

Baseline Analysis of Airplane Traffic

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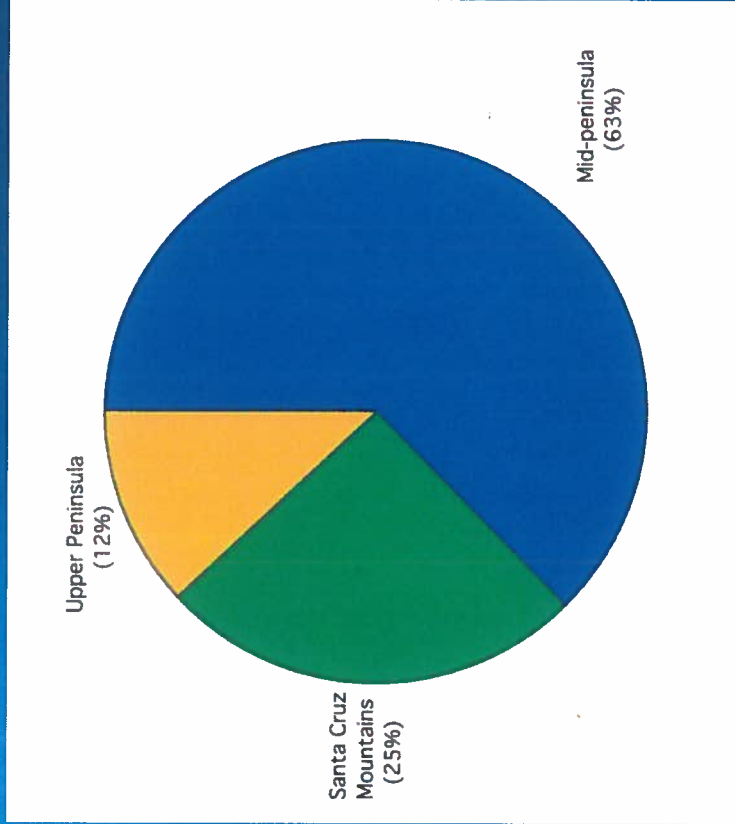
[4] Airplane pilot

Outline

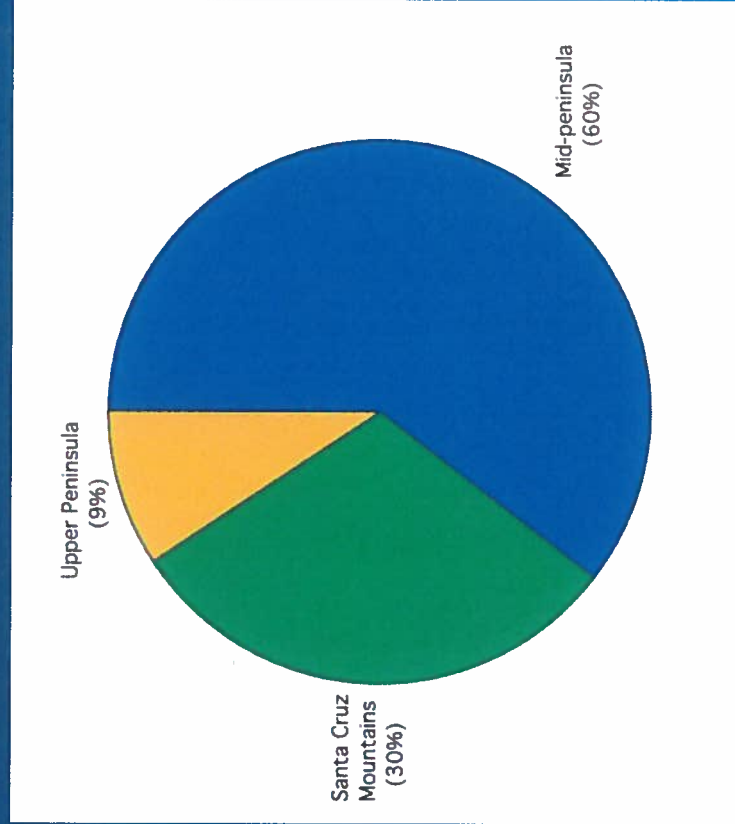
- It is bad and we are mad
- What happened and what could happen next?
 - Routes were shifted
 - Concentration was increased
 - Altitudes were lowered accompanied with flight procedure changes
 - Time-based flow management could further increase concentration
- Errors and omissions in the FAA feasibility study
- Proposed solutions that need more attention
 - Distributed equitable solutions are needed

