



## **Seattle-Tacoma International Airport Part 150 Noise Compatibility Study Update**

### **Technical Review Committee Meeting Report April 15, 2010 10:00 a.m. – 12:00 p.m.**

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#### **Committee Attendees**

Chip Davis, City of Burien  
JD Hood, Horizon Airlines  
Thomas Hooper, POS  
Stephen Kiehl, PSRC  
Rob Kikillus, POS  
Denise Lathrop, City of DesMoines  
Stacy MacGregor, City of Tukwila  
Cayla Morgan, FAA  
Sharyn Parker, King County Int'l  
Airport  
Linda Pelligrini, FAA  
John Sibold, WSDOT  
Al Torrico, City of Seatac  
Steve Rybolt, POS  
Oscar Vela, Alaska Airlines  
Karen Wolf, King County

#### **Port of Seattle Attendees**

Michael Carroll  
Mary Ann Chamberlin  
Victoria Evans  
Tom Fagerstrom  
Karen Kalanick  
Marco Milanese  
Stan Shepherd

#### **Other Observers**

Pat Walsh, FAA  
Ryan Weller, FAA

#### **Consultant Team**

Rob Adams, Landrum & Brown, Consultant Project Manager  
Vince Mestre, Landrum & Brown, Noise Specialist  
Margaret Norton-Arnold, Norton-Arnold & Company, Facilitator  
Fala Frazier, Norton-Arnold & Company, Committee Administrator

#### **Overview**

The primary purpose of this meeting was to present information on existing operational and noise conditions at the airport. This data had been assembled by

Landrum & Brown, and was provided for review and comment to the Technical Review Committee. In addition to answering committee questions about the data, members were asked to think about the best way to present all of this technical information at the next public workshop, which is scheduled for June 9.

Rob Adams also provided a summary of the February public workshop. Vince Mestre from Landrum & Brown was introduced for the first time, and presented much of the existing conditions data.

Rob Kikillus, Steve Rybolt and Tom Hooper work for the Port of Seattle and are now official members of the committee. The FAA's Linda Pelligrini sat in for Ron Fincher, who was out of town.

## **Review and Discussion of February Public Workshop**

Several committee members had attended the first public workshop on February 24 at Mt. Rainier High School. A summary report from that meeting is available on the project website at [www.airportsites.net/sea-part150](http://www.airportsites.net/sea-part150)

The bulk of the workshop was devoted to small-group discussions. Rob reviewed the top issues identified by meeting participants, which included noise from the third runway, health issues, run-up noise, nighttime noise, the limits of the 65 DNL, and property values. When asked, more people attending the workshop said they were more concerned about single event incidents from noisy planes than from the cumulative impacts of airplane noise.

Workshop participants also provided numerous suggestions on ways they felt airport noise could be reduced. Landrum & Brown will respond to these suggestions at the June 9 workshop.

Rob further noted that a number of people had turned in evaluation forms after the workshop and that, by and large, the responses were positive. People asked for a later start time and more advertising for the workshops, and both of these will be addressed for June 9.

Committee members provided their thoughts on the public workshop; with most indicating they thought it had gone well and that the format had been conducive to eliciting constructive feedback. One member said she thought the workshop had been extremely successful and that it had exceeded her expectations, noting that she had been in controversial meetings before that did not go as smoothly. She noted that there was a great deal of participation from attendees, which was both constructive and helpful. But now, she said, the bar has been set very high for future public workshops.

One member asked how suggestions for noise mitigation outside the 65 DNL would be handled through the Part 150 process. Rob reiterated that the Part 150 is clear that the 65 DNL is the focus of noise mitigation, meaning that Noise Exposure Maps must be presented using DNL and proposed mitigation must demonstrate benefits within the 65 DNL. Depending on what types of actions are being proposed, they may be something that can be handled outside of the Part 150 and therefore the need to demonstrate benefit within the 65 DNL is minimized or eliminated.

Stan remarked, however, that for some actions that the Port of Seattle has some control, the Port may be willing to consider some additional noise improving actions outside of the Part 150 process. Stan further noted that a mitigation measure such as the construction of a hush house would probably result in improvements that do not change the 65 DNL.

A committee member noted that it was helpful to have a “technical expert” (a staff member from the Port) available in her discussion group at the February workshop. She suggested that this staff/facilitator combination be repeated for future public meetings.

## **Presentation and Discussion of Baseline Operations Data**

Rob and Vince presented data related to Baseline/Existing Conditions at the airport. A copy of the presentation was provided to all committee members and is also available on the project website at: [www.airportsites.net/sea-part150](http://www.airportsites.net/sea-part150)

Committee members asked questions and provided comments and suggestions throughout the presentation.

**Q:** Isn't the 2009 timeframe a little bit problematic since there were only two runways in operation during the rehab of the eastern-most runway? The data from that time won't accurately reflect typical/normal operations at the airport.

**A:** There was a period of time right after the third runway opened that all three runways were in use. All three runways are now open and have been for a while. So, we are using as much data as possible from those periods, and are extrapolating that out to get a reasonable assessment of how the airport operates with all three runways available.

