

Vashon Island Fair Skies

The background of the slide is a map of Vashon Island, Washington. A large red prohibition symbol (a circle with a diagonal slash) is superimposed over the map. Inside the circle, four white airplane icons are shown flying along a curved path that crosses the island. The map shows the island's coastline, surrounding water, and some land features.

The noise impact of the
FAA's NextGen program on
the Vashon Island Community

September 23rd, 2018

David Goebel

...and the path to restoring our peace

<http://www.VashonIslandFairSkies.org>

TOPICS

- For the benefit of those who didn't attend previous meetings, we'll quickly cover some fundamentals: details on the handout too.
 - Airport flow mostly a function of surface winds.
 - Conventional RADAR STAR vs. the new NextGen RNP.
 - Why this change was done, what was intended vs. what actually happened.
- The Ominous Increase in Cross-Over Flights
- The Petition to the Port Of Seattle.
 - Why noise meters as a first step and not revert the path change?
 - Why the Port and not the FAA?
 - Logistics: Getting more signatures. Volunteers wanted!
- The SeaTac SAMP (Sustainable Airport Master Plan)
- News from other communities around the county.

but first....and again....the “Schultz Curve”

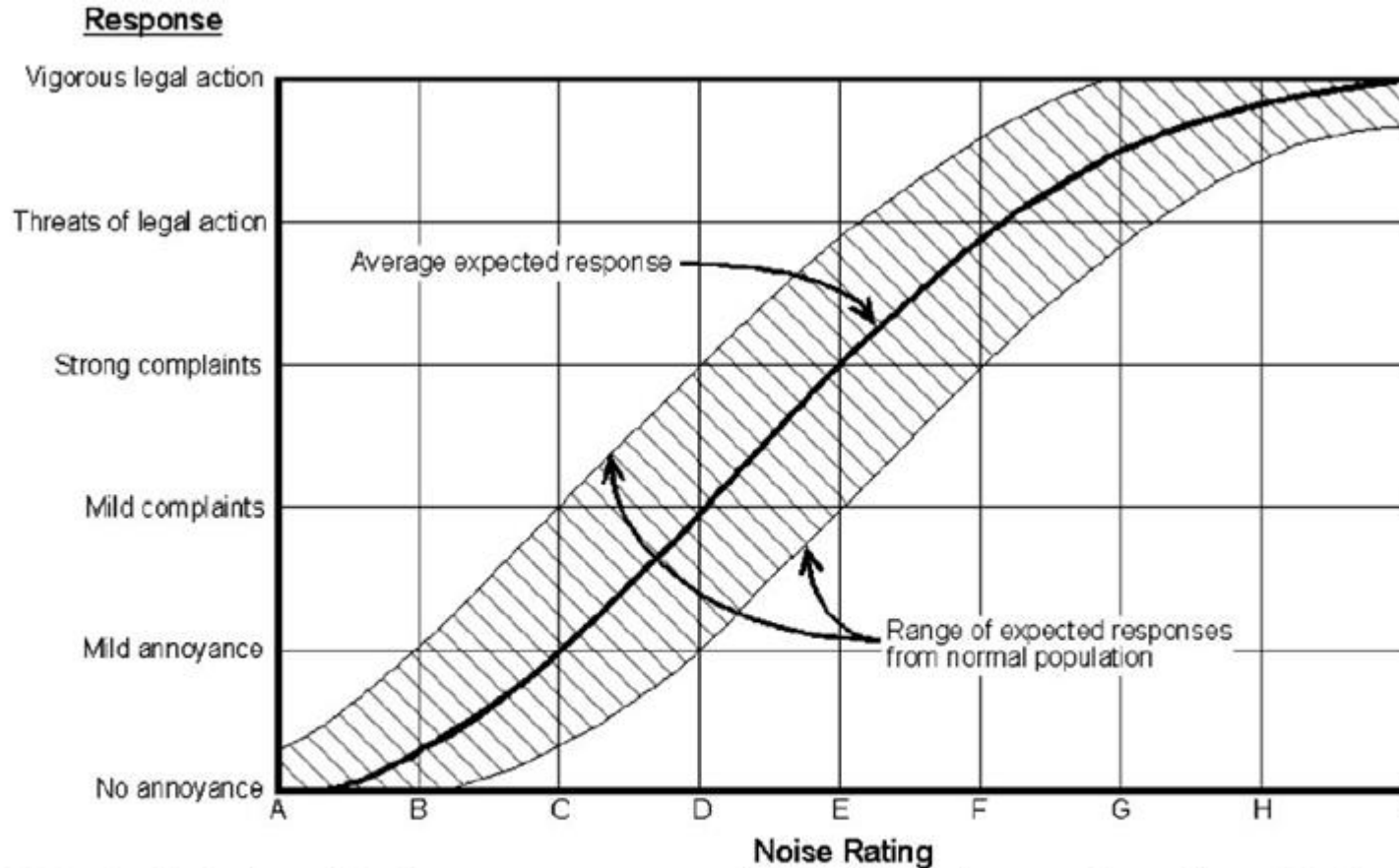


FIG. 1. Relationship between community noise rating and predicted behavioral consequences of environmental noise exposure, adapted from Fig. D-16 of Appendix D of “Levels Document” (EPA, 1974).

i.e., everybody responds differently. **Please be respectful of people who don't feel as impacted as you.**

