Washington State
Aviation Planning Council

Long-Term Air Transportation Study (LATS)

Museum of Flight
Seattle, WA

April 3, 2008
Workshop Objectives

- Overview of the different roles airports play in the system
- Briefing on trends in commercial service
- Briefing on future activity anticipated in the aviation system
- Overview of how policies can provide a foundation for shaping aviation interests in the state transportation system
Commercial Airport Overview

David Hollander, SH&E
Washington is Served by 17 Airports that Receive Scheduled Passenger Airline Service

FAA definitions for commercial airports: Large Hub – accounts for over 1% of annual U.S. passenger boardings; Medium Hub – 0.25-1% annual U.S. passenger boardings; Small Hub – 0.05%-0.25% annual U.S. passenger boardings; Nonhub – over 10,000 but less than 0.05% annual U.S. passenger boardings; Non-primary – 2,500-10,000 annual passenger boardings

Note: Airports with air taxi and air charter services only not included
The Level of Available Airline Services Varies Widely Across the State’s Commercial Service Airports

Scheduled Passenger Airline Service at Washington State Commercial Airports
April 2008

<table>
<thead>
<tr>
<th>Airport</th>
<th>Daily Depts</th>
<th>Nonstop Dests</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Sea-Tac International</td>
<td>465</td>
<td>95</td>
</tr>
<tr>
<td>2 Spokane International</td>
<td>74</td>
<td>16</td>
</tr>
<tr>
<td>3 Tri-Cities</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>4 Kenmore Air Harbor SPB</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>5 Friday Harbor</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>6 Bellingham International</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>7 Roche Harbor SPB</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>8 Rosario SPB</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>9 Wes Lupien</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>10 Yakima Air Terminal</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>11 Lopez Island</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>12 Pullman/Moscow Regional</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>13 Wm. R. Fairchild International</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>14 Pangborn Memorial</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>15 Walla Walla Regional</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>16 Orcas Island</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>17 Boeing Field/King County</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: Airports with air taxi and air charter services only not included

Total Apts w/ Sched. Service: 648 148
Passenger Traffic Levels at Washington Airports Are Highly Concentrated at Sea-Tac and Spokane

**Washington State Commercial Service Airports Enplanements 2006**

- **Sea-Tac**: 15.0M
- **Spokane**: 1.6M
- **Tri-Cities**:
- **Bellingham**:
- **Yakima**:
- **Boeing Field**:
- **Pangborn**:
- **Lake Union SPB**:
- **Walla Walla**:
- **Pullman/Moscow**:
- **Wm. R. Fairchild**:
- **Wes Lupien**:
- **Friday Harbor**:
- **Rosario SPB**:
- **Lopez Island**:
- **Orcas Island**:
- **Roche Harbor SPB**:

*Source: Washington State Department of Transportation*
Commercial Aviation
Panel Discussion
Panelists

- **Large Hub Commercial Service Airport**
  - Michael Cheyne, SeaTac Airport

- **Small Community Commercial Service Airport**
  - Mike Boggs, Mead and Hunt

- **Commercial Service Airport**
  - Dick Ford, Washington Transportation Commission

- **Federal Regulations and Grant Assurance Overview**
  - Joelle Briggs, FAA
Large Hub Commercial Service Airport

Guest Speaker: Michael Cheyne, SeaTac Airport
2007/2008 Activity and Forecasting Growth

April 3, 2008
Purpose of Briefing

- 2007 – Review key activity characteristics of Sea-Tac Airport
- 2008 – Review anticipated activity
- Future – Identify trends that impact our growth
2007 Air Travel Activity

- Passenger traffic grew in 2007 to reach a new record high of nearly 31.3 million
- Total aircraft operations increased from 2006 levels

Airport Activity Highlights
2007 Calendar Year

<table>
<thead>
<tr>
<th></th>
<th>Year-end 2007</th>
<th>% Change v. 2006</th>
<th>% Change v. 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passengers</td>
<td>31,296,628</td>
<td>4.3%</td>
<td>17.0%</td>
</tr>
<tr>
<td>Domestic</td>
<td>28,585,819</td>
<td>3.9%</td>
<td>17.0%</td>
</tr>
<tr>
<td>International</td>
<td>2,710,809</td>
<td>9.4%</td>
<td>18.0%</td>
</tr>
<tr>
<td>Operations</td>
<td>347,046</td>
<td>2.1%</td>
<td>-4.8%</td>
</tr>
<tr>
<td>Air Freight (metric tons)</td>
<td>270,746</td>
<td>-6.4%</td>
<td>-5.5%</td>
</tr>
<tr>
<td>Domestic</td>
<td>181,994</td>
<td>-10.7%</td>
<td>-15.6%</td>
</tr>
<tr>
<td>International</td>
<td>88,752</td>
<td>4.0%</td>
<td>24.9%</td>
</tr>
<tr>
<td>Landed Weight (lbs)</td>
<td>21,014,161,000</td>
<td>3.2%</td>
<td>-3.0%</td>
</tr>
</tbody>
</table>

Data are preliminary and subject to minor adjustments
### 2007 Air Travel Activity

- Departures to regional airports in the Pacific Northwest declined 43% from 2000 to 2007
- Short-haul traffic decline mirrors national trends

#### Sea-Tac non-stop scheduled passenger departures to Portland, Vancouver (BC), and Washington cities

<table>
<thead>
<tr>
<th>Location</th>
<th>2000</th>
<th>2006</th>
<th>2007</th>
<th>% change vs. 2006</th>
<th>% change vs. 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spokane</td>
<td>11,500</td>
<td>8,607</td>
<td>8,632</td>
<td>0%</td>
<td>-25%</td>
</tr>
<tr>
<td>Bellingham</td>
<td>5,321</td>
<td>2,715</td>
<td>2,366</td>
<td>-13%</td>
<td>-56%</td>
</tr>
<tr>
<td>Pasco</td>
<td>5,362</td>
<td>2,629</td>
<td>2,518</td>
<td>-4%</td>
<td>-53%</td>
</tr>
<tr>
<td>Yakima</td>
<td>5,398</td>
<td>2,176</td>
<td>2,181</td>
<td>0%</td>
<td>-60%</td>
</tr>
<tr>
<td>Wenatchee</td>
<td>2,501</td>
<td>1,448</td>
<td>1,632</td>
<td>13%</td>
<td>-35%</td>
</tr>
<tr>
<td>Walla Walla</td>
<td>1,365</td>
<td>1,032</td>
<td>1,036</td>
<td>0%</td>
<td>-24%</td>
</tr>
<tr>
<td>Pullman</td>
<td>1,739</td>
<td>870</td>
<td>1,184</td>
<td>36%</td>
<td>-32%</td>
</tr>
<tr>
<td>Portland</td>
<td>19,489</td>
<td>13,394</td>
<td>13,589</td>
<td>1%</td>
<td>-30%</td>
</tr>
<tr>
<td>Vancouver, BC</td>
<td>10,449</td>
<td>5,602</td>
<td>5,180</td>
<td>-8%</td>
<td>-50%</td>
</tr>
<tr>
<td>Port Angeles(^2)</td>
<td>2,930</td>
<td>---</td>
<td>---</td>
<td>No service</td>
<td>No service</td>
</tr>
<tr>
<td>Moses Lake(^1)</td>
<td>1,825</td>
<td>---</td>
<td>---</td>
<td>No service</td>
<td>No service</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>67,879</td>
<td>38,473</td>
<td>38,318</td>
<td>-4%</td>
<td>-43%</td>
</tr>
</tbody>
</table>

