Sea-Tac Airport Today
Fastest Growing Large Hub Airport in the U.S.

2014
- 37.5 million passengers
  Up 7.7%
- 340,000 flight operations
  Up 7.3%

2015
- 42.3 million passengers
  Up 12.9%
- 381,000 flight operations
  Up 12%

- $220 million in retail and service sales
- 170,000 jobs related to airport activity

Major Current Projects:
- North Satellite Expansion
- International Arrivals Facility
- 16C Reconstruction
- Baggage System Reconstruction
Master Plan -- Unconstrained Activity Forecast

Region’s Economy Driving Rapid Growth in Recent Years

GROWTH IN TOTAL PASSENGERS
(BY MILLION ANNUAL PASSENGERS - MAP)

- 2014: 37 MAP
- 2024: 52 MAP
- 2034: 66 MAP

GROWTH IN AIRCRAFT OPERATIONS

- 2014: 340K
- 2024: 449K
- 2034: 540K
Unconstrained Forecast Implications
What is Needed to Meet Demand

Airfield
- Increase 88 operations per hour to 120 without adding runways
- Move more planes faster with more gates and aircraft

Terminal
- Adding 8 gates now to the existing 92 gates
  - Still need 35 more gates
- Add hold rooms and security processing for 43 new gates while handling existing passenger traffic
- Potentially build a second terminal to serve most of the new gates

Landside
- Remove bottlenecks and chokepoints on roadways and drives
- Plan for roadway network to serve potential second terminal
Development Constraints

Environmental, Airspace, and Land Use Constraints Limit Expansion Options
Master Plan Context

Planning Process Resulting in Capital Program and Plan of Finance

✔ Long-range plan *(e.g. SAMP)*
  - Campus-wide, comprehensive plan
  - Facility requirements in 5-year increments to 20 years

Alternatives analysis
  - Narrow to Preferred Alternative(s)
  - 20-year facilities development plan
    - Balance capacity to 3-runway airfield
    - Phasing plan for level of service, continuity of operations

✔ Project definition *(e.g., concourse layouts for new gate piers)*
  - Program development for individual projects
  - Adequate detail required to transition projects to design

✔ Project design
  - Capital program / plan of finance
Major Plan Elements - Early Concepts

Concepts Not Meeting Operational Needs

**Concept 1**

**Concept 2**

**Concept 3**

Light gray – existing facilities
Dark blue – potential new facilities

NOTE: Development concepts illustrate major plan elements independent of 1 vs 2 terminals
Major Plan Elements - Concept 4

Best Option to Meet Program Needs and Operational Layout

Details

- New widebody international gates on Concourse B
- Extension of Concourse D to gate piers to the north
- Aircraft hold positions provided to the north and south
- SASA needed to accommodate functions displaced by gates (aircraft maintenance, potential GRE, and cargo)

Primary Advantages

- Meets program needs
- Best operational layout

Primary Concerns

- Complexity of developing new airfield-connected land
- Complexity of construction phasing

NOTE: Development concepts illustrate major plan elements independent of 1 vs 2 terminals
Gate Expansion Concepts

Variations on Gate Expansion Involve Pros and Cons

Three pier gate expansion to the north of the existing terminal

U-shaped gate expansion to the north of the existing terminal
Aircraft maintenance split between SASA and north cargo area

- Would reduce the overall number of cargo aircraft parking positions
- GRE not located in convenient place for north end maintenance
Evaluation of One and Two Terminal Options

Evaluation Criteria

Cost (total cost of ownership)
- Capital
- Operation and maintenance

Risk
- Ability to accommodate faster growth than anticipated
- Ability to accommodate higher level of activity than ultimately anticipated

Flexibility
- Operational: airline assignments, load balancing
- Facilities: efficiency, sustainability, timing and scope

Development
- Phasing: ability to provide adequate capacity in a timely manner
- Constructability: code issues, abatement

Level of service
- During construction
- Post construction
U-shaped gate expansion and roadways challenges

- Provide north terminal ingress and egress
- Determine alignment and elevation of APM or bus guideway and stations
- Optimize regional and local access
- Assess potential trade-offs with north gate expansion
- Provide airside and landside access to relocated ARFF (east of existing)
• **Preliminary landside options**
  - Developed 4 APM options and 1 elevated busway option
  - Conducted decision analysis to screen options

• **Further study**
  - Will recommend shortlist of landside options for further study by SAMP consultant
  - Study will also include assessment of airside people movers:
    - Passenger flow analysis
    - Diagrammatic layout concepts for APM, power walks and busing
    - Identify airside options for connecting North Satellite and future gates
    - Capacity analysis for APM, power walks and busing
    - Transfer time evaluation between international and domestic flights
    - Capacity assessment of existing Satellite Transit System (STS) trains
Problem:

- Accommodate near- to mid-term demand on existing terminal roadways and curb
- Address bottleneck areas to reduce congestion and improve Level of Service (LOS)

Goal:

- Leverage operational strategies before phasing in capital projects
- Seek lower cost capital projects that minimize throwaway work, maximize flexibility for either one or two terminal solutions

BOTTLENECK AREAS

- Exit ramps
- Curbside
- Drives approach
Master Plan

Designed to meet sustainability goals in the Century Agenda, Airport’s strategic goals, and Strategy for a Sustainable Sea-Tac (S3)

Integrates sustainability in three phases:

1. What and where we build
2. How we build
3. How we operate
Reducing Environmental Impact of Airport Operations

Environmental Stewardship

**Airline Partners**
Pre-conditioned air and electric ground service equipment; advance aviation biofuels

**Fleet vehicles**
Renewable natural gas buses, alternative fuel vehicles required for taxi fleet, TNC environmental standards

**Facilities**
LED lighting replacement and electric vehicle charging stations in parking garage, and central mechanical plant upgrades

**Aquatic Resources**
Completed Airport stormwater retrofit, advanced wetland mitigation development through aggressive management

- 1st Airport in North America to Receive Airports “Carbon Accreditation Certification”
- 2014 Best Workplace Recycling Award – Honor Roll King County Solid Waste Division
SAMP Environmental Review

Comprehensive Process – NEPA and SEPA

• NEPA will be conducted to comply with FAA requirements
• SEPA will be conducted to comply with Port of Seattle Commission Resolution No. 3650
• 23 environmental categories evaluated under NEPA and SEPA
• Landrum and Brown selected for environmental review analysis
• Currently evaluating baseline conditions and developing a public and agency outreach strategy
• Expected to be complete in Q4 2017.
Next Steps

Airfield
- Continue assessing impacts of runway/taxiway separation
- Assess constructability and estimate cost of south end-around taxiway

Gates
- Refine gate layouts & phasing plan

Terminal
- Continued analysis of one vs two terminal concepts

Landside
- On-going capacity analysis through modeling
- Develop roadway layouts and assess challenges
- Support Airport Operations in mid-term strategy and spin-off projects

Support facilities
- Incorporate support facilities into overall development plan
- Determine land uses for South Aviation Support Area & timing of development

Continued robust community engagement
**Activity forecast** *(completed Q1 2015)*

**Alternatives analysis & development alternatives(s) (Q4 2014 – Q4 2015)**
- Iterative process, finalizing facility requirements and defining development alternatives
- Commission engagement at key decision points

**Development of integrated preferred alternative(s) (Q1 2016 – Q3 2016)**
- Constructability assessment
- Phased implementation plan
- Planning level cost estimates

**Capital program and plan of finance (Q1 2016 – Q1 2017)**

**FAA Airport Layout Plan review (Q4 2016 – Q3 2017)**

**Environmental review (Q2 2016 – Q4 2017)**

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th></th>
<th>2016</th>
<th></th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
<td>Q4</td>
<td>Q1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Activity Forecast</td>
<td>Major alternatives defined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alternative Analysis &amp; Plan Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Capital Program/Plan of Finance</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Airport growth provides economic development opportunities

SAMP helps define airport operation needs for off-airport properties

Port has hosted business roundtable meetings with airport cities:

- Business and civic leadership provide input towards economic development initiatives and aspirations
- Specific plans and strategies can be coordinated with SAMP
- Development can occur even when not specific to SAMP
Supporting Port Commission Engagement

- **Community open houses**
  - 1st Series: SAMP process, goals, forecast (March 2015)
  - 2nd Series: Major Plan Elements (March 2016)
  - 3rd Series: Preferred Development Alternative (Q3 2016)

- **Commission Roundtables**
  - February, March, April, June – completed
  - August and September – planning underway

- **Targeted engagement with external stakeholders (Q2-Q3)**
  - Social justice community leaders
  - Airport-area business leaders

- **Ongoing engagement with tenants, operators, FAA, & TSA**

- **Quarterly outreach report and coordination with Port calendars**

- **Environmental Review begins mid-2016**
  - Coordinated outreach program between SAMP and environmental
SAMP Public Outreach
Creating Broad Public Understanding

Complete or in Process

- Round One Open Houses (Des Moines, Seattle, Bellevue)
- Round Two Open Houses (SeaTac, Seattle, Bellevue)
- Air Mail newsletter (ongoing)
- Interjurisdictional Transportation Advisory Group
- Airport Communities Business Roundtables
- Social Justice outreach
- Economic Development follow-up
- Environmental community outreach
- SAMP brochure
- County-wide research

Upcoming

- Translated documents
- Website update
- Video
- Social media emphasis
- Media outreach
- Focus groups
- Round Three Open Houses (Burien, Seattle, Eastside)
- Initiate environmental review
Thank You

For more information, visit the Port’s SAMP webpage and sign up to receive updates: