

## **1.1 Feasibility Group 1: SFO Class B Amendment**

Recommendation: The Select Committee recommends adoption of Feasibility Group 1. (Vote: \_\_\_ Aye, \_\_\_ Nay, \_\_\_ Absent or Abstain)

Currently the issue of nighttime arrivals including cargo planes (item 3dii) are lumped into multiple sections that could take a long time to implement. Section 1.1 and Section 1.2 has item 3dii lumped in with the class B airspace redesign. Can we separate out nighttime arrivals and start now with moving them higher and over the bay? Nighttime flights can be dealt with much faster than the redesign of class B airspace. Section 1.3 and section 1.4 also has nighttime cargo planes lumped in with departures.

Note that section 2.4 also discusses overnight flights and this could be where we ask for near term relief such as having the nightly cargo airplanes use the full length of the bay at night. Also, departures heading south over the bay should NOT prevent arrivals over the Bay at night (from BDEGA east, or from vectoring flights to FAITH to enter the Bay from the south). It would be desirable to have the select committee recommend that these be dealt with in a timelier manner.

## **1.6 Feasibility Group 6: Improve Aircraft Set Up and Sequencing Between Facilities**

Recommendation: The Select Committee recommends adoption of Feasibility Group 6. (Vote: \_\_\_ Aye, \_\_\_ Nay, \_\_\_ Absent or Abstain)

Section 1.6 recommends supporting the use of time based flow management (TBFM), but does not discuss the fact that this will increase the volume of aircraft on the arrival procedures nor does it then propose that this additional volume needs to be mitigated. Fig. 1 shows the increase in volume on SERFR for Sept. 2015 as compared to BSR for Sept. 2013. The volume of traffic on SERFR is 32% to 64% higher depending on weather and wind conditions. The FAA could point to the select committee's endorsement of TBFM as an excuse to increase the volume (concentration) further. For this reason, it would be prudent to request that the additional volume be dealt with as part of TBFM.

Any community under a flight path needs to have protection against becoming a noise corridor. Please consider proposing capacity limits – a range of numbers in which the volume of flights cannot exceed. This will define when

additional routes are needed and then the FAA can engage with communities to change the flight procedures and pathways.