Source: Official Airline Guide

\(^1\) Service discontinued February 2005. 2000 & 2001 data are estimated; complete data unavailable.

2007 Air Travel Activity Details

- **International**
  - Service began to Paris and Mexico City (7x/week each)
  - International passengers grew 9.4% from 2006 to 2007
  - Nonstop international passengers represent 8.7% of total airport passengers (including Canada)

- **Air Cargo Volumes**
  - Total cargo volumes fell 6.7% in 2007 versus 2006 although international air freight grew 4%

- **Airline Market Share (percentage point gain or loss)**
  - Horizon Air (+1.2), Delta Air Lines (+0.5), and Hawaiian Airlines (+0.5) gained the most market share in 2007
  - Alaska Airlines (-1.1), United Airlines (-1.0), and American Airlines (-0.5) lost the most market share
2008 Activity – Passengers

- Projected 2008 passengers: 32.5 million (+4.0% v. 2007)

Sea-Tac Passenger Projections

Long-term growth rates

<table>
<thead>
<tr>
<th>Passengers</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996 Master Plan</td>
<td>2.7%</td>
</tr>
<tr>
<td>Comprehensive Development Plan (CDP)</td>
<td>2.8%</td>
</tr>
<tr>
<td>FAA Terminal Area Forecast (TAF)</td>
<td>2.4%</td>
</tr>
<tr>
<td>Terminal Development Strategy (TDS)</td>
<td>3.1%</td>
</tr>
</tbody>
</table>
2008 Activity – Operations

- **Projected 2008 operations**: 359,000 (+3.5% v. 2007)

**Sea-Tac Operations Projections**

- **Annual Operations (Thousands)**
  - 1995: 386.5
  - 2000: 445.7
  - 2008 estimate: 359.0

**Long-term growth rates**

- **Operations**
  - 1996 Master Plan: 1.3%
  - Comprehensive Development Plan (CDP): 2.5%
  - FAA Terminal Area Forecast (TAF): 2.1%
  - Terminal Development Strategy (TDS): 2.2%
2008 Recent Trends and Revised Assumptions

- **Average aircraft size, or seats per departure, increasing**
  - Average annual seats per departure increasing from 123 to 139 (2003 vs 2007)
  - Larger aircraft purchases confirmed by Alaska (737-900, 172 seats)
  - Larger aircraft purchases confirmed by Horizon (DHC8-400, 76 seats)

- **Average load factor increasing**
  - Average annual load factor 72% - 81% (2003 vs 2007)

- **Revised assumptions for buffer and turn times**
  - Reasonable basis to minimize unplanned movements of people, baggage, aircraft
  - Time varies based on flight sector and airline characteristics

- **Increased buffer and turn time reduces turns per gate**
Revised fleet mix with larger gauge aircraft based on airline input

CDP Fleet Mix Comparison: Original vs. Revised

- Regional: <= 50 seats
- Regional: >50 seats
- Narrowbody: <= 150 seats
- Narrowbody: > 150 seats
- Widebody
- All-cargo
- General Aviation/Other

Original (prepared in 2003)
Revised (prepared in 2007)

Total CDP Annual Operations:
Original: 550,014
Revised: 546,582

Estimated annual operations
Future Implications For Sea-Tac Airport Operations

- Planning level of 550,000 OPS has not significantly changed
- Only the timing of date reached has changed
- Number of operations (OPS) ultimately the same, but slower demand on gates and airfield

![SEA Annual Operations Forecast vs Actual](chart.png)
Future – What Are Drivers of Passenger Growth?

- **Domestic versus international growth**
  - International growth grew 9.4% in 2007 but did not bring as many new passengers as the domestic growth of 3.9%

- **Sea-Tac as an O&D airport**
  - Sea-Tac is a high origin/destination (O&D) airport, with about 73% of passengers beginning or ending their trips here. Sea-Tac has about the same number of O&D passengers as Dallas/Ft. Worth (ranked 4th largest U.S. airport) and Denver (5th largest)

- **Base assumption for regional demand**
  - Demand related to local economy
  - Regional population and economic growth rate has been twice the national average since 1960
  - Region will add 1.7 million residents and 1.2 million jobs by 2040

- **CDP and Master Plan forecast process**
  - Approach based on trends in population, employment, and economic activity
Future – What Is Unconstrained Growth?

- FAA’s Terminal Area Forecast
  - Today all of the region’s commercial passenger activity is handled at Sea-Tac Airport
  - At some point in the future another airport will be needed for commercial passenger activity

- Typical master planning foundation

- Regional demand unconstrained

- WSDOT’s Long-Term Air Transportation (LATS) III Process

---

**Demand Unconstrained**

- Passengers (Million Annual)
- Time

---

Growth Forecast Discussion
Future – What Are Drivers of Capacity?

