

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA

Item No. 6e
February 24, 2009

DATE: February 6, 2009
TO: Tay Yoshitani, Chief Executive Officer
FROM: Stan Shepherd, Manager, Airport Noise Programs
SUBJECT: Third Runway 16R/34L

BACKGROUND

Sea-Tac International Airport opened the third runway designated 16R/34L on November 20th, 2008. The third runway is a strategic link in our regional and national transportation system and is a remarkable engineering and construction accomplishment that has set new standards for environmental mitigation stewardship. While it is still early in the life span of the third runway, staff wanted to provide the Commission with observations of early public concerns and early indications of benefits to the airlines and the environment.

The driving factor in pursuing a third runway was the impact of airline delays caused by low visibility. At Sea-Tac, low visibility conditions occur approximately 44 percent of the time. The previous two runway configuration required that aircraft arriving during low visibility conditions be directed onto one runway, thus causing arrival delays, predominantly in south flow operations. The third runway, therefore, was built primarily to reduce delays by allowing adequate separation between dual arrival streams of air traffic.

Runway Usage and Public Concerns

The supplemental Environmental Impact Statement (EIS) for the Master Plan Update, which included the third runway project, was completed in 1997 and assumed a much higher level of operations in 2010 than is currently occurring or predicted for 2010. The EIS predicted total annual operations would reach 475,230 in 2010 and that during south flow weather, 27.7% of annual arrivals would land on the third runway and 2.5% would depart on the third runway. During north flow weather, the EIS assumed that in the year 2010, 16.4% of annual arrivals would land on the third runway and 1.6% would depart.

Total annual airfield operations in 2008 were approximately 345,000 operations and 330,000 operations are predicted for 2009. Sea-Tac's initial usage during south flow on the third runway has been at approximately 40% on a daily average.

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It is important to note that the FAA has sole authority on the usage of all runways, taxiways and flight operations. The Port, as an airport operator, cannot impose restrictions on the airfield, and the FAA has consistently stated that no use restrictions will be placed on the third runway.

The following is a summary of how the FAA has indicated they are using the third runway.

1. South flow arrivals in lower visibility conditions. In order to have two streams of arriving traffic that can maintain appropriate separation during lower visibility conditions, both outer runways are to be used for arrivals -- The third runway (16R) and the easternmost runway (16L). The center runway (16C) is the primary departure runway.
2. South flow arrivals during good weather. The primary south flow arrival runway is the easternmost runway (16L) until the arrival demand starts to cause delays. When the controllers estimate arrival delays are imminent, they will shift some arrivals onto the third runway (16R) and use both 16R and 16L for arrivals. The center runway (16C) will remain the primary departure runway in all conditions.
3. South flow departure demand. The third runway (16R) will also help with airfield efficiency when there is an increased departure demand. The FAA can increase use of 16R for arrivals in order to allow departures off of both the easternmost runway (16L) and the center runway (16C). This reduces delays taken on the ground for departing aircraft.

While the FAA has told the Port this is how they see the runways being used, they have also said that they need at least three months of data to be able to fully analyze and discuss runway data and usage.

Air Quality and Climate

At this time, it is difficult to provide an exact emission benefit the third runway has had on air quality and climate, but it is safe to say the benefit is real and significant. Simulation modeling has predicted that at approximately 350,000 aircraft operations, a level similar to 2008 activity, the decrease in aircraft delays will drop from 5 minutes to 2 minutes with the use of the third runway.

For a general, and somewhat conservative, estimate of carbon dioxide (CO₂) savings, a 3 minute delay savings, at 350,000 annual operations, will reduce CO₂ emissions by approximately 50,000 tons a year from aircraft sources. There are reductions in the traditional pollutants as well, including 170 tons per year of nitrous oxides and 425 tons per year of carbon monoxide.

Noise

One intent of an EIS is to predict what the likely adverse environmental impacts of the project will be in comparison to a situation in which the project is not built. If additional noise was predicted, mitigation actions are then identified, and that is precisely what the Port did with most noise mitigation completed prior to opening of the third runway.

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Callers to the Port have complained about an increase in noise and the perception that it is the result of the third runway being used more than the FAA and Port said it would, especially in good weather. In general, the subject of most calls focused on the following two questions.

- Is there more noise than described in the EIS?
- If so, is it caused by higher use of the third runway?

It is not possible to fully and confidently answer these questions at this time because the noise impacts described in the environmental studies for the runway were determined from a variety of assumptions based on a complete year of operations, and by a larger and noisier fleet than we currently have or anticipate having in 2010.

However admittedly, the opening of the third runway has indeed led to changes in the operational use patterns of all three of Sea-Tac's runways, meaning that noise patterns have changed, especially for people close to the airport.

The environmental analysis done for the Airport Master Plan concluded that there would be increased aircraft noise levels in the community associated with new flight tracks from the third runway and recommended mitigation actions. The Port of Seattle began noise mitigation projects early in year to address forecasted increased noise levels on the future third runway. These projects included:

- **Sound Insulation.** The Port completed sound insulation for 87 single family homes located in the 2010 DNL noise contour that were identified as having a projected increased noise level 1.5 DNL or greater.
- **“Directional” Sound Insulation.** The Port provided full soundproofing for residences that were provided only partial noise insulation when the original program began in 1985. This practice of partial directional soundproofing was eliminated from the Port's program in 1992. 27 homes identified as having directional soundproofing were provided with a new sound mitigation package.
- **Acquisition and Relocation.** In the EIS and FAA Record of Decision for the third runway, there was an area predicted to be impacted from low flying aircraft and noise. This area is located just north of the Runway Protection Zone (RPZ), and was designated by the Port and FAA as a unique area called an Approach Transition Zone (ATZ). The FAA allowed the Port to acquire the residential parcels that were within the ATZ and within the 65 DNL 2010 noise contour and relocate the residents outside the airport noise program boundaries. This program was initiated in 2005. Offers to purchase have been presented to all 59 property owners. 48 owners have been relocated out of the project area. All residents are expected to be relocated from the project area by mid 2009.

While runway usage is an important factor, it is only one consideration in determining the noise impacts, which are a key concern of the community and the Port. The purpose of the next major noise study (described below) will be to review how the impacts of the runway measure against those predicted and described in the EIS and whether there is need for more mitigation.

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Future Part 150 Noise Study Update

The Port of Seattle committed to the FAA and local communities to begin a new Part 150 approximately 1 year after the new runway opened. The overall purpose of the Part 150 is to analyze noise impacts connected to all aircraft operations, review the airport's existing noise problems and local land use controls and, finally, identify recommended new noise programs or actions to the Port Commission and FAA.

Staff has already begun the technical data collection process of the next Part 150. During the next year, the Airport Noise Programs Office will collect data on flight tracks and noise in preparation for the formal kickoff of the process. We will also hold small group meetings that allow for discussions on specific noise issues so information can be included in the problem definition portion of the Part 150. The formal Part 150 public process will begin in November of 2009. While the Part 150 can take up to several years to complete, we will be working with the FAA to design a process that can happen as expeditiously as possible. Our data collection will be challenged by the reconstruction of the easternmost runway (16L/34R) from April through September of 2009, which will disrupt the collection of data. We are working with the FAA on a process that will involve combining data from actual operations with predicted data that may be able to be validated the following year, depending upon potential reconstruction of the center runway (16C).

Communications

Port staff will be engaging with the public in the next year through a variety of methods. We will be briefing the Highline Forum regularly about third runway and noise issues; responding to requests and complaints through the Airport Noise Programs Office; providing presentations upon request to city councils and community groups; collecting technical noise and flight track data and posting it on the Port's website, and engaging with residents on specific noise issues. Third runway information will also be published in AirMail and Blue Print and will be included in the annual Noise Program Technical Report.