Airplane Noise Reports from Stop Jetnoise for May 2016

Unique Individuals Filing



Reports Filed

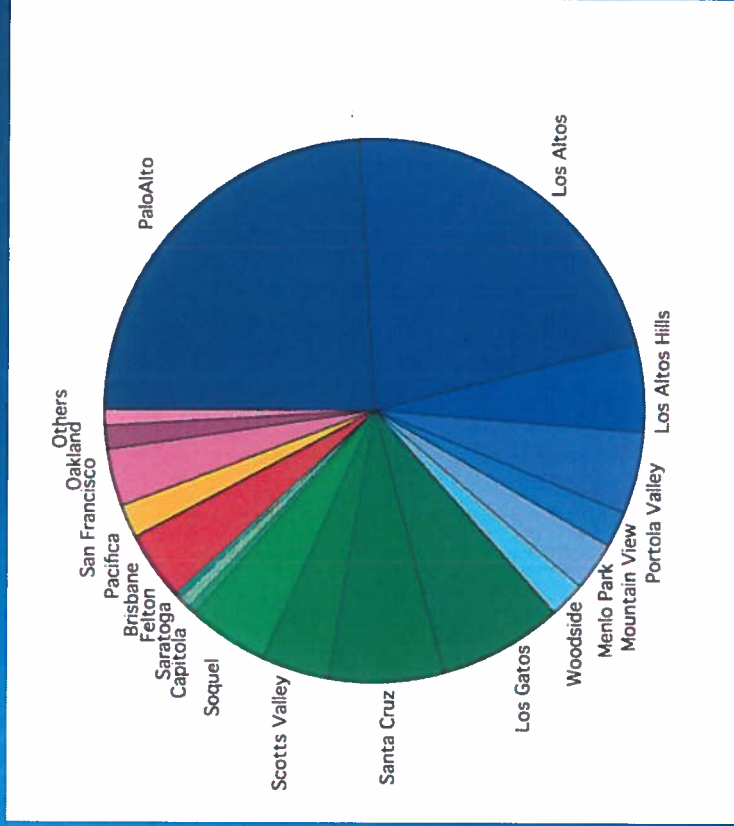


1,890 individuals filed reports

330,980 noise reports filed

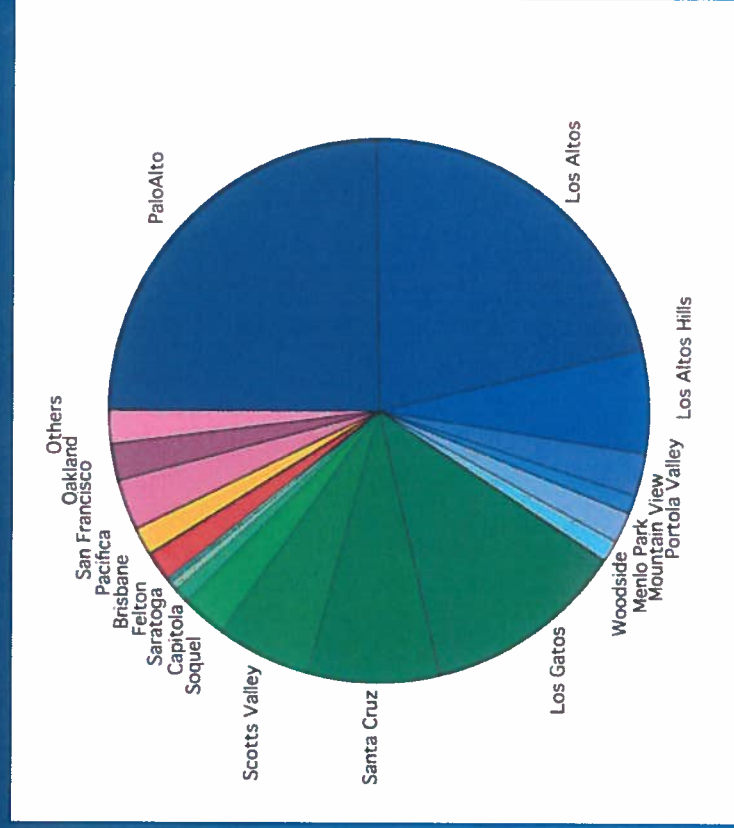
Airplane Noise Reports from Stop Jetnoise for May 2016