- Number of seats per aircraft operation
- Ratio of passengers to seats on an aircraft (load factor)
- Number of aircraft operations (@ calculated maximum delay level)
  - Calculated future long-range average annual delay of 16 minutes from simulation modeling
  - New York La Guardia Airport at 10 minutes today (one of the highest delay levels in United States)

Total Passengers = Average Seats X Average Load Factor X Operations
Future – Runway constraints to growth at Sea-Tac

- Maximum runway capacity of 550,000 operations in 20-25 years
- Results in 16 minutes of average annual delay based on simulation modeling
- Changes in aircraft size and load factor would alter total passengers handled on runways

Peak Demand Constrained by Runways

- 3rd Runway, 2007 Aircraft Size and Load Factor
- 3rd Runway, 2003 Aircraft Size and Load Factor

Passengers

0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0

Time

Passengers (Million Annual)
Growth Forecast Discussion

Future – Gate constraints to growth at Sea-Tac

- Gates may be our greatest constraint to growth due to large capital investment
- More efficient use of gates could increase capacity beyond current projections

![Diagram showing peak demand constrained by gates with labels for North Satellite 2, North Satellite 3, Concourse D, and North and South Satellite Gate Reconfigurations.](image-url)
Future – Curbside constraints to growth at Sea-Tac

- Analyzing options to extend capacity of existing curbs and drives
- Potential use of parking garage to relieve curb during peak periods in lieu of more costly curb widening
Future – Estimated Growth at Sea-Tac

- Unconstrained growth suggests that 550,000 aircraft operations could drive an airfield limit of 59 MAP (million annual passengers)
- This figure driven by current aircraft size and load factor
- Too early to predict 59 MAP
- Any of several factors could reduce figure or push it out years into the future
  - Road congestion getting to Sea-Tac
  - Opening of reliever airports
  - Increasing greenhouse gases/fuel prices driving higher fares/lower demand
  - Use of existing airports in the region
- Sea-Tac staff will continue to assess trends and brief the Council as requested
Small Community Commercial Service Airport

Guest Speaker: Mike Boggs, Mead and Hunt
Topics

• Small air service market background
• Trends in Washington and Oregon
• Northwest Regional Air Service Initiative
Airline environment
Small markets

Industry background
The airline’s financial landscape continues to be rough

Airline earnings (Billions)

Year

Source: Air Transport Association
85% of the airports handle 10.8% of the EPAX

<table>
<thead>
<tr>
<th>Airports</th>
<th>Number</th>
<th>Percent of airports</th>
<th>Percent of EPAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large hub</td>
<td>30</td>
<td>7%</td>
<td>70.1%</td>
</tr>
<tr>
<td>Medium hub</td>
<td>35</td>
<td>8%</td>
<td>19.1%</td>
</tr>
<tr>
<td>Small hub</td>
<td>67</td>
<td>16%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Non-hub</td>
<td>210</td>
<td>51%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Non-primary</td>
<td>71</td>
<td>18%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Total</td>
<td>413</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Aircraft economics

- The lower the seating capacity the higher the CASM.
- Higher operating costs (like fuel) have a greater impact on CASM.
- Lower ticket prices at larger competing airports make it hard to raise ticket prices for small aircraft service.

<table>
<thead>
<tr>
<th>Aircraft type</th>
<th>Seats</th>
<th>Stage length</th>
<th>CASM</th>
<th>Trip cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beech 1900</td>
<td>19</td>
<td>200</td>
<td>30¢</td>
<td>$1,140</td>
</tr>
<tr>
<td>EMB-120</td>
<td>30</td>
<td>200</td>
<td>25¢</td>
<td>$1,500</td>
</tr>
<tr>
<td>Dash 8 Q400</td>
<td>70</td>
<td>400</td>
<td>12.5¢</td>
<td>$3,500</td>
</tr>
<tr>
<td>CRJ 200</td>
<td>50</td>
<td>500</td>
<td>14¢</td>
<td>$3,500</td>
</tr>
<tr>
<td>B 737-300</td>
<td>130</td>
<td>1,000</td>
<td>9¢</td>
<td>$11,700</td>
</tr>
</tbody>
</table>

It is tough for airlines to make money in smaller markets.
Air service trends


Service at non-hub airports declined by greatest rate

57 communities lost all service

Source: APGDat (June 2001/2006); FAA
US regional carriers - fleet by aircraft type

Source: FAA Aerospace Forecast Fiscal Years 2008-2025
Regional aircraft orders & options

Few orders/options for smaller 50-seat regional jets; no orders for turboprops with less than 70 seats

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>'08</th>
<th>'09</th>
<th>'10</th>
<th>'11</th>
<th>'12</th>
<th>'13</th>
<th>'14</th>
<th>'15</th>
<th>'16</th>
<th>'17</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadair RJ 701</td>
<td>6</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Canadair RJ 900</td>
<td>16</td>
<td>35</td>
<td>38</td>
<td>36</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>153</td>
</tr>
<tr>
<td>Canadair RJ 100/200</td>
<td>6</td>
<td>25</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>39</td>
</tr>
<tr>
<td>Embraer RJ 170</td>
<td>16</td>
<td>15</td>
<td>27</td>
<td>25</td>
<td>18</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>105</td>
</tr>
<tr>
<td>Embraer RJ 190</td>
<td>13</td>
<td>26</td>
<td>34</td>
<td>27</td>
<td>23</td>
<td>25</td>
<td>22</td>
<td>13</td>
<td>1</td>
<td></td>
<td>209</td>
</tr>
<tr>
<td>Embraer RJ 135</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Embraer RJ 140</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Embraer RJ 145</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Dornier 328 Jet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Subtotal regional jet</td>
<td>45</td>
<td>88</td>
<td>133</td>
<td>96</td>
<td>69</td>
<td>29</td>
<td>25</td>
<td>22</td>
<td>13</td>
<td>1</td>
<td>521</td>
</tr>
<tr>
<td>Beechcraft 1900D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>de Havilland Dash 8 400</td>
<td>13</td>
<td>19</td>
<td>20</td>
<td>17</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>85</td>
</tr>
<tr>
<td>de Havilland Dash 8 200</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Embraer 120 Brasilia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>BAE Jetstream 41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Saab 340</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Subtotal turboprop</td>
<td>13</td>
<td>19</td>
<td>20</td>
<td>17</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>85</td>
</tr>
<tr>
<td>Total</td>
<td>58</td>
<td>107</td>
<td>153</td>
<td>113</td>
<td>75</td>
<td>35</td>
<td>29</td>
<td>22</td>
<td>13</td>
<td>1</td>
<td>606</td>
</tr>
</tbody>
</table>

Source: OAGBACK Aviation Solutions – as of May 5, 2008
Codeshare partnerships are vital to success in smaller markets

- Shared ticketing, gates, baggage handling, branding, reservations, frequent-flyer programs
- Cheaper tickets! Published through fares are usually lower than combining two local fares