**Q:** It seems like the public will really question that 2009 baseline data because conditions were changing during that time. Couldn't you use data from 2010 instead?

**A:** That's a good suggestion. There was a great deal of community concern about noise in 2009, so we want to acknowledge that and clearly describe those operating

conditions. But we can also go on from there to better describe the situation in 2010, and we will do that.

**Q:** Won't the Greener Skies Initiative improve noise, not only for those close to the airport, but also for those further out?

**A:** If something from that Initiative is going to be implemented in our 5-10 year planning window, and if it will have an impact on conditions within a few miles of the airport, we will certainly take a look at that.

The committee switched its focus to *current operations* at the airport – in 2009 there were 318,600 operations at the airport, or an average of 873 per day. Vince presented both total operations, as well as operations by type of aircraft.

**Q:** Do your numbers for the forecast, including changes in operating levels and fleet mix, come from the FAA?

**A:** Yes, for the most part. Our forecasting group within Landrum & Brown bases the forecasts on FAA data, economic studies, and discussions with the airlines.

**Q:** For an average day, does the contour reflect weekend vs. weekday flight data?

**A:** When we prepare the official contour maps we will use average annual data.

**Q:** Can you give us a characterization of the noise footprint of the most frequently used aircraft on your list?

**A:** Yes, most of the flights are being made by newer, quieter aircraft models. Typically, business jets are the noisiest aircraft in the fleet at Sea-Tac.

In response to this, a Port staff member noted that the executive business jet fleet at Sea-Tac is a modern one and is relatively quiet. In addition, it was noted that there is not a lot of business jet traffic at the airport.

**Committee suggestions for the June public workshop:**

- Identify on your aircraft list which ones are passenger flights and which ones are cargo.
- You should indicate when the cargo jets tend to fly the most; they are often noisy single-event occurrences.
- It would be helpful to use different colors for day vs. nighttime flights.
- Show the noise footprint for old generation vs. new generation aircraft.

In response to Vince's presentation, committee members also had a number of suggestions for effective ways to present *flight track data*; the data that indicate both the *number* of arrivals and departures on each runway and the *direction* (north or south) of those arrivals and departures.

**Committee suggestions for the June public workshop:**

- You are using the color red on these charts, which generally means something bad from a pilot’s perspective. Maybe use a different color, so the graphic doesn’t look so alarming.
- I’m not so sure how concerned or interested the public will be in this data. All of those lines seem overwhelming. Most people are more concerned with what is going on right over their home than they are with all of the flight paths.
- Consider putting your specific data on the same page to make it easier to review. People were so focused on the third runway at the last public meeting – if you had the data closer together it would be easier for them to make their own comparisons.
- An effective way to present this data would be to use overlays – the same way you might use transparencies, for example. That way, you could see the difference in flight tracks over time between 2008, 2009. It might help people to understand that airport noise didn’t “just start” when the third runway opened.
- The scale of the maps you are using is okay, but you could lighten up the background a bit to make them easier to view.
- There have been some annexations to Burien, so it is larger than what you are currently showing. TRC representatives from Burien and King County will send Stan the new GIS maps.
- You should zoom in to those areas where we know people have particular concerns. For example, I heard at the February public meeting that Maury-Vahson Island, Burien, and Des Moines residents were especially concerned about noise. Highlight those areas at the next public meeting.

Vince reviewed the *runway use analysis*, which indicates which runways are in use for arrivals and departures, and how often they are used. Stan Shepherd also weighed in on this, explaining that when the airport was operating with two runways this past year, the third runway was used generally for arrivals and the inboard, or eastern-most runway was used for departures. As the airport has gone into a three-runway operation, departures are still made mostly from the inboard, or eastern-most runway.

**Committee comments:**

- When you talk about a two runway operation, it's important to distinguish between whether you are talking about the situation prior to the third runway's opening (when the airport only had two runways) or the period of time after the third runway's opening (when the eastern-most runway was closed for reconstruction).
- On the graphic the arrows for 13% and 14% look very different; the 14% is a lot larger. You should change this so they are closer to the same size.
- It's also important to note that there are airspace constraints in addition to runway capacity constraints. This is not just about runway configurations. The air traffic controllers have to be alert for what is going on at Sea-Tac, the King County Airport, Paine Field and McChord.

**Q:** When the number of operations increase at the airport again (after this recession), won't you be more concerned about safety and efficiency rather than noise abatement?

**A:** Not exactly. When the third runway opened, the Port leaned on the FAA to adhere as much as possible to a runway use plan that is in line with community expectations. That plan tries to balance a heavy load of operations with community concerns and expectations.

**Q:** But what happens when the number of flights increase, for example five years from now? What then?

**A:** We don't know when those operations will increase; of course we anticipate some changes, but it's impossible to pinpoint when they will occur. As a result, we will plan for the use of the runways in a heavy operating mode.

**Q:** This is a critical issue for the public, so it needs to be clear in all of the communications how these future decisions will be made.

**A:** Agreed, and we are working now to better understand actual third runway use and get it down on paper. Perhaps at our next meeting we can talk in more detail about the third runway use plan.

