Regional Aviation Baseline Study
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Study Objectives

— Identify the roles of each airport and the aviation activities within the region based on existing planning efforts
— Provide a regional perspective on how aviation activities at airports in the region interact with each other, the community and the broader economy
— Obtain input from stakeholders about their needs and build a common understanding about aviation and airspace constraints
— Identify future aviation needs within the central Puget Sound Region and set the stage for future planning
### Study Phases

<table>
<thead>
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<th>Q1 2019</th>
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### Public Involvement

- Stakeholder outreach meetings
- Technical Working Group
- Project Completion
- Media briefings
- Community meetings
- Public survey
- Online open house
Study Area: 29 Regional Airports
Regional Forecasts

- **Commercial**: Scheduled passenger service
- **Air Cargo**: Freight and mail carried in the lower hold of passenger aircraft and on dedicated freighters
- **General Aviation**: Business, flight instruction, medical, emergency, law enforcement, recreation, and tourism

Forecast represents regional demand for service in 2050 if unconstrained by airport or airspace capacity
Commercial Forecast

Enplanements in the Central Puget Sound Region (millions)

Source: WSP USA Analysis. Enplanements = passenger boardings
Air Cargo Forecast

Commercial Air Cargo Handled in the Central Puget Sound Region (metric tons)

- 2018: 552,000
- 2050: 1,300,000 (Unconstrained)

Source: WSP USA Analysis
General Aviation Forecast

General Aviation Operations in the Central Puget Sound Region

Source: FAA ATADS, NFDC, FAA Aerospace Forecast, and WSP. Operations = takeoffs + landings
Regional Air Traffic

Sea-Tac
- Arrivals
- Departures

Other
- Arrivals
- Departures

Video represents approx. 1.5 hours
Airports in Close Proximity

Sea-Tac, Renton and Boeing Field are home to the region’s most challenging airspace
Airspace Constraints

- Terrain, such as Cascade Range
- Proximity of airports to each other
- Historic noise abatement
- Poor weather conditions
- Airfield limitations
- Existing air traffic flow patterns
- Restricted use areas, such as military
- Traffic origin/destinations
- Volume of air traffic in and out of Sea-Tac
- Air traffic procedures and complexities
Combined Sea-Tac and Paine Field Commercial Capacity/Demand

- 22m gap
- 27m gap

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

Commercial Service Gap Analysis
### Assessment of commercial service passenger needs through 2050

#### Puget Sound Central Region

<table>
<thead>
<tr>
<th>Year</th>
<th>Forecast of passenger enplanements</th>
<th>2017</th>
<th>2022</th>
<th>2027</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Passenger enplanements (high forecast)</td>
<td>22,450,500</td>
<td>25,400,000</td>
<td>31,100,000</td>
<td>55,600,000</td>
</tr>
</tbody>
</table>

Source: WP #1, WSP  
Note: Low forecast for 2050 is 49,300,000 enplanements based on unconstrained forecast

#### Potential passengers accommodated

<table>
<thead>
<tr>
<th>Year</th>
<th>Puget Sound Central Region</th>
<th>2017</th>
<th>2022</th>
<th>2027</th>
<th>2050</th>
</tr>
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<tr>
<td></td>
<td>PAE + Sea-Tac</td>
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</tr>
<tr>
<td></td>
<td>1-Constrained 2027 SAMP Near Term Projects Scenario (^1,2)</td>
<td>23,050,000</td>
<td>25,655,000</td>
<td>28,600,000</td>
<td>28,600,000</td>
</tr>
<tr>
<td></td>
<td>2-Constrained SAMP Long Term Vision Scenario (^1,3)</td>
<td>23,050,000</td>
<td>25,655,000</td>
<td>28,600,000</td>
<td>33,600,000</td>
</tr>
</tbody>
</table>

Source: SAMP 2016, PAE Supplemental EA, 2018

#### Gap (demand-supply)

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<tr>
<th>Year</th>
<th>Puget Sound Central Region</th>
<th>2017</th>
<th>2022</th>
<th>2027</th>
<th>2050</th>
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<tr>
<td></td>
<td>1-Constrained 2027 SAMP Near Term Projects Scenario (^1,2)</td>
<td>559,500</td>
<td>255,000</td>
<td>-2,500,000</td>
<td>-27,000,000</td>
</tr>
<tr>
<td></td>
<td>2-Constrained SAMP Long Term Vision Scenario (^1,3)</td>
<td>599,500</td>
<td>255,000</td>
<td>-2,500,000</td>
<td>-22,000,000</td>
</tr>
</tbody>
</table>