<table>
<thead>
<tr>
<th>Hub</th>
<th>Regional airline</th>
<th>Hub airline</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEA</td>
<td>Horizon</td>
<td>Alaska</td>
</tr>
<tr>
<td>PDX</td>
<td>Horizon</td>
<td>None (AS)</td>
</tr>
<tr>
<td>SFO</td>
<td>United Express</td>
<td>UA</td>
</tr>
<tr>
<td>LAX</td>
<td>United Express</td>
<td>UA</td>
</tr>
<tr>
<td></td>
<td>American Eagle</td>
<td>AA</td>
</tr>
<tr>
<td>PHX</td>
<td>US Airways Express</td>
<td>US</td>
</tr>
<tr>
<td>SLC</td>
<td>Delta Connection</td>
<td>DL</td>
</tr>
<tr>
<td>DEN</td>
<td>United Express</td>
<td>UA</td>
</tr>
<tr>
<td></td>
<td>Frontier Jet Express</td>
<td>Frontier</td>
</tr>
</tbody>
</table>
Communities are competing for limited air service resources

<table>
<thead>
<tr>
<th>Community</th>
<th>Roswell, NM</th>
<th>Salem, OR</th>
<th>Yakima, WA</th>
<th>Modesto, CA</th>
<th>North Bend, OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airline and destination</td>
<td>AA DFW</td>
<td>DL SLC</td>
<td>DL SLC</td>
<td>UEX LAX</td>
<td>UEX SFO</td>
</tr>
<tr>
<td># of trips (equipment)</td>
<td>2 (ERJ)</td>
<td>2 (CRJ)</td>
<td>2 (CRJ)</td>
<td>4 (EM2)</td>
<td>2 (EMB-120)</td>
</tr>
<tr>
<td>Start date</td>
<td>09/07</td>
<td>06/07</td>
<td>06/07</td>
<td>05/06</td>
<td>07/08</td>
</tr>
<tr>
<td>Revenue guarantee</td>
<td>$4,200</td>
<td>$500</td>
<td>$0</td>
<td>$550</td>
<td>$650</td>
</tr>
<tr>
<td>Airline Travel Bank</td>
<td>$0</td>
<td>$556</td>
<td>$500</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Marketing funds</td>
<td>$0</td>
<td>$105</td>
<td>$150</td>
<td>$105</td>
<td>$100</td>
</tr>
<tr>
<td>Fee waivers</td>
<td>$0</td>
<td>$50</td>
<td>$100</td>
<td>$45</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$4,200</strong></td>
<td><strong>$1,211</strong></td>
<td><strong>$750</strong></td>
<td><strong>$700</strong></td>
<td><strong>$750</strong></td>
</tr>
</tbody>
</table>

Note - Dollar amounts in thousands

Communities are becoming more aggressive and offering larger support packages
What is going to happen to communities served by turboprops?

337 airports served with turboprop aircraft
157 airports have only turboprop service
Air service issues in OR & WA
From 2000 to 2006, outbound seats and passengers have declined significantly in select Washington and Oregon communities.

<table>
<thead>
<tr>
<th>Airport</th>
<th>Outbound seats % difference</th>
<th>Passenger % difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Astoria, OR</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Klamath Falls, OR</td>
<td>-25%</td>
<td>-14%</td>
</tr>
<tr>
<td>Moses Lake, WA*</td>
<td>-54%</td>
<td>-74%</td>
</tr>
<tr>
<td>Newport, OR</td>
<td>-100%</td>
<td>-100%</td>
</tr>
<tr>
<td>Pendleton, OR</td>
<td>-30%</td>
<td>-48%</td>
</tr>
<tr>
<td>Port Angeles, WA</td>
<td>-50%</td>
<td>-43%</td>
</tr>
<tr>
<td>Pullman, WA</td>
<td>-9%</td>
<td>-34%</td>
</tr>
<tr>
<td>Redmond, OR</td>
<td>-9%</td>
<td>40%</td>
</tr>
<tr>
<td>Roseburg, OR</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Salem, OR</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Wenatchee, WA</td>
<td>-49%</td>
<td>-20%</td>
</tr>
<tr>
<td>Yakima, WA</td>
<td>-56%</td>
<td>-36%</td>
</tr>
</tbody>
</table>
Lack of appropriate aircraft

Airlines operating 19-, 30-, and 37-seat aircraft in the western US

<table>
<thead>
<tr>
<th>Airline</th>
<th>19-seat B1900</th>
<th>30-seat EMB 120</th>
<th>37-seat Dash 8-200</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SkyWest</td>
<td></td>
<td>X</td>
<td></td>
<td>Possible available aircraft – phase out begins 2013</td>
</tr>
<tr>
<td>Horizon</td>
<td></td>
<td></td>
<td>X</td>
<td>Phase out by 2009</td>
</tr>
<tr>
<td>Big Sky</td>
<td></td>
<td></td>
<td></td>
<td>Out of business</td>
</tr>
<tr>
<td>Great Lakes</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Focus on EAS in Midwest</td>
</tr>
<tr>
<td>Mesa/Air Midwest</td>
<td></td>
<td></td>
<td></td>
<td>Focus on Kansas City operations - phase out of 19-seat aircraft</td>
</tr>
<tr>
<td>Kenmore</td>
<td></td>
<td></td>
<td></td>
<td>May be future possibility</td>
</tr>
</tbody>
</table>

- 19-seat B-1900s getting very old
- No new technology short-haul aircraft
Horizon Air’s transition to Q-400 aircraft is an issue for WA and OR.
Wenatchee - example

- Can the EAT market support a 105% increase in seats?
- What happens to passenger traffic if frequency is cut to 2 or 3 flights per day?
- What type of air service do business flyers need in markets like EAT?

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Seats</th>
<th>Daily frequency</th>
<th>Daily seats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dash-8 Q200</td>
<td>37</td>
<td>5 r/t</td>
<td>185</td>
</tr>
<tr>
<td>Dash-8 Q400</td>
<td>76</td>
<td>5 r/t</td>
<td>380</td>
</tr>
</tbody>
</table>
Summary – WA & OR sir service issues

- Service in secondary markets is changing
- Regional airline relationships and fleet trends are increasing small community service issues
- Industry trends making future service improvements difficult
Goals

- Improve air service to the OR and WA traveling community
- Provide better access from secondary markets in OR and WA to the national air transportation system
- Engage smaller communities in OR and WA in finding solutions to regional air service issues
Project scope

Inform
• Phase I: Tool Kit
  – Mentor Program
  – Air service DVD
  – Small Community Air Service Handbook

Analyze
• Phase II: Market Analysis
  – True market estimates
  – Pro forma analyses

Strategize
• Phase III: Strategies
  – Potential air service markets
  – Service provider options
  – Recommendations
Market analysis - questions

1. Where are air travelers traveling to/from today?

2. How many by origin and destination market?

3. Does it make economic sense to serve these communities?

Quantitative approach to evaluating the air service potential of each NWRASI market
Estimating air service demand (true market)