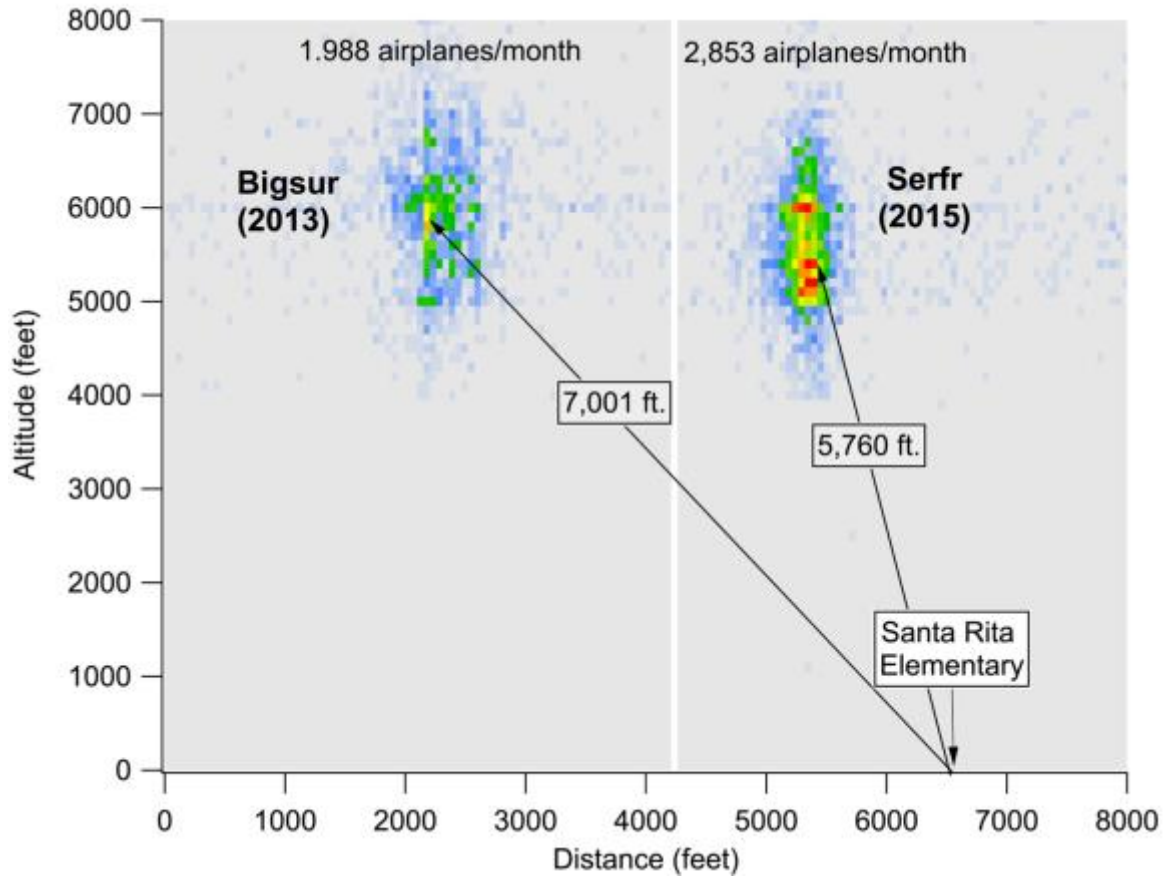


Fig. 1. Volume of traffic on SERFR is 32% to 64% more airplanes depending on weather conditions as compared to BSR in prior years. This is a critical component of noise over the mid-peninsula.

## 2.8 Increase All Altitudes

Recommendation: The Select Committee recommends that to the greatest extent possible, while still ensuring the safety of the aircraft, that the altitude be increased for all flight procedures/paths in to and out of SFO. (Vote: \_\_\_ Aye, \_\_\_ Nay, \_\_\_ Absent or Abstain)

Altitudes are discussed in three sections. Section 2.8 discusses altitudes in general whereas Section 2.9 discusses altitudes of vectored airplanes (see below) and Section 2.5 discusses altitudes over the MENLO waypoint. It would be better to be specific about particular pain points, e.g. vectored SERFR, BDEGA, Oceanic (also see comments for Section 2.9 below).

## 2.9 Aircraft Vectoring

Recommendation: The Select Committee recommends that the FAA identify locations that have the most compatible land uses for vectoring, such as over the Pacific Ocean or San Francisco Bay, and vector the SFO arriving air traffic in those locations to reduce noise exposure experienced on the ground. (Vote: \_\_\_ Aye, \_\_\_ Nay, \_\_\_ Absent or Abstain)

Regarding aircraft vectoring, it has been suggested by the FAA that raising the the altitude at which aircraft are vectored could require the aircraft to fly further south to safely descend and make the U-turn because Glen Martin estimated that these aircraft are flying potentially as high as 5,500 feet in the vicinity of the MENLO waypoint. Data analysis (see Fig. 2 below) shows that the actual altitude of vectored aircraft is much lower at 4,000 feet and are actually lower than airplanes on SERFR. These flights can likely be at least as high as the altitude on SERFR if not higher. The recommendation in Section 2.9 does **not** include raising the altitude of these vectored airplanes which is an option that is likely feasible.

