



AGENDA MEMORANDUM

Item No.

6e

ACTION ITEM

Date of Meeting

June 27,2017

DATE: June 19, 2017

TO: Dave Soike, Interim Executive Director

FROM: Jeffrey Brown, Director AV Facilities and Capital Program
Wendy Reiter, Director, Aviation Security and Emergency Preparedness
Wayne Grotheer, Director, Aviation Project Management Group

SUBJECT: Baggage Optimization Capacity Acceleration (CIP #C800612)

Amount of this request: \$637,000

Total estimated project cost: \$445,050,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to (1) authorize additional design and project management funds to expand the capacity of the baggage system at Seattle-Tacoma International Airport to 60 million annual passengers (MAP); (2) use Port crews and small works contracts to perform additional construction work; and (3) amend Service Agreement P-00317641 to add \$10,160,000 for a total contract value of \$31,160,000 to design this additional capacity. The amount of this request is \$637,000.

EXECUTIVE SUMMARY

This request is to incorporate a future capacity expansion of the Baggage Optimization project now in order for the new outbound baggage system to accommodate 60 Million Annual Passengers (MAP). The Baggage Optimization project was scoped in 2012 to accommodate 45 MAP with an expandable design to accommodate future growth. At the time, growth forecasts were flat and predicted 45 MAP would be adequate through 2027. The decision was made to proceed in building an expandable 45 MAP system with the expectation that an expansion would occur in the future in time to accommodate growth up to the 60 MAP level. Due to unprecedented growth at the airport, the 45 MAP threshold was met in 2016, over ten years earlier than anticipated.

The cost associated with the Requested Action is \$24,937,000. The project returned savings in April 2017 in the amount of \$24,300,000 (due to favorable Phase 1 Construction bids), which will offset this request so that the total amount of this authorization request at this time is \$637,000.

By designing and building the system to accommodate 60 MAP the Port can be assured that the existing terminal will have enough baggage screening capacity until new facilities can be

Meeting Date: June 27, 2017

brought online pursuant to what is currently being advanced in the Sustainable Airport Master Plan (SAMP). The 60 MAP baggage system will have the ability to potentially tie into a new passenger terminal in the future. To meet near and long term baggage demand for the airport, we are currently requesting to incorporate the planned expansion at this time. The nature of baggage systems does not allow for small incremental capacity additions, therefore this request is to build the system to its full capacity of 60 MAP.

This request seeks authority to increase the amount of design funding in order to accommodate a baggage system capacity expansion, to amend a baggage consultant agreement to include this additional capacity design, and to make equipment purchases and perform preliminary enabling work to clear areas and speed up the coming contractor activities in future phases.

This baggage system capacity acceleration would achieve the following outcomes:

- Increased outbound system capacity to 60 MAP
- Increased system redundancy and, therefore, increased system availability

JUSTIFICATION

One of the main objectives of the Baggage Optimization project has been to design and build a system that can be efficiently expanded to 60 MAP in the future. While the current scope is to build a system capable of servicing 45 MAP, the system was designed with future growth and expansion in mind.

After experiencing multiple years of compounding higher than projected passenger growth, initiating the expansion previously expected in the future will minimize service disruptions to airlines and passengers. Authorization at this time will allow the expansion to be efficiently incorporated into Phase 2 and Phase 3, with no rework required to the Phase 1 scope currently under construction.

The airlines have been briefed about the proposed capacity expansion at the last five Airline/Airport Affairs Committee (AAAC) meetings, and are aware that it will be on the next Majority in Interest (MII) ballot for the amount of \$150M.

DETAILS

The authorizations requested and actual project costs associated with this request are to:

- Authorize \$19,937,200 additional design and project management funds to expand the capacity of the baggage system to 60 MAP
- Authorize \$5,000,000 to utilize Port crews and small works contracts to perform additional construction work
- Authorization for these two items totals \$24,937,200.
- The Port has contracted with BNP Associates for design of the baggage optimization project. It is necessary to amend this contract to add an additional \$10,160,000 for design and construction support thru 2024. This Service Agreement P-00317641

Meeting Date: June 27, 2017

increase is within Commission authorized project spending. In accordance with RCW 53.19, the Commission is notified that this amendment exceeds 50 percent value of the original contract and this memorandum will be made available for public inspection.

- The total (all phases combined) project schedule would be extended 14 months and total cost is estimated at \$445,050,000.

Scope of Work

The requested capacity acceleration will include the following additions in order to expand the capacity of the baggage system to 60 MAP:

- 1) Installation of additional CTX Machines (TSA provided)
- 2) Ticketing mainlines
- 3) Sortation mainlines
- 4) Additional recirculation lines
- 5) Building infrastructure to accommodate additional BHS capacity
- 6) Additional baggage inspection tables in Central Screening Area
- 7) Additional conveyor queues in Central Screening Area
- 8) Two South Satellite make-up devices and associated sortation lines
- 9) South Satellite tunnel make-up feed line addition
- 10) Two new outbound make-up devices in International Arrivals Facility (IAF) and mainlines
- 11) IAF manual encode station
- 12) Necessary demolition of temporary IAF baggage system to allow this work to be installed

Much of the 60 MAP scope can be performed concurrently with the original Phase 2 and 3 work, but portions cannot be done concurrently and will add 14 months to the total project duration.

The additional makeup units included in the 60 MAP scope (2 units in the new IAF and 2 units at South Satellite) maximize the amount of makeup units that will fit within the current airport footprint. Even with these additional makeup units the system will still have a shortage of 27 cart positions and would function more efficiently if these cart positions could be added in the future, either by utilizing space created by future footprint expansion or potentially adding an early bag storage facility.