• Methodology
  – Identify the Airport Catchment Area (ACA) for each service market
  – Estimate the ACA’s “true market”

• Data sources
  – US DOT Airline Reports
  – Marketing Information Data Tapes (MIDT)
  – Other
Complete service pro forma for potential markets

• Assumptions:
  • Each pro forma is stand alone
  • Minimum service in a new market is 2 roundtrips to be viable
  • 19-, 30-, or 37-seat turboprop aircraft (74-seat if demand permits) and 50-seat regional jets
  • Codeshares with dominant hub carrier: PDX/SEA=AS/QX, SLC=DL, DEN/SFO=UA, PHX=US, BOI/GEG=universal codeshare
  • Best case scenario for NWRASI participants
### NWRASI service opportunities by hub and aircraft type

<table>
<thead>
<tr>
<th>Hub</th>
<th>19-seat</th>
<th>30-seat</th>
<th>37-seat</th>
<th>50-seat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boise</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Denver</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Phoenix</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Portland</td>
<td>6</td>
<td>2*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salt Lake City</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>San Francisco</td>
<td></td>
<td>2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Seattle</td>
<td>5</td>
<td>5*</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Spokane</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: * Communities that forecast to support three daily 19-seat frequencies are assumed capable of supporting two daily frequencies in 30-seat aircraft.

Service opportunities generally fall into two categories:

- Hubs using regional jets or 30- or 37-seat aircraft
- PDX and/or SEA using 19- or 30-seat aircraft
• All NWRASI markets have one or more service options that are system positive

• Many NWRASI service opportunities require 19- or 30-seat aircraft

• Service possibilities exist for regional jets and unique turboprop service for a few NWRASI communities

• All markets require a codeshare at the hub to survive

• All but one NWRASI markets will require either cross-subsidy or direct subsidy
WA and OR air service issues

- Airline and aircraft trends in the Pacific Northwest do not bode well for smaller communities
  1. No airline has a business plan that includes serving OR and WA markets with 19- to 30-seat aircraft to SEA or PDX
  2. NWRASI markets that cannot support regional jets (50-seat) or larger turboprops (74-seat) may lose service
  3. Air service in smaller markets is threatened by the weak economics of short-haul service combined with low-fare competition at larger airports

- Key to air service improvements and, in some cases, continued air service in OR and WA markets are:
  1. Developing airline interest in serving smaller markets in OR and WA with 19- to 30-seat aircraft
  2. Securing codeshare agreements at SEA and PDX with Alaska/Horizon
  3. Developing funding sources to address the economics of short-haul markets
NWRASI – What’s next?

1. Inform key stakeholders and decision makers – that’s you
2. Develop a high level committee to champion air service in WA and OR
3. Committee engage airlines, aircraft manufacturers, and legislators in the discussion
4. Committee formulate and an air service action plan for WA and OR

• Can the Washington Aviation Planning Council participate in this committee?
• If not, can the Washington Aviation Planning Council recommend committee members that have the status and links needed to be effective?
Thank you

Questions & discussion
Commercial Service Airport

Guest Speaker: Dick Ford, Washington Transportation Commission
Federal Regulations and Grant Assurance Overview

Guest Speaker: Joelle Briggs, FAA
Federal Grant Assurances

General Framework & Current Challenges

Presented to: Aviation Planning Council
By: Joelle Briggs, Regional Compliance Program Mgr.
Date: April 3, 2008
Compliance Program Background

• Civil Aeronautics Act of 1938, and Federal Aviation Act of 1958, Charged FAA with Responsibility for:
  – regulation of air commerce and
  – promotion, encouragement, and development of civil aeronautics.

• Recipient assumes obligations, through:
  – contract, or
  – restrictive covenants in property deeds
Airport Sponsor Assurances

• Different sets, depending on project
  – Airport Development
  – Planning
  – Noise

• Part A General
  – Required as part of application and incorporated as part of grant

• Part B Duration and Applicability
  – Useful life, not more than 20 years
  – No limit on land

• Part C Sponsor Certification
  – General Federal Requirements (Legislation, EO, Regulations)
#5, PRESERVING RIGHTS & POWERS

- Sponsor will not take or permit any action which would deprive it of any of the rights and powers necessary to perform the assurances in the grant agreement without the written approval of the FAA Administrator.

- Sponsor will not sell, lease, encumber or otherwise transfer or dispose of any part of its title or other interests in the property shown on Exhibit A to the application.

- Examples – Through-the-Fence; long-term leases; land or mineral rights sale; etc.
#19, Operation and Maintenance

- Operate the airport and all aeronautical facilities at all times in a safe and serviceable condition…
- Will not cause or permit action that would interfere with its use for airport purposes…
- Must get Secretary’s approval to close the airport for non-aeronautical purpose. (47107(a)(8)).
- Examples – drag racing, disrepair, etc
#21. Compatible Land Use 47107(a)(10)

- **Take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft.**

- **Examples – residential use on and adjacent to airport; residential TTF access;**
#22, Economic Nondiscrimination 47107(a)(1-5)

a. Make the airport available as an airport for public use on reasonable terms and without unjust discrimination to all types, kinds and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport.

b. Must require compliance in any agreement, contract, lease, or other arrangement under which a right or privilege at the airport is granted to any person, firm, or corporation to conduct or to engage in any aeronautical activity for furnishing services to the public.

c. Similarly situated FBOs must be subject to the same rates, fees, rentals, and other charges.
#25. Airport Revenues § 47107(L)

- All revenues generated by the airport and any local taxes on aviation fuel, established after 12/30/87, will be expended for the capital or operating costs of the airport…

- Policy published in February 1999
#23, *Exclusive Rights*
47107(a)(4)
AC 150/5190-6

- Will not permit or grant, either directly or indirectly, an exclusive right to conduct any aeronautical activities at the airport.

- **Examples** –
  - Exclusive Right in the FBO lease;
  - FBO leases all available space although not immediately used.
Permitted v. Prohibited Uses

**Permitted**
- Capital or operating costs of the airport
- Cost of marketing the airport
- Share of promotional expenses
- Certain directly or indirectly allocated costs.

