Quiet Skies Mid-Peninsula

Consensus on Aircraft Ground Noise and Abatement Solutions

Presented by:

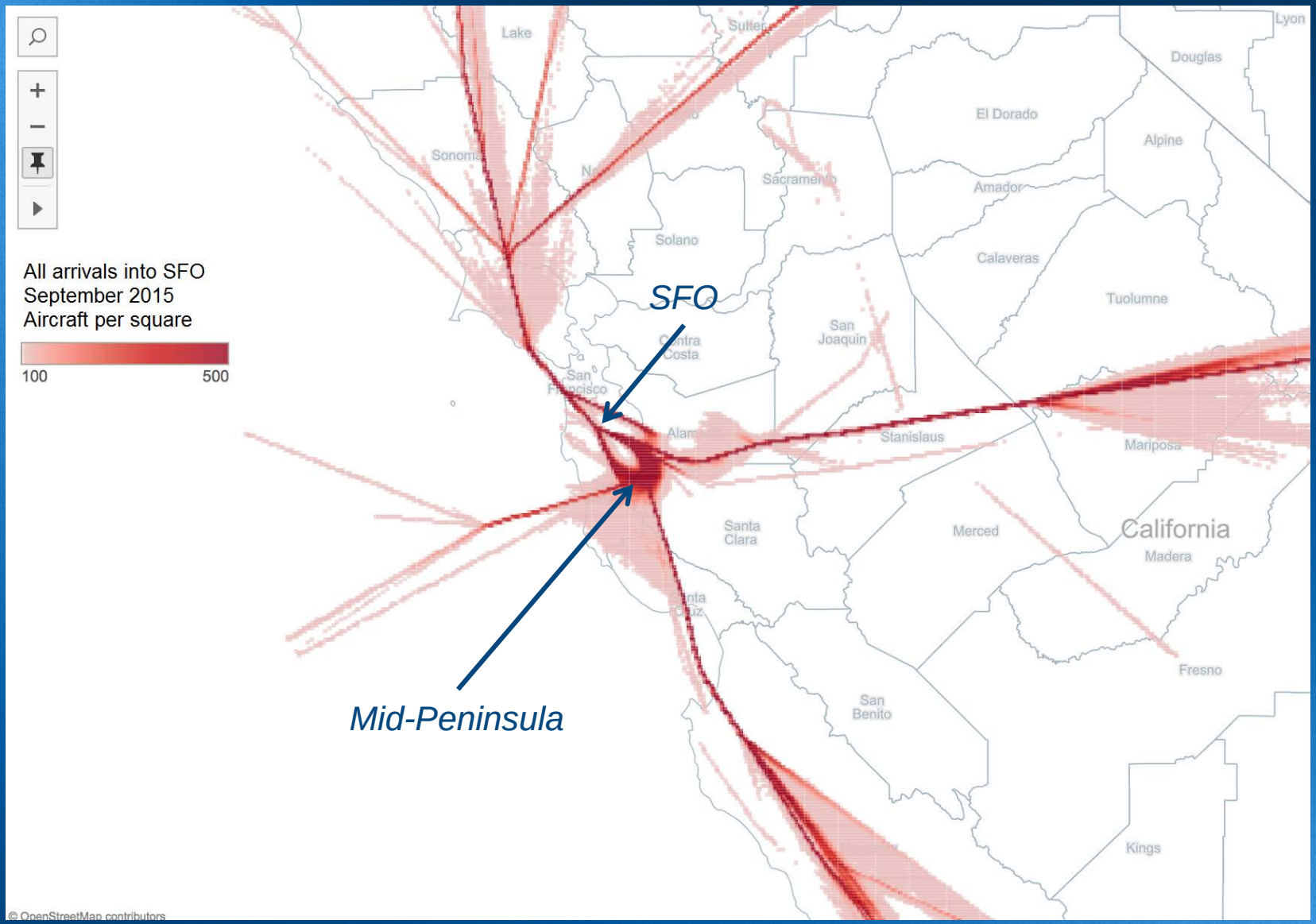
Bill Evans
Quiet Skies Los Altos Hills

May 11, 2016

Agenda

- Quiet Skies Mid-Peninsula
- Goal
- Principles
- Remedies
- Solutions

Quiet Skies Mid-Peninsula



Quiet Skies Mid-Peninsula

- Residents of Six Cities in the Mid-Peninsula
  - East Palo Alto
  - **Los Altos (2015)**
  - Los Altos Hills
  - Menlo Park
  - **Palo Alto (2014)**
  - **Portola Valley (2011**

January 25, 2016

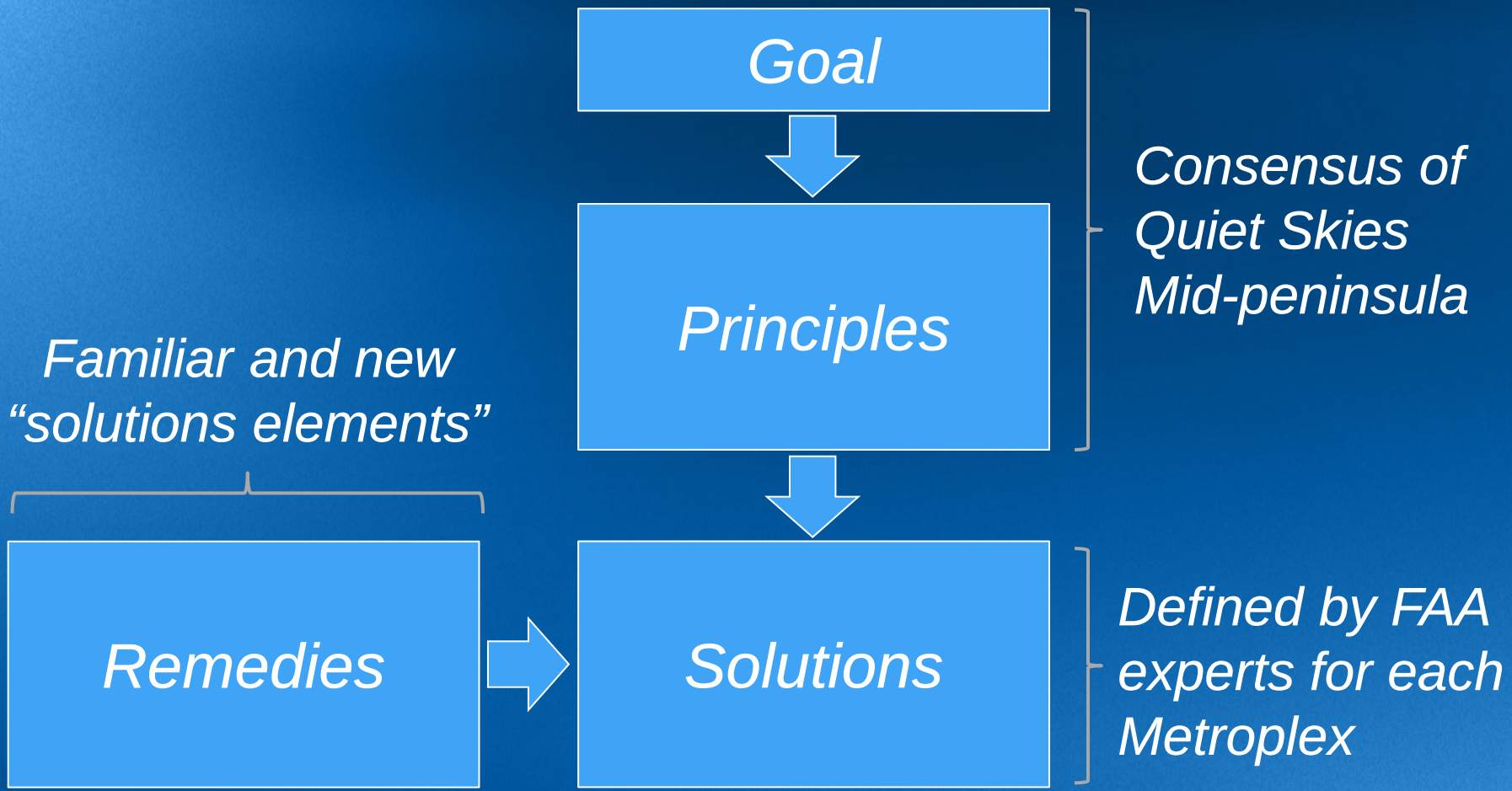
[…] We welcome one letter signed by each of your organizations stating for the record what you think the FAA can do to implement change. […]

Most gratefully,
Anna G. Eshoo & Sam Farr

Factors that Impact Aircraft Noise

- Ground Track
- Altitude
- Throttle
  - Example: Maintain altitude on step-down arrival
- Brakes, Flaps, Ailerons, etc.
- Orientation
  - Example: Noise is worst behind engines
- Aircraft design
  - Example: Low bypass jet engines, underwing fuel vents

Solutions Process



Goal

Reduce aircraft ground noise to levels of 2006.

Grow capacity without increasing ground noise.

FAA estimates that air traffic will increase 50% within 20 years.

Principles (Evaluation Criteria)

- Minimize aircraft ground noise
- Establish meaningful metrics for aircraft noise
- Make transparent the ATC change process
- Solutions must be neighborly

Principles (Evaluation Criteria)

- Minimize aircraft ground noise

Aeronautical Information Manual

5−4−2. Local Flow Traffic Management Program

*a. This program is a continuing effort by the FAA to **enhance safety**, **minimize the impact of aircraft noise** and **conserve aviation fuel**. The enhancement of safety and reduction of noise is achieved in this program by minimizing low altitude maneuvering […]*

