Part 150 Presentation

Technical Review Committee

September 23, 2010

Seattle Tacoma International Airport
Agenda

- Welcome and Introductions
- Review of Existing Noise Exposure Maps
- Review of Forecast
- Present 2016 Future Baseline Noise Contour
- Present Temporary Noise Measurements
- Status of Alternatives Analysis
- Update on Public Outreach Efforts
2009 Actual DNL Noise Contours

- 65 DNL
- 70 DNL
- 75 DNL

Locations:
- Des Moines
- Normandy Park
- SeaTac
2009 Actual DNL Noise Contours

- 65 DNL
- 2009 Actual Noise Contour
- Noise Remedy Boundary

Locations:
- Burien
- Tukwila
- Seattle
2009 Baseline Noise Contours

- **2009 Actual Noise Contour:**
  - 2009 Actual noise contour is 6.29 square miles (65 DNL)
    - 2.96 square miles is over airport property
    - 1.29 square miles is over residential land use
    - Preliminary counts of housing units within the contour
      - 65 DNL = 2,486 housing units (combination of single-family, multi-family, and mobile homes)
      - 70 DNL = 22 housing units
    - Comparison of 2009 Actual versus 2010 projected from the last Part 150 shows notable reduction in size of contour
      - Due to actual aircraft operations being much lower than projected and overall quieter fleet mix
2009 3 Runway Extrapolation

65 DNL

2009 3 Runway Noise Contour
Noise Remedy Boundary
2009 3 Runway Extrapolation

- Des Moines
- Normandy Park
- SeaTac

- 2009 3 Runway Noise Contour
- Noise Remedy Boundary

- 65 DNL
- 70 DNL
- 75 DNL
2009 3 Runway Extrapolation
2009 Baseline Noise Contours

- **2009 3 Runway Extrapolation Noise Contour:**
  - 2009 3 Runway noise contour is 5.99 square miles
    - 2.97 square miles is over airport property
    - 1.03 square miles is over residential land use
  - Preliminary counts of housing units within the contour
    - 65 DNL = 2,035 housing units (combination of single-family, multi-family, and mobile homes)
    - 70 DNL = 0 housing units
  - Comparison of 2009 3 Runway versus 2010 projected from the last Part 150 shows notable reduction in size of contour
    - Due to actual aircraft operations being much lower than projected and overall quieter fleet mix
2009 Contours vs 2010 Projected from 2002 Part 150

65 DNL

Legend:
- 2009 Actual Noise Contour
- 2009 3 Runway Noise Contour
- 2010 Projected Noise Contour (2002 P150)
- Noise Remedy Boundary
Review of Forecast

-2.2% at 5 years
1.6% at 10 years

2010 = 310,530
2016 = 363,860
2021 = 419,680
2016 Future Baseline Noise Contour

- 363,860 total operations
  - 14.2% increase over 2009 total operations (318,600)
  - Updated aircraft types to take into account changes that are anticipated to occur by 2016
- Other Operating Assumptions:
  - Used the same runway use as 2009 3-Runway extrapolation
  - Used the same flight tracks and run up areas as 2009 3-Runway extrapolation
  - Included future procedures that will have an affect on the 65 DNL
2016 Future Baseline

65 DNL

2016 Baseline Noise Contour
Noise Remedy Boundary
2016 Future Baseline

- Des Moines
- Normandy Park
- SeaTac

- 65 DNL
- 75 DNL
- 70 DNL

2016 Baseline Noise Contour
Noise Remedy Boundary

N
2016 Future Baseline
2016 Future Baseline Noise Contour

2016 Future Baseline Noise Contour:

- 2016 Future Baseline noise contour is 6.51 square miles
  - 3.04 square miles is over airport property
  - 1.24 square miles is over residential land use
- Preliminary counts of housing units within the contour
  - 65 DNL = 2,452 housing units (combination of single-family, multi-family, and mobile homes)
  - 70 DNL = 0 housing units
- Comparison of 2016 Future Baseline versus 2009 Baseline noise contours
  - 2016 slightly larger than both 2009 noise contours
  - Increased activity is offset by quieter overall fleet
2009 Baselines vs 2016 Future

- 2009 Actual Noise Contour
- 2009 3 Runway Noise Contour
- 2016 Baseline Noise Contour
- Noise Remedy Boundary

65 DNL
Temporary Measurement Program

Supplemental Measurement Program:
- 11 temporary sites were measured June 28 – July 9
  - Gather technical data to support the modeling
  - Responding to specific requests brought up by the public that are not already covered by one of the 25 permanent sites
  - Continuing to work on two additional sites on Vashon Island

<table>
<thead>
<tr>
<th>SITE</th>
<th>ADDRESS</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1046 S Elmgrove St, Seattle</td>
<td>3 Days</td>
</tr>
<tr>
<td>B</td>
<td>12112 26th Ave SW, Burien</td>
<td>3 Days</td>
</tr>
<tr>
<td>C</td>
<td>11401 10th Ave S, Seattle</td>
<td>3 Days</td>
</tr>
<tr>
<td>D</td>
<td>537 S 137th Pl, Seattle</td>
<td>3 Days</td>
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<td>E</td>
<td>17600 Sylvester Rd SW, Burien</td>
<td>3 Days</td>
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<tr>
<td>F</td>
<td>16856 Des Moines Memorial Dr, Burien</td>
<td>6 Days</td>
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<tr>
<td>G</td>
<td>360 SW 178th St, Normandy Park</td>
<td>5 Days</td>
</tr>
<tr>
<td>H</td>
<td>19438 Edgecliff Dr SW, Normandy Park</td>
<td>3 Days</td>
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<tr>
<td>I</td>
<td>19030 8th Ave S, SeaTac</td>
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</tr>
<tr>
<td>J</td>
<td>25617 Marine View Dr, Des Moines</td>
<td>3 Days</td>
</tr>
<tr>
<td>K</td>
<td>1811 SW 152nd St, Burien</td>
<td>3 Days</td>
</tr>
</tbody>
</table>
Temporary Measurement Program
Temporary Measurement Program
Temporary Measurement Program