**Prohibited**
- Sponsor charges airport more than the service is reasonably worth
- Sponsor gives away use of airport property for charitable purposes.
- Sponsor uses property without paying for it.
  - Maintenance or storage facility, equipment use
Top Compliance Challenges

- **Through-the-Fence Access**
  - #5 Preserving Rights and Powers
  - #21 Incompatible Land Use
  - #22 Economic Discrimination

- **Long Term Leasing**
  - #5, Preserving Rights and Powers
  - #25, Revenue Use

- **Revenue Use**
  - FMV for use (including sponsor’s use)
  - Returns to airport
Resources

www.faa.gov/airports_airtraffic/airports/regional_guidance/northwest_mountain/airport_obligations/

- Grant Assurances
- Compliance Handbook, Order 5190.6A
- Exclusive Rights AC 150/5190-6
- Minimum Standards AC 150/5190-7
- Policy and Procedures on Revenue Use
Discussion

- What are the key issues relating to commercial aviation?
State Airport Assessment

Guest Speaker: Paul Wolf, WSDOT
WSDOT-Managed Airport Study

April 3, 2008
Seattle
State-Managed Airport Study

Meeting Objectives

Objective 1
Describe study’s purpose

Objective 2
Present study processes and results

Objective 3
Outline resulting proposed policies
General Authority

... Assist in the development of aeronautics in this state and to encourage the establishment of airports and air navigation facilities. (RCW 47.68.070).
State-Managed Airport Study

System Planning Efforts

Long-Term Air Transportation Study (LATS)

State-Managed Airport Study

- Define the purpose and role of the state airports
- Conduct a detailed assessment of existing facilities
- Identify existing standards and operating procedures
- Modernize and standardize operating agreements and procedures and provide general development of new guidelines
- Integrate with the current statewide system plan efforts – LATS
- Provide policy recommendations to the Council
State-Managed Airport Study

Study Process

- Independent Assessment (WP #1)
- Performance Objectives (WP #2)
- Operating & Maintenance Procedures (WP #3)
- Recommendations
State-Managed Airport Study

Independent Assessment

Airport Inventory

- Aviation System
- Airport History
- Airport Functionality
- Airport Land Ownership
- Surrounding Area Land Uses
- Airport Facilities
- Airspace Obstructions
- Airport Operational Data
- Airport Operating Expenses
- Airport Replacement Costs

Airport Evaluation

System Assessment
140 Public Use Airports (LATS)
State-Managed Airport Study

Aviation System

17 State-Managed Airports

Ranger Creek State Airport

Rogersburg State Airport

Woodland State Airport

Washington State Department of Transportation
Airport History

- 6 airports constructed by WSDOT with FAA (1940-1960) for purpose of providing emergency landing facilities in remote locations (Cascade Mountains)

- 11 airports constructed by other organizations and/or individuals as private-use facilities. WSDOT assumed responsibility of these airports when the owner/sponsor became unable to continue operating the facility.
Airport Land Ownership

<table>
<thead>
<tr>
<th>Airports</th>
<th>Land Owners</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>WSDOT Aviation</td>
</tr>
<tr>
<td>3</td>
<td>Army Corps of Engineers</td>
</tr>
<tr>
<td>2</td>
<td>U.S. Forest Service</td>
</tr>
<tr>
<td>1</td>
<td>Bureau of Land Management</td>
</tr>
<tr>
<td>1</td>
<td>National Parks Service</td>
</tr>
<tr>
<td>1</td>
<td>State Parks Department</td>
</tr>
<tr>
<td>1</td>
<td>Private Individual</td>
</tr>
<tr>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

8 Airports Owned by WSDOT
## State-Managed Airport Study

### Airport Facilities

<table>
<thead>
<tr>
<th>Airports</th>
<th>Runway Surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Turf</td>
</tr>
<tr>
<td>4</td>
<td>Gravel</td>
</tr>
<tr>
<td>3</td>
<td>Asphalt</td>
</tr>
<tr>
<td>1</td>
<td>Sand / Beach</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

3 Paved Runways
State-Managed Airport Study

Airport Facilities

<table>
<thead>
<tr>
<th>Airports</th>
<th>Runway Surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>&lt; 1,500 ft</td>
</tr>
<tr>
<td>6</td>
<td>1,501 ft – 2,500 ft</td>
</tr>
<tr>
<td>8</td>
<td>2,501 ft – 5,000 ft</td>
</tr>
<tr>
<td>1</td>
<td>&gt; 5,000 ft</td>
</tr>
<tr>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

9 Runways Greater than 2,500 ft
<table>
<thead>
<tr>
<th>Airports</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>&lt; 500</td>
</tr>
<tr>
<td>3</td>
<td>501 – 1,000</td>
</tr>
<tr>
<td>2</td>
<td>&gt; 1,000</td>
</tr>
<tr>
<td></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

2 Airports with More than 1,000 Operations
## Operating Expenses

<table>
<thead>
<tr>
<th>Years</th>
<th>Operations and Maintenance Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995 – 1997</td>
<td>$1,791,458.00*</td>
</tr>
<tr>
<td>1997 - 2007 Total</td>
<td>$1,400,604.00</td>
</tr>
<tr>
<td>1997 – 2007 Annual Average</td>
<td>$245,543.00</td>
</tr>
<tr>
<td>1997 – 2007 Annual Average per Airport</td>
<td>$7,489.00</td>
</tr>
</tbody>
</table>

*Includes Capital Expenditures at Methow State = $1.4 M
- Volunteer work force lowered expenses, but increased liability
<table>
<thead>
<tr>
<th>Expenses</th>
<th>Expenditures</th>
<th>Percentage / Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent/Taxes/Utilities</td>
<td>$7,000</td>
<td>1.39</td>
</tr>
<tr>
<td>Program Support</td>
<td>$14,000</td>
<td>2.77</td>
</tr>
<tr>
<td>Insurance</td>
<td>$80,000</td>
<td>15.83</td>
</tr>
<tr>
<td>Vehicle expenditure</td>
<td>$19,000</td>
<td>3.76</td>
</tr>
<tr>
<td>Labor Cost</td>
<td>$141,000</td>
<td>27.90</td>
</tr>
<tr>
<td>Maintenance/ Capital Improvements</td>
<td>$244,300</td>
<td>48.35</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$505,300</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

Total available per airport (16) $15,268.00
12 Airports with “Adopt-an-Airport” Agreements
Estimated System Replacement Cost: Approx. $25 million
State-Managed Airport Study

Independent Assessment

System Inventory

Airport Evaluation
- Forest Firefighting Activity
- Access to Remote Communities
- Emergency Medical Usage
- Access to Recreational Areas
- Flight Safety Enhancement
- Stakeholder Interviews

System Assessment
State-Managed Airport Study

Forest Firefighting Activity

9 Airports
Access to Remote Communities

State-Managed Airport Study

8 Airports
Emergency Medical Usage

8 Airports

State-Managed Airport Study

Washington State Department of Transportation
High Value
- Bandera State Airport
- Easton State Airport
- Skykomish State Airport
- Tieton State Airport

