A346 208K, 3343th)
 Aug 14, 21:23:10 (could not post a flight)
 Aug 14, 21:18:46 CM_209 (SFO-PTY B738 234K, 3919th)
 Aug 14, 21:14:10 MW2088 (SFO-PHX B737 232K, 6129th)
 Aug 14, 21:10:25 AE_85 (SFO-CDG B77W 269K, 3739th)
 Aug 14, 21:10:11 (could not post a flight)
 • Your notes: AC8559 /JZA559 Air Canada Express Operated by Jazz Air
 Aug 14, 21:09:54 (could not post a flight)
 Aug 14, 21:08:02 UA571Z (SFO-LAX E75L 261K, 6029th)
 Aug 14, 21:06:37 S02 (HKG-SFO B77W 298K, 10959th)
 Aug 14, 21:02:51 (could not post a flight)
 Aug 14, 21:00:36 UA119Z (ANC-SFO B738 261K, 11255th)
 Aug 14, 20:59:08 (could not post a flight)
 Aug 14, 20:57:12 MN1514 (OAK-BUR B737 270K, 4990th)
 Aug 14, 20:56:30 MW2312 (SEA-SIC B737 330K, 12165th)
 Aug 14, 20:53:36 B6_915 (JFK-SFO A321 264K, 10975th)
 Aug 14, 20:52:19 (could not post a flight)
 Aug 14, 20:40:20 UA_899 (PVG-SFO B789 275K, 10959th)
 Aug 14, 20:36:11 AS_385 (PDX-SFO B739 271K, 10977th)
 Aug 14, 20:29:03 (could not post a flight)
 Aug 14, 20:21:50 LX_339 (SFO-ZRH B77W 282K, 5305th)
 Aug 14, 20:14:18 BA_285 (SFO-LHR A388 271K, 3872th)
 Aug 14, 00:39:33 (could not post a flight)

Subject: Questions to forward to the FAA
Date: Monday, August 27, 2018 at 11:17:21 AM Pacific Daylight Time
From: Meyer, Catherine (BOS)
To: James A Castañeda
Attachments: 00375SSTIK.PDF, ATT00001.htm

Hello James,

Please forward the questions below to the FAA so they can provide answers during the October meeting.

Thanks,

Cathy Mulkey Meyer
Legislative Aide | D11
Office of Supervisor Ahsha Safai
Work (415) 554-7910
Cell (415) 734-1651

Sent from my iPhone

Begin forwarded message:

From: Carolyn Kincaid <kincaid.carolyn@gmail.com>
Date: August 27, 2018 at 10:27:17 AM PDT
To: "Meyer, Catherine (BOS)" <cathy.mulkeymeyer@sfgov.org>
Subject: Fwd: Temporary Noise Monitor Installation

----- Forwarded message -----

From: **Carolyn Kincaid** <kincaid.carolyn@gmail.com>
Date: Wed, Aug 8, 2018 at 2:16 PM
Subject: Re: Temporary Noise Monitor Installation
To: "SafaiStaff (BOS)" <safaistaff@sfgov.org>, "Meyer, Catherine (BOS)" <cathy.mulkeymeyer@sfgov.org>

Following are my questions (both short and expanded) for the FAA...

1. SSTIK PROCEDURE OR VECTORING?

Are 1L SSTIK departures currently flying "the procedure" or being vectored over the Excelsior?

The SSTIK waypoint is located at the southern tip of Brisbane lagoon (<http://opennav.com/waypoint/US/SSTIK>). If planes are supposed to be TURNING through SSTIK as the charted procedure ("left turn direct to SSTIK") indicates (see attached), then the ones that are flying up the bay and turning over our homes are NOT, in fact, on the procedure as charted but are being vectored over us, which might explain why we didn't have this problem when NextGen was first implemented 2 years ago. But now, coincidentally(?) following a RT recommendation to fly planes further up the bay "to gain altitude" (which was very ill advised since the SSTIK departures can't ever fly about 5000ft because that conflicts with the CNDEL departures) this has effectively resulted in nothing more than a "noise shift" to our communities, wherein we find ourselves getting the brunt of the SSTIK departures despite this not being the "charted procedure"

The planes are supposed to be flying on a 014 degree heading following take-off as they make their approach to turn left through SSTIK. I don't know what the "520" refers to in "Climb heading 14 degrees to 520") The reports we have been given at the RT meetings that the majority of the planes are passing through SSTIK is misleading regarding what is actually happening because they are not passing through it as charted in the procedure but are instead just flying due north on a 355-0 degree heading through it (to us). Following take-off, they straighten out and start flying this 355 - 0 degree heading north through SSTIK as opposed to flying the 14 degree heading to a point east of SSTIK and then turning west and south through it.