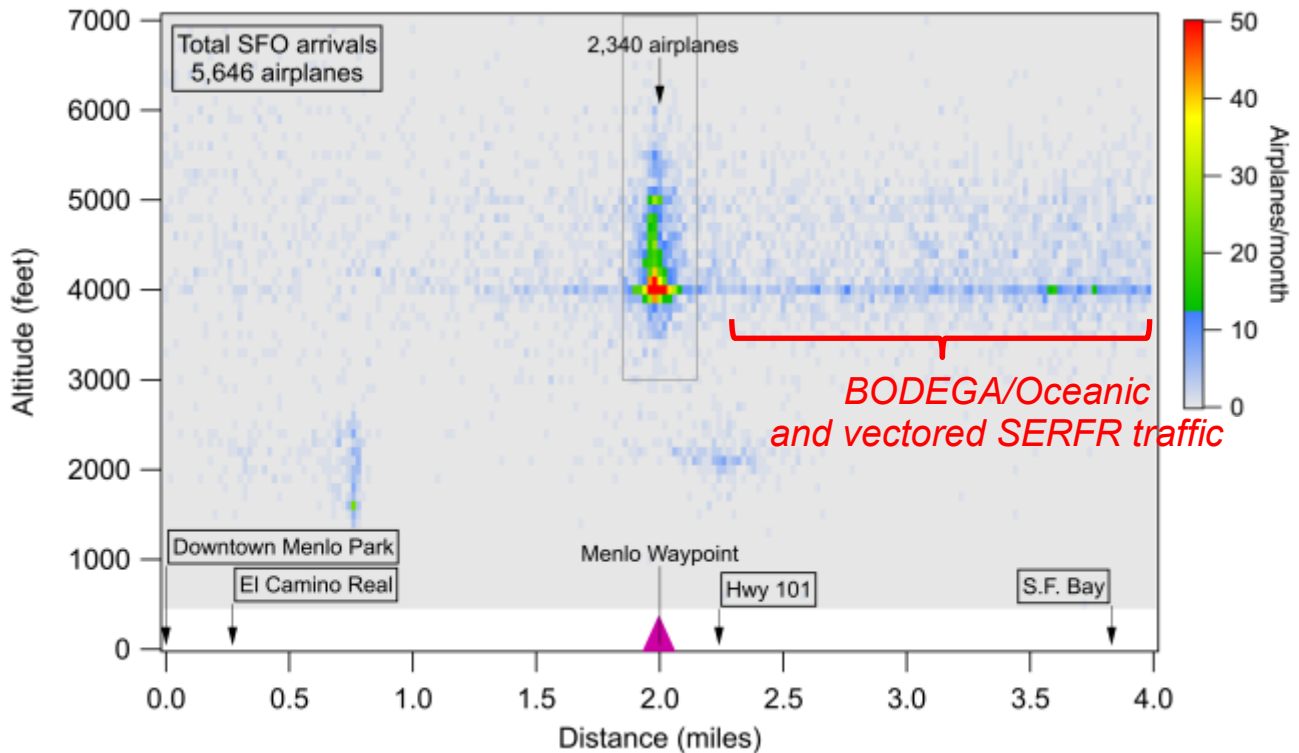


Fig. 2. Airplane concentration over the MENLO waypoint. Vectored airplanes are

concentrated at 4,000 feet in the vicinity of the waypoint and could be raised.

Note that in section 2.5, the statement that the “other aircraft” (not on the SERFR corridor) represent 85% of the aircraft in the vicinity of the MENLO waypoint is likely in error. The FAA said that 15% of the TOTAL arrival traffic into SFO fly on SERFR over MENLO waypoint. The total arrival traffic includes air traffic flying on DYMND and over the S.F. Bay from BODEGA.

To clarify the percentages:

- 60% of SFO arrivals fly in the vicinity of MENLO (which includes SERFR traffic crossing MENLO)
- These 60% are broken down: 15% SERFR-OPD + 15% vectored SERFR + 25% BDEGA west + 5% OCEANIC = 60%

Thus only 45% of the SFO arrivals fly in the vicinity of the MENLO waypoint, not 85%.

### **2.13 Redirect Southern Arrivals (SERFR) to an Eastern Approach into SFO**

Regrettably, the select committee has not endorsed this solution. In the Oct. 13th select committee meeting, however, the FAA showed that the DYAMD arrival had much less traffic than the SERFR arrival in the early morning hours between 6am and 8am (see Fig. 3 below) and that it was feasible to move traffic from SERFR to the DYAMD arrival in the early morning hours. In addition, the traffic on DYAMD is actually split into two arrivals for the two runways (28L and 28R) giving more flexibility. In addition, 28R could be made the preferential runway by default, 24 hours a day. Foster City (Sam Hindi) would be a very strong supporter.