Mid Value
- Lake Wenatchee State Airport
- Methow Valley State Airport
- Ranger Creek State Airport
- Woodland State Airport
State-Managed Airport Study

Independent Assessment

System Inventory

Airport Evaluation

System Assessment

Establish current value of state-managed airport system

- Does this system provide benefit to the State? (i.e. fulfill Aviation Policy)
- Which Airports provide the greatest benefit?
## Goals & Benchmarks (Benefits of Airports to State)

<table>
<thead>
<tr>
<th>Aviation Policy</th>
<th>Aviation Goals</th>
<th>Inventory Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preservation</strong></td>
<td>Provide transportation access to remote communities</td>
<td>– Access to remote communities</td>
</tr>
<tr>
<td></td>
<td>Provide for emergency management</td>
<td>– Support forest fighting activity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Access for emergency medical operations</td>
</tr>
<tr>
<td></td>
<td>Support local economies</td>
<td>– Access for recreational and tourist opportunities</td>
</tr>
<tr>
<td><strong>Safety</strong></td>
<td>Enhance the overall level of safety for the state aviation system</td>
<td>– Flight safety enhancement</td>
</tr>
<tr>
<td><strong>Mobility (Capacity)</strong></td>
<td>Provide sufficient airport capacity</td>
<td>– Based Aircraft</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Airport Operations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– WSDOT Aviation internal airport assessment</td>
</tr>
<tr>
<td><strong>Environment Protection</strong></td>
<td></td>
<td>State Level Considerations</td>
</tr>
</tbody>
</table>
## Facility Objectives - General

<table>
<thead>
<tr>
<th>Level of Contribution</th>
<th>Maintenance / Development Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>“No” Contribution</td>
<td>None; Facility has potential to be closed.</td>
</tr>
<tr>
<td>“Low” Contribution</td>
<td>Facility should be maintained to its present condition</td>
</tr>
<tr>
<td>“Moderate” Contribution</td>
<td>Facility should be maintained and developed to better fulfill its primary function and purpose</td>
</tr>
<tr>
<td>“High” Contribution</td>
<td>Facility should be maintained and developed to better fulfill its primary function and purpose; Facility also has a high potential to be developed to fulfill a higher function and purpose</td>
</tr>
</tbody>
</table>

Note: “Level of Contribution” assessments are made ONLY for comparative purposes with respect to other airports in the State-managed system. They should not be interpreted as an absolute determination of an airport’s “value” with respect to the state.
## Assessment Results

### Airport Stratification

<table>
<thead>
<tr>
<th>Level of Contribution</th>
<th>None</th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avey State Airport</td>
<td>Lester State Airport</td>
<td>Bandera State Airport</td>
<td>Methow Valley State Airport</td>
<td></td>
</tr>
<tr>
<td>Easton State Airport</td>
<td>Copalis Beach State Airport</td>
<td>Lake Wenatchee State Airport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ranger Creek State Airport</td>
<td>Little Goose State Airport</td>
<td>Lower Granite State Airport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skykomish State Airport</td>
<td>Lower Monumental State Airport</td>
<td>Rogersburg State Airport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stehekin State Airport</td>
<td>Sullivan Lake State Airport</td>
<td>Woodland State Airport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tieton State Airport</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** “Level of Contribution” assessments are made ONLY for comparative purposes with respect to other airports in the State-managed system.
### Facility Performance Objectives

**Stratification Level:** Level 2 (Moderate System Contribution)

<table>
<thead>
<tr>
<th>ARC</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft Size</td>
<td>Small (under 12,500 lbs)</td>
</tr>
<tr>
<td>Runway Classification</td>
<td>Utility</td>
</tr>
<tr>
<td>Runway Length</td>
<td>2,400’ recommended</td>
</tr>
<tr>
<td>Runway Width</td>
<td>100’ recommended</td>
</tr>
<tr>
<td>Runway Surface</td>
<td>Turf/Gravel/Sand</td>
</tr>
<tr>
<td>Taxiway</td>
<td>No Objective</td>
</tr>
<tr>
<td>Approach Categories</td>
<td>Visual (daytime only)</td>
</tr>
<tr>
<td>Visual Aids / NAVAIDS</td>
<td>Runway edge reflectors; Wind sock</td>
</tr>
</tbody>
</table>

**Airport Design**
- To the greatest extent practicable, the airport should meet the approach surface requirements of FAR Part 77
- To the greatest extent practicable, the airport should maintain appropriate Runway Safety Areas (FAA AC 150/5300-13)

**General Maintenance / Development Recommendation**
Facility should be maintained and developed to better fulfill its primary state functions

### Activity Performance Objectives

**Higher Use** - Flight Safety Enhancement
- Clear approaches (aircraft/ helicopter)
- Aircraft parking area(s)
- Weather reporting
- Telephone
- Emergency Shelter

**Moderate Use** - Provide Access to Recreational Areas
- Water
- Good landside accessibility from road to airport (paved or graded gravel road)
- Restrooms / showers
- Auto parking
- Campsites / picnic tables / firepits

**Lower Use** - Support Forest Firefighting Operations
- Command unit trailer pad
- Area(s) for firefighter camping and staging
- Complete grass coverage of all areas to minimize dust

**- Access for Emergency Medical Operations**
- Paved / marked / lighted helipad
- Floodlighting for helipad area
- Appropriate emergency airport signage on surrounding roadways

**- Provide Access to Remote Areas**
- Emergency Shelter

- Objective Met

- Objective Recommended

- Not applicable or recommended
Policy 1 - The primary function of the WSDOT Aviation-Managed Airport System is to fulfill the stated purposes of the State Aviation Policy.

This policy acknowledges that the state-managed airport system exists to benefit the State of Washington through meeting the stated purposes of the State Aviation Policy of preservation, safety, mobility, environment, and stewardship.

Current defined benefits include the following:

- Support forest fighting activities
- Provide transportation access to remote communities
- Provide access for emergency medical operations
- Provide access to recreational areas
- Enhance the overall level of safety for the state aviation system
Policy 2 - WSDOT Aviation will operate and maintain the airports within the state-managed system only to the level to sustain the fundamental benefits for the State of Washington as prescribed by the State Aviation Policy.

While WSDOT Aviation has no mandate to maintain and operate the state-managed airports to meet the demands of commercial and/or general aviation operations, this does not preclude non-WSDOT Aviation public and private entities from developing and operating the airports beyond that which the Aviation Division currently does as required by the State Aviation Policy.
Policy 3 - WSDOT Aviation will consider the acquisition or disposal of airports only within the context of fulfilling the stated purposes of the State Aviation Policy.