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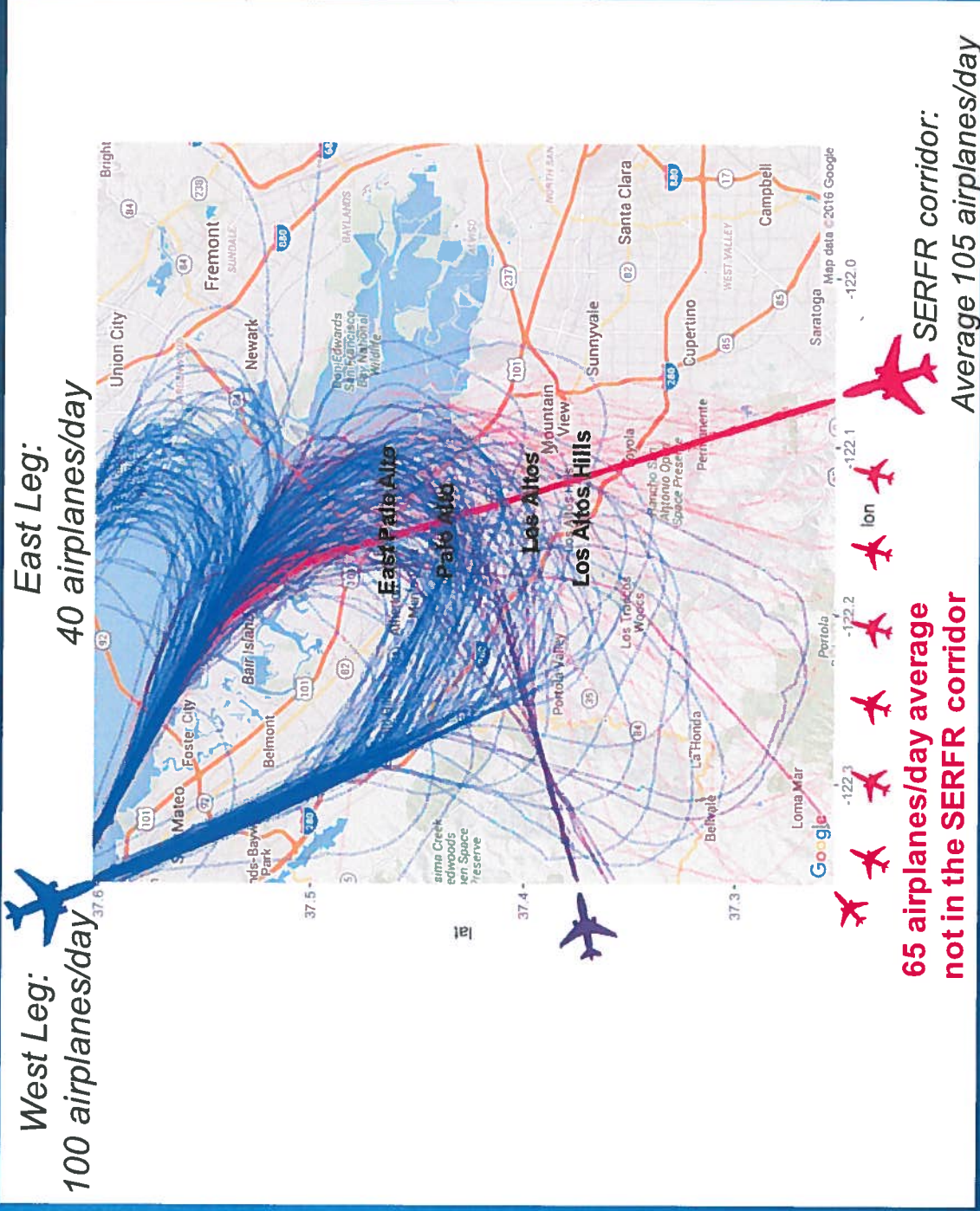
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Reports Filed



