Regional Aviation Baseline Study
Today’s Briefing

• Scenario Development & Assessment
• Analysis of Region’s Airports
• Public Engagement & Next Step
Near-Term Challenges

**CORONAVIRUS ECONOMY DAILY CHART**

**Fewer travelers pass through Sea-Tac Airport**

The average daily number of travelers passing through Seattle-Tacoma International Airport last week fell to 17,200, down 800, or 4%, from the prior week. That represents just 27% of the passenger volume in the comparable week last year.

*Week’s daily average, for Sunday through Saturday*

**TSA-screened passenger volume**

<table>
<thead>
<tr>
<th>Date</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/5</td>
<td>42,500</td>
</tr>
<tr>
<td>2/2</td>
<td>40,000</td>
</tr>
<tr>
<td>3/1</td>
<td>30,000</td>
</tr>
<tr>
<td>4/5</td>
<td>20,000</td>
</tr>
<tr>
<td>5/3</td>
<td>17,200</td>
</tr>
</tbody>
</table>

**Aircraft takeoffs and landings**

<table>
<thead>
<tr>
<th>Date</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/5</td>
<td>1,200</td>
</tr>
<tr>
<td>2/2</td>
<td>1,160</td>
</tr>
<tr>
<td>3/1</td>
<td>840</td>
</tr>
</tbody>
</table>

*Source: Port of Seattle*
Long-Term Commercial Aviation Trends

Enplanements 1976 - 2018

- 3.4% Annual Growth

Source: International Civil Aviation Organization (ICAO) for the U.S. Total, FAA Terminal Area Forecast (TAF) for SEA.
Combined Sea-Tac and Paine Field Commercial Capacity/Demand

- Includes Sea-Tac 2027 SAMP Near Term Projects
- Includes Sea-Tac SAMP Long Term Vision Projects

Passenger Enplanement Forecast

- 2017: 20M
- 2022: 22M
- 2027: 24M
- 2032: 25M
- 2037: 27M
- 2042: 29M
- 2047: 31M
- 2050: 33M

Gap Analysis
- 22m gap
- 27m gap
Scenarios Analyzed to Address 2050 Demand

Scenario 3: Meet 100% of demand
- 55 million

Scenario 2: Meet 80% of demand
- 44 million

Scenario 1: Baseline (50-60% of demand)
- 33 million
  - 28 million

2050 Passenger Enplanement Forecast
Scenario 1: Baseline (50-60% of Demand)

Existing Commercial Facilities

Sea-Tac: Implements range of near-term and long-term projects

Paine Field: Maintains current capacity

New Commercial Capacity Required

No additional facilities
Scenario 2: Meet 80% of Demand

**Existing Commercial Facilities**

- **Sea-Tac:** Implements near-term and long-term projects
- **Paine Field:** Maintains current capacity

**New Commercial Capacity Required**

1 airport with 2 runways

- San Jose Intl.
- Sacramento Intl.

2 single-runway airports

- John Wayne
- Bellingham Intl.
Scenario 3: Meet 100% of Demand

Existing Commercial Facilities

**Sea-Tac:** Implements near-term and long-term projects

**Paine Field:** Maintains current capacity

New Commercial Capacity Required

1 airport with 3 runways

Sea-Tac International

Multiple airports totaling 3 runways
Impacts of Delay

Average Annual Aircraft Delay (minutes per operation)

- Based on airfield capacity: airspace, runways, taxiways
- Not impacted by increase in gates
- Activity levels higher than 490,000 would likely involve FAA management of operations and/or “slot controls” like JFK, LGA and DCA
Demand Factors

Increasing population and jobs
• The region is expected to grow by 1.8m people by 2050, reaching a total population of 5.8m
• An anticipated 1.2 million more jobs are forecast by 2050

Personal versus business travel
• Survey results: Respondents use airports more for personal travel than business travel
• More than 50% of respondents reported traveling 1-4 times/year for personal reasons
• Most do not travel for business or do <1 per year

Regional travel
• Regional high-speed rail estimated 1.7 - 3 million annual intercity trips by 2040
• Could replace regional air trips for estimated 68,000 to 124,000 passengers

Connecting traffic
• Approximately 1/3 of passengers are connecting to other destinations
Fuel Consumption

Since 1960:
- Engine fuel consumption has decreased by 49%
- Future fuel types and efficiency should reduce fuel consumption

2015 estimated regional GHG aviation emissions*:
- 654,600 metric tons
- Reflects approximately 2% of total regional emissions and 5% of regional transportation emissions

* Source: Puget Sound Clean Air Agency Greenhouse Gas Emissions Inventory
Commercial Aircraft Noise

- Newer aircraft models have lower noise emissions
- Higher volume of operations mean that airport impacted communities experience more consistent noise at lower decibel levels
- Scale of impacts are location dependent

Development of aircraft noise emissions

Lateral noise level standardized to 500 kN EPNdB

-88 %

(−30 dB)

Year of registration


Number of seats

200 400 500 800

B727-120
B727-100
A320-800
A380-800
B787-9
B777-300ER
B747-8
B747-100
A319
A350

* EPNdB: Effective perceived noise in decibels
Source: CFD Software E + F GmbH Berlin

www.bdl.aero
Economic Impact

Scenario 1: Would support an additional $4 - $9 billion in economic activity and 27,000 – 61,000 added jobs.

Scenario 2: Would support an additional $20 billion in economic activity and 135,000 added jobs.

Scenario 3: Would support an additional $31 billion in economic activity and 209,000 added jobs.

Economic benefit of airport activity includes direct and indirect jobs and labor and business income.
## Comparison of Scenarios

<table>
<thead>
<tr>
<th>Scenario 1: Baseline</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-60% of 2050 demand met</td>
<td>80% of 2050 demand met</td>
<td>100% of 2050 demand met</td>
</tr>
<tr>
<td><strong>460-540k</strong> annual operations</td>
<td><strong>720k</strong> annual operations</td>
<td><strong>900k</strong> total operations</td>
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<tr>
<td>2 commercial airports</td>
<td>2-4 commercial airports</td>
<td>2-5 commercial airports</td>
</tr>
<tr>
<td>0 additional runways</td>
<td>2 additional runways</td>
<td>3 additional runways</td>
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<tr>
<td><strong>5%-24%</strong> increase in activity</td>
<td><strong>65%</strong> increase in activity</td>
<td><strong>106%</strong> increase in activity</td>
</tr>
<tr>
<td><strong>28-33 million</strong> enplanements</td>
<td><strong>44m</strong> enplanements</td>
<td><strong>55m</strong> enplanements</td>
</tr>
<tr>
<td><strong>22-27 million</strong> unmet enplanements</td>
<td><strong>11 million</strong> unmet enplanements</td>
<td>0 unmet enplanements</td>
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<tr>
<td><strong>$4-9 billion</strong> added annual benefit</td>
<td><strong>$20 billion</strong> added annual benefit</td>
<td><strong>$31 billion</strong> added annual benefit</td>
</tr>
<tr>
<td><strong>27-61k</strong> added jobs</td>
<td><strong>135k</strong> added jobs</td>
<td><strong>209k</strong> added jobs</td>
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</table>

Comparisons are to 2018
29 Regional Airports
Airport Evaluation Criteria

All 29 regional airports were analyzed for their technical ability to potentially accommodate additional commercial air service.

Evaluation criteria included:

— Ability to accommodate at minimum one 7,000 ft. runway
— Adjacent development
— Airspace analysis
— Flood zone constraints
— Impact to aerospace manufacturing
— Transportation infrastructure
— Proximity to population and jobs
— Ownership considerations
No regional airports demonstrated the ability to support a three-runway airport.

Airports that could meet technical requirements for providing additional commercial capacity:

— Paine Field
— Arlington Municipal
— Bremerton National
— Tacoma Narrows

Note: First step for any current airport to provide commercial air service is for the airport owner to conduct an FAA Airport Master Plan with a commitment from at least one airline to serve the airport.
## Airport System Proximity to Population & Jobs (2050)

<table>
<thead>
<tr>
<th>Airports</th>
<th>Population &lt;60 mins. drive time</th>
<th>Employment &lt;60 mins. drive time</th>
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<tbody>
<tr>
<td></td>
<td>#</td>
<td>% of total</td>
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<tr>
<td>Sea-Tac + Paine Field</td>
<td>4,090,000</td>
<td>70%</td>
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<tr>
<td>+ Arlington Municipal</td>
<td>4,134,000</td>
<td>71%</td>
</tr>
<tr>
<td>+ Bremerton Municipal</td>
<td>4,904,000</td>
<td>84%</td>
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<tr>
<td>+ Tacoma Narrows</td>
<td>5,333,000</td>
<td>92%</td>
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Source: PSRC
### What’s Next?

<table>
<thead>
<tr>
<th></th>
<th>Q1 2019</th>
<th>Q2 2019</th>
<th>Q3 2019</th>
<th>Q4 2019</th>
<th>Q1 2020</th>
<th>Q2 2020</th>
<th>Q3 2020</th>
<th>Q4 2020</th>
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<tr>
<td><strong>Regional Public Survey</strong></td>
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<td>Results in October</td>
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<td><strong>Virtual Public Meetings</strong></td>
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<td>September 23, 5 – 6:30 p.m.</td>
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<td>September 30, 8 – 9:30 a.m.</td>
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<td><strong>Online Open House</strong></td>
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<td>September 21 - October 19</td>
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### Technical Analysis

**Airport & Aviation Activity**
- Existing conditions
- Aviation sector analysis
- Regional forecasts

**Aviation Issues Analysis**
- Airspace flow analysis
- Future capacity needs
- Economic analysis

### Scenario Evaluation

- Identify & evaluate future scenarios
- Analysis of existing airports

### Project Completion

- Community perspectives
- Publish Final Report

[https://www.psrc.org/aviation-baseline-study](https://www.psrc.org/aviation-baseline-study)
Thank you

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