Note:  
\(^1\) Assumes PAE accommodates 600,000 annual enplanements, per Supplemental EA  
\(^2\) Based on Sea-Tac SAMP Near-Term Projects, accommodating up to 28 million annual enplaned passengers  
\(^3\) Based on Sea-Tac SAMP Long-Term Vision, possibly accommodating up to 33 million annual enplaned passengers
60 Minute Drive Time to Sea-Tac

Sea-Tac in 2017

- People within an hour: 2,500,835 (62%)
- People outside an hour: 1,565,165 (38%)

Sea-Tac in 2050

- People within an hour: 2,472,531 (42%)
- People outside an hour: 3,351,469 (58%)
60 Minute Drive Time to Sea-Tac & Paine Field

**Sea-Tac & Paine Field in 2017**
- People within an hour: 3,355,813 (83%)
- People outside an hour: 710,187 (17%)

**Sea-Tac & Paine Field in 2050**
- People within an hour: 4,090,318 (70%)
- People outside an hour: 1,733,682 (30%)
Commercial Service Challenges

— Less reliable access to commercial air service for all of Pierce and Kitsap counties

— Sea-Tac does not have capacity to meet the regional unconstrained 2050 forecast of 55 million enplanements (SAMP’s Near-Term Projects could accommodate about 28 million enplanements)

— Due to airspace and landside constraints, Boeing Field (KCIA) has limited ability to accommodate more passengers or expand

— Paine Field is currently limited to 600,000 annual enplanements (2018 Sup. EA)
## Air Cargo Gap Analysis

### Assessment of air cargo needs through 2050

<table>
<thead>
<tr>
<th></th>
<th>Air Cargo Projections</th>
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<tbody>
<tr>
<td>PS Central Region</td>
<td></td>
<td>2017</td>
<td>2022</td>
<td>2027</td>
<td>2037</td>
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<tr>
<td>Forecasted Air Cargo Volumes (Metric Tonnes)</td>
<td>539,600</td>
<td>650,000</td>
<td>750,000</td>
<td>963,000</td>
<td>1,319,000</td>
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<td>Facility Requirements for Air Cargo Warehousing (SF)</td>
<td>640,467</td>
<td>847,300</td>
<td>983,500</td>
<td>1,263,700</td>
<td>1,731,200</td>
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</table>

Source: WP#1 and #2, WSP
Based on unconstrained forecast

<table>
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<tr>
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<th>Air Cargo Accommodated</th>
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<tr>
<td>Sea-Tac</td>
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<td>2017</td>
<td>2022</td>
<td>2027</td>
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<tr>
<td>1-Constrained SAMP Near Term Projects Scenario ¹</td>
<td>354,660</td>
<td>354,660</td>
<td>809,700</td>
<td>809,700</td>
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<td>2-Constrained SAMP Long Term Vision Scenario ²</td>
<td>354,660</td>
<td>354,660</td>
<td>809,700</td>
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Source: SAMP 2016

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<td>1-Constrained SAMP Near Term Projects Scenario ¹</td>
<td>-285,807</td>
<td>-492,640</td>
<td>-173,800</td>
<td>-454,000</td>
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Note: ¹Based on Sea-Tac SAMP Near-Term Project, includes redevelopment of the existing north cargo area, with two additional off-warehouses and redevelopment of the south cargo warehouse. KCIA has no cargo warehousing nor proposed in the future.
²Based on Sea-Tac SAMP Long-Term Vision, includes the redevelopment of the existing north cargo area, the South Aviation Support Area (SASA), and the three off-airport warehouses. KCIA has no cargo warehousing nor proposed in the future.
Air Cargo Challenges

— Limited on-airport cargo facilities at Sea-Tac (Near-Term Projects would add 420,000 SF of off-airport cargo warehousing)

— UPS serves Boeing Field (KCIA), with limited ramp and landside space
General Aviation Challenges

Airports approaching 80% airfield capacity by 2050:

— Arlington Municipal
— Harvey Field
— Renton Municipal
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### Upcoming

Statewide Commercial Aviation Coordinating Commission: Charged with selecting site(s) by 2022