Vince also reviewed the number of *ground run-ups* taking place at the airport. In response to a question, he clarified that this list of run-ups was only related to aircraft maintenance, and was not related to a preflight check that may occur by small propeller aircraft waiting to take off. In reviewing a map of the run-up locations, a committee member noted that they all looked as if they were very close to the terminal. Vince replied that, indeed, this is the case. Land space is very tight at Sea-Tac; there is no place "out in the boonies" to conduct the run-ups.

Vince summarized the *noise monitor locations* at Sea-Tac, noting that Chicago and Dallas are the only other airports in the country with more noise monitors. Most

airports have 6-10 monitors, while Sea-Tac has 25 permanent noise monitors in place.

A committee member wondered how Sea-Tac flights were identified vs. noise from other airfields. Vince replied that radar in the noise monitoring system differentiates between “Seattle” aircraft and “other” aircraft.

Vince described the measurement of *single event noise levels*, noting the big difference between older and newer aircraft – basically, older planes are just plain noisier.

**Q:** Why are the noise levels between departures and arrivals so different?

**A:** The engine isn’t the dominant noise for an arrival. On departures you hear the engines, but on arrivals you hear both the engine and airframe noise. With arrival noise there is not much difference between the different types of aircraft. But for departure noise, older engines are much louder than the newer ones.

**Q:** Have any of the monitor locations been changed since the opening of the third runway? Or are you looking mostly for noise close to the airport?

**A:** All of the above. Vince Mestre was involved a number of years ago with the selection of the noise monitoring locations, and worked with a citizens group to do that. We’ve since heard from people that additional monitors are needed. We’re looking at our analysis right now to see where those monitors might best be located.

**Committee suggestions for the June public workshop:**

- Clearly indicate the cities/jurisdictions that are next to the noise monitors. For example, put “Burien” right by the green star on the map, and also note other locations more precisely. People will be interested in this.
- A member suggested that it was important to be clear that the noisiest aircraft don’t fly nearly as often as newer generation aircraft. Vince responded that, yes, this was the case, but it is also important to be careful because community members really do want to know about single event noise.

Vince further noted that up to twelve additional sites will be added as *supplemental noise monitoring locations* during the Part 150 process. The area immediately west of the 3<sup>rd</sup> runway has an interesting topography, and a couple of monitors will be placed in that area. Ten other sites were suggested during the February public workshop. All of these sites have been plotted, and Landrum & Brown will determine where the supplemental monitors should be placed. All of the data from both the permanent and supplemental locations will be incorporated into the Part 150 Study.

Rob asked committee members to suggest other locations for the supplemental noise monitoring if they have ideas about this. Vashon-Maury Island was suggested at the meeting, and members were asked to get any additional suggestions to Margaret by April 23. No additional suggestions were received as of April 27.

Committee members thought it was important to be able to tell the public on June 9 where the supplemental monitors would be placed, and to emphasize that those locations were selected based on the suggestions from the public. They hoped that all of the locations would be pinned down by June 9 and that data from these supplemental locations could be used in the draft noise contour maps.

In response to a request from Rob, committee members suggested *other data sources* that should be used to supplement the information already in use by Landrum & Brown.

- Base mapping needs to be updated, and the cities/port will supply that information.
- The suggestion was made that existing land uses might be more clearly detailed on the maps versus an aerial photograph. For example single family vs. commercial/industrial, since most complaints come from household areas rather than business zones. Rob said that they have all of the land use data and where it made sense to do so, the maps could be adjusted to accommodate that request.

A member commented that people who live close to the water get more noise because there is a “bounce back” from aircraft noise from off of the water. Vince said that this was often the case, and that the noise modeling software can model a number of effects that deal with different types of surfaces. However, there is not a model just for overwater noise. Single event noise monitoring may be able to capture some of those effects, however.

Another member commented that it seemed like noise was more pronounced during cloudy conditions. Vince agreed that this can occur and explained that in fact, the most important factor related to noise has to do more with temperature at different altitudes. An inversion, where there is warmer air above cooler air often results in noise being bent back towards the ground. Temperature inversions are often associated with low cloud layers, so the two work together in some cases.

**Committee suggestions for the June public workshop:**

- When you present the slides on runway use, just pick names for the runways and use them consistently. The FAA numbering system is confusing. Just use

- A “glossary of terms” would help people understand all of the acronyms and other terminology you are using as part of the study. This would be helpful to the general public and to us as committee members.

## **Next Steps**

Stan noted that, since the Part 150 Study will be analyzing to a ten-year planning horizon for land use purposes, the cities have the option to add staff members to the Technical Review Committee who are working specifically on longer-term planning.

The second public workshop on the Part 150 is scheduled for June 9<sup>th</sup> at Cedarhurst Elementary School, 6:30 p.m. That workshop will be focused on the same type of data we have reviewed today. TRC members are welcomed, and strongly encouraged, to attend the workshop.

The next Technical Review Committee meeting will be held in July. At that meeting Landrum & Brown will present the draft noise exposure maps and begin discussion on potential noise abatement opportunities.