FAA Briefing to Oakland Airport Noise Forum – NextGen Technical Subcommittee

Supplemental Information to May 28, 2020 Briefing
Purpose of this Briefing

• Provide an update on HUSSH SID IFP Gateway request
• Explain the need to modify the current WNDSR STAR
• Explain the Air Traffic constraints in the area as they relate to the current WNDSR STAR and the proposed modifications
Purpose of this Briefing

• To show relationships between:
  – Current WNDSR2 STAR
  – Proposed change to WNDSR STAR as designed by the FAA Performance Based Navigation Full Working Group
  – Proposed change to WNDSR STAR with input from Oakland Airport
  – OAK Arrival tracks from the northwest, both pre- and post- WNDSR STAR implementation
    • Pre-WNDSR Arrivals limited to those that filed the RAIDR STAR

• Next steps
HUSSH SID IFP Gateway request

• An Instrument Flight Procedures Gateway request, to amend the initial altitude on the HUSSH SID from OAK, was submitted by the Oakland Airport on 10/16/2019

• The request is in the PBN 7100.41 process and is currently awaiting decision by the Flight Procedure Prioritization Team
Performance Based Navigation Process Timeline

Public Engagement may include briefings to roundtables, elected local, state, or federal officials and workshops, videos or webinars.

The environmental review for procedures developed in this process occurs as a final step to the design activities.
This chart shows the environmental steps the FAA would follow if the agency develops any of the conceptual changes. Non-finalized procedures generally do not start this process until finalized.

**NEPA Process**
- Consideration of a Proposed Action under the National Environmental Policy Act (NEPA)

**Preliminary Technical Review**
- FAA conducts an internal technical review before deciding to move forward with an environmental review

**Internal Review to Determine Level of NEPA Review**
- FAA conducts an internal environmental review of the proposed action to evaluate potential environmental impacts. Input from the public is used to assist the FAA in determining which of the three levels is appropriate to complete the environmental review

**Environmental Assessment**
- This level of review is prepared to consider the potential environmental impacts of the proposed action, and to determine whether the FAA should prepare an Environmental Impact Statement or issue a Finding of No Significant Impact (FONSI)

**Categorical Exclusion (CATEX)**
- This level of review is prepared for types of actions that do not normally have the potential for individual or cumulative significant impacts on the human environment

**Environmental Impact Statement**
- This level of review is completed when one or more environmental impacts would exceed specific thresholds and mitigation measures would not reduce the impact(s) below significant levels

**Record of Decision**
- The FAA formal decision document

**Finding of No Significant Impact**
- The FONSI finding is issued when the proposed action’s environmental impacts with no additional mitigation, would not be significant

**Proposed Action May Proceed**
- FAA Order 1050.1F identifies the range of factors which define Extraordinary Circumstances

**Yes**
- Extraordinary Circumstances

**No**
- Significant Impact

**Final Decision**
Need for modifying the WNDSR STAR

- Within days of the publication of the WNDSR STAR, Oakland ARTCC and NorCal TRACON realized the new WNDSR STAR, being shifted to the North/Northeast, did not provide the separation from departures that the previous RAIDR STAR did.
Need for modifying the WNDSR STAR

- While very similar, the new WNDSR STAR, in conjunction with other procedures implemented at the time, reduced the ability for controllers to more dynamically establish OAK arrivals on the downwind for runway 30.
- This often keeps departures from SFO and OAK below the arrival stream over the Richmond area.
  - Arrivals may need to level off and increase thrust and/or departures may need to slow climb and remain at a lower altitude.
Air Traffic Constraints with Respect to the current WNDSR STAR

- Napa County Airport Departures and Arrivals
- Travis Air Force Base Airspace
- Some SFO and OAK departures currently pass under arrivals, unable to climb until clear
- Higher terrain to the east
- SFO and OAK arrivals from the east/southeast
Air Traffic Constraints with Respect to the current WNDSR STAR - Napa

- Conflicition with Napa County Airport (KAPC) traffic between WEBER and BOYYS waypoints
KAPC Departures
KAPC Departures/Arrivals
Air Traffic Constraints with Respect to the current WNDSR STAR – Travis Air Force Base

• Proximity of BOYYS to HOPTA segment to Travis Air Force Base (AFB) airspace
  – Route cannot be moved further east without encroaching on AFB airspace and potentially requiring individual coordination for each arrival
  – OAK and SFO departures must be at or above 11,000 prior to the Travis AFB airspace
Air Traffic Constraints with Respect to the current WNDSR STAR – OAK/SFO Departures

• Major crossing point with OAK and SFO departures over the Richmond area
• Current design often requires level-offs for departures and/or arrivals
• Departures need to continue climbing to reach 11,000 to avoid Travis AFB
• Departures currently passing below arrivals are able to climb sooner with BOYYS moved west
SFO/OAK Dept toward Napa
Air Traffic Constraints with Respect to the current WNDSR STAR – Terrain to the East

• Terrain
  – As the terrain is higher to the east, this also increases the altitude aircraft are required to fly while on the STAR. Given the same location on a downwind in relation to the airport, a higher altitude requires a longer downwind and final approach segment to maintain the same level of approach stability.
  – This also creates a conflict with Hayward Executive Airport departures, as it often causes them to be “trapped” between a descending OAK arrival and the rising terrain.
Constraint of Terrain
Constraint of Terrain
Air Traffic Constraints with Respect to the current WNDSR STAR – Other Arrivals

• Sequencing with other arrivals
  – If moved further east, the change in the intercept angle between the WNDSR and OAKES/EMZOH STARS creates increasing complexity when sequencing arrival aircraft
SFO & OAK arrivals from E/SE
Next Steps

• This briefing was designed to show the latest design for the proposed WNDSR STAR amendment, as well as the status of the HUSSH SID amendment request.

• While there has been an operational need to modify the WNDSR for many years, including several air traffic safety reports, the FAA remains committed to working with the Subcommittee and Forum in addressing aircraft noise based issues in the area.
Next Steps

• The FAA will continue collaboration with the Subcommittee and Forum, even after potential publication of the WNDSR STAR, as briefed.
Data used

• **Pre-WNDSR OAK Arrivals**
  – May 20, 2015 – August 7, 2015
    • More tracks were used to better represent aircraft arriving via the RAIDR STAR

• **All other track categories**
  – August 1 – 7, 2019
WNDSR & Pre-WNDSR Arrivals

Legend
- Proposed WNDSR (FWG)
- Current WNDSR
- Proposed WNDSR (APT)
- Proposed Waypoint
- Current Waypoint
- WNDSR Arrivals
- Pre-WNDSR OAK Arrivals
BOYYS to HOPTA, ALLXX

- Proposed WNDSR (FWG)
- Current WNDSR
- Proposed WNDSR (APT)
- Proposed Waypoint
- Current Waypoint