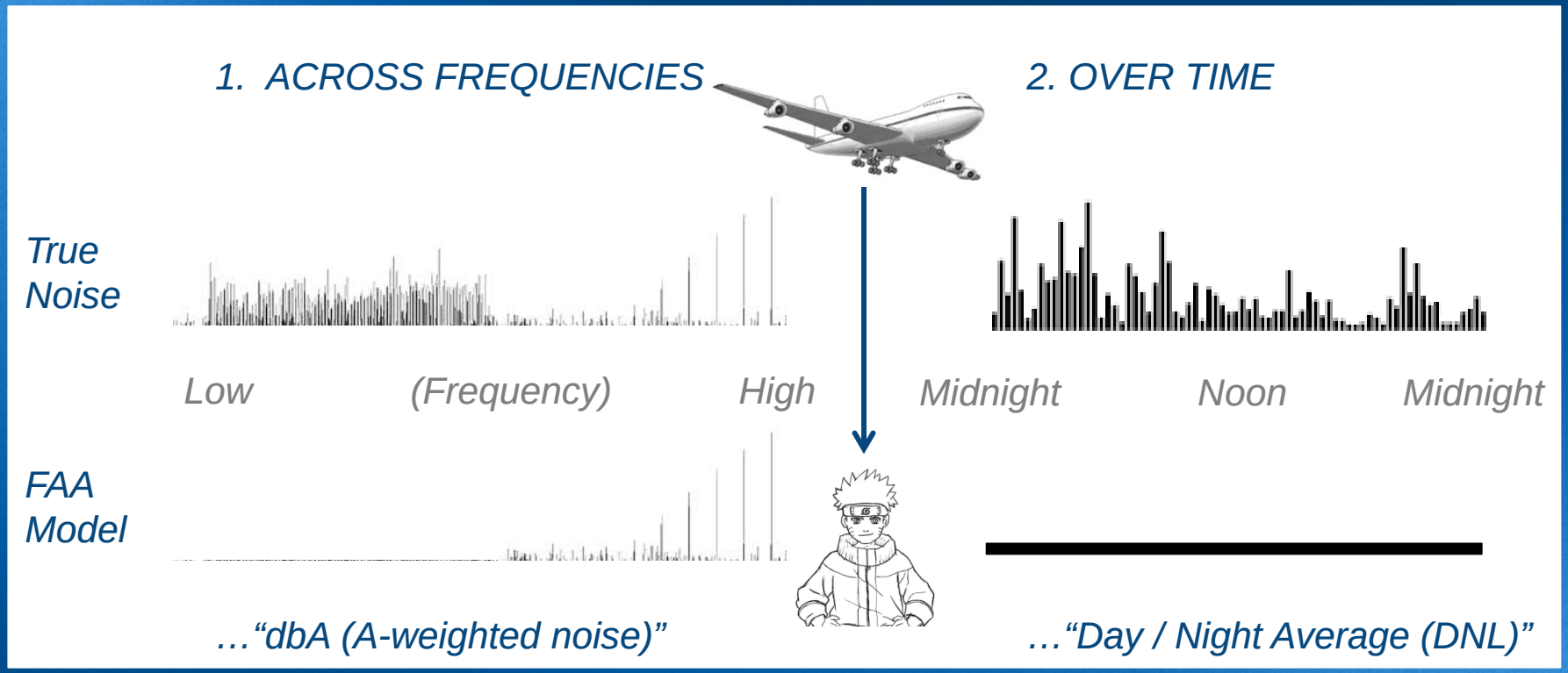
#1 Safety

#2 Noise

#3 Operational Efficiency

Principles (Evaluation Criteria)

- Minimize aircraft ground noise
- Establish meaningful metrics for aircraft noise



Principles (Evaluation Criteria)

- Minimize aircraft ground noise
- Establish meaningful metrics for aircraft noise
- Make transparent the ATC change process
- Solutions must be neighborly

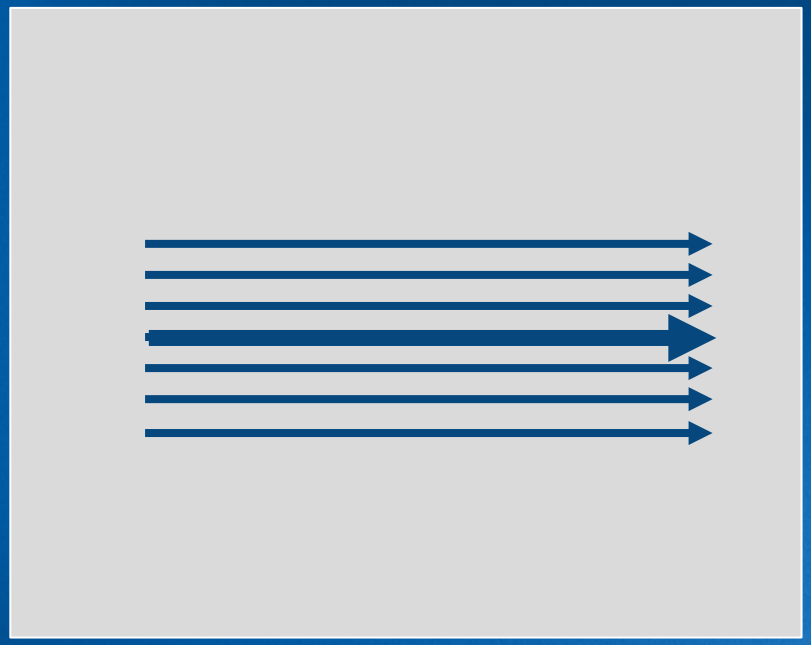
Principles (Evaluation Criteria)

- Minimize aircraft ground noise
- Establish meaningful metrics for aircraft noise
- Make transparent the ATC change process
- Solutions must be neighborly

MONSOON
Move Our Noise Somewhere Over Our Neighbors

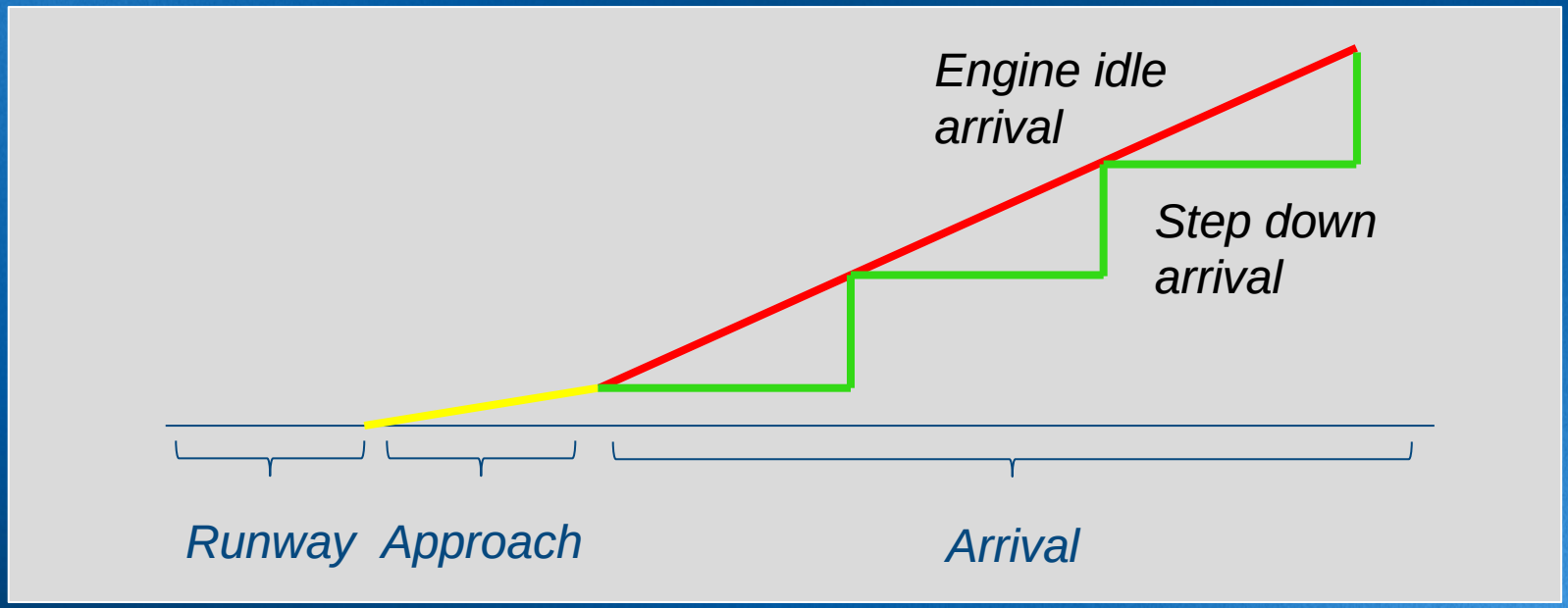
Remedies (Solution Elements)

- Avoid densely populated areas
  - Examples: Keep flights over bay, ocean, etc.
- Disperse flights



Remedies (Solution Elements)

- Avoid densely populated areas
  - Examples: Keep flights over bay, ocean, etc.
- Disperse flights
- Adopt “engine idle” arrivals



Remedies (Solution Elements)

- Avoid densely populated areas
  - Examples: Keep flights over bay, ocean, etc.
- Disperse flights
- Adopt “engine idle” arrivals
- Limit night arrivals to non-residential overflights
- Minimize vectoring of aircraft

Remedies (Solution Elements)

- Avoid densely populated areas
  - Examples: Keep flights over bay, ocean, etc.
- Disperse flights
- Adopt “engine idle” arrivals
- Limit night arrivals to non-residential overflights
- Minimize vectoring of aircraft
- Retrofit Airbus aircraft with vortex generators
- Restrict aircraft numbers (requiring larger aircraft)

Remedies (Solution Elements)

- Retrofit Airbus aircraft with vortex generators (detail)

Solutions

- Should integrate “Remedies” as possible
- Should be

  designed,
  simulated,
  measured,
  and enforced

  by the FAA
- Should be evaluated according to our “Principles”

Conclusion

- Goal
  - Objectives relevant to all metroplexes
- Principles
  - Used to evaluate prospective solutions
- Remedies
  - Elements of Solutions
- Solutions
  - Designed by FAA Experts

Thank you

Bill Evans

Quiet Skies Los Altos Hills

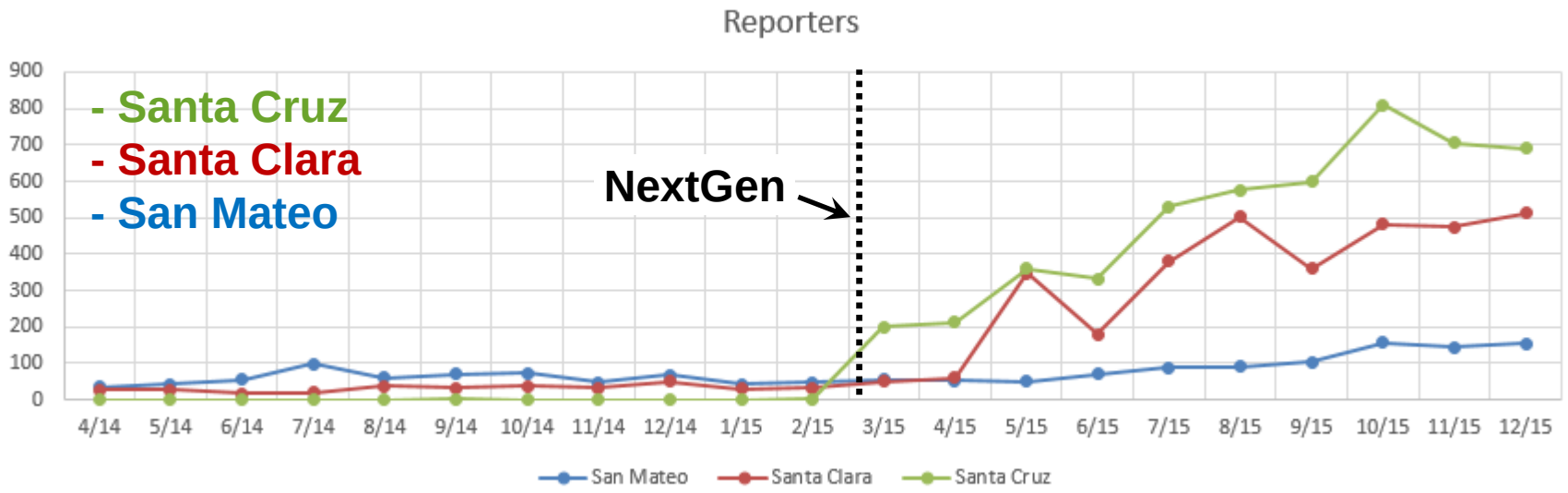
Quiet Skies Mid-Peninsula

www.quietskieslosaltoshills.org

Restore our Peace of Mind

(Los Altos Edition)

The Day the Sky Fell



This is the graph of the number of people reporting noise issue, based on SFO data.

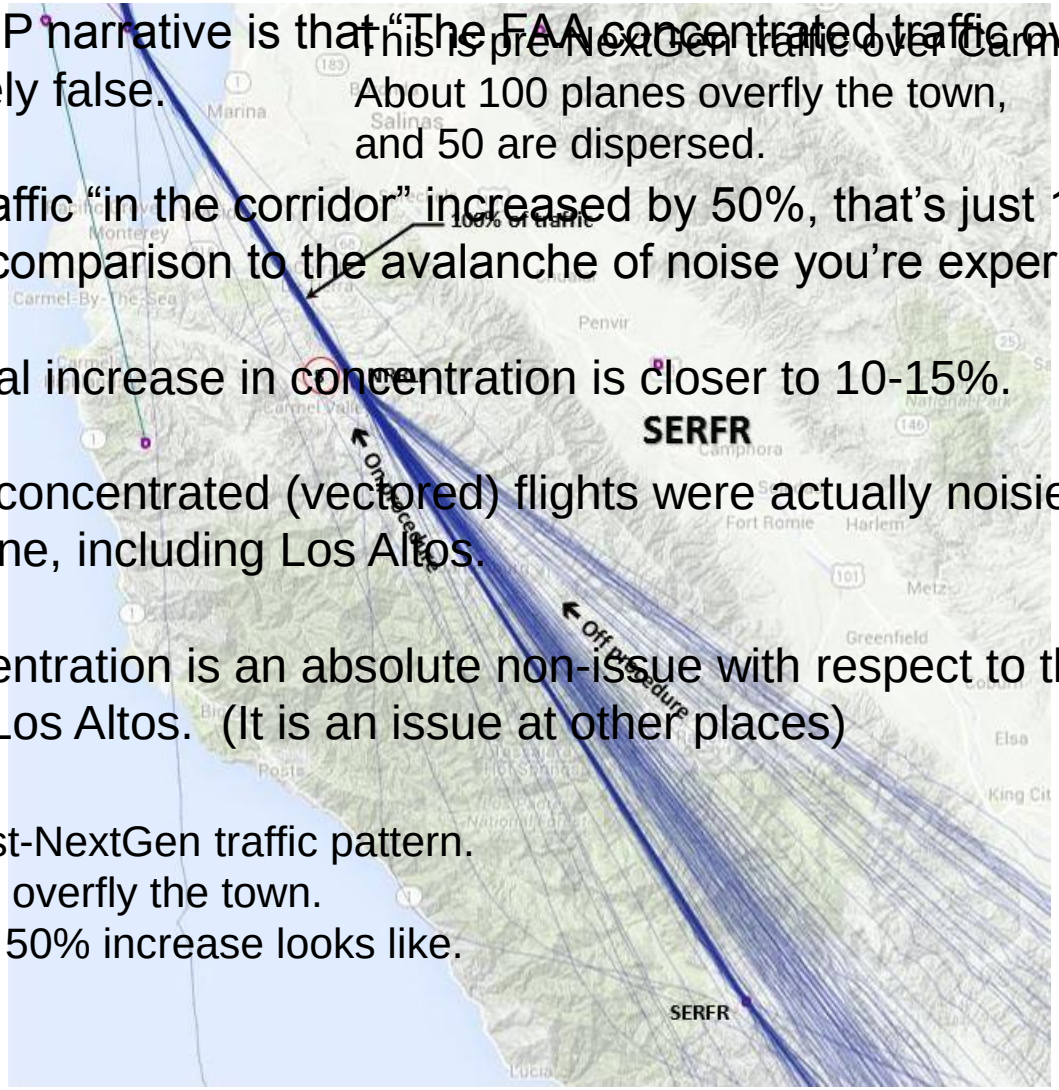
- Starting with NextGen deployment on March 2015, things took a sharp turn for the worse for the south bay.
- There were problems before NextGen, in PA, WS, PV and near the airport. However, for PA, WS and PV, things also got much worse on March 2015.

Our first question was: “Is this issue inherent to NextGen”. The answer we found was: “No”. <u>It is possible to recreate the pre-NextGen procedures under NextGen technology, thus returning the situation before</u>.

We do not oppose more elaborate studies and solutions <u>if they are openly put forward</u>, but right now recreating the Pre-NextGen environment is an absolute no-brainer first step.

Concentration

A common LASP narrative is that "The FAA concentrated traffic over our town". This is absolutely false.



First, <u>even if</u> traffic "in the corridor" increased by 50%, that's just 1.5x. This is really insignificant in comparison to the avalanche of noise you're experiencing.

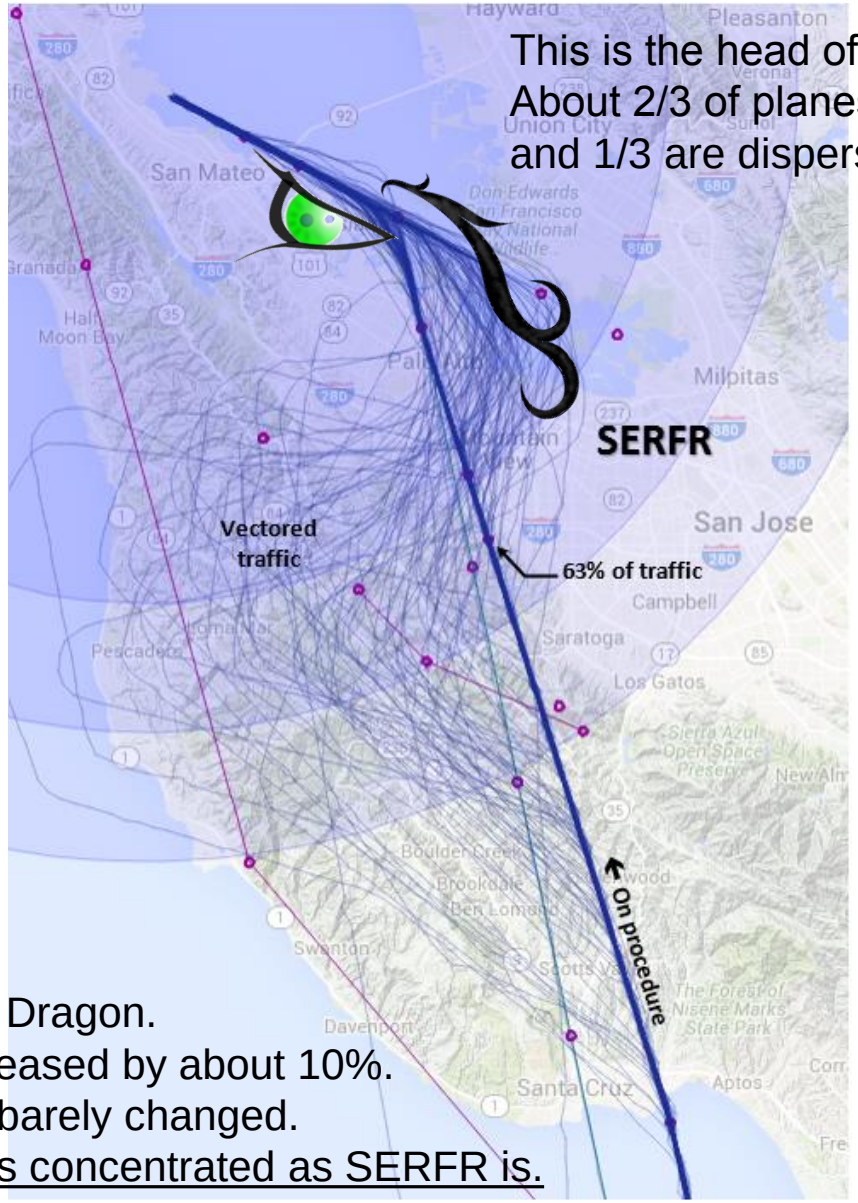
Second, the real increase in concentration is closer to 10-15%.

Third, the non-concentrated (vectored) flights were actually noisier. Vectoring is BAD for everyone, including Los Altos.

In short – concentration is an absolute non-issue with respect to the NextGen transition over Los Altos. (It is an issue at other places)

This is the post-NextGen traffic pattern.
All 150 planes overfly the town.
This is what a 50% increase looks like.

Dragon

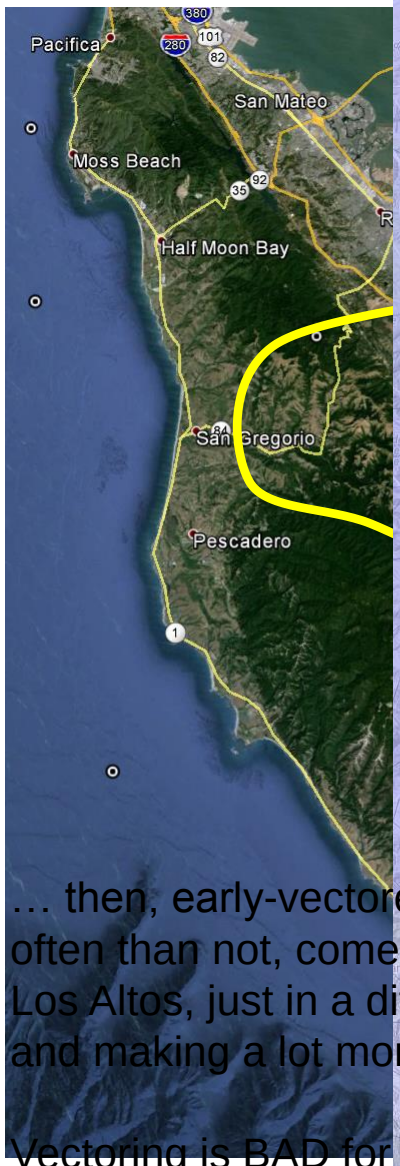


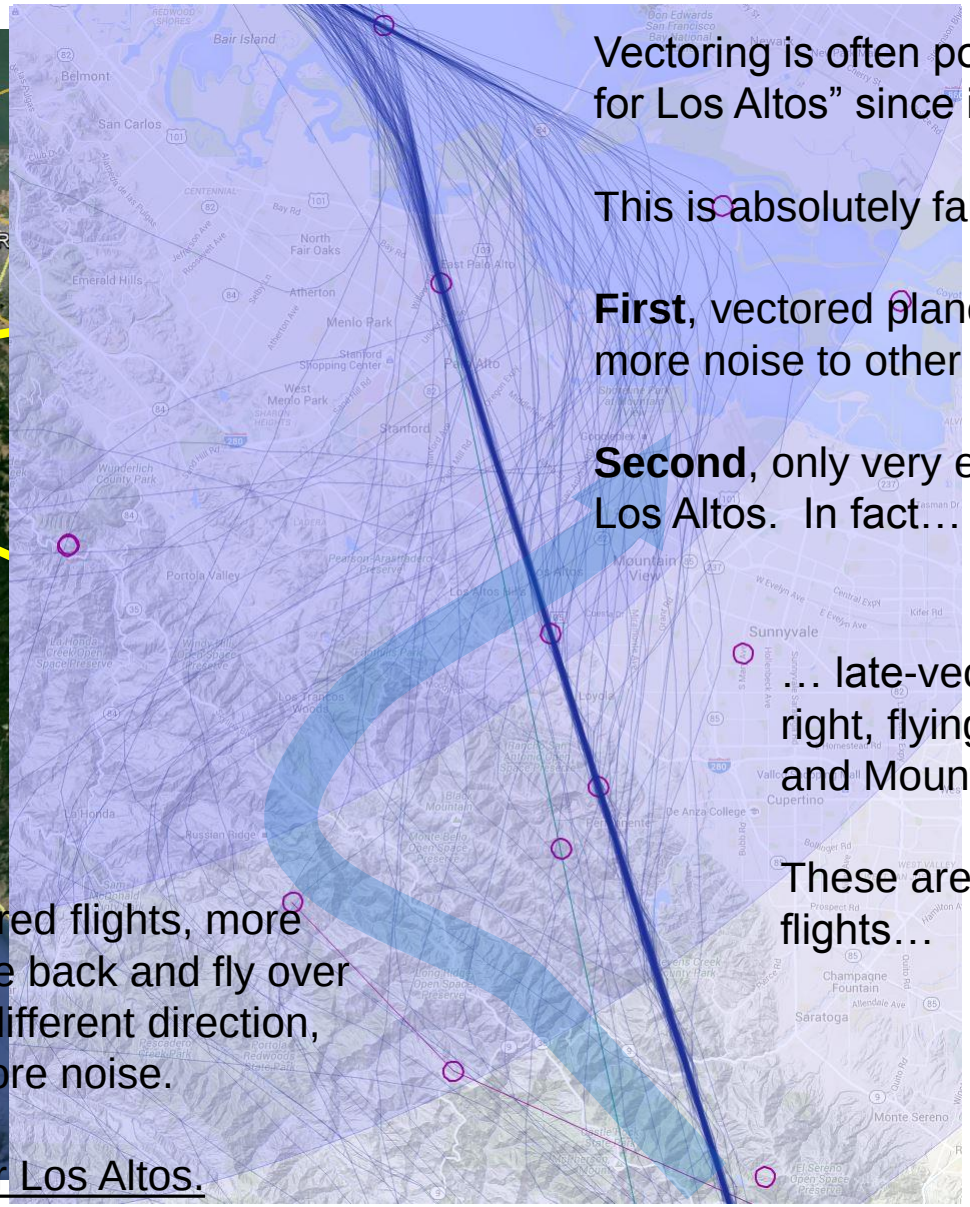
This is the head of the “Dragon”, pre-NextGen.
About 2/3 of planes overfly the “corridor”,
and 1/3 are dispersed (vectored).

←•→
Arrow back and forth to see the changes again

This is the post-NextGen Dragon.
Traffic in the corridor increased by about 10%.
The amount of vectoring barely changed.
<u>BIG SUR was every bit as concentrated as SERFR is.</u>

Vectoring





Vectoring is often portrayed by LASP as “good for Los Altos” since it diverts noise elsewhere.

This is absolutely false.

First, vectored planes are noisier, and so add more noise to other people.

Second, only very extreme vectoring avoids Los Altos. In fact…

… late-vectored planes turn to the right, flying over most of Los Altos and Mountain View.

These are about 1/3 of vectored flights…

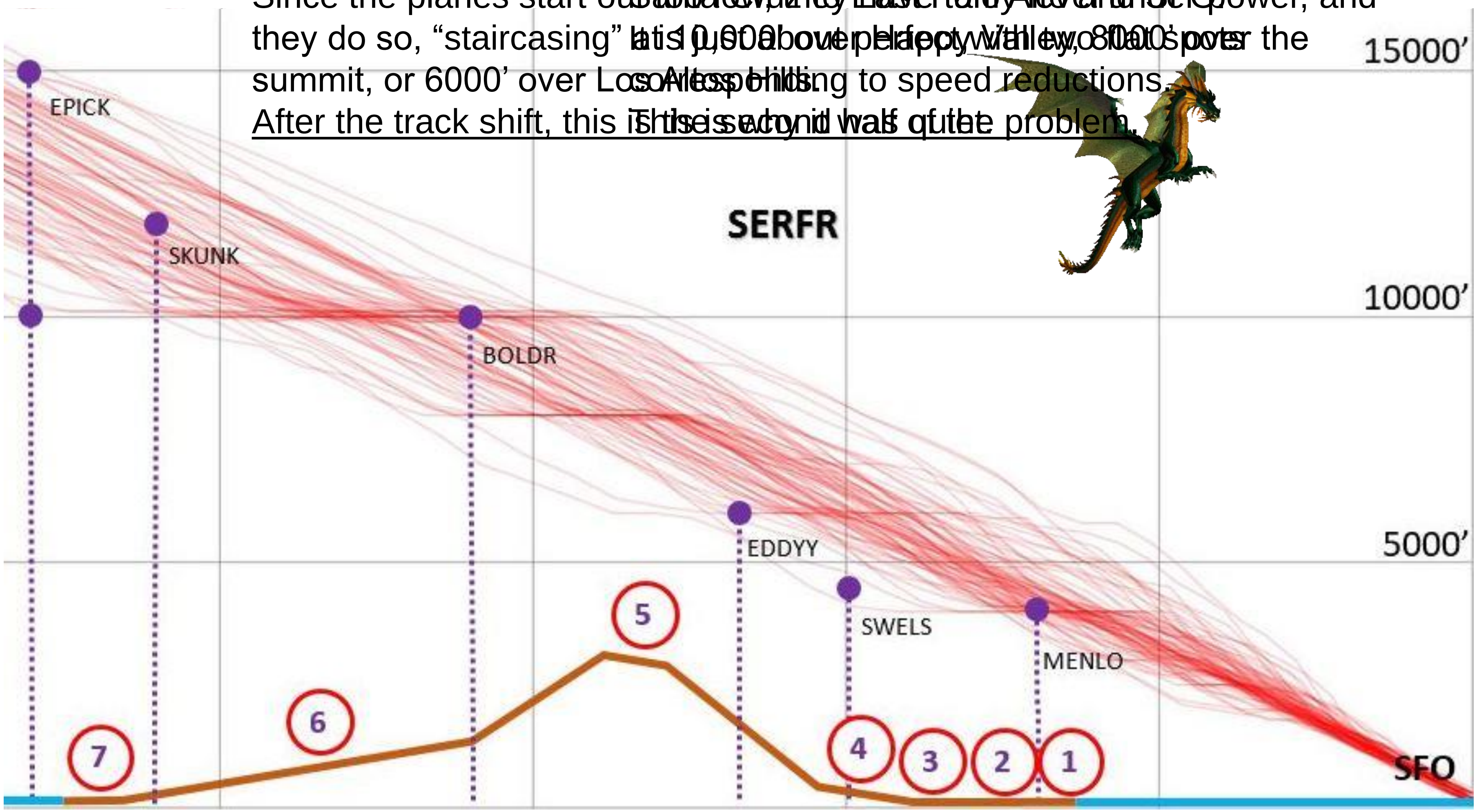
… then, early-vectored flights, more often than not, come back and fly over Los Altos, just in a different direction, and making a lot more noise.

<u>Vectoring is BAD for Los Altos.</u>

Side View

This is the post-NextGen descent profile. Since the planes start out too low, they have to level off and use power, and they do so, "staircasing" at 10,000' over Happy Valley, 8000' over the summit, or 6000' over Los Altos Hills.
After the track shift, this is the second half of the problem.

This is the pre-NextGen descent profile, from Santa Cruz to East Palo Alto and SFO. It is just about perfect, with two flat spots corresponding to speed reductions.
This is why it was quiet.