- Maximum Noise Levels

Site C Measured Maximum Noise Level

- McDonnell Douglas MD80
- McDonnell Douglas MD11
- Embraer 190
- Dash 8D
- McDonnell Douglas DC10
- Canadair Jet 900
- Canadair Jet 700
- Canadair Jet 100
- Boeing 777-200
- Boeing 767-300
- Boeing 757-300
- Boeing 757-200
- Boeing 747-400
- Boeing 737-900
- Boeing 737-800
- Boeing 737-700
- Boeing 737-500
- Boeing 737-400
- Boeing 737-300
- Airbus A330
- Airbus A320
- Airbus A319
- Airbus A318
- Airbus A300

A-weighted Maximum Noise Level, dBA
Temporary Measurement Program

- Cumulative Noise Levels
  - Approximately 6,000 aircraft noise events recorded
  - Individual aircraft noise levels are available in measurement report

<table>
<thead>
<tr>
<th>Site</th>
<th>Aircraft DNL*</th>
<th>Community DNL</th>
<th>Number of Aircraft Events</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>62.6</td>
<td>62.1</td>
<td>1003</td>
</tr>
<tr>
<td>B</td>
<td>39.4</td>
<td>56.1</td>
<td>12</td>
</tr>
<tr>
<td>C</td>
<td>62.6</td>
<td>60.1</td>
<td>1042</td>
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<tr>
<td>D</td>
<td>59.7</td>
<td>60.0</td>
<td>1028</td>
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<td>E</td>
<td>36.4</td>
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<tr>
<td>F</td>
<td>57.0</td>
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<td>53</td>
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<tr>
<td>G</td>
<td>30.9</td>
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<td>7</td>
</tr>
<tr>
<td>H</td>
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<td>60.8</td>
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<td>63.4</td>
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<tr>
<td>J</td>
<td>61.1</td>
<td>57.1</td>
<td>615</td>
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<tr>
<td>K</td>
<td>33.9</td>
<td>52.3</td>
<td>13</td>
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</table>

* DNL value represents the measurement period only and should not be compared to an annual DNL value.
Status of Alternatives Analysis

- 2016 Future Baseline is what we will use to conduct alternative analysis
- No areas outside of the Noise Remedy Boundary are exposed to 65 DNL
- FAA policy for approving Part 150 programs requires demonstrating benefits within 65 DNL
Status of Alternatives Analysis

Runway Use Plan

- Port and FAA have been working on runway use plan
- Goal is to clearly state how and under what conditions the runways are expected to be used
- Acknowledges that wind, weather, and operational conditions may require deviations from the plan
## Status of Alternatives Analysis

**DRAFT Runway Use Plan**

<table>
<thead>
<tr>
<th>Low demand</th>
<th>Low demand</th>
<th>High demand</th>
<th>High demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrival RWY</td>
<td>Departure RWY</td>
<td>Arrival RWY</td>
<td>Departure RWY</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>South flow, good weather/op conditions</th>
<th>16C</th>
<th>16L</th>
<th>16R/L</th>
<th>16L/C</th>
</tr>
</thead>
<tbody>
<tr>
<td>South flow, lower visibility/ceiling</td>
<td>16R &amp; 16L</td>
<td>16L</td>
<td>16R &amp; 16L</td>
<td>16L</td>
</tr>
<tr>
<td>South flow, regular overnight usage</td>
<td>Limit usage of 16R during normal conditions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North flow, good weather/op conditions</td>
<td>34C</td>
<td>34R</td>
<td>34R &amp; 34L</td>
<td>34R &amp; 34C</td>
</tr>
<tr>
<td>North flow, lower visibility/ceiling</td>
<td>34C</td>
<td>34R</td>
<td>34C</td>
<td>34R</td>
</tr>
<tr>
<td>North flow, regular overnight usage</td>
<td>Limit usage of 34L during normal conditions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Operational requirements and/or safety may require other runway usage at any time. Additionally, when weather conditions so require, the KSEA approved Surface Movement Guidance and Control System (SMGCS) Plan shall be followed.
Update on Public Outreach

Next Public Workshop:
- October 27, 2010
- Mt. Rainier High School
- 6:30 pm – 8:30 pm
- Topics to be covered
  - 2009 Baseline noise contours
  - 2016 Future Baseline noise contour
  - Forecast of activity
  - Runway use plan
  - Brainstorming of additional alternatives
Update on Public Outreach

- **Limited-English Speaking Outreach:**
  - Hiring interpretive services for written and oral communication
  - 4 other languages (based on Highline School data)
    - Spanish
    - Vietnamese
    - Somali
    - Cambodian
  - Publicizing phone number for those in need of interpretive services
  - Distributing flyers to places or organizations that have contact with limited-English speakers
  - Part 150 website can be converted into other languages
  - Will continue to monitor the response to see if additional services are needed
Questions/Answers