330,980 noise reports filed

Airplane Tracks over Mid-peninsula

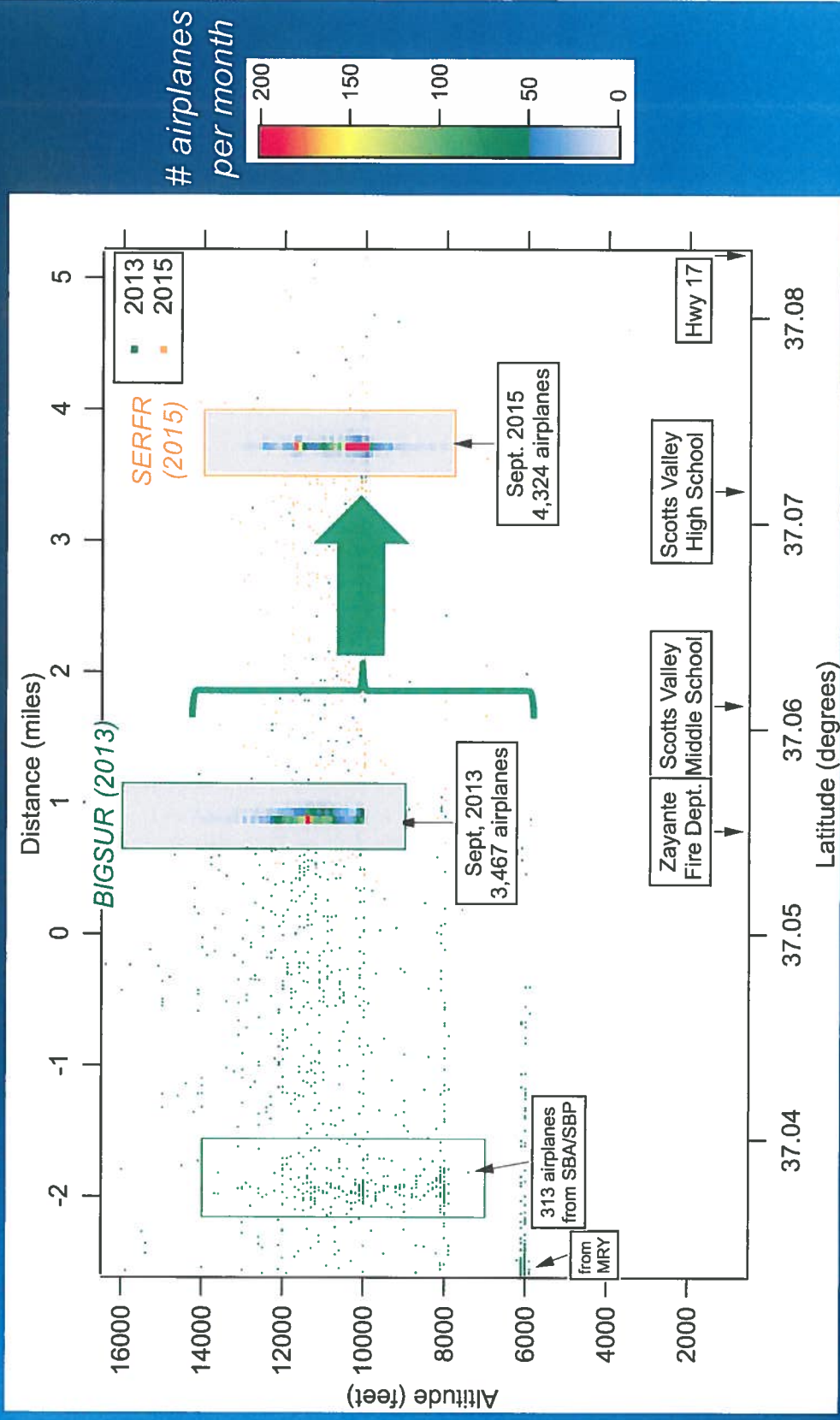


➤ The majority of northern arrivals used to be on the east leg

Map of Routes over Scotts Valley



Scatter Plot for Scotts Valley



- Route was moved from the west side to the east side of Scotts Valley.
- Altitude of airplanes was lowered and concentration was increased.
- Dispersion was significantly reduced.

Delayed Vectoring



Sound Shadow Along Bigsur Route (2013)



