

**PORT OF SEATTLE**  
**MEMORANDUM**

**COMMISSION AGENDA**  
**STAFF BRIEFING**

**Item No.** 7a  
**Date of Meeting** January 26, 2016

**DATE:** January 05, 2016  
**TO:** Ted Fick, Chief Executive Officer  
**FROM:** Elizabeth Leavitt, Director, Aviation Planning and Environmental  
**SUBJECT:** Sustainable Airport Master Plan (SAMP) Briefing

**SYNOPSIS**

This briefing provides an update on SAMP planning. Airport master plans begin with a wide range of alternative concepts, and generally conclude with one or two alternatives which are carried into environmental review. At this time, staff is presenting results of on-going analysis and not making a recommendation to Commission. Staff proposes briefing commission on a number of master plan areas in a series of on-going briefings, seeking guidance from the Commission, and returning to Commission with the goal of narrowing the master plan alternatives to one or two alternatives which will be carried forward into environmental review later in 2016. As the SAMP team moves forward with additional analysis to solidify a recommendation for the Commission and prepare for environmental review, we will continue to work with internal and external stakeholders to flesh out options in other functional areas, such as airport support facilities and transportation-related issues.

**SUMMARY OF SAMP PROGRESS**

The September SAMP planning update to Commission included an overview of the then pending airside simulation modeling; a comparison of facility requirements under a 1 versus 2 terminal concept; and a review of landside concepts and roadways modeling. The SAMP team has since completed airside simulation modeling to assess the capacity of the existing airfield and potential future capacity with identified capital improvements. Modeling determined that the airside will reach critical delay between 2029 and 2034 and that aprons for holding aircraft (aircraft hold positions) are essential to keeping aircraft moving and reducing delay. Of the potential airfield improvements evaluated in the simulation modeling, the south end-around taxiway showed the highest delay reduction benefit.

Airside modeling was a necessary step to forming and evaluating comprehensive development concepts. Using the results of the modeling, the team allocated land to facilities in key functional areas based on a hierarchy of importance and the degree to which facility locations were driven by function. A number of development concepts are included in this briefing

The SAMP team evaluated 1 and 2 terminal options across a range of criteria in the following categories: cost, risk, flexibility, development (phasing & constructability) and level of service both during and post construction. Staff will present the results of this work.

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The SAMP team recognizes that the airport is in a period of rapid growth and that existing facilities will need to accommodate additional demand in the mid-term until additional, significant capacity improvements can be constructed under either a 1 or 2 terminal solution. Of particular concern is landside access to the terminal. With the goal of minimizing throwaway and maximizing flexibility, we have identified a number of operational strategies and relatively low cost capital projects that would be beneficial under 1 or 2 terminal solutions.

Over the coming months, the SAMP team will evaluate potential process and technology improvements that may decrease terminal requirements and potentially redefine the 1 terminal option. Additional work that will help shape alternatives and a future capital program includes: project phasing, cost estimates, locating support facilities and more detailed planning to set the geometry of a second terminal and supporting roadways.

## **BACKGROUND**

In September 2012, the Port Commission approved scope and budget of \$6,000,000 for the creation of a Sustainable Airport Master Plan (SAMP). Since October of 2014, staff has briefed the Commission four times on SAMP planning progress, including: forecast results and challenges associated with planning to accommodate forecast activity; and preliminary options for terminal, landside and cargo development.

The master plan process provides an opportunity to take a comprehensive assessment of facilities capacity and forecasted demand over 5-, 10-, and 20-year timeframes. Airport master plans are typically prepared approximately every 10 years. The last formal master plan for Sea-Tac was developed in the mid-1990s and was focused primarily on the third runway.

The primary objective of an airport master plan is to provide a roadmap for the phased redevelopment/expansion of facilities, maintaining a balance of capacity in all key functional areas. Overall airport system capacity is limited by functional areas with the least capacity. Terminal and landside facilities are generally balanced to the fixed capacity of the airfield. Through alternatives development and evaluation, the SAMP will culminate in a capital improvement program and plan of finance that will deliver cost-effective projects to remove capacity pinch points, increase efficiency, integrate sustainability considerations, and provide a high level of service to airport customers.

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### **ATTACHMENTS TO THIS BRIEFING**

- PowerPoint presentation

### **PREVIOUS COMMISSION ACTIONS OR BRIEFINGS**

- September 8, 2015 - Commission Briefing: "Sustainable Airport Master Plan (SAMP) Planning Update"
- April 28, 2015 - Commission Briefing: "Sustainable Airport Master Plan (SAMP) Planning Update"
- March 24, 2015 - Commission Briefing: "Briefing on Sea-Tac Cargo as part of the Sustainable Airport Master Plan (SAMP)"
- January 27, 2015 - Commission Briefing: "Sustainable Airport Master Plan (SAMP) Planning Update"
- October 7, 2014 - Commission Briefing: "Sustainable Airport Master Plan (SAMP) Forecast and Facilities Challenges"
- February 28, 2014 - Commission authorization to amend the existing Sustainable Airport Master Plan (SAMP) service agreement with Leigh Fisher Associates for IAF-related planning tasks for an increase of \$3,650,000 and a new total contract amount of \$9,650,000
- September 5, 2012 - Commission authorization for SAMP development and to advertise and execute a contract for consulting services for the SAMP, with a total estimated value of \$6 million
- August 14, 2012 - Commission deferred consideration of a request to approve funding for the Sustainable Airport Master Plan (SAMP)
- June 27, 2012 - Commission Briefing: "Terminal Development Challenges"