South Bay Arrival (By PASP, not QSNC)

"Use the whole length of the bay"

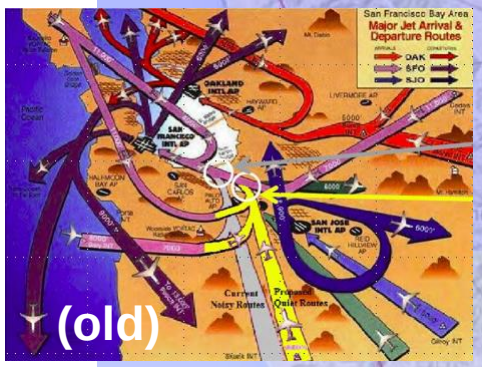
6000'

6000'

LOUPE ONE

~~MENLO~~

Original PASP slides:

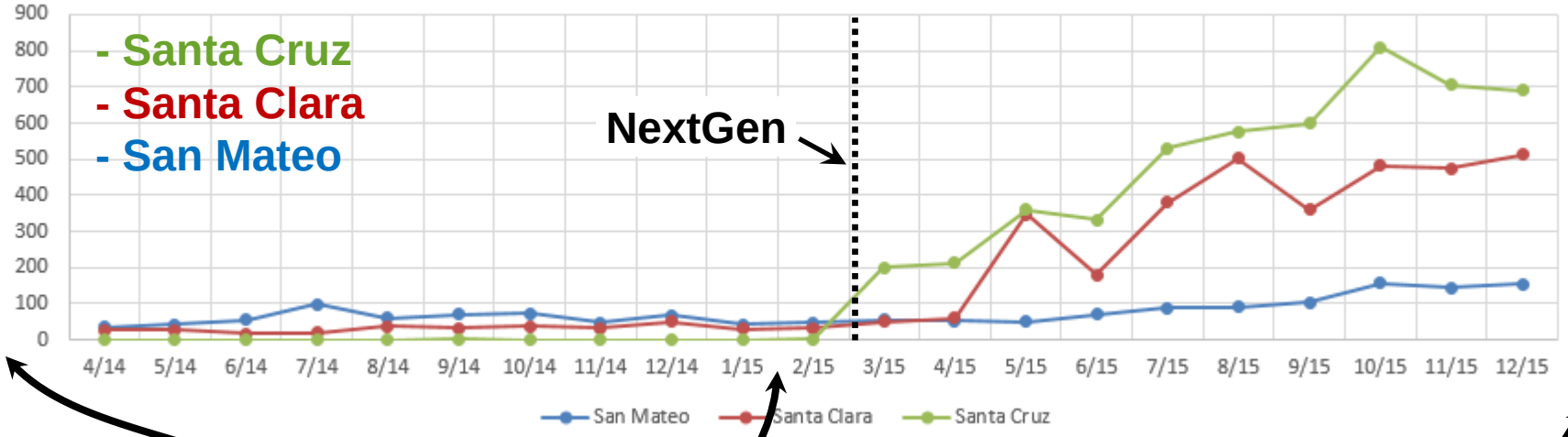


Victim List

- Los Gatos
- San Jose
- Campbell
- Santa Clara
- Sunnyvale
- ---
- Saratoga
- Cupertino

We are losers by default. This is not a zero-impact plan, the other cities will resist, and the current situation will become permanent!

Put the Sky Back

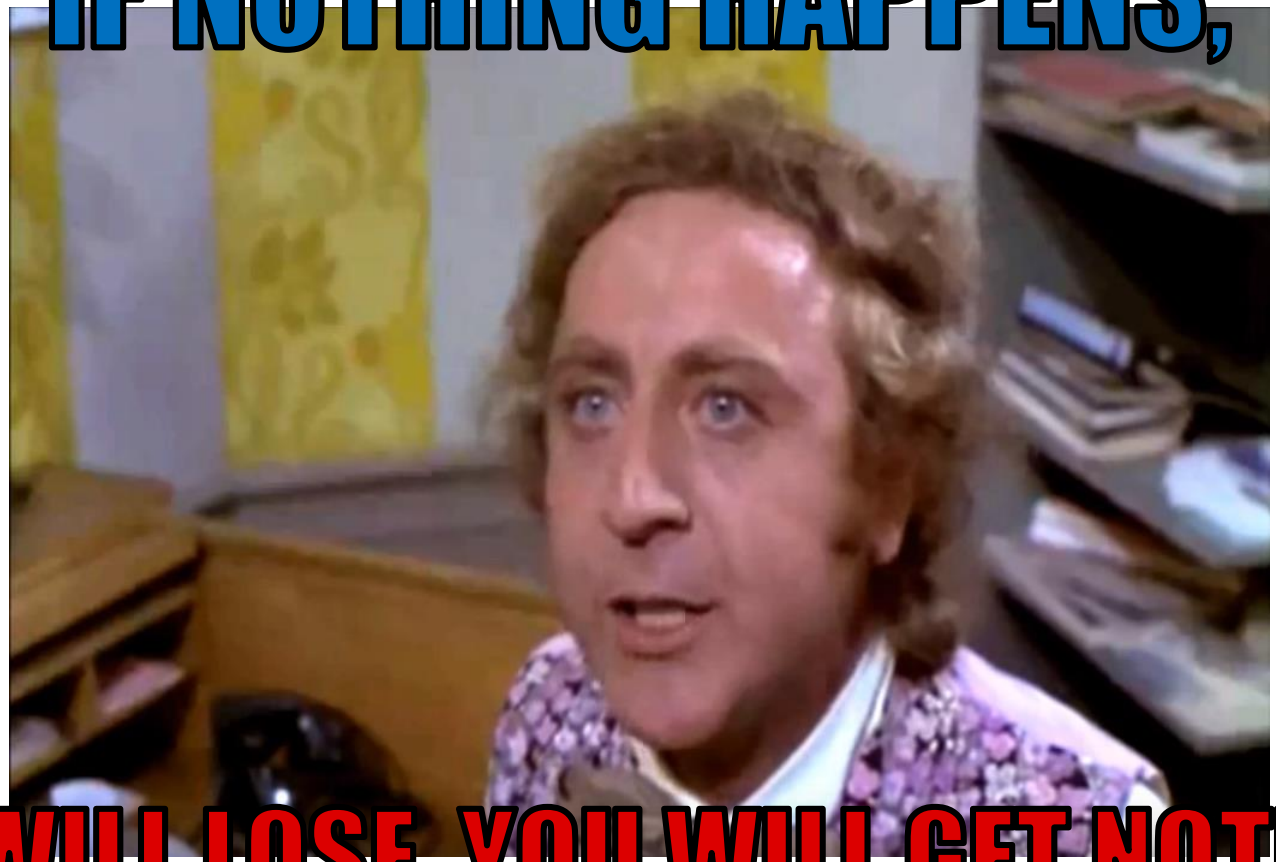


Our plan:

1. **Recreate**.
   (Ground track, altitude profile, speed)
2. **Improve**.
   (Some legacy issues)
3. **Prevent**.
   (Don't do it again)

Parting thought

IF NOTHING HAPPENS,



YOU WILL LOSE. YOU WILL GET NOTHING.

THIS WILL LAST FOREVER.

Contact Information

WWW.QUIETSKIESNORCAL.ORG

PeaceAndQuiet@QuietSkiesNorCal.org

Read our detailed solutions under the “Solutions” link, and if you like them, please endorse them.

Aircraft Noise Over Woodside -We Do Not Want Another SERFR

Raymonde Guindon, Ph.D.

Quiet Skies Woodside

Woodside Is Overflown By Traffic from All Airports: SFO, SJC, OAK, and local

One-Day Air Traffic:

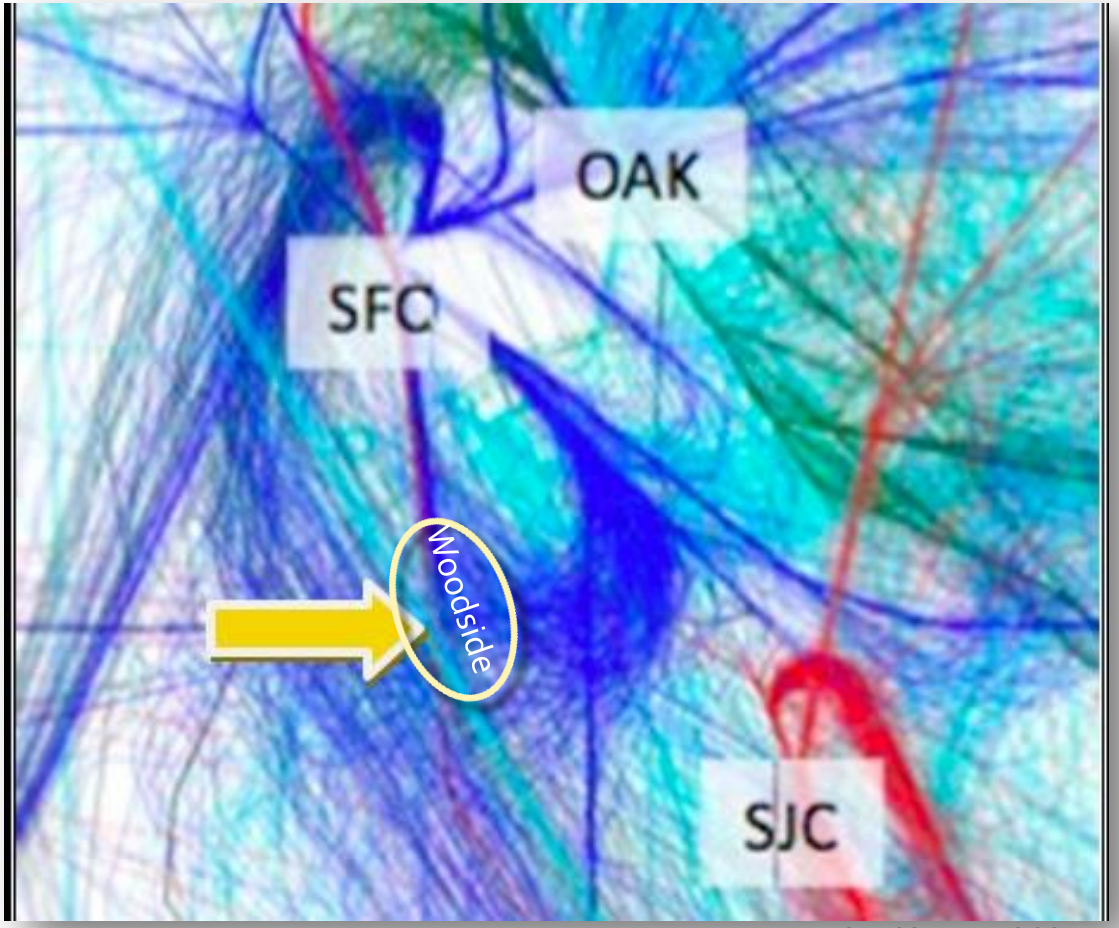
SFO (dark blue)

San Jose (red),

Oakland (dark green)