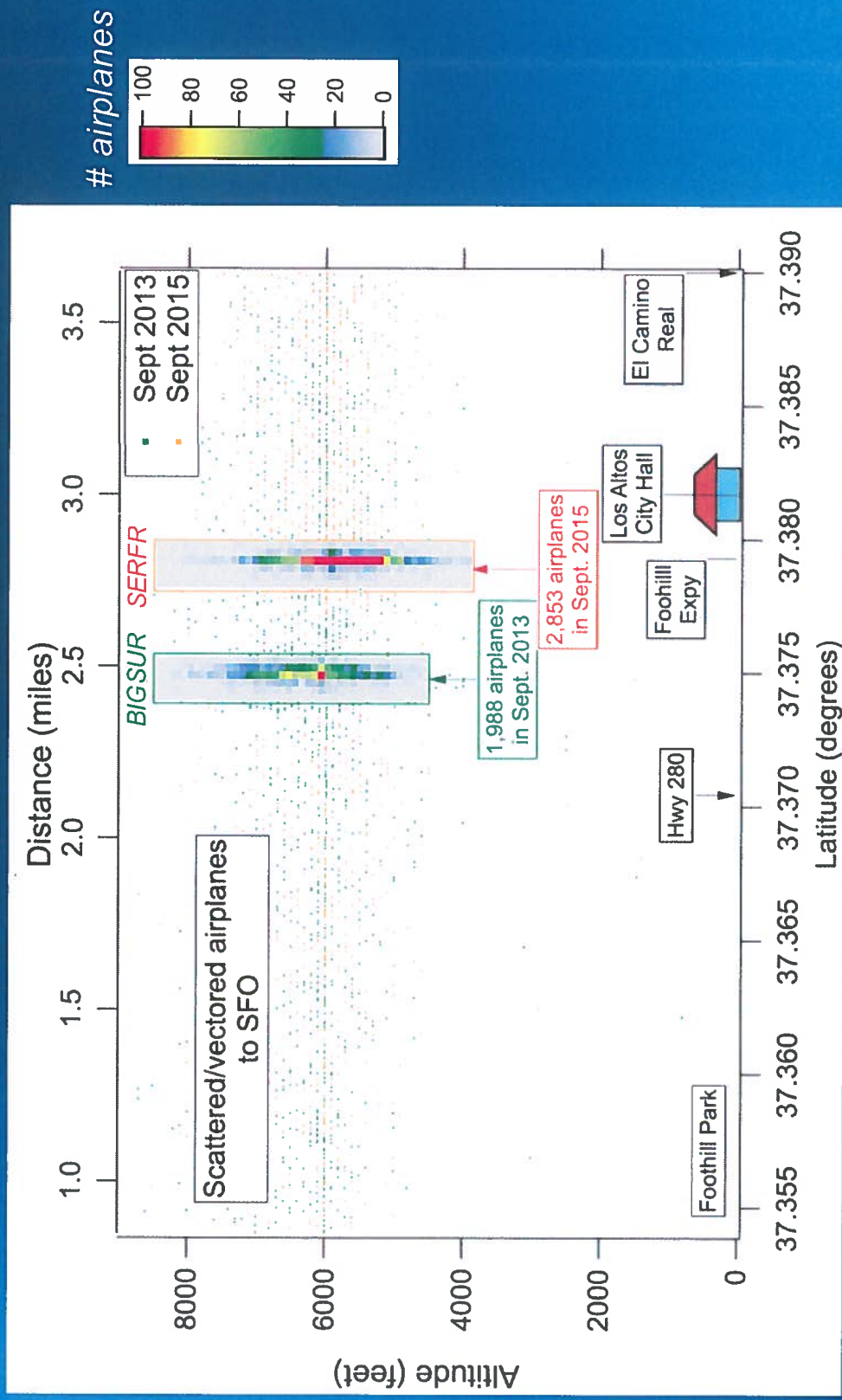
Sept. 2013
1,988 planes
5,966 ft. avg. altitude

Sound Shadow Along Surf Route (2015)



Sept. 2015
2,853 planes
5,624 ft. avg. altitude

Window over Los Altos / Los Altos Hills



- Significant concentration increase of airplanes in the corridor in 2015.
- Altitudes were lowered

Dispersion

Adjustment Type	a. Equitability
Adjustment Detail	ii. Evaluate the effect of dispersing flight tracks over a wider range or developing multiple parallel RNAV procedures.
Evaluation	<ul style="list-style-type: none"> In order to accommodate the volume of traffic merging into the Bay Area airports without increasing ground delays, traffic is typically vectored off their respective procedure. This vectoring is effectively a built in dispersion. For example, 50% of SERFR flights are already dispersed through vectoring. ATC is constantly striving to standardize instructions and routes. Standardization improves predictability and repeatability of operations. Parallel routes may be a source of confusion and may be unsafe. <p>NOTE: Evaluation above is the same as Part 1 f.ii.</p>
Supporting Analysis	See Appendix B and Appendix E
Feasibility Assessment	Not feasible
Next Steps	No further FAA action

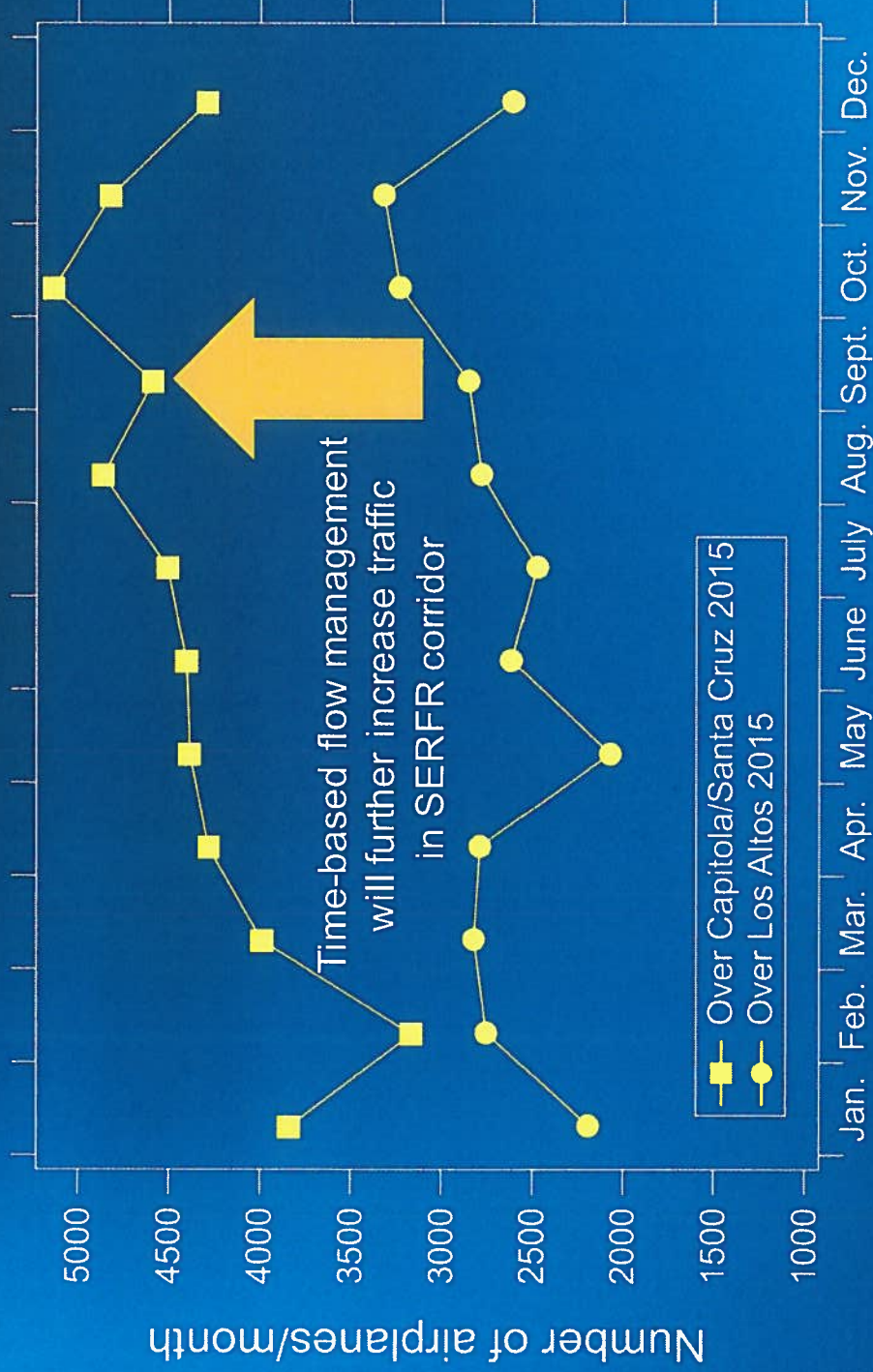
➤ *Dispersion not considered because of delayed vectoring.*

Time Based Flow Management

Adjustment Type	c. Time Based Flow Management (TBFM)
Adjustment Detail	ii. Review the impact of using TBFM on current noise issues.
Evaluation	<ul style="list-style-type: none"> • If the FAA is successful in better metering traffic on the SERFR, then this would potentially increase the number of aircraft able to stay on the procedure. • This may reduce the possible noise associated with vectoring aircraft off the procedure around the EPICK waypoint. • Once the Class B is changed to contain the SERFR Arrival, this would mean that a greater percentage of arrivals would be able to execute the OPD as designed.
Supporting Analysis	Not applicable
Feasibility Assessment	Feasible
Next Steps	FAA will continue to investigate metering improvements and the SFO Class B updates.

- *Time-based flow management will reduce noisy delay-vectorized airplanes.*
- *This therefore reduces what the FAA deemed as a substitute for dispersion.*

Airplanes/month in Corridor During 2015



- As time-based flow management is implemented, the number of airplanes on SERFR will climb to values that approach those crossing at the Santa Cruz coastline.

Proposed Solutions That Need More Attention

- Route night flights away from populated areas
 - Over the full length of the bay or ocean (northern and southern arrivals)
 - Using higher altitudes
- Move northern arrivals back to east leg of BDEGA route
 - Over the bay instead of over land
- Distribute solutions over large area
 - Herring bone or trident dispersion
 - Use multiple routes to enter bay area,
 - The BDEGA route consists of two routes and Serfr has only one.
 - Do not disperse by using delayed vectoring
- Use the southern over the bay flight path (FAITH IAF)

Errors and Omissions in the FAA Feasibility Study

- Errors
 - There are cargo flights (KAL213, Atlas Air GT11920, Kalitta Air, ...) that use SERFR at night, but the initiative erroneously concluded that all cargo flights on the SERFR arrival occur between 6am – 7am (page E7).
 - The study erroneously concluded that the majority of flights over Woodside VOR are Oceanic arrivals (page F2).
- Omitted were proposals presented to the FAA on Oct. 9, 2015 such as moving northern arrivals onto the east leg over the bay.
- The study concludes that dispersion is not needed because of vectoring, but time-based flow management will reduce vectoring.
- *We propose that the select committee ask the FAA to*
 - *Amend their report.*
 - *Form a technical working group (to address errors and omissions).*