So essentially, despite the FAA mantra of efficiency, they are flying these planes (the opposite direction from their destinations) a bunch of extra miles in big arcing turns over SE SF communities (and wasting gas) and it isn't even for a good cause because they aren't gaining much altitude in the process (CNDEL conflict) and it is adversely impacting a lot more people on the ground. Yet, they say they can't fly up the bay and out the golden gate (least impact/most benefit to most amount of people) because it isn't efficient. Well, which is it?!

Further questions:

1. What does "Top Altitude: FL190" mean???
2. To what does the 520 refer in "Climb heading 14 degrees to 520"
3. Confirm whether the routes that are sending planes over our communities are "vectored routes" as opposed to "charted procedure routes".

2. NOISE SHIFTING

Why have the majority of the 1L SSTIK departures been shifted over southeast San Francisco neighborhoods?

I have been told by the SFO Roundtable and the SFO Noise Abatement Office, as well as gleaned from reading the "FAA Initiative to Address Noise Concerns of Santa Cruz/Santa Clara/San Mateo/San Francisco Counties", that modifications to routes cannot be made if so doing would shift noise to other communities.

Perhaps you could explain to me then, why the same policy of "not shifting noise" did/does not apply to the current runway 1L SSTIK procedure at SFO? As I understand it, NextGen was implemented in the Northern California Metroplex in October 2015. However, I was not impacted by planes flying low and loud every few minutes over my house **until August 2017**. Can you please explain to me why all this noise was quite suddenly **shifted** over my house and community in August 2017, nearly two years after the launch of NextGen? The noise has obviously been shifted from another community to ours because we never experienced this level of disturbance before (I have lived in my house for 14 years) and now we are under assault. While the line I am fed is that route modifications cannot be made, it would seem that someone indeed modified routes when they decided to shift a large chunk of the noise from the runway 1L SSTIK departures further up the bay - thereby dumping 10-20 planes per hour over my house and community every day since August 2017.

I find it particularly disturbing that the FAA decided to shift noise to southeast San Francisco communities at a time when there was no southeast San Francisco representative member sitting on the SFO Roundtable to protect the interests of the community in which I live, a community which has now been turned into a defacto airport runway. I would like to know why this community was not given the same consideration that other communities are given with regard to the policy of "not shifting noise"?

Adding more low loud flights to the highly disruptive runway 1L SSTIK procedure at SFO is not the answer. If more flights need to be flown off runway 1L, then I would suggest that the experts at the FAA look at ways for the runway 1 departing flights to maximize their use of the bay and minimize their use of the (densely populated) peninsula for turning south. We are not a community located at the end of a runway. We did not choose to live near the airport or at the end of a runway strip. Meanwhile, the people who did choose to live at the end of a runway are having noise shifted AWAY from them as more and more airlines depart off runway 1L (as opposed to runway 28). People living in the departure path of runway 28 presumably knew they would be exposed to airplane noise, consented to live near it, and have received noise abatement benefits for the problem. The same cannot be said of people living in southeast San Francisco who are now being exposed to low loud planes and repeated 65dba+ noise events.

3. TARGETING A COMMUNITY WITH MULTIPLE PROCEDURES

Why is the FAA blasting southeast San Francisco with 3 procedures, the result of which is sometimes near constant airplane noise?

In addition to the 1L SSTIK departures, we are also being hit with CNDEL departures and BDEGA arrivals. This is too many procedures to plague a community not located adjacent to an airport with. The FAA needs to look at ways to alleviate some of the flights over this part of San Francisco and use less impactful flight paths and/or more dispersal of flights.

4. NIGHTTIME NOISE

When is the FAA going to come up with a nighttime SSTIK and CNDEL procedure that doesn't involve sending low loud flights over the peninsula late at night and early in the AM when people are trying to sleep?

1L SSTIK departures and CNDEL departures have NO NIGHTTIME procedure in place. I am still waiting for the so-called Nighttime operations improvements that I am told have been made and are a "great success" and yet low loud departures from SFO and OAK continue to be flown over my house and community late at night and very early in the morning. In fact, there have been MORE not less planes during Nighttime operations since the FAA response to the Initiative. The "success" lies with runway 1R departures only which make use of the bay. The runway 1L SSTIK and CNDEL departures continue to be flown as they are flown during the day - turning detrimentally low and loud over San Francisco and communities on the peninsula

On Fri, Aug 3, 2018 at 3:22 PM, SafaiStaff (BOS) <safaistaff@sfgov.org> wrote:

Hello again Ms. Kincaid

Thank you so much for your willingness to house a noise monitoring device! Your participation is much appreciated.

