PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA **Item No.** 6c

ACTION ITEM **Date of Meeting** January 22, 2013

DATE: January 14, 2013

TO: Tay Yoshitani, Chief Executive Officer

FROM: Dave Soike, Director, Aviation Facilities and Capital Program
Wendy Reiter, Director, Aviation Security
Wayne Grotheer, Director, Aviation Project Management Group

SUBJECT: Checked Baggage Recapitalization Screening Design Services at Seattle-Tacoma International Airport (Airport)

Amount of This Request: $5,000,000 **Source of Funds:** Airport Development Fund and TSA Grant

Est. State and Local Taxes: N/A **Est. Jobs Created:** N/A

Est. Total Project Cost: TBD

ACTION REQUESTED:

Request Commission authorization for the Chief Executive Officer to (1) authorize design for the Checked Baggage Recapitalization Screening Project, (2) execute a project-specific design services contract, and (3) execute an Other Transaction Agreement (OTA) with the Transportation Security Administration (TSA) for reimbursable design cost. The total amount of this request is $5,000,000, the majority of which will be reimbursed by federal funds. The total projected program cost is expected to exceed $100 million and a more accurate cost estimate range will be available following 30-percent design.

SYNOPSIS:

The TSA operates baggage screening within the Airport. The TSA plans to replace their scanning machines, which involves significantly revising the Airport's baggage conveyor system. Although the scanning operation is owned and operated by TSA, it has vital operational consequences for the Airport as well as airlines and travelers. Because portions of the system are owned by both the TSA and the Airport, the Airport must join in the project. Furthermore, since the project is taking place on Airport property, the Airport must take the lead in administering the project. Guidance of the project by the Airport is also vital to ensure minimum disruption to ongoing operations and to enable Airport staff to arrange the system to support future passenger traffic growth that is inevitable at the Airport.

The TSA will fund the majority of the 30-percent design effort to include allowable, allocable and appropriate costs including outside designers and Airport staff costs. Funding for completion of design and construction of the project via the OTA will be negotiated between the Airport and the TSA during the initial design activities. In general, prior OTA agreements have allowed approximately 80-percent reimbursement to the Port.

The project team will utilize the already existing Baggage Handling Services indefinite delivery, indefinite quantity (IDIQ) service agreement to meet TSA OTA requirements in completing the 30-percent design. In the first quarter of 2013, staff will competitively procure a project-specific design consultant to complete 100-percent design. Staff will return to the Commission at the completion of 30-percent design to provide a briefing regarding the final scope and cost estimate for the entire multi-year program. Completing 30-percent design will enable enough analysis and documentation for the TSA to perform its federal benefit-cost-ratio analysis and other viability checks. Assuming the project continues to be beneficial to the TSA, Airport, and airline operations, staff would request authorization for continuing design funding. Requests for construction authorizations would be dependent upon continuing federal funding and would likely occur in 2014 and 2015.

This project was not included in the 2013 – 2017 capital budget and plan of finance because the TSA had not reviewed and responded to project proposals before annual Airport budgeting was finalized. The Airport capital budget does include over $100 million over the plan of finance for projects like this that are in preliminary stages of annual budgeting at this time.

BACKGROUND:

The TSA approached the Airport in 2012 with its plan to replace all of the federally owned and operated baggage scanning equipment that is known in the industry as Explosive Detection System (EDS) equipment. The EDS equipment is approaching the end of its lifespan. The TSA has developed newer machines with improved technology that operate at a faster rate, which enables the agency to reduce the number of machines. Fewer machines enable federal operation and maintenance costs to decrease. However, when the newer, faster machines are installed, they require significant conveyor changes that reach out into the facility beyond just the immediate area of the machines. These ancillary conveyor changes also necessitate facility changes. Examples of equipment and conveyors are shown in Attachment A.

The Airport currently processes approximately 33 million passengers and their bags over the course of a year. The overall maximum capacity of the Airport is projected at approximately 60 million annual passengers. Air traffic continues to grow, and while the future annual rate of growth is unknown, it can be predicted that the Airport will reach maximum capacity over the next two to three decades. The Airport's current baggage system capacity may reach its maximum capacity in this decade. It is certain that the Airport's baggage system will need to be upgraded and expanded in the future to meet the ultimate capacity of the Airport.