Airbus A320 Whining

From: **Virgin America**
Sent: Jun 12, 2016 9:52 AM
Subject: Vortex Generator [Incident: 160201-000238]

Subject: Vortex Generator

Response By Email (Doug) (06/12/2016 09:52 AM)

Hello,

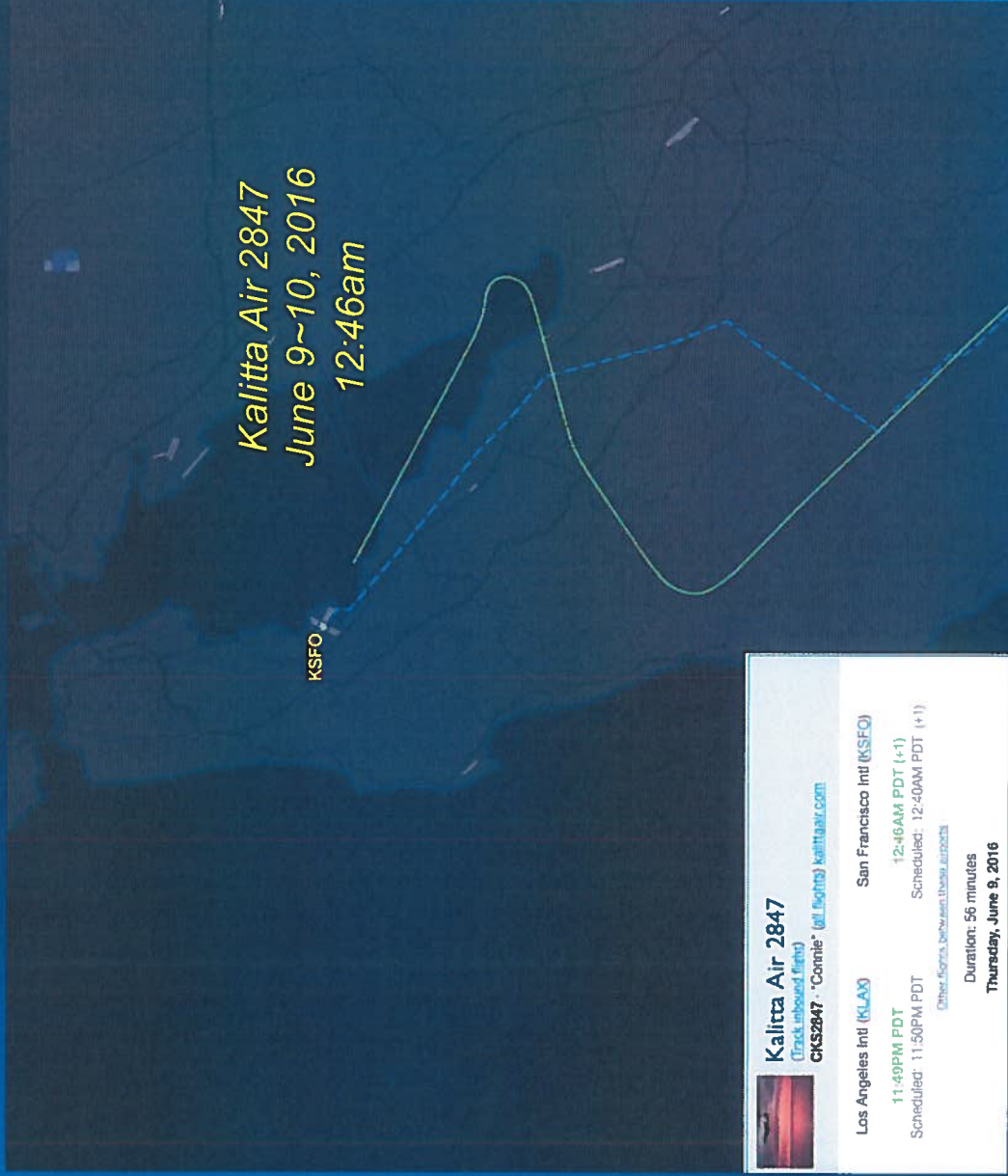
I just received word that we are not proceeding with the retrofit, and I wanted you to be updated. The decision was made around the time of the merger announcement. Whether the merger influenced that, I do not know.

Best regards,
Douglas
Guest Relations Manager

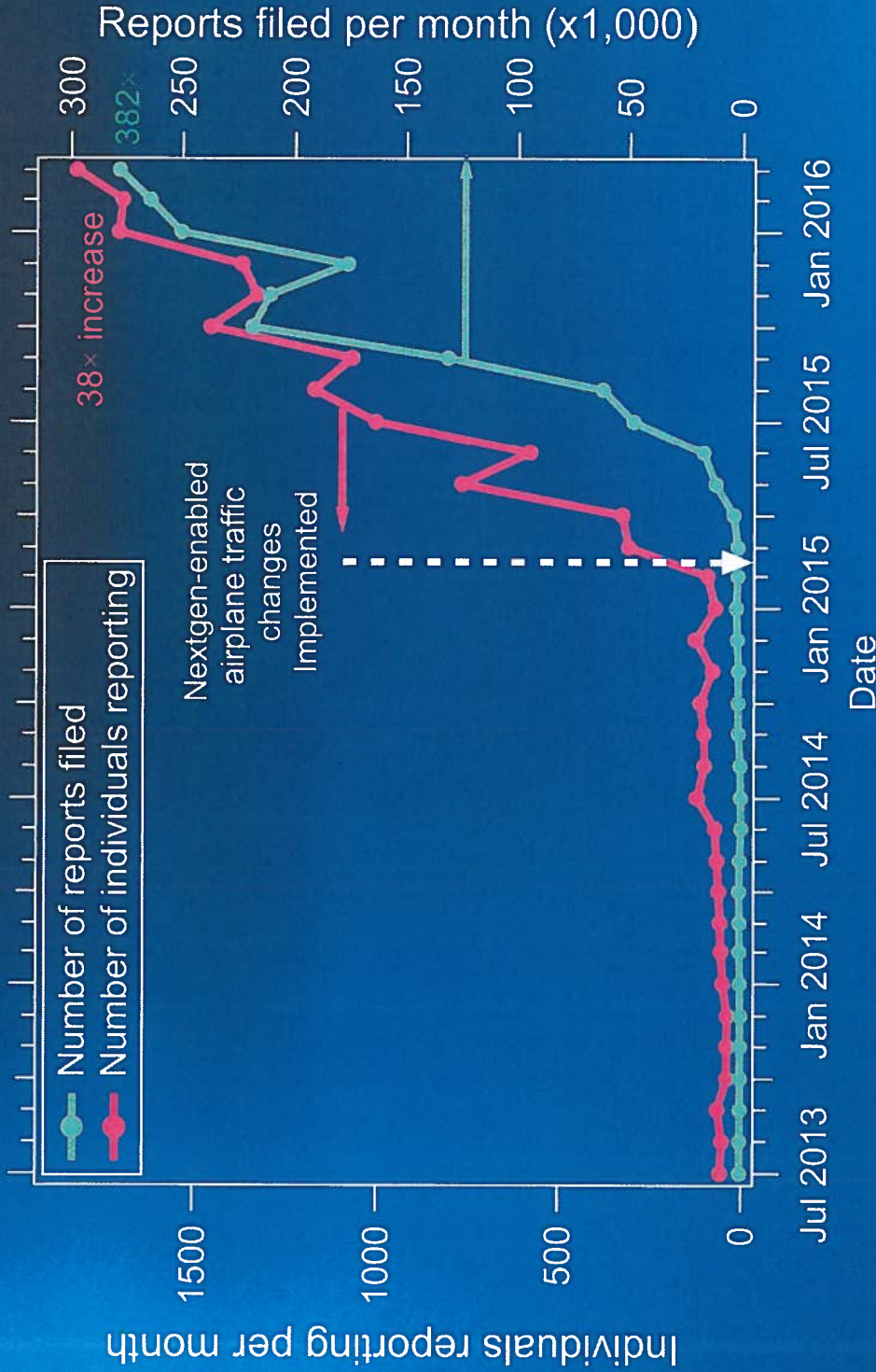
Summary

- Baseline quantification of airplane traffic presented
 - Useful for analyzing potential solutions and their impact
- Airplane traffic study shows:
 - Routes shifted
 - Altitudes lowered with flight procedure changes
 - Concentration and frequency of airplane traffic increased
 - Concentration of airplanes increased by 38~60% over Los Altos / LAH
 - Airplanes are clustered and most commonly are 2 to 3 minutes apart
 - Total arrivals at SFO **stayed relatively constant** during the same time period
- Time-based flow management will impact concentration
 - Planned reduction of vectoring will increase corridor air traffic.
- Distributed solutions over multiple routes are preferred
 - FAA deemed this not feasible because of existing delay vectoring

Recent Flight Path Using Full Length of the Bay



SFO* Noise Complaints Per Month



- There was over a quarter of a million noise reports filed with SFO in March 2016, a 382x increase compared to the monthly average in 2013.
- The number of individuals filing reports increased by 30x

* From SFO Director's Report