Please e-mail any questions you may have for the Federal Aviation Administration (FAA) to Cathy by August 20th. Her e-mail address is cathy.mulkymeyer@sfgov.org

Thank you again,

Lindsey Bach

From: Carolyn Kincaid [mailto:kincaid.carolyn@gmail.com]

Sent: Wednesday, July 18, 2018 9:36 PM

To: SafaiStaff (BOS) <safaistaff@sfgov.org>
Subject: Re: Temporary Noise Monitor Installation

Hi Lindsey,

Yes, I would be happy to have a noise monitoring station installed in our back yard. Please let me know if you need any information from me or if there is anything I need to do.

Best,
Carolyn Kincaid

[1 Prague St.](#)

[94112](#)

On Wed, Jul 18, 2018 at 3:45 PM, SafaiStaff (BOS) <safaistaff@sfgov.org> wrote:

Hello Ms. Kincaid

This is Lindsey Bach from District 11 Supervisor Safai's office. I am writing to confirm that you are willing to have a temporary noise monitoring station installed at your home on Prague Street. This would be a huge help to an ongoing investigation of noise levels in areas affected by flight paths to and from SFO.

Thank you and please do not hesitate to reply with any questions or concerns you may have.

Sincerely,

Lindsey Bach

(SSTIK3.SSTIK) 17341

SSTIK THREE DEPARTURE (RNAV)

AL-375 (FAA)

SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA

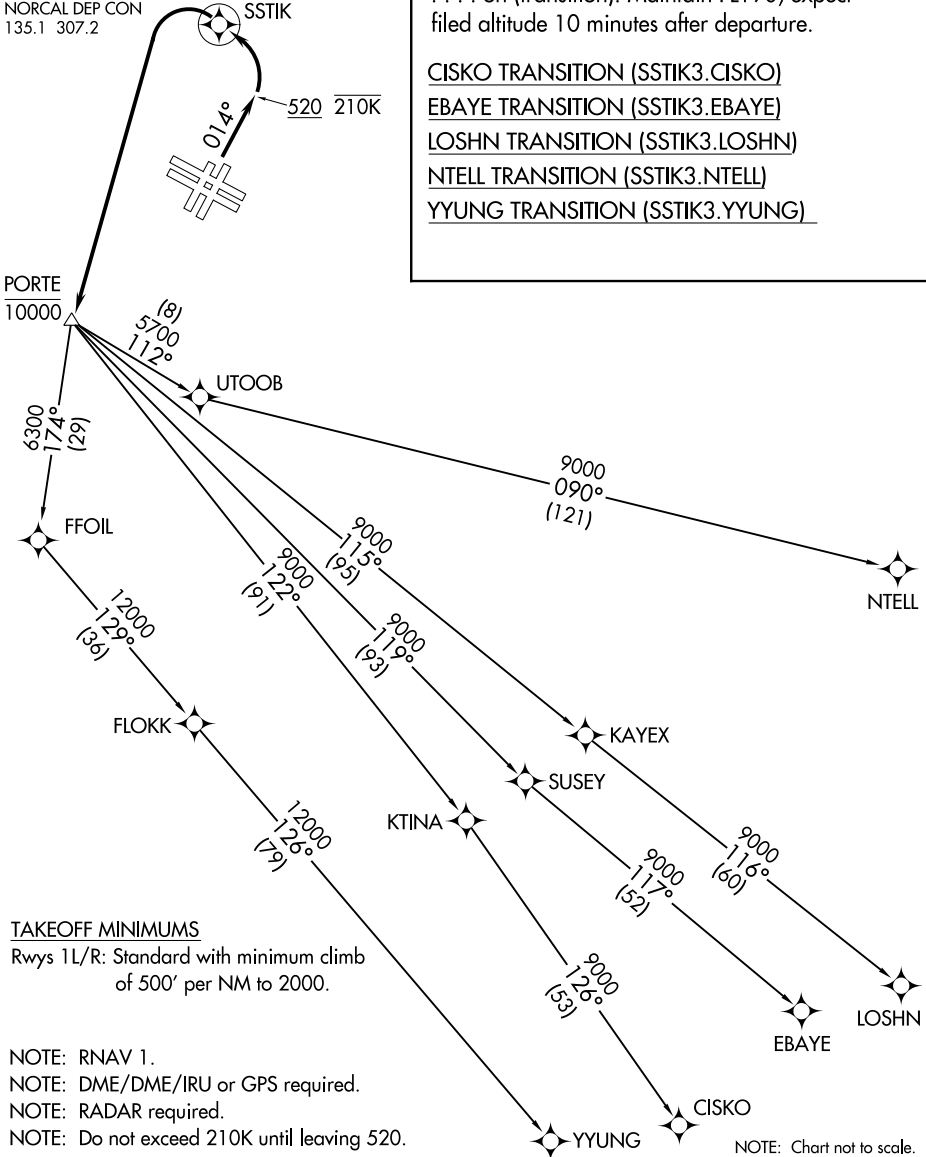
D-ATIS
113.7 115.8 118.85
CLNC DEL
118.2
CPDLC
GND CON
121.8
SAN FRANCISCO TOWER
120.5 269.1
NORCAL DEP CON
135.1 307.2

**TOP ALTITUDE:
FL190**

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 1L/R: Climb heading 014° to 520 then left turn direct to SSTIK, then left turn direct to cross PORTE at/below 10000. Thence. on (transition). Maintain FL190, expect filed altitude 10 minutes after departure.