“Vashon Island Fair Skies” is now a Washington not for profit corporation

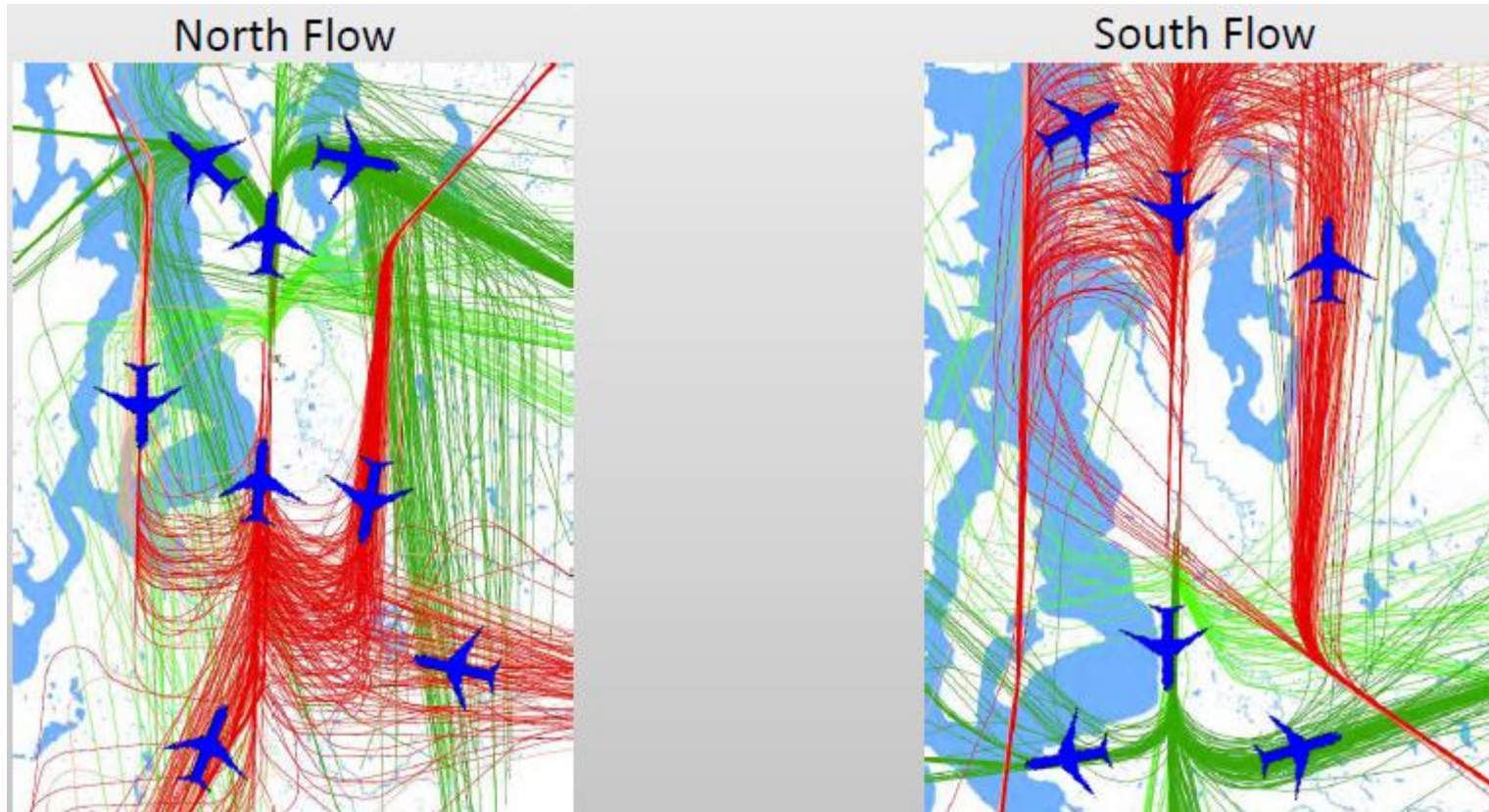
- Officers:
 - David Goebel: President & Treasurer
 - Rob Briggs: Vice President
 - Beth Freiling: Secretary
- We are waiting for the IRS to process our 501(c)3 tax exempt status. Hope is to have the determination letter from the IRS before the end of the year.
- This will not only allow tax deductible donations, but will also unlock corporate matching at most large Seattle area employers.
- Current operational expenses are relatively modest, but we may eventually have to undertake very expensive options.
- We are forbidden from working on behalf of any election to an office.

We were at the Strawberry Festival!



Fundamentals of Airport Flow

- An airplane's lift is a function of the airspeed, not the ground speed.
- By taking off and landing into the wind, ground speed is reduced.
- However SeaTac has a preference for Southflow, so may remain in Southflow until Northly winds become strong. It's frustratingly difficult to predict.



Conventional RADAR Approach vs. NextGen

- Conventional Approach

- Air Traffic Control provides a sequence of vectors for planes to fly until final approach.
- These individualized instructions naturally created a broader distribution of plane noise.
- The descent was optimized based on traffic conditions so that planes stayed high until the length of the downwind leg was known.

- NextGen Approach

- Every single plane follows the exact same GPS enforced path typically within an error of ~100 feet. The technology enabling this is called Required Navigational Performance.
- Planes are brought low early in case they are able to make a sharp right turn into Elliot Bay and over downtown. However every plane is brought low early regardless of whether this shorter arrival is possible.
- The new NextGen RNAV (Area Navigation) governing Southflow downwind arrivals requires leaving Vashon Island at 6000 feet. About 2/3 are in the 5000 to 6000 window, but some – especially late at night – are as low as 3000 feet.

Newer is not always better



- Sometimes conventional technologies have unintended benefits that aren't appreciated until they are replaced.

When some communities in Northern latitudes started replacing incandescent traffic lights with LED ones to increase reliability and reduce cost, they noticed that LED lights didn't melt snow the way incandescent ones did. Thereby creating a new, and dangerous, problem that had to be solved.

The new NextGen RNAV called "HAWKZ" The cause of the problem.

NW-1, 12 OCT 2017 to 09 NOV 2017

ARRIVAL ROUTE DESCRIPTION

From HAWKZ on track 023° to LIINE.

LANDING RUNWAYS 16L/C/R: From LIINE on track 022° to cross PIKEZ between 12000 and 15000 and at 250K, then on track 001° to COFAY, then on track 351° to cross BREVE between 10000 and 11000 and at 250K, then on track 350° to cross NETTZ at or above 8000 and at 230K, then on track 344° to cross KWEST at or above 7000, then on track 344° to cross VASHN at 6000 and at 210K, then on track 344°. Expect RADAR vectors to RNAV (RNP)/ILS/VISUAL approach as assigned by ATC.

LANDING RUNWAYS 34L/C/R: From LIINE on track 027° to cross FOOTT between 10000 and 12000 and at 250K, then on track 030° to cross GOALZ at or above 8000, then on track 014° to cross SONDR at 6000 and at 230K. Expect RNAV (RNP)/ILS/VISUAL approach as assigned by ATC.

LOST COMMUNICATIONS

LANDING RUNWAY 16: At VASHN, proceed direct GRIFY and execute the ILS RWY 16R approach.

LANDING RUNWAY 34: At SONDR, execute the ILS RWY 34L approach.

NOTE: RADAR required.