The TSA's need to replace its fleet of baggage scanning machines in the near-term coincides with the Airport's need to plan for growth of its baggage system to serve passengers in the latter half of this decade. While performing the planning, the Airport may be able to make provisions

to be able to meet the future ultimate maximum passenger capacity of the Airport so that any near-term changes will be lasting and beneficial in meeting the maximum future passenger capacity.

In the first half last year, the Airport and TSA collaborated on a study to identify alternatives for replacing the existing federally owned and operated security baggage-scanning machines. After review of that study, the TSA returned in December 2012 and suggested that the Port and TSA engage in further concept planning and preliminary design during the next six months.

PROJECT JUSTIFICATION:

Project Objectives:

- Replace EDS equipment that has reached the end of its useful life.
- Develop various cost-effective solutions to replace the aging EDS equipment.
- Meet TSA federal mandates for Electronic Baggage Screening Program.
- Leverage federal improvements to provide expandable capacity to meet Airport long-term growth needs.
- Incorporate sustainability, including energy efficiency, into design.
- Ensure all Airport facility impacts are considered in 30% design work.

PROJECT SCOPE OF WORK AND SCHEDULE:

Scope of Work:

Scope of Work for the 30% Design Package:
Pre-Design Phase (TSA Requirements)

- Collect data necessary to complete the 30% design.
- Complete a detailed Airport-wide site survey and audit.
- Complete staffing levels estimates.
- Calculate Rough Order of Magnitude evaluations and lifecycle costs.

Schematic Design Phase (TSA Requirements)

- Refinement of the conceptual design for the schematic phase.
- Rough Order of Magnitude evaluations and lifecycle cost updates for the schematic phase.
- Program schedule development.
- Receive indication of the expected TSA equipment type.
- Complete the Basis of Design Report.
- Respond to “approval/rejections and submittal comments” from the TSA.
- Conduct Local TSA Design Team Meetings.

Detailed Design Phase (30% Design Submittals) (TSA Requirements)

- Update Basis of Design report.
- Complete an Operational Standards Assessment report.
- Complete preliminary plans (system drawings and design).
- Develop conveyor cross section drawings (30%).
- Develop descriptions for the concept of operations.
- Develop baggage and data flow charts.
- Develop table of contents for manual bag screening function.
- Submit screening equipment installation guidelines.
- Provide an outline of system reporting capabilities.
- Provide stakeholder review and approval documentation.
- Develop 30% estimate of probable construction and operations and maintenance costs.
- Develop preliminary phasing schedule.
- Develop conveyor manifest.
- Provide EDS equipment list.
- Coordinate the system design with TSA.

General 30% Scope of Work Deliverables (Non-TSA Areas)

- Develop overall project preliminary schedule.
- Develop overall project implementation plan.
- Conduct planning meetings.
- Collect and analyze current Airport reports/as-built drawings.
- Complete overall Airport field investigations.
- Analyze impact on electrical/mechanical loads.
- Prepare site summarization report.
- Develop design concept.
- Create design drawings (30%).
- Complete estimate for non-TSA subsystems.
- Present preliminary design to stakeholders.
- Complete sustainability review (for non-TSA subsystems).
- Analyze impact to existing facilities for new loads (structural, electric, HVAC).
- Prepare design calculations for all systems.
- Incorporate energy efficient design standards into baggage handling system design.
- Perform an independent check of preliminary concept arrangements to assure maximum processing efficiency.

- Identify hazardous material (e.g., asbestos) remediation plans.
- Develop move plans for necessary tenant, airline, and Airport team relocations.

Schedule:

TSA OTA requires 30-percent design submitted by June 2013. Overall project schedule will be developed during 30-percent design.

FINANCIAL IMPLICATIONS:

Budget/Authorization Summary:	Capital	Expense	Total Project
Original Budget	$0	$0	$0
Previous Authorizations	$0	$0	$0
Current request for authorization	$4,850,000	$150,000	$5,000,000
Total Authorizations, including this request	$4,850,000	$150,000	$5,000,000
Remaining budget to be authorized	TBD	TBD	TBD
Total Estimated Project Cost	TBD	TBD	TBD

Project Cost Breakdown:	This Request	Total Project
Construction	$0	$0
Construction Management	$0	$0
Design	$4,750,000	$0
Project Management	$250,000	$0
Permitting	$0	$0
State & Local Taxes (estimated)	$0	$0
Total	$5,000,000	$TBD

Budget Status and Source of Funds:

This project was not included in the 2013-2017 capital budget and plan of finance. A budget transfer will be made from CIP #C800404, Aeronautical allowance, to accommodate this authorization request. The funding source will be the Airport Development Fund. The TSA will reimburse the majority of initial design costs. Estimates for the portion of final design and construction costs borne by the TSA will not be known until after 30-percent design.

Financial Analysis and Summary:

Analysis of project impacts will be dependent upon the cost and share of TSA funding.

Lifecycle Cost and Savings:

The 30-percent design work will culminate in a program schedule and refined scope of work that will enable a federal benefit cost ratio analysis along with net present value analysis as part of the lifecycle cost analysis.

STRATEGIC OBJECTIVES:

This project supports the Century Agenda objective of meeting the region's air transportation needs at Sea-Tac Airport for the next 25 years.

ENVIRONMENTAL SUSTAINABILITY:

This 30-percent design may provide opportunities to reduce Airport lifecycle costs, improve operational efficiency, shorten passenger connecting time between flights, and minimize energy consumption. In the past 10 years, the baggage industry has made major strides in energy efficiency and green technologies. These efficiencies can save upwards of 30 percent in energy consumption. These energy savings are based on high-efficiency drives, improved belting materials, and smarter control algorithms. For example, using variable frequency drives eliminates the use of high-maintenance clutch brake drive systems for energy and labor savings. High-efficiency gear boxes will further decrease energy consumption as well as lengthen replacement intervals further reducing our environmental footprint. Smart controls will increase operational efficiency by starting conveyors and subsystems only when needed. By using higher efficiency motors, energy consumption can be reduced by two methods; first by reducing energy consumption with higher output torques and second by giving the ability to size smaller motors to run larger conveyor subsystems.

BUSINESS PLAN OBJECTIVES:

This 30-percent design activity will enable the Airport to continue to operate a safe and secure Airport by both anticipating and meeting the needs of our federal security partner, the TSA, along with need of airlines and travelers.

ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:

Alternative 1: Provide project management services to allow the TSA to simply replace existing baggage scanning machines. This alternative would be very invasive and thus disruptive to ongoing Airport and airline operations. In addition, it would not provide capacity changes that would allow the Airport's passenger count to grow smoothly or cost effectively over time, because later disruptive work would have to occur again to replace the machines and move to different locations along with wide ranging conveyor changes within a decade. The TSA would likely be unwilling to replace the machines in their current locations because it would not be cost effective for them to do so. This is not the recommended alternative.

Alternative 2: Partner with the TSA to jointly plan the cost-effective baggage system renovations, and thereby initiate the 30-percent design effort that will lead to a comprehensive report to enable decisions of further action. **This is the recommended alternative.**

OTHER DOCUMENTS ASSOCIATED WITH THIS REQUEST:

- None.

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS:

- January 8, 2013 – Baggage Systems Briefing
- May 10, 2012 – TSA's interest in a national recapitalization and optimization plan for all baggage screening operations was referenced in a design authorization request for the C60 – C61 Baggage Handling System Modifications Project.
- June 26, 2012 – The Airport's baggage systems were discussed during a briefing on Terminal Development Challenges.
- August 7, 2012 – Baggage system recapitalization was referenced as one of the drivers for the need to develop an Airport Sustainability Master Plan.
- August 14, 2012 – Baggage system recapitalization was noted in the 2013 Business Plan and Capital Briefing as a significant capital project not included in 2013-17 capital program.