- CISKO TRANSITION (SSTIK3.CISKO)
- EBAYE TRANSITION (SSTIK3.EBAYE)
- LOSHN TRANSITION (SSTIK3.LOSHN)
- NTELL TRANSITION (SSTIK3.NTELL)
- YYUNG TRANSITION (SSTIK3.YYUNG)



TAKEOFF MINIMUMS

Rwys 1L/R: Standard with minimum climb of 500' per NM to 2000.

- NOTE: RNAV 1.
- NOTE: DME/DME/IRU or GPS required.
- NOTE: RADAR required.
- NOTE: Do not exceed 210K until leaving 520.

NOTE: Chart not to scale.

SW-2. 01 MAR 2018 to 29 MAR 2018

SW-2. 01 MAR 2018 to 29 MAR 2018

SSTIK THREE DEPARTURE (RNAV)

(SSTIK3.SSTIK) 20AUG15

TWG Meeting - Sept 13, 2018
Packet Page 42

SAN FRANCISCO, CALIFORNIA
SAN FRANCISCO INTL (SFO)

Subject: Re: Mayor Ohtaki's original email - MENLO proposed rewording
Date: Monday, September 3, 2018 at 10:14:34 AM Pacific Daylight Time
From: Darlene E.Yaplee
To: James A Castañeda
CC: Ohtaki, Peter I, elewis@ci.atherton.ca.us, Lydia Kou, Justin W. Cook, ereindel@hmmh.com, Marie-Jo Fremont, Darlene E. Yaplee
Attachments: SF-RT_TWG - MENLO Wording_V3.pdf

Greetings James,

Thank you for following up.

I wanted to clarify that the proposed rewording with support from Mayor Ohtaki is to set the record straight with the FAA given previous incorrect communication to them.

It is not to actively pursue any additional short term or long term actions. The purpose of submitting this rewording is to clarify the request for higher altitude at MENLO and correct the record. Hopefully this limited work effort will make it easier to consider this a priority.

Thanks,

Darlene Yaplee and Marie-Jo Fremont

On Aug 6, 2018, at 2:11 PM, James A Castañeda <jcastaneda@sfoundtable.org> wrote:

Thanks Darlene. At this time, we'll discuss this at our next TWG meeting where we hope to start prioritizing items discussed at the prior TWG meetings and formulating which items the Roundtable will actively pursue in the short and long term. At that time we can use the provided information once this item is starting to be actively worked on and/or draft up a response to the FAA.

-James

From: Darlene E. Yaplee <darlene.yaplee@gmail.com>
Sent: Monday, August 6, 2018 1:52:16 PM
To: ereindel@hmmh.com; James A Castañeda
Cc: Ohtaki, Peter I; elewis@ci.atherton.ca.us; Lydia Kou; Marie-Jo Fremont; Darlene E. Yaplee; Justin W. Cook
Subject: Mayor Ohtaki's original email - MENLO proposed rewording

Gene and James,

I am sending you the original email (below) from Mayor Ohtaki so you have a record of his concurrence and the context of the document I gave to Gene at the SF-RT meeting on August 1st and Justin at the SF-RT TWG meeting on July 12th.

The original discussion was at the May 3, SF-RT TWG where Mayor Ohtaki and Gene participated.

We want to avoid this falling in the cracks so please advise if there is any actions or information desired for its inclusion for the updated response to the FAA .

Thank you for your time.

Darlene Yaplee and Marie-Jo Fremont

Begin forwarded message:

From: "Ohtaki, Peter I" <PIOhtaki@menlopark.org<<mailto:PIOhtaki@menlopark.org>>>
Subject: Re: Please review - proposed rewording for MENLO items, SF-RT TWG
Date: July 1, 2018 at 1:39:46 PM PDT
To: "Darlene E. Yaplee" <darlene.yaplee@gmail.com<<mailto:darlene.yaplee@gmail.com>>>
Cc: "elewis@ci.atherton.ca.us<<mailto:elewis@ci.atherton.ca.us>>"
<elewis@ci.atherton.ca.us<<mailto:elewis@ci.atherton.ca.us>>>, Lydia Kou
<lydia.kou@cityofpaloalto.org<<mailto:lydia.kou@cityofpaloalto.org>>>, Marie-Jo Fremont
<mariejofremont1@gmail.com<<mailto:mariejofremont1@gmail.com>>>

Hi Darlene and Marie-Jo,

I concur with your recommended language. Thank you for drafting it. Perhaps add that the spirit of the FAA agreement in 2000 with Eshoo was that during good weather (most of year) the 5000 ft visual approach would be used and was used. Problem now is that instrument approach used even in good weather so we'd like to ask FAA way to replicate good weather instrument approach at 5000' or above.

Taxiing to runway!

Thx
Peter

Peter Ohtaki
Mayor
City of Menlo Park

Sent from my iPhone, so please forgive typos and blunt language.

On Jun 23, 2018, at 4:11 PM, Darlene E. Yaplee
<darlene.yaplee@gmail.com<<mailto:darlene.yaplee@gmail.com>>
<<mailto:darlene.yaplee@gmail.com>>> wrote:

Mayor Ohtaki,

I wanted to check in before you leave to Japan to review the proposed rewording (highlighted yellow in the attachment).

Thanks!
Darlene and Marie-Jo Fremont

<SF-RT_TWG - MENLO Wording FINAL.pdf>

On Jun 14, 2018, at 5:15 PM, Ohtaki, Peter I
<piohtaki@menlopark.org<<mailto:piohtaki@menlopark.org>>
<<mailto:piohtaki@menlopark.org>>> wrote:

Thanks for proposing language which I will review next week. I'm currently swamped at work and with mayoral issues, and preparing to go out of town on July 1st to visit our sister city in

Japan.

Peter Ohtaki
Mayor
City of Menlo Park

Sent from my iPhone, so please forgive typos and blunt language.

On Jun 14, 2018, at 4:57 PM, Darlene E. Yaplee
<darlene.yaplee@gmail.com<<mailto:darlene.yaplee@gmail.com>>
<<mailto:darlene.yaplee@gmail.com>><<mailto:darlene.yaplee@gmail.com>>> wrote:

Greetings Mayor Ohtaki,

In the interest of time we have drafted the rewording for the MENLO items in Topic 3 as discussed at the May 3rd SF-RT TWG meeting.

Please let us know if you have any input before the upcoming SF-RT TWG meeting on July 12th.

We should target finalizing the language at that meeting per the open action item.

I have copied Chair person Elizabeth Lewis as well.

Thanks,

Darlene Yaplee and Marie-Jo Fremont, Palo Alto
<SF-RT_TWG - MENLO Wording FINAL.pdf>

On Jun 7, 2018, at 11:40 AM, Darlene E. Yaplee
<darlene.yaplee@gmail.com<<mailto:darlene.yaplee@gmail.com>>
<<mailto:darlene.yaplee@gmail.com>><<mailto:darlene.yaplee@gmail.com>>> wrote:

Hello Mayor Ohtaki,

I was hoping to connect with you at yesterday's SF RT meeting.

As the Menlo Park Mayor I realize you are quite busy with many projects for your City.

What is the best approach and use of your time so we can collaboratively propose rewording for the SFO/TRACON agreement and the MENLO waypoint sections in Topic 3 - items 5, 7, and 11? The next Technical Working Group meeting is July 12th and we should submit it before then.

I talked to Elizabeth and James at the SF RT meeting and they encouraged me to continue following up with you.

Thanks,

Darlene Yaplee
Palo Alto

Begin forwarded message:

From: "Darlene E. Yaplee" <darlene.yaplee@gmail.com<<mailto:darlene.yaplee@gmail.com>>

<<mailto:darlene.yaplee@gmail.com>><<mailto:darlene.yaplee@gmail.com>>>
Subject: Re: Thanks and Follow up from Technical Working Group - MENLO waypoint
Date: May 16, 2018 at 6:43:40 PM PDT
To: piohtaki@menlopark.org<<mailto:piohtaki@menlopark.org>>
<<mailto:piohtaki@menlopark.org>><<mailto:piohtaki@menlopark.org>>
Cc: Lydia Kou <lydia.kou@cityofpaloalto.org<<mailto:lydia.kou@cityofpaloalto.org>>
<<mailto:lydia.kou@cityofpaloalto.org>><<mailto:lydia.kou@cityofpaloalto.org>>>, Marie-Jo
Fremont <mariejofremont1@gmail.com<<mailto:mariejofremont1@gmail.com>>
<<mailto:mariejofremont1@gmail.com>><<mailto:mariejofremont1@gmail.com>>>, "Darlene E.
Yaplee" <darlene.yaplee@gmail.com<<mailto:darlene.yaplee@gmail.com>>
<<mailto:darlene.yaplee@gmail.com>><<mailto:darlene.yaplee@gmail.com>>>

Greetings Mayor Ohtaki,

I just returned from vacation and wanted to follow up.

Let me know your availability to touch base.

Thanks!

Darlene

On May 6, 2018, at 7:59 PM, Darlene E. Yaplee
<darlene.yaplee@gmail.com<<mailto:darlene.yaplee@gmail.com>>
<<mailto:darlene.yaplee@gmail.com>><<mailto:darlene.yaplee@gmail.com>>> wrote:

Greetings Mayor Ohtaki,

Thank you for attending the SF RT Technical Working group on May 3rd and engaging in the discussion related to the MENLO waypoint.

I was the resident making comments from Palo Alto to correct the record regarding the SFO/TRACON agreement and rewording the MENLO waypoint sections in Topic 3 - items 5, 7, and 11.

Your support at the meeting to reword these items to more accurately reflect the historical situation and the desired state is appreciated. This is a complex scenario to convey. After you left I was able to follow up with both Elizabeth and Gene (the technical consultant) on the next steps. They were in agreement that I should work with you and submit new wording for the FAA response as part of the Technical Working Group's work.

I propose that we meet to collaborate on understandings to prepare a draft. I have copied Council Member Lydia Kou who is the Palo Alto attendee for the SF RT and a member of the SJ South Flow Ad Hoc Committee. I would suggest she join along with my colleague Marie-Jo Fremont from Palo Alto and any Menlo Park participants you would like to invite.

Let me know your availability.

Thanks!

Darlene Yaplee
Palo Alto

SF RT – Technical Working Group

Review/Analysis of Topic 3

Proposed Rewording: MENLO Items 5, 7 and 11

The proposed rewording is a follow up to the discussion at the SF RT Technical Working Group Meeting, May 3, 2018. Mayor Peter Ohtaki of Menlo Park attended and concurred new wording should be sent for the FAA response to accurately reflect the MENLO Items.

The highlighted text, Option 1 is the proposed rewording to Mayor Ohtaki. Option 2 is the proposed text based on our understanding of Mayor Ohtaki's input. All other text is from the official posted notes. The proposed rewording is the same for item 5 and item 11 and therefore you may consider combining these.

Official posted notes following the May 3rd meeting.

5. MENLO

FAA's Update on Phase 2 Initiative Document Reference: Page 55 – Item 1

Summary of Recommendations: Roundtable requests that the agreement stay in place (between noise office and NCT) where aircraft cross MENLO intersection during visual conditions at 5,000' AGL and 4,000' AGL during instrument conditions.

Summary of FAA Responses: The FAA agrees with this recommendation to the extent feasible. However, it should be noted that there is no such agreement as stated that references altitudes as Above Ground Level (AGL). The FAA, for clarity and consistency, typically references altitudes in Mean Sea Level (MSL) in orders, agreements and procedures. The FAA is in ongoing discussions with the SFO Airport to update the Fly Quiet program. *Consultant Note – I think AGL was a typo in the Roundtable recommendations and it should have been MSL like all other references.*

Summary of TWG Discussion: No discussion in the agreement on the visual vs the instrument and need for it to be 5,000' period. Burt gave a re-cap that FAA stated we could do it on the visual (which is 80% of the time) but FAA stated they could not do it for instrument. Burt mentioned the new procedure. Community member cautioned to declare victory at 5,000' and that what we are proposing conflicts with a 2,000' agreement and since there is a trend towards instrument this item will not be as useful in the future. Burt mentioned that it has been noted that pilots can fly quieter than auto-pilot. Summary of the discussion on Roundtable recommendation would be to go back on their FAA recommendation and not introduce the 4,000' and re-phrase to the intention of the request for a higher altitude.

Proposed rewording "Summary of SFO Roundtable Recommendations":

Option 1. Roundtable requests the [agreement](#) between Representative Anna Eshoo and the FAA in 2000 be honored to keep planes at a minimum 5,000 ft near MENLO. Any changes or deviations from this agreement, including but not limited to the increase in air traffic near MENLO (current SFO arrival traffic near MENLO is at least 5 times what it was in the year 2000, which was about ~70 flights/day) and the increasing use of instrument approaches, should be addressed with impacted cities near MENLO.

Option 2. Roundtable requests the [agreement](#) between Representative Anna Eshoo and the FAA in 2000 be honored to keep planes at a minimum 5,000 ft near MENLO. Any changes for deviations from this agreement, including but not limited to the increase in air traffic near MENLO (current SFO arrival traffic near MENLO is at least 5 times what it was in the year 2000, which was about ~70 flights/day) and the **common** use of instrument approaches **regardless of weather conditions**, should be addressed with

impacted cities near MENLO. These cities are now experiencing a high level of aircraft noise not only because many more planes now fly a narrow, concentrated path at lower altitudes but also because instrument approaches, which are often noisier than visual approaches, are now commonly used even under good weather conditions.

7. MENLO

FAA's Update on Phase 2 Initiative Document Reference: Page 26 – Item 17

Summary of Recommendations: Create a visual approach for Runway 28L with a MENLO crossing altitude at or above 5,000; MSL.

Summary of FAA Responses: NCT supports the development of an RNAV visual approach to SFO's Runway 28L. Due to safety considerations and current criteria, development of this type of procedure is on hold. The FAA is currently evaluating methods for overcoming these concerns.

Summary of TWG Discussion: Continuation on #5 about the 5,000' of MENLO. FAA needs more information due to safety concerns.

Proposed rewording "Summary of SFO Roundtable Recommendations":

Create a visual approach for Runway 28L with a MENLO crossing altitude at or above 5,000 ft MSL and create both visual and instrument approaches that avoid changes in speeds and altitudes during final sequencing to fly quiet (e.g. avoid the use of thrust, flaps, slats and brakes).

11. MENLO

FAA's Update on Phase 2 Initiative Document Reference: Page 26 – Item 16

Summary of Recommendations: Aircraft should cross the vicinity around the MENLO waypoint at or above 5,000' MSL. Aircraft within the vicinity of MENLO should use the 5,000' altitude when able.

Summary of FAA Responses: The average altitude of vectored traffic in the vicinity of MENLO waypoint is approximately 4,600 feet MSL. During the design phase of the SERFR arrival, the major airline carriers were present in order to ensure that the SERFR would be safe for their aircraft. During those discussions it was determined that in order to accommodate the majority of aircraft into SFO, the descent gradient into RWY 28 would need to be between 2.72 ° – 2.85 °. With the altitude restriction of MENLO at 4,000 feet, the descent gradient to RWY 28L is 2.85 °. The published altitude at MENLO cannot be any higher without jeopardizing the safe operation of each aircraft. The higher an aircraft flies while in the vicinity of MENLO, the farther away from the SFO airport the aircraft must travel in order to descend to the appropriate altitude for approach.

Summary of TWG Discussion: Continuation on MENLO. Gene mentioned the GBAS is a potential solution. Community commented that the data he received shows the altitude is closer to 4,000' not 4,600' as the FAA states. Discussion on OPD angle and the argument of efficient vs safe operation. Desire to have vectored flights consistent with RNAV procedure altitudes. Community wants to be on record stating the Roundtable does not agree with the FAA response and recommends re-wording the recommendation to the FAA. Burt stated that new airplanes will need to apply speed breaks and come in 'dirty' in order to slow down which could create more noise. Burt believes with GBAS the FAA will be able to introduce a 5,000' waypoint. Statement to re-visit this recommendation and re-word.

Proposed rewording “*Summary of SFO Roundtable Recommendations*”:

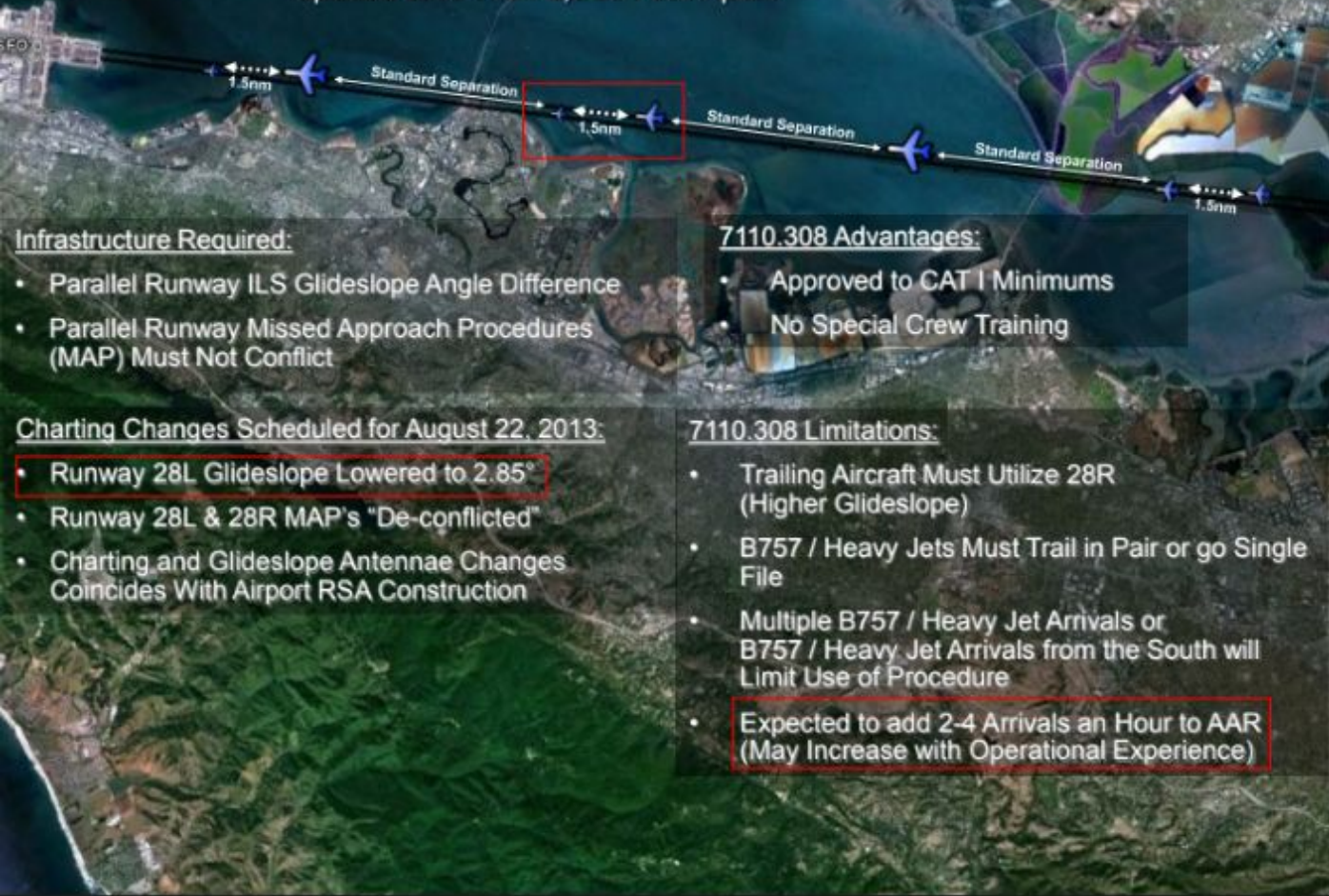
Option 1. Roundtable requests the [agreement](#) between Representative Anna Eshoo and the FAA in 2000 be honored to keep planes at a minimum 5,000 ft near MENLO. Any changes or deviations from this agreement, including but not limited to the increase in air traffic near MENLO (current SFO arrival traffic near MENLO is at least 5 times what it was in the year 2000, which was about ~70 flights/day) and the increasing use of instrument approaches, should be addressed with impacted cities near MENLO.

Option 2. Roundtable requests the [agreement](#) between Representative Anna Eshoo and the FAA in 2000 be honored to keep planes at a minimum 5,000 ft near MENLO. Any changes for deviations from this agreement, including but not limited to the increase in air traffic near MENLO (current SFO arrival traffic near MENLO is at least 5 times what it was in the year 2000, which was about ~70 flights/day) and the **common** use of instrument approaches **regardless of weather conditions**, should be addressed with impacted cities near MENLO. **These cities are now experiencing a high level of aircraft noise not only because many more planes now fly a narrow, concentrated path at lower altitudes but also because instrument approaches, which are often noisier than visual approaches, are now commonly used even under good weather conditions.**

In addition, the community wants to be on record that:

- Lowering the glideslope for runway 28L to 2.85 degrees was a result of FAA order JO 207110.308 that reduced the diagonal separation to 1.5 nautical miles for closely parallel runways (e.g. spaced less than 2,500 feet). The reduced diagonal separation was expected to allow 2 to 4 additional arrivals an hour (and possibly more based on experience) after implementation started August 22, 2013 (see slide below).
- Data analysis by the community shows that the altitude near MENLO is closer to 4,000 ft, not 4,600 ft as stated by the FAA.

JO 7110.308: 1.5-Nautical Mile Dependent Approaches to Parallel Runways Spaced Less Than 2,500 Feet Apart



Infrastructure Required:

- Parallel Runway ILS Glideslope Angle Difference
- Parallel Runway Missed Approach Procedures (MAP) Must Not Conflict

7110.308 Advantages:

- Approved to CAT I Minimums
- No Special Crew Training

Charting Changes Scheduled for August 22, 2013:

- Runway 28L Glideslope Lowered to 2.85°
- Runway 28L & 28R MAP's "De-conflicted"
- Charting and Glideslope Antennae Changes Coincides With Airport RSA Construction

7110.308 Limitations:

- Trailing Aircraft Must Utilize 28R (Higher Glideslope)
- B757 / Heavy Jets Must Trail in Pair or go Single File
- Multiple B757 / Heavy Jet Arrivals or B757 / Heavy Jet Arrivals from the South will Limit Use of Procedure
- Expected to add 2-4 Arrivals an Hour to AAR (May Increase with Operational Experience)