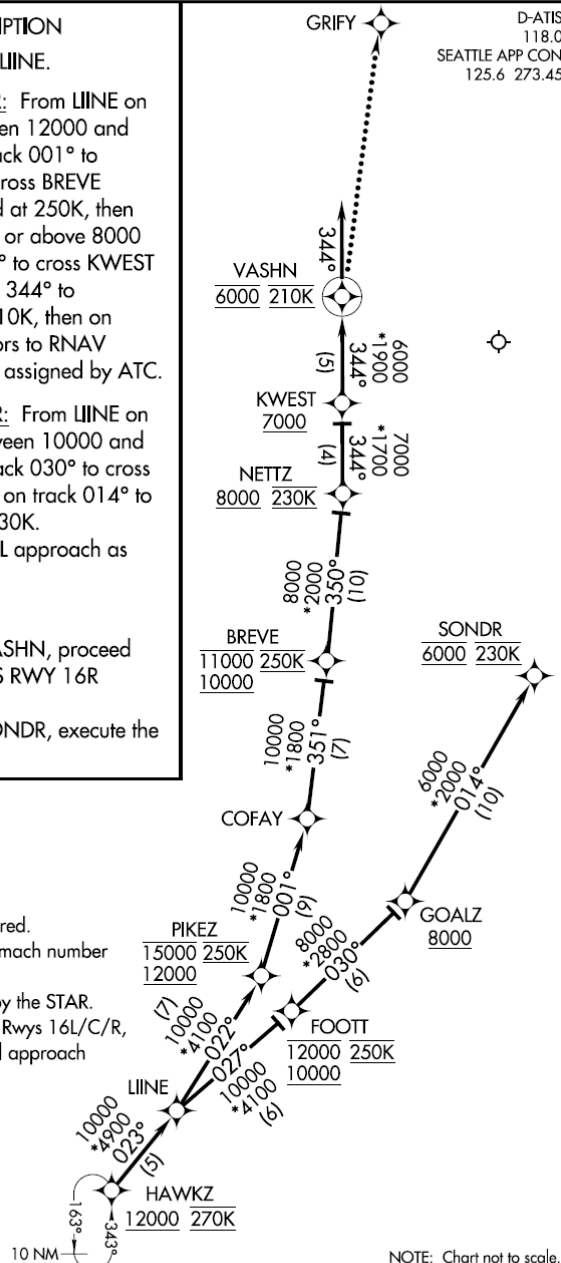
NOTE: RNAV 1.

NOTE: DME/DME/IRU or GPS required.

NOTE: Turbojet aircraft descend via mach number until intercepting 280K.

Maintain 280K until slowed by the STAR.

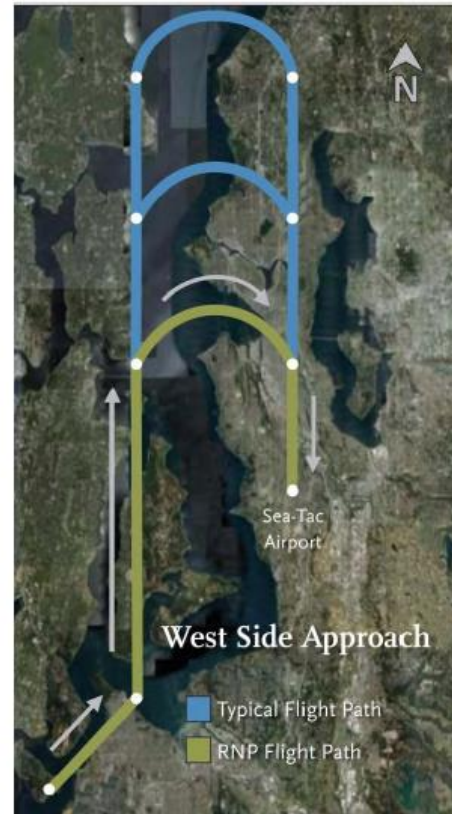
NOTE: For non-RNP aircraft landing Rwy 16L/C/R, expect RADAR vectors to final approach course prior to VASHN.



This is what the FAA planned to happen:

Required Navigation Performance (RNP) Approaches

- Consistent, controlled approaches
- Substantially shortened flight path length (green vs. blue)
- Noise exposure reductions with accurate routings over less noise sensitive areas (e.g. Elliott Bay)
- Reduced greenhouse emissions
- Minimized operational costs



Source: Slide presented at the Port Of Seattle April 2017 meeting.

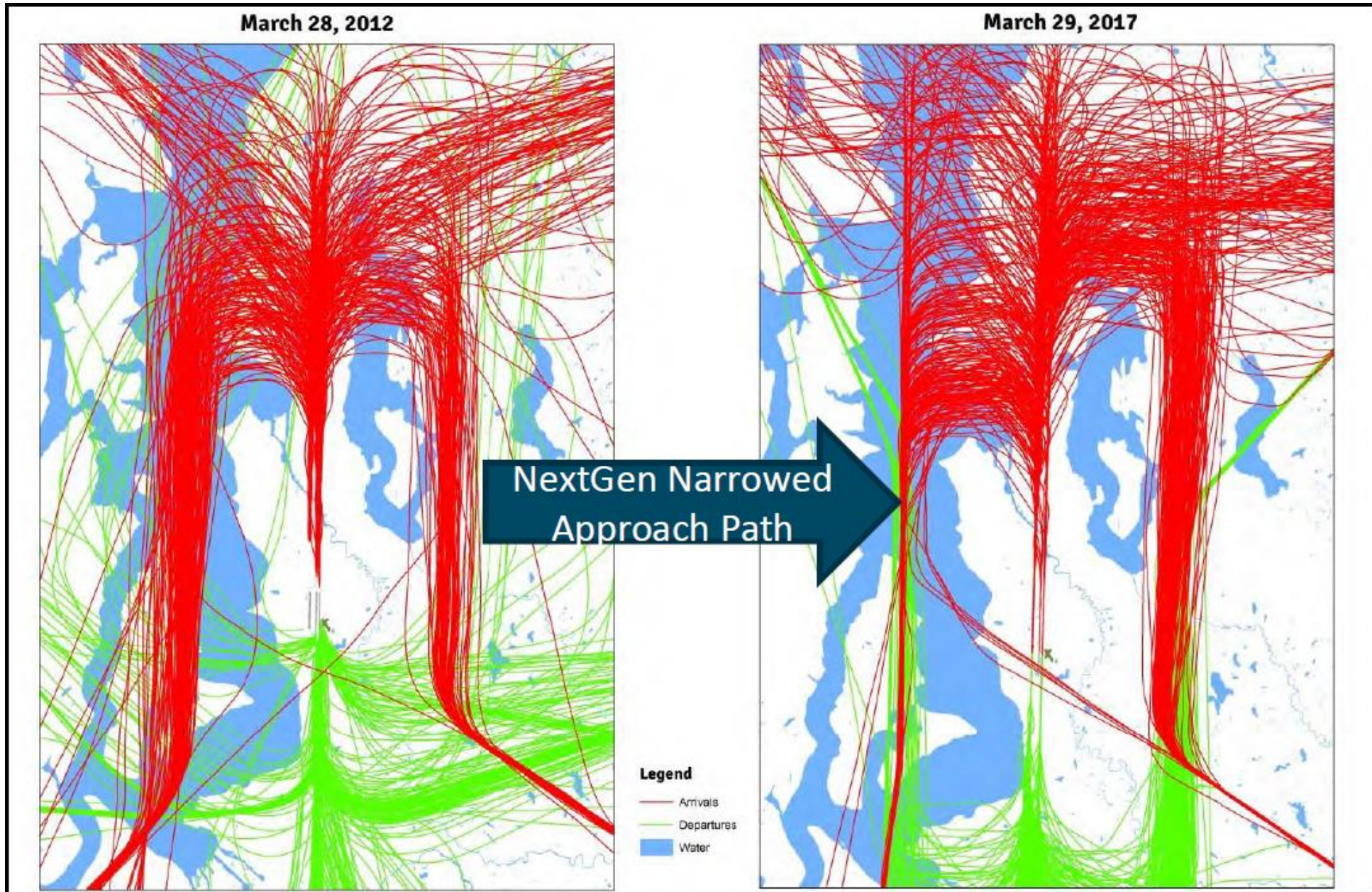
Note that it doesn't even reflect the actual location of the RNP path, i.e. this is an old slide, and assumed all flights would turn right into Elliott Bay.