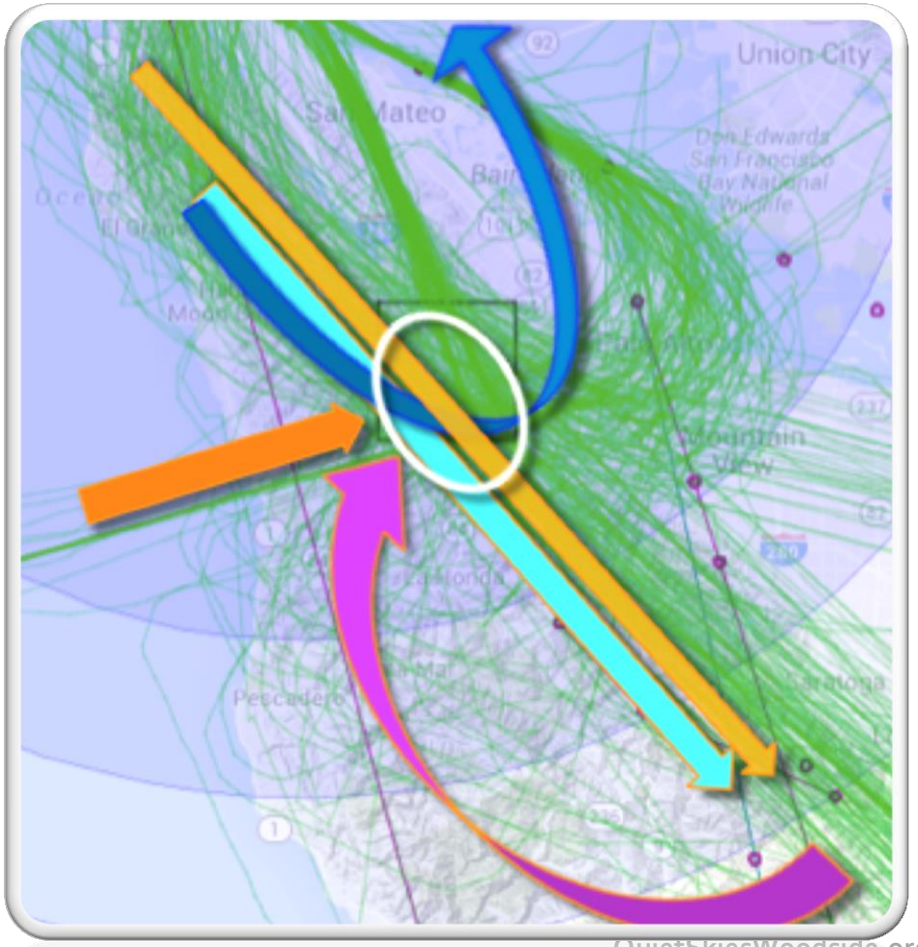
General aviation (turquoise)

(source: FAA Initiative)



Woodside is Overflown by 5 Main Types of Traffic: Oceanic, SJC BRIXX Arrivals, SFO Northern Arrivals, SFO & OAK Southern Departures, SERFR Southern Arrivals Vectored Traffic

- OCEANIC Route: Flights from Hawaii and Asia
- **BRIXX:** Arrivals to SJC from Northern US
- Vectored POINT REYES and BDEGA Routes (Northern Arrivals): Asia-Pacific, Europe, Canada, Northern US
- Vectored SERFR: From Southern CA, Southwest, Mexico, ….
- SFO and OAK DEPARTURES to Southern California and Southwest
- "Vectored": Air Traffic Controllers give special headings to pilots. It can be because the airport is too congested ("reroute")



We Want - Return to Noise Level Prior to October 2015

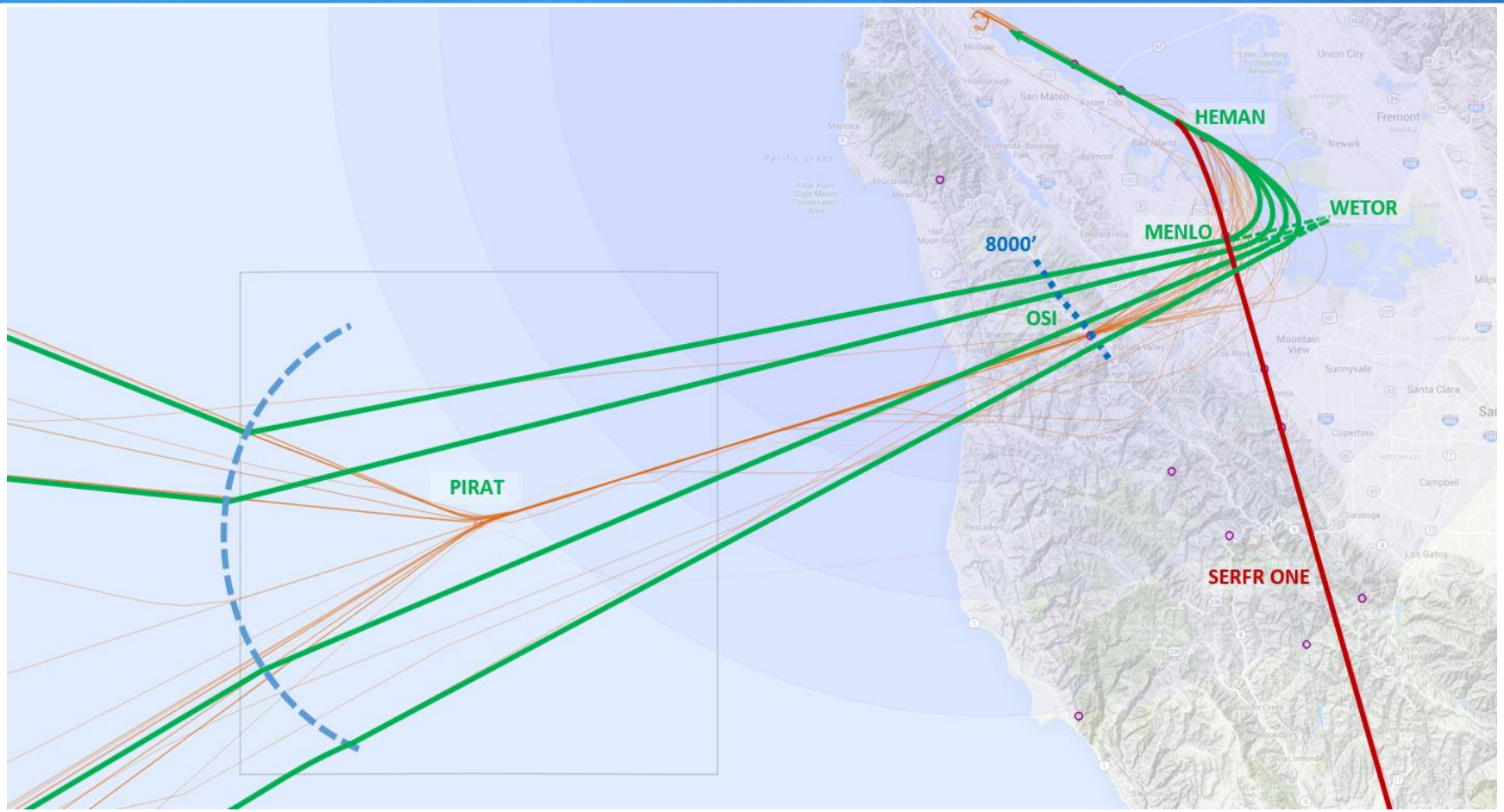
- Woodside is a rural town with ambient noise level of ~30 dB
- Starting October 15, 2015 – FAA Made a Procedure/Route Change Over Woodside
- Starting October 15, 2015 -- Large Increase In Aircraft Noise Over Woodside
- SFO Noise Complaints from all Districts

- WANT: A Return to the Aircraft Noise Level Prior to October 2015

Solutions We Support For Noise Reduction

- Principled Dispersal of the Aircraft Traffic Over Woodside
- Keep Minimum Altitude over Woodside VOR at 8,000 feet
  - Per Eshoo Agreement: fly over the VOR at a minimum of 8,000 feet
  - But Frequent Violations …
- Raise BRIXX Route Altitude Over Woodside
- Continuous Descent (make it effective over Woodside VOR)
- Maximize Track Over Non-Populated Areas
- Force Retrofit of Airbus 320 with vortex generator
  - Europe did it – we can too

Illustration of Dispersal/Fanning for Oceanic Arrivals



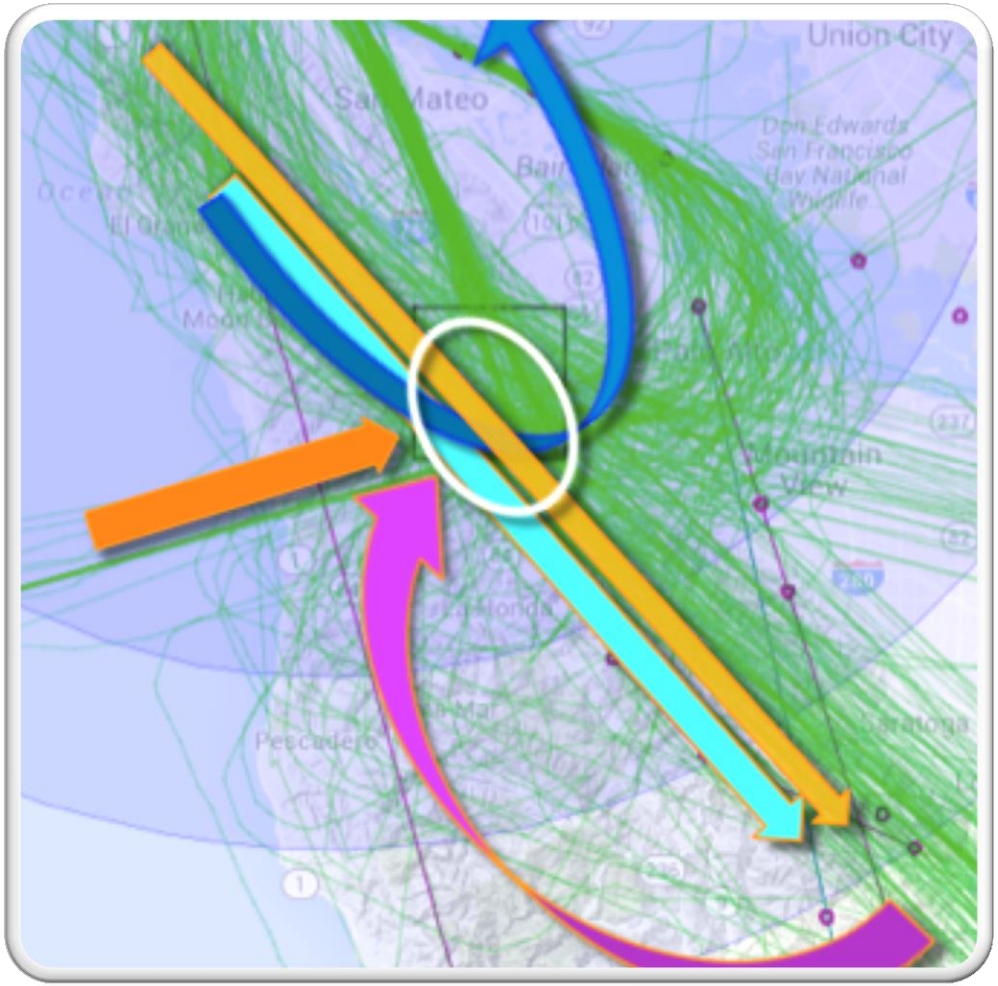
A Solution We Do NOT Support that was Proposed to the "FAA Initiative to **Address Noise Concerns**"

- **Solution: Could Amount to Add Another SERFR-like Route over Mid-Peninsula**
  - **And Woodside Could be Under It**
- **The Motivations–**
  - offer greater operational efficiency to the air traffic controller
  - provide for a predictable ground track
  - enhanced safety for general aviation users
- **NO NOISE REDUCTION**

We do Not Support Adding a "SERFR" Over Woodside and Mid-Peninsula

Woodside is Already Under 5 Major Air Traffic Patterns

WE OPPOSE ADDING A NEW "SERFR" OVER THE MID-PENINULA



We do Not Support Adding a "SERFR" Over Woodside and Mid-Peninsula

INCORRECT CLAIM:

Woodside/VOR Only Gets 10 Oceanic Route Flights per Day

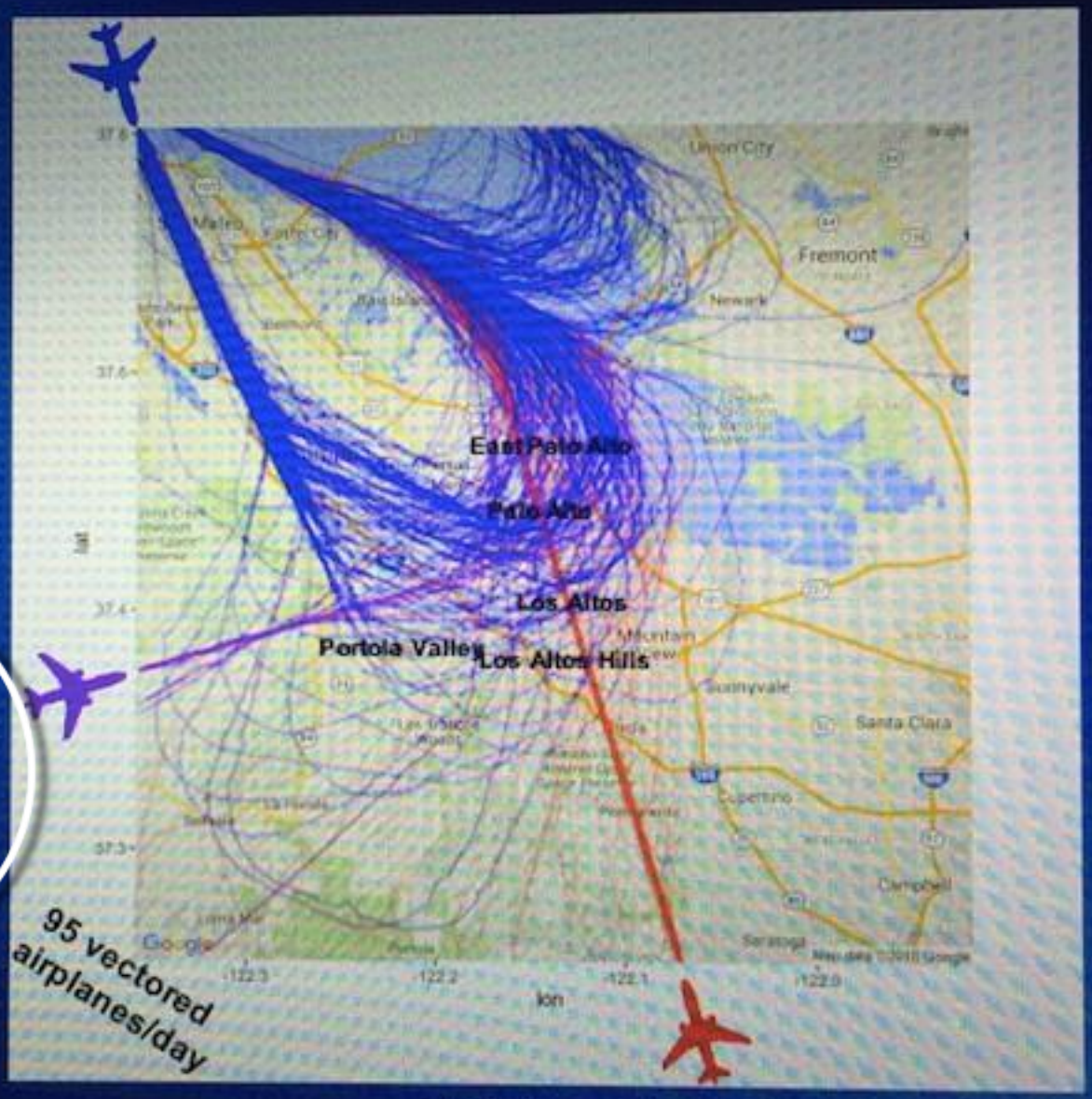
CORRECT CLAIM:

Woodside gets 20+ to 40 Oceanic Flights per Day

- **+ Vectored SERFR**
- **+ Vectored BDEGA**
- **+ Vectored POINT REYES**
- **+ BRIXX**
- **+ SFO/OAK Departures**