WSDOT Aviation should not and cannot be held to the standard of assuring that all financially distressed airports within the state remain open; there must be some overriding benefit to the state that will be realized through the acquisition of a given airport.

Airport acquisition and disposal decisions related to the state-managed airport system should be based solely on LATS recommendations, unless overriding considerations can be shown otherwise.
Policy 4 - WSDOT Aviation will not endorse the establishment of independent operators conducting aeronautical activities on land adjacent to, but not a part of, any properties associated with the state-managed airport system.

While the Federal Aviation Administration (FAA) does not prohibit “through-the-fence” operations, they do strongly discourage it.

- Revenue streams and competition
- Access and security
Future Planning Processes

- LATS (Phase III)
- Airport Layout Plans (State-Managed Airports)
- Ongoing Individual Planning Initiatives (NPIAS, Master Plans, etc.)

Future Aviation System Tools

- Airport Operating Handbook
- Airport Aid Handbook
- System User Online Interfaces (surveys, schedules, plans, etc.)

All future actions offer opportunities for public input
Future Steps

State Airport Operating Handbook

- Kick-off March ‘08
- Will complete WSDOT Aviation’s initial strategic planning efforts for the state-managed system
- Primary purpose to produce standards for the operation and maintenance of the system (helps ensure accountability and sustainability)
- Establish tracking tools for system performance
- Formalize system user feedback conduits
- Examples
Public Input Opportunities

- Aviation advisory committee
- Three public meetings
- Online data review / input interfaces
- Final document public comment period
For more information: www.wsdot.wa.gov/aviation

or

Paul Wolf
Airport Construction Project Manager
360-651-6313
WolfP@wsdot.wa.gov
Looking Ahead

David Hollander
SH&E
What We’ve Done and Where We’re Going

**Phase I**

- Inventory of Airport Activity/ Facilities/ Services
  - Trends
  - Aviation Forecasts by Airport/Region
  - Capacity Analysis by Airport/Region
  - Capacity Shortfalls

**Phase II**

- Identify Policies and Strategies to Satisfy Forecast Demand
  - Establish Criteria to Assess Alternatives
  - Apply Criteria to Evaluate Alternatives

**Phase III**
Nine Commercial/Regional Service Airports Will Exceed Capacity Constraints by 2030

- Orcas Island (Terminal / Aircraft Storage)
- Anacortes (Terminal)
- Harvey Field (Airfield)
- Kenmore Air Harbor SPB (Airfield / Terminal / Aircraft Storage)
- Sea-Tac International (Airfield / Terminal / Aircraft Storage)
- Boeing Field/ King County Int’l (Airfield / Terminal / Aircraft Storage)
- Tri-Cities (Terminal)
- Felts Field (Aircraft Storage)
- Pullman/ Moscow Regional (Aircraft Storage)
Fifteen General Aviation Airports Will Exceed Their Aircraft Storage Capacity by 2030
A key role of the Governor’s Council will be to help identify strategies and State policies to ensure that Washington’s future aviation needs can be satisfied
Hierarchy of Alternative Strategies for Tackling Capacity Constraints/Shortfalls

<table>
<thead>
<tr>
<th>USE EXISTING FACILITIES</th>
<th>EXPAND FACILITIES</th>
<th>NEW FACILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand Management at Constrained Airport</td>
<td>Expansion of Constrained Airport</td>
<td>Construct New Airport in Region</td>
</tr>
<tr>
<td>Use of New Technology at Constrained Airport</td>
<td>Expansion of Alternate Airport</td>
<td></td>
</tr>
<tr>
<td>Use of Surrounding Airports to Absorb Excess Demand</td>
<td>Examples could include:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>– New or Extended Runway</td>
<td></td>
</tr>
<tr>
<td></td>
<td>– Passenger Terminal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>– Additional Aircraft Storage</td>
<td></td>
</tr>
</tbody>
</table>
Can Capacity Shortfalls be Mitigated Through Strategies That Promote More Efficient Use of Existing Facilities?

Examples would include:

- Advanced air traffic control technologies
- Demand management programs that spread activity more evenly across the day, or create incentives to up-gauge aircraft size
What is the Potential for Surrounding Airports to Absorb Excess Demand?

- Are there surrounding airports in close proximity to the constrained airport?

- Do these alternate airports have the necessary facilities/infrastructure to accommodate the excess demand (i.e., runway length, available land for terminal or aircraft storage)?
  - If not, what is the cost/feasibility of enhancing existing facilities?
  - Would this require a change in airport role?

- Do these alternate airports have available capacity to accommodate expanded activity (e.g., what % of airfield capacity is not being utilized by forecast demand and therefore available for additional activity)?
Can the Constrained Airport be Expanded to Accommodate Forecast Activity?

- When will the airport reach its capacity limits?

- What is the critical capacity constraint (airfield capacity, terminal capacity, hangar storage capacity, etc.)?

- What is the feasibility of adding the needed capacity at the constrained airport?

- What are the potential obstacles?
  - Physical limitations
  - Excessive cost
  - Environmental issues
  - Political factors
The Ability to Shift Demand to Surrounding Airports May Depend on Regional Conditions

While a region as a whole may be below maximum capacity, constrained airports can be concentrated in specific geographic areas, which can limit the ability to shift activity among airports.
What Criteria Might be Applied to Evaluate Alternative Strategies and Associated State Policies?

- Accessibility/Proximity to Users
- Compatibility with Surrounding Land Use
- Environmental Impacts
- Community Acceptance
- Cost
- Net Capacity Benefit
Policy Discussion

John Shambaugh

WSDOT Aviation
Review of Aviation Policy White Paper

- Do you have questions about the information presented in the Aviation Policy White Paper?
- Where do you see gaps in previous state aviation planning and policy development efforts?
Aviation Issues Identified To Date

- Economic importance of the aviation system
- Role of new technology
- Preservation
- Safety
- Stewardship
- System Planning
- Funding
- Environmental issues
Policy Framework Discussion

- Given the information presented to date, what do you see as the most pressing issues facing the state’s aviation system?
- Are these the right issues to address?
- What issues have we not yet addressed?
Proposed Subcommittee Structure

- Land Use and Environment
- Capacity and Technology
- Implementation and Legislation
Next Steps

- Review Work Plan

- Council Meetings
  - Workshop #4: Forecast and Capacity
    May 1, 2008 – Seattle
  - Workshop #5: Policy Development
    June 5, 2008 – Spokane