Note also that Vashon is relegated as a “less noise sensitive area.”

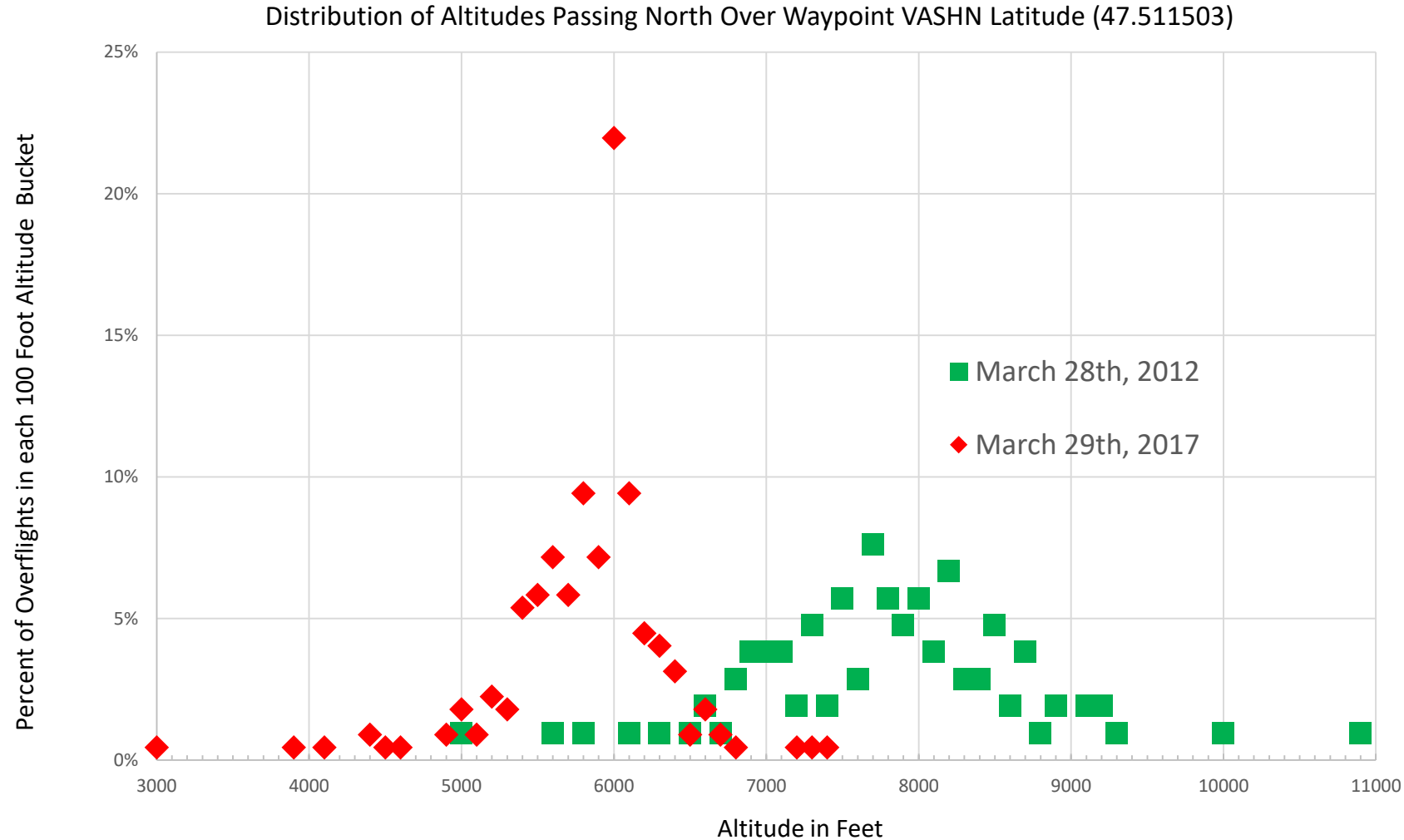


Federal Aviation
Administration

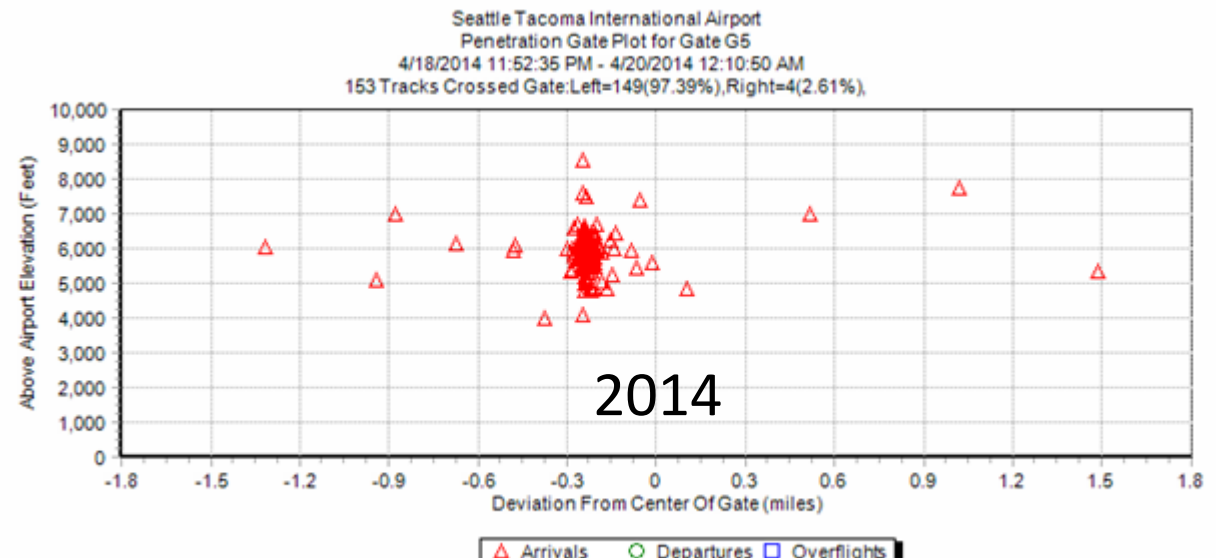
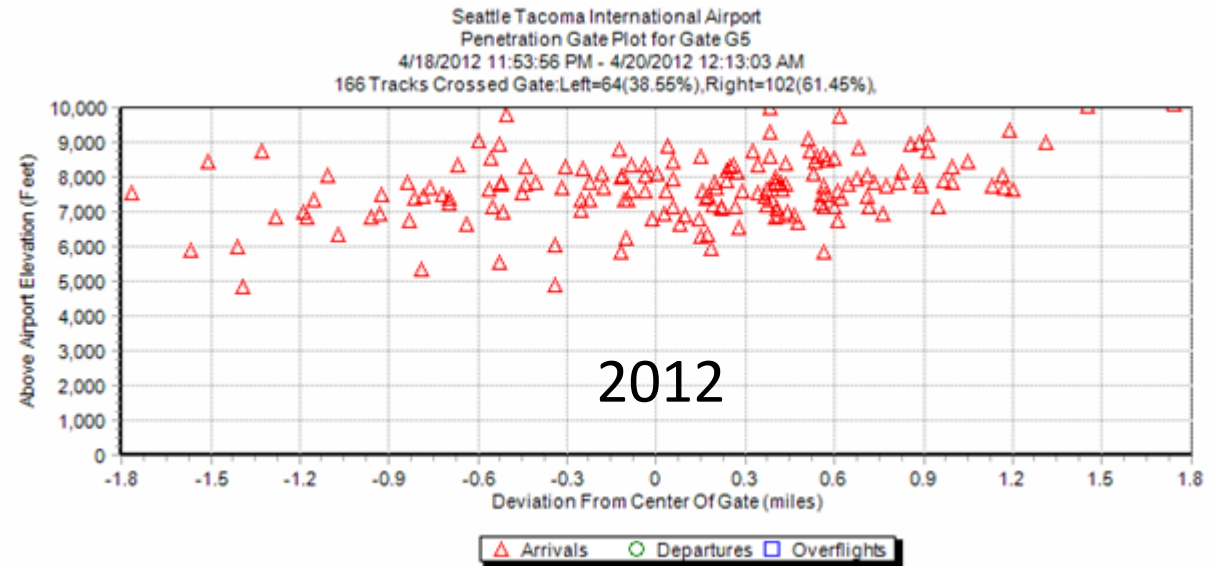
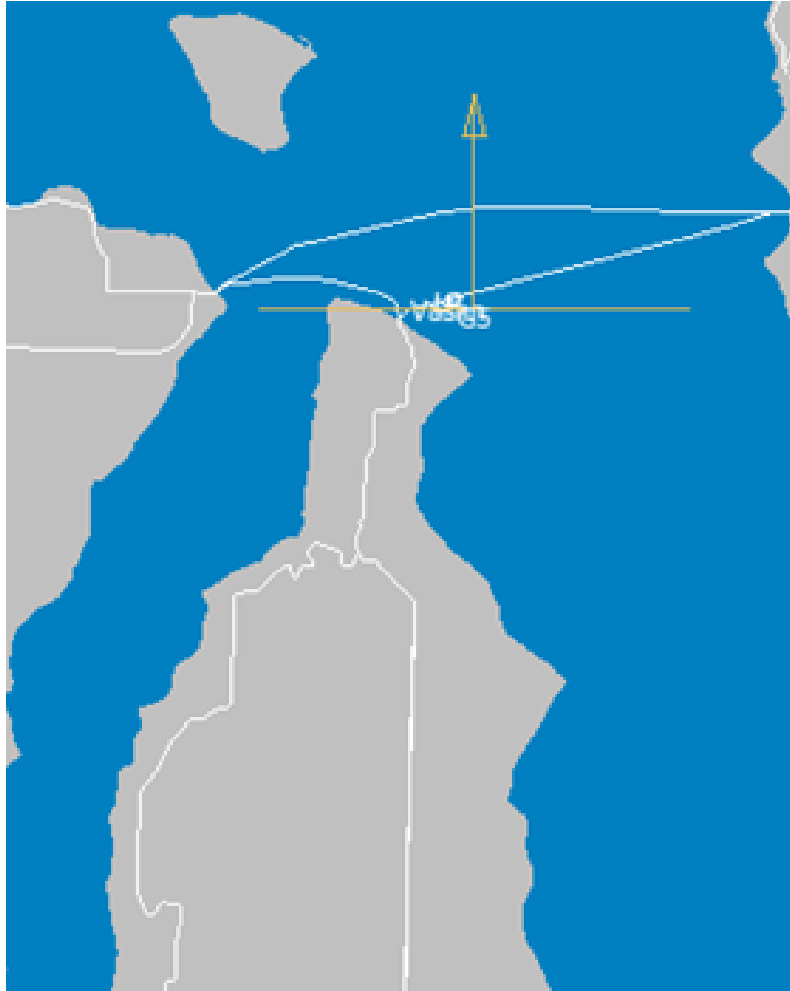
This is what actually happened:



...but that's only half the story, look at what happened to the altitudes:



Or another way to display it.



To summarize NextGen changes over Vashon

- Razor sharp downwind flight paths with every flight following the exact same path.
- The Port's own slide though shows this focusing of noise is for naught as paths randomly diverge again just North of Vashon.
- In addition to narrowing paths, flights were also substantially lowered in altitude:

Date	% < 6000'	% between 6000' and 6100'	% >= 6100'
March 28 th , 2012	2.85%	0%	97.15%
March 29 th , 2017	51.57%	21.97%	20.46%

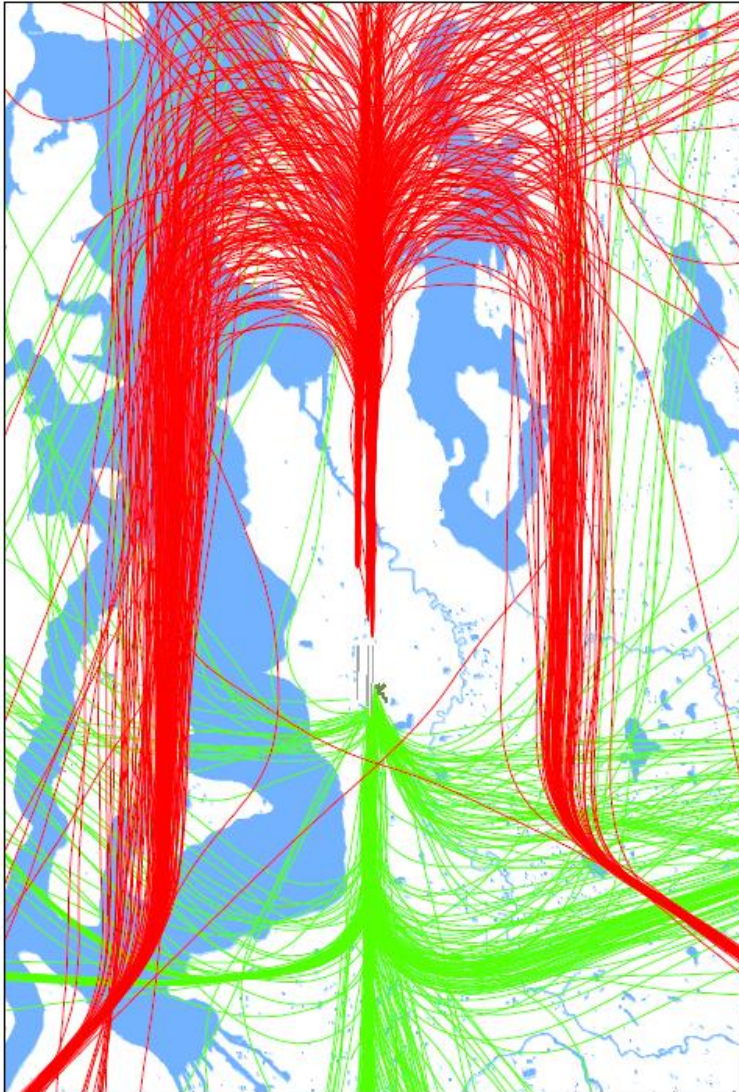
- When the airport is in Northflow, the situation is basically reversed, but not nearly as painful since:
 - The sheer volume of flights is two and half times less.
 - Flights are mainly from Alaska & Asia, and those from Asia are more modern aircraft that appear to be less noisy. Subjectively for instance, the B777 seems noticeably less noisy for its altitude.
 - In south flow older B737 and the A320 series with their annoying 'whine'* noise predominate.
- Extended low and level flying over large parts of greater Seattle have become the norm.