#### **From the SFO Noise abatement office**

"Reducing nighttime aircraft noise is a key goal of SFO's Nighttime Preferential Runway Use Program. The SFO Nighttime Preferential Runway Use Program is a voluntary program that was developed in 1988. Between the hours of 10:00 p.m. and 7:00 a.m.- aircraft operators are asked to comply with the program when conditions allow. Within the program, late night hours are especially critical. The program tries to maximize flights over water and minimize flights over land and populated areas between 1:00 a.m. and 6:00 a.m."

## Hourly distribution of SFO Arrivals in June 2016

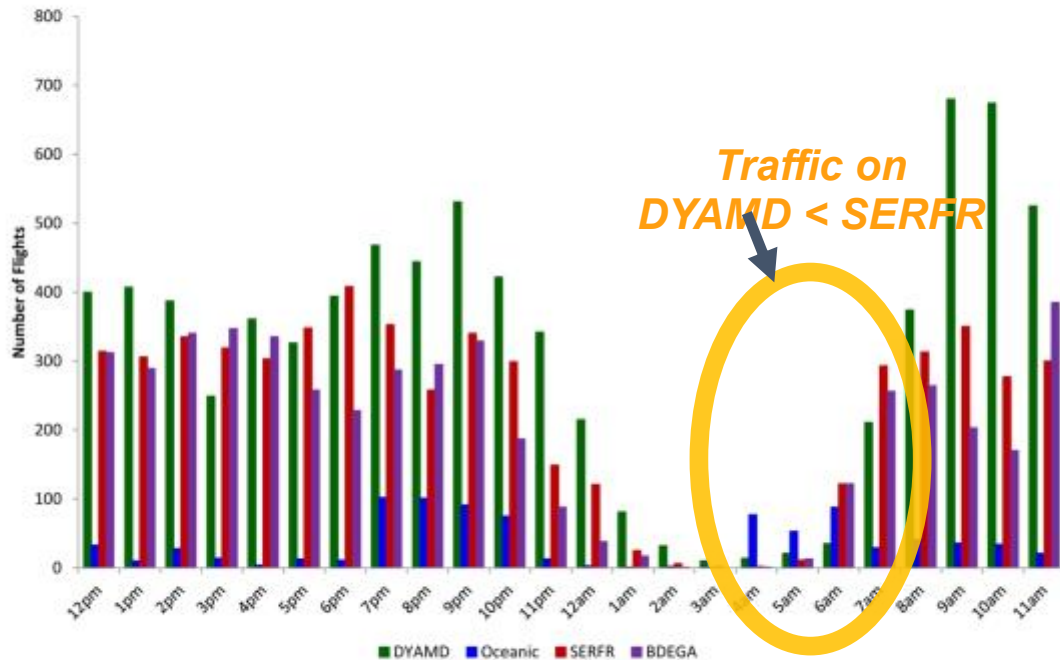


Fig. 3. Traffic on the DYAMD arrival over the full length of the bay is lower than that on SERFR over populated areas in the early morning hours of 6am to 8am.

### 2.7 Increase the Altitude and Profile of Descents into SFO

Recommendation: The Select Committee recommends that the FAA determine the feasibility of increasing the glide slopes of SFO Runways 28R and 28L. (Vote: \_\_\_ Aye, \_\_\_ Nay, \_\_\_ Absent or Abstain)

Section 2.7 discusses the glide slope for runway 28L (2.85 degrees) and runway 28R (3.0 degrees). It would make more sense that the glide slope for runway 28L be larger than for runway 28R since traffic on 28L primarily merges from the MENLO waypoint over populated areas whereas the traffic on 28R is coming from the southern end over the S.F. bay. For example, the glide slope could be 3.15 degrees for 28L and 3.0 degrees for 28R.