Airplane Tracks over Mid-peninsula in One Day

Pt. Reyes Corridor: 100 airplanes/day



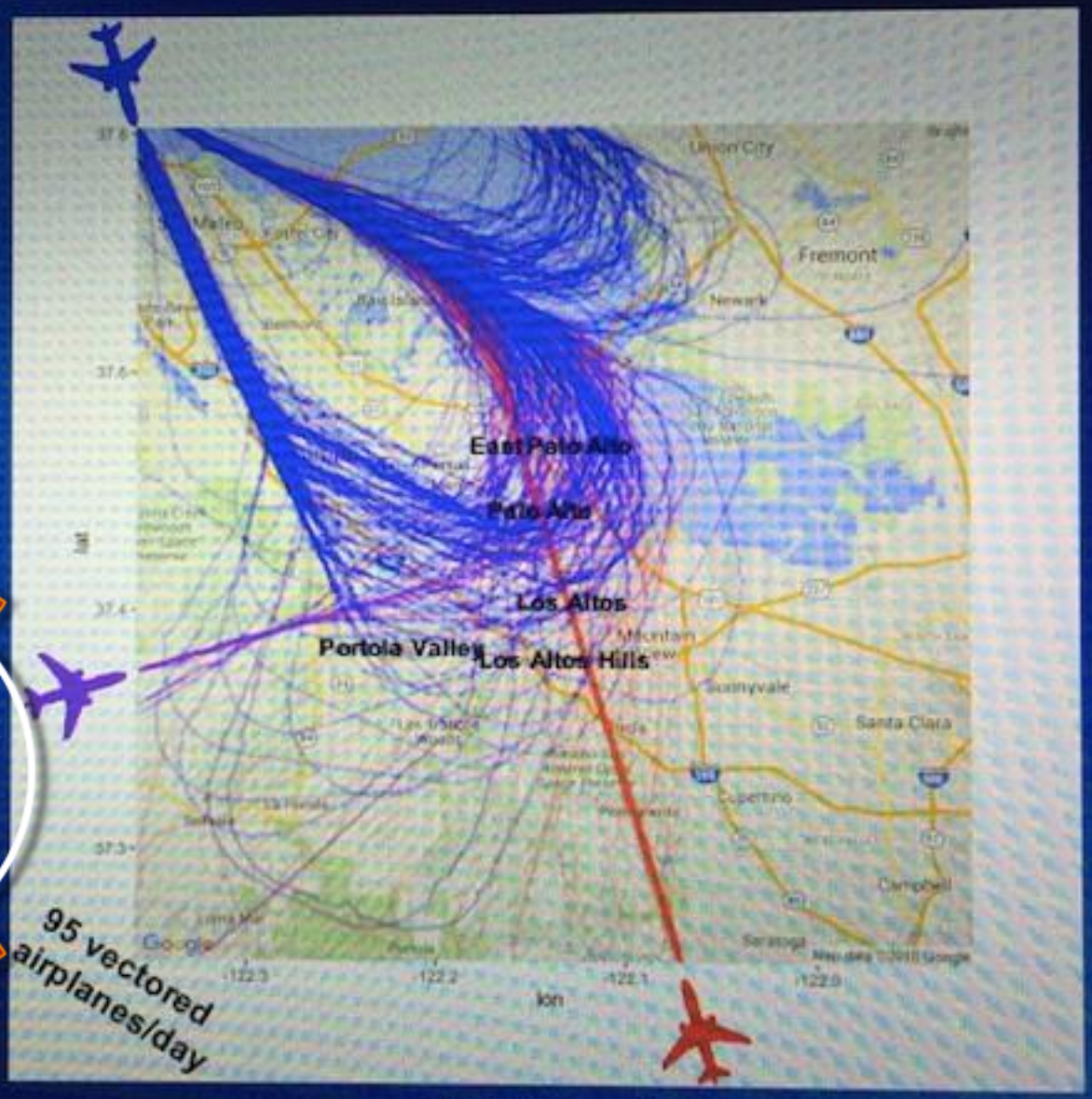
Oceanic corridor

Oceanic corridor: 10 airplanes/day

SERFR corridor: 100 airplanes per day

Airplane Tracks over Mid-peninsula in One Day

Pt. Reyes Corridor: 100 airplanes/day



Oceanic corridor: 10 airplanes/day

SERFR corridor: 100 airplanes per day

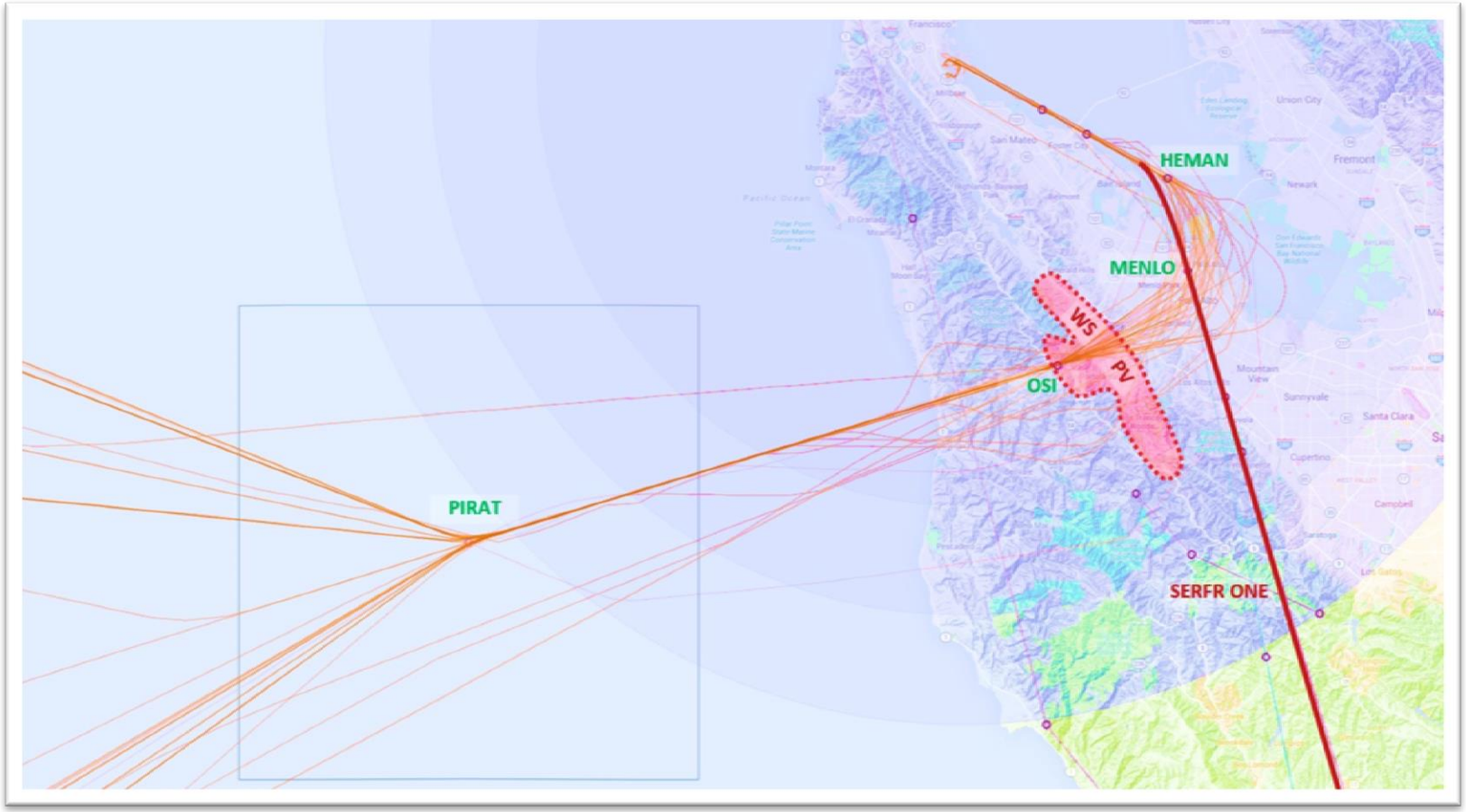
INCORRECT CLAIM:

Woodside Only Gets 10 Oceanic Route Flights per Day

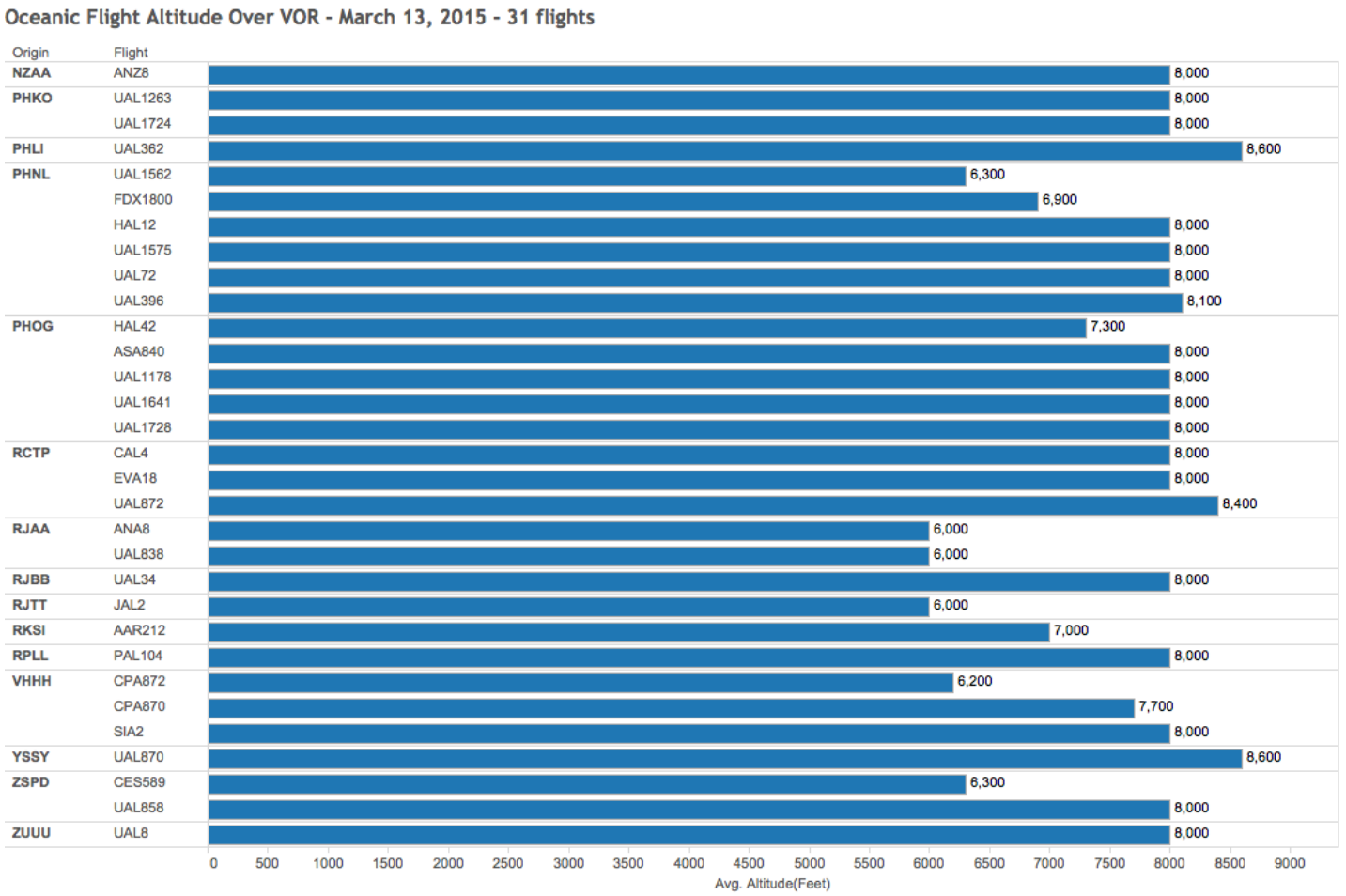
CORRECT CLAIM: 20+ to 40 Oceanic Route Flights/Day

- ***FACT: Oceanic Route is defined as going through waypoint OSI/ VOR***
- ***FACT: If the flight route does not include waypoint OSI/VOR, then it is NOT an Oceanic Route flight***
- ***FACT: If the flight goes through OSI/VOR, then Woodside hears it, LOUD***
- ***FACT: Vectored Northern Arrival flights from Asia-Pacific are NOT part of the Oceanic Route, but part of the BDEGA/POINT REYES routes, and they are vectored over Woodside***
- ***FACT: Woodside gets 20+ to 40 flights/day just from the Oceanic Route***
- ***FACT: Oceanic Route Planes are Large, Loud, and Fly at Low Altitudes over Woodside***
- ***FACT: Are a Major Source of Noise Complaints from Woodside***
- ***FACT: Very few Oceanic Route flights get vectored PRIOR to reaching waypoint OSI/VOR and Woodside***

One February 2016 Day: Orange Lines are Flight Paths of Oceanic Route Flights **Almost NO Flights Vectored Prior to OSI and Woodside and Of Those Most Are Vectored Back Over Woodside and Portola Valley**



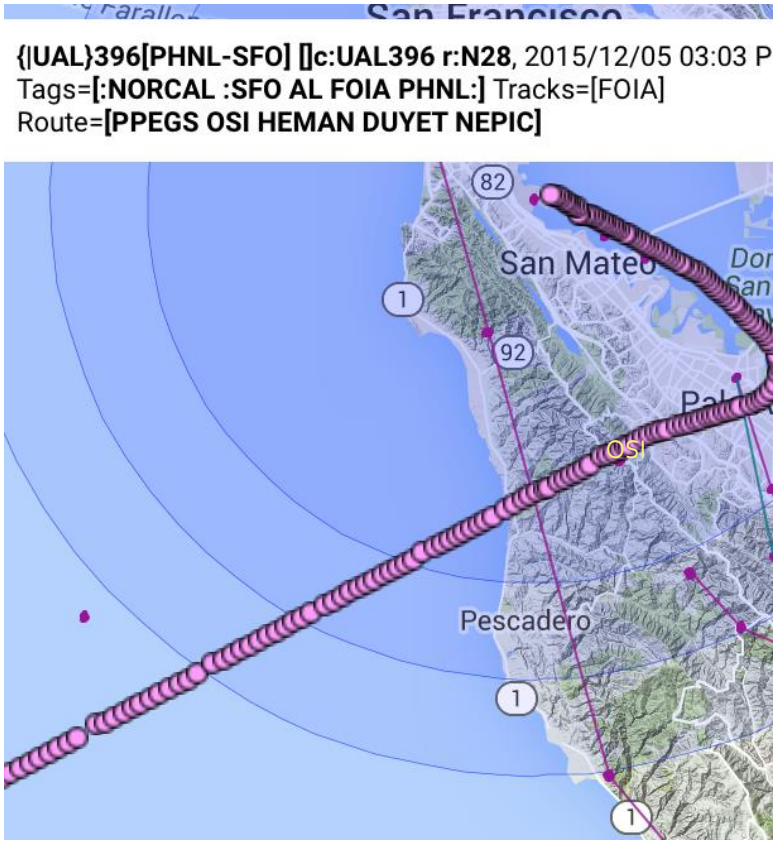
MARCH 13, 2015: 31 Oceanic Route Flights with Altitude Over VOR/OSI



Average of Altitude(Feet) for each Flight broken down by Origin. Details are shown for Flight. The data is filtered on average of Altitude(Feet), which ranges from 4,000 to 10,000.

December 5, 2015: 34 Oceanic Flights
None Vectored Prior to OSI

(For more details see: quietskieswoodside.org)



WE SUPPORT: Dispersal/Fan + Higher Altitudes + Maximize Track Over Non-Populated Areas + …

NOT ANOTHER SERFR

THANK YOU

Raymonde Guindon, Ph.D.

quietskieswoodside.org