*See <http://a320whine.com>

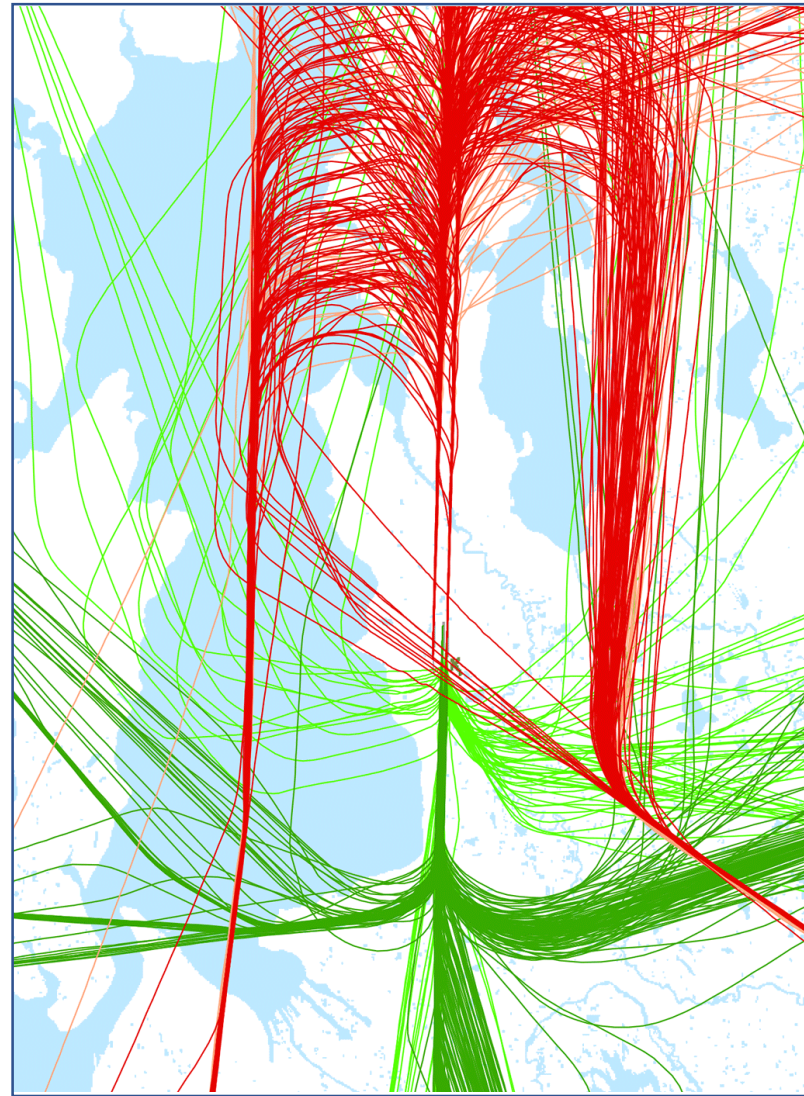
The ominous growth of Southflow Cross-Overs

- They used to be relatively rare, but now happen more often:

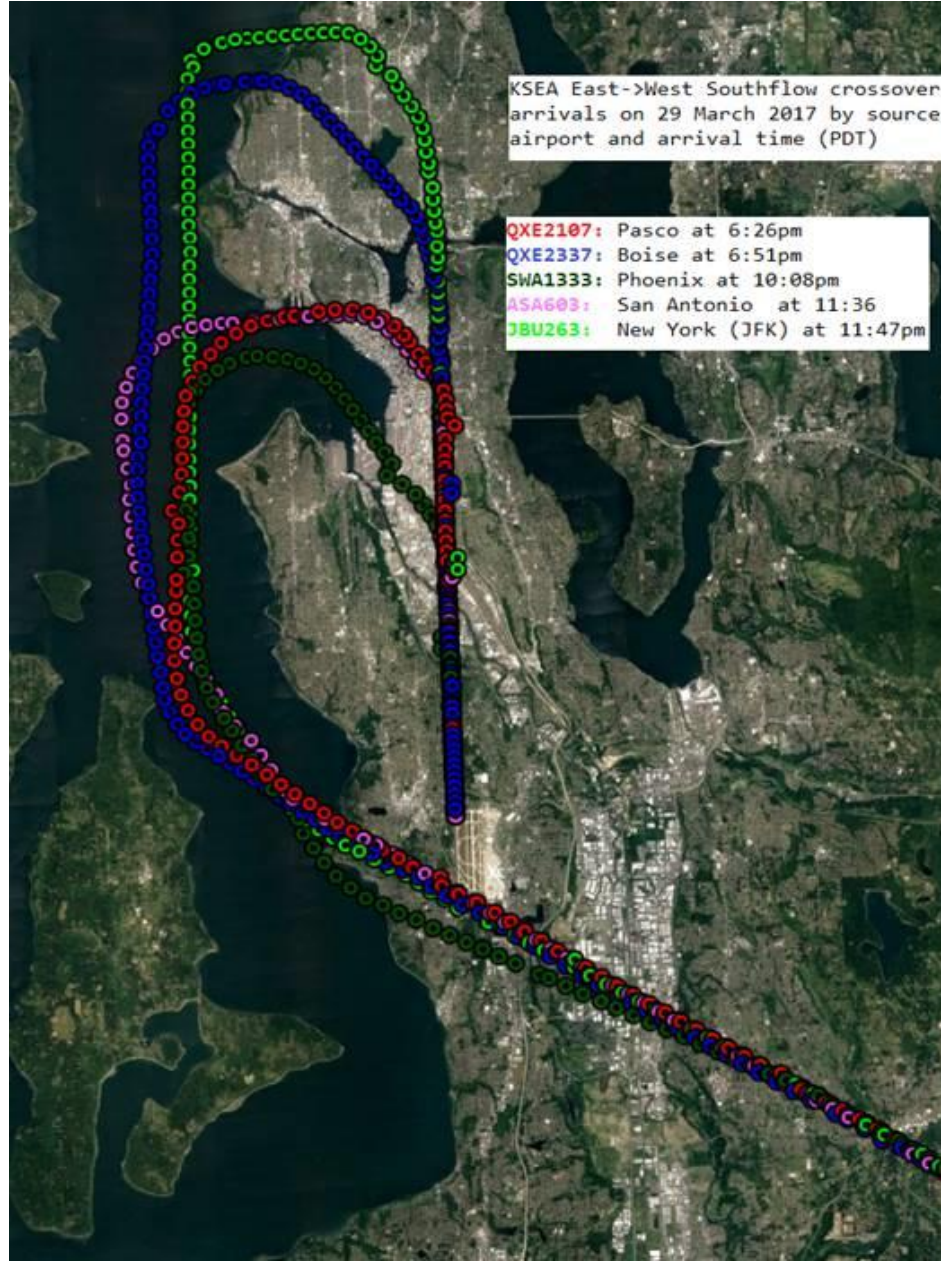
March 28, 2012



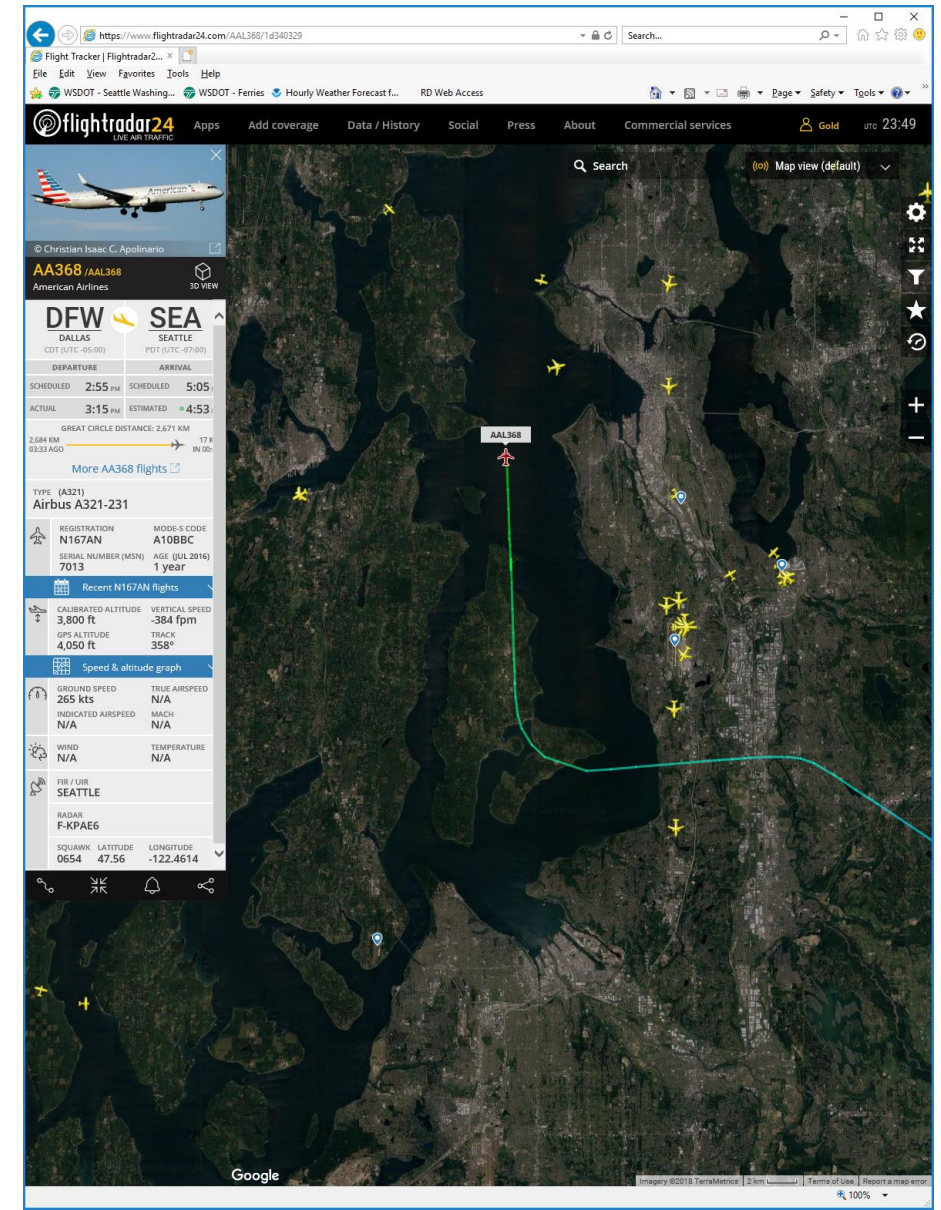
January 17, 2017



They Don't Just Occur When Busy



Some Seem to Go Out of Their Way to Fly Over Vashon



Why is this so Scary?

- Currently NextGen in Seattle is a failure (40% increase in fuel wasting level-offs) because RNP traffic from the West can't mix well with conventional ILS traffic from the East.
- One option is adding RNP on the Eastside, but they won't do that:

From: Reis, Mark
Sent: Friday, September 18, 2015 7:55 AM
To: Merritt, Mike; Ehl, Larry; Ehl, Michael
Subject: FW: Greener Skies Incentives Response to Commissioner Bowman

Mike (Merritt), please pass on to Commissioner Bowman as well any other who may be interested.

Commissioner Bowman:

Thank you for your interest in the Greener Skies initiative begun in 2008 with the partnership of the Port, Alaska Airlines, and the FAA.

During the public session of September 8, CEO Ted Fick reported on the benefits of the program now accruing to Alaska Airlines and the community in regard to fuel savings, emissions reductions, and decreased flight times. The following information is provided in response to your subsequent inquiry as to how other airlines might be incentivized to participate in that program.

Approximately 50% of Sea-Tac arrivals approach from the southwest as well as about 10% from the northwest. These arrivals are the focus of Greener Skies. **Due to noise considerations, no approaches from the east were included in the program.** From the southwest, the Standard Terminal Arrival Route (STAR) takes the aircraft over Vashon Island and then further north (~ Shoreline) prior to making a "Uturn" and aligning with the runways, southbound....

- The other option is to just move them all over Vashon, eliminating downwind overflights of the Eastside, and drastically reducing the RNP/ILS conflict.

PETITION TO THE PORT OF SEATTLE COMMISSION



Stephanie Bowman



Ryan Calkins



Fred Felleman



Courtney Gregoire



Peter Steinbrueck

Add 2 Noise Monitors on Vashon Island to the Port's Existing System of 24 Monitors

Dear President Gregoir and fellow council members, WHEREAS:

- 1) On April 25, 2017 David Suomi, Northwest Mountain Region Regional Administrator for the FAA, presented to your commission on the FAA's NextGen program in general and its implementation in Seattle in specific.
- 2) On his "favorite slide", #13, Mr. Suomi described NextGen as the most fundamental change to the National Airspace System since the introduction of civilian RADAR in the 1950s.
- 3) The only NextGen technology implemented in Seattle that changes flight tracks, so far, are two RNP (Required Navigational Performance) procedures for Westside arrivals (~50% in Southflow) which took flight paths that used to be broadly dispersed in a swath miles wide and focused them to a razor sharp GPS enforced line brutally accurate within – to quote Mr. Suomi – the wingspace of the aircraft.
- 4) Vashon Island is the only populated land in Washington State subjected to an RNP below 10,000 feet, often as low as 3000 to 4000 feet, and yet we have no noise monitor for this new focused noise of ~250 arrivals a day in Southflow.

NOW THEREFORE, the people of Vashon Island and other concerned citizens petition and demand that the Port expand its system of noise monitors from 24 to 26 placing two new monitors on Vashon Island. The two locations must be at the North extremity of the Island under longitude -122.4553611 and at the South extremity of the Island under longitude -122.4552778.

Why this petition and why to the Port?

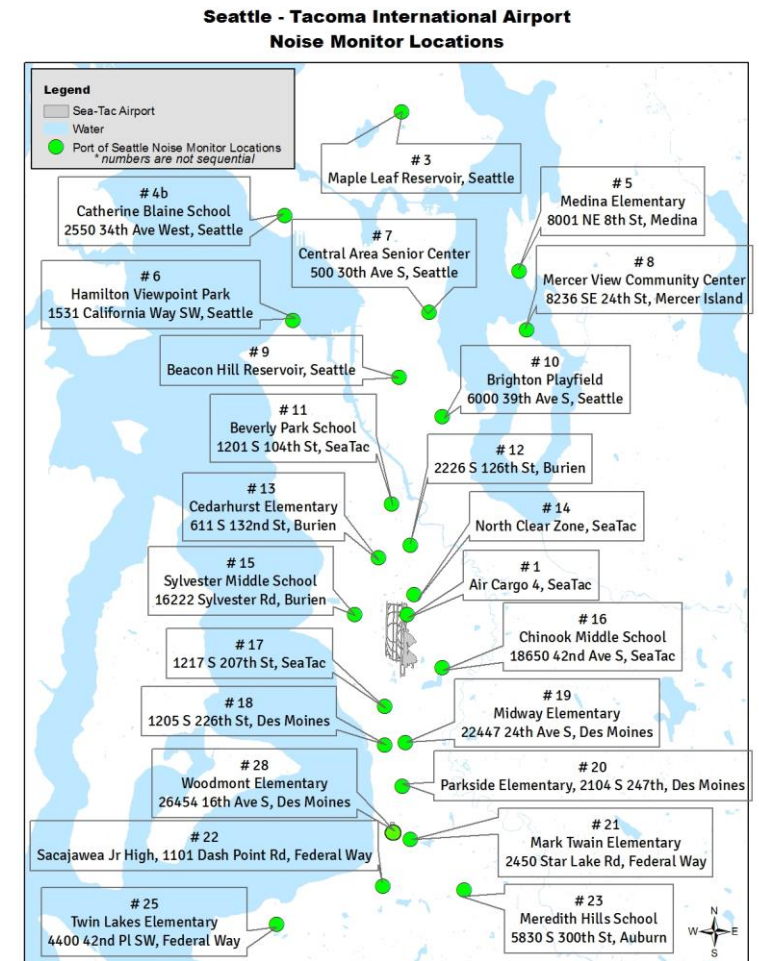
- “Why not petition the Port to revert the NextGen flight paths?”. Because the Port can’t. Flight paths are completely under the control of the FAA.
- Why not petition the FAA to revert the NextGen flight path/procedure change?”. Because it won’t do anything. The FAA is a completely captured and unaccountable federal bureaucracy under strict control from Washington DC and industry.
- It’s important to be clear eyed and pragmatic here. The FAA didn’t pick a sparsely populated rural Island to dump all the plane noise on by accident. Our lives were sacrificed. Attempting to petition the FAA in Washington DC is not a productive use of our energy and resources, at least not now.
- The Port of Seattle, on the other hand, is controlled by five **elected** local officials. Further, Port of Seattle Commission races – for better or for worse – are not exactly the star of the ballot, i.e. enthusiasm counts for a lot, more than raw numbers.
- The ask of this petition is easily doable by the port. Nothing has to be invented.

Petition text on signature pages:

PETITION TO THE PORT OF SEATTLE COMMISSION:

We, the undersigned residents of Vashon & Maury Islands, and other concerned citizens, demand that the Port Of Seattle augment its existing system of 24 noise monitors with two new monitors. One located as close as possible to longitude -122.4553611 on the Northern tip of Vashon Island and the other as close as possible to longitude -122.4552778 on the Southern tip of Maury Island."

Where the monitors current are and what they look like:



Petition Logistics:

- This is not an official petition to get a measure on the ballot. That would require 8% of King County registered voters (> 90k signatures).
- We currently have 444 signatures.
- Six volunteers collected 143 of those in their neighborhoods.
- The plan is to present the petition to the Port Of Seattle in early October.
- If you can volunteer to collect signatures the next couple weeks, please talk to me after the meeting.
- The Port has been notified in writing that the petition is coming.
- I also announced the petition at the most recent Port Of Seattle Commission Meeting on September 11th.

SAMP (Sustainable Airport Master Plan)



- Once in a decade chance to influence, via the “scoping” process, what will be studied in a Environmental Impact Study of legal standing.
- In previous studies (Part 150 for example) Vashon was only considered in a very cursory way.
- The Scoping Period ends on Sep 28th. Please fill out one of the comment forms, either initialing the comments you agree with and/or writing your own. If you leave it here with us, we’ll make sure it’s delivered in time.
- Take some home for your neighbors and friends, but just make sure they are mailed in time.

Other Communities

- Culver City: They actually met the 60 day filing window so the merits of the case will be heard. Briefs have been filed, but no oral arguments yet.
- Maryland: The attorney general filed a petition against the FAA on June 26th.
- Georgetown: Their case was dismissed due to timeliness, and the request for an en Banc review was denied. Only option now is the supreme court.
- Phoenix: They got an exception to the 60 day window. Dream decision:

“For the foregoing reasons, we grant the petitions, vacate the September 18, 2014 order implementing the new flight routes and procedures at Sky Harbor International Airport, and remand the matter to the FAA for further proceedings consistent with this opinion.

So ordered.”

Another highlight on page 15: “The idea that a change with these effects would not be highly controversial is 'so implausible' that it could not reflect reasoned decisionmaking." Ouch.