The following work has been designated for Port Construction Services to perform in order to streamline the transition between Phases. This streamlining is not necessitated by the capacity expansion and will be necessary for either 45 or 60 MAP construction. This “pre-work” will consist of the following items:

- 1) H-line wall code compliance for Phase 2 permit
- 2) Claim 13 conveyor input installation
- 3) Right of way clearances

Meeting Date: June 27, 2017

- 4) Right of way conveyor, MCP and conduit demolition
- 5) Change order alternative
- 6) Portering of bags to maintain operations during construction
- 7) Shutdown support
- 8) Equipment movement and TSA/contractor support
- 9) Tenant, TSA, Airline and Port move support
- 10) Testing Support

Schedule

Activity

Construction start	2017 Quarter 2
In-use date (45 MAP System)	2023 Quarter 3
In-use date (60 MAP System)	2024 Quarter 4

Cost Breakdown

	This Request	Total Project
Design	\$19,937,200	\$61,101,936
Construction	\$5,000,000	\$383,948,064
Total	\$24,937,200	\$445,050,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Construct the 45 MAP design with no authorization for additional scope.

Cost Implications: \$0

Pros:

- (1) The project can continue to be completed on time and within budget as originally scoped.

Cons:

- (1) Risk of significant negative impacts to service for airlines and travelers (e.g. bags delayed or missed delivery to airplanes during peak time periods).
- (2) Postponing the decision for action now creates the potential for increased urgency and cost when expansion is implemented in the future.

This is not the recommended alternative.

Meeting Date: June 27, 2017

Alternative 2 – Continue with the project construction as originally designed, and add the increased capacity scope at the end of the project as a fourth phase.

Cost Implications: \$180,000,000

Pros:

- (1) Bid and construction of Phases 2 and 3 would continue as originally anticipated, while designing and bidding the increased capacity would be added as an additional project phase.

Cons:

- (1) Overall costs will be higher as it is more efficient to construct the expanded design concurrently with Phases 2 and 3.
- (2) The reliability of service for the airlines and travelers will be compromised until this scope of work is completed.
- (3) Fourth phase would extend current project schedule 2-1/2 years.

This is not the recommended alternative.

Alternative 3 – Authorize increased scope of the Baggage Optimization project in order for the new outbound baggage system to accommodate 60 MAP.

Cost Implications: \$150,000,000

Pros:

- (1) This will allow the new baggage system to meet airport growth.
- (2) Results a cost savings versus designing and performing this work in the future due to efficiencies gained by combining work with existing phases.
- (3) Reduction in cost escalation compared to performing this work in the future.

Cons:

- (1) Increases the complexity of Phase 2 and Phase 3 construction.
- (2) Adds 14 months to project versus original 45 MAP schedule.

This is the recommended alternative.

Meeting Date: June 27, 2017

FINANCIAL IMPLICATIONS

<i>Cost Estimate/Authorization Summary</i>	Capital	Expense	Total
COST ESTIMATE			
Original estimate	\$4,850,000	\$150,000	\$5,000,000
Previous changes – net	\$314,050,000	\$0	\$314,050,000
Budget transfer from C800780	\$14,000,000	\$0	\$14,000,000
Savings returned – net	(\$24,000,000)	\$0	(\$24,000,000)
Current request	\$136,000,000	\$0	\$136,000,000
Revised estimate	\$444,900,000	\$150,000	\$445,050,000
AUTHORIZATION			
Previous authorizations	\$135,525,000	\$150,000	\$135,675,000
<i>Available Authorization from Ph 1 Budget Savings</i>	\$24,300,000	\$0	\$24,300,000
<i>Current Authorization Need: Design Consultant \$10,160,000 Design Support \$9,777,200 Small Works \$5,000,000</i>	\$24,937,200	\$0	\$24,937,200
Reduced authorization from above budget savings	\$637,200	\$0	\$637,200
Total authorizations, including this request	\$136,162,200	\$150,000	\$136,312,200
Remaining amount to be authorized	\$308,737,800	\$0	\$308,737,800

Annual Budget Status and Source of Funds

This project, C800612, was included in the 2017-2021 capital budget and plan of finance, but without the accelerated scope. The funding sources will include the Airport Development Fund, TSA funding (\$93,220,422) and future revenue bonds.

Financial Analysis and Summary

Project cost for analysis	\$445 million
Business Unit (BU)	Baggage System
Effect on business performance (NOI after depreciation)	NOI after depreciation will increase.
IRR/NPV (if relevant)	N/A
CPE Impact	\$1.30 by 2025

Meeting Date: June 27, 2017

ADDITIONAL BACKGROUND

Baggage Optimization Project Update:

The Baggage Optimization project increases the screening capacity of the Baggage Handling System to process growing baggage volumes, increases flexibility to allow bags to be checked in anywhere in ticketing and be conveyed to any makeup device, meets a minimum-connect-time goal, and increases energy efficiency. Meeting travelers' baggage needs will significantly contribute to increased customer service.

This project will be constructed in three phases. Project Phase 1 construction contract was executed in March 2017 and notice to proceed is expected to be granted in May 2017.

Phase 1 construction was advertised and bids were opened in Q4 2016. Three bids were received; the lowest bidder was PCL Construction Services Inc. with a bid amount of \$52M. The bid amount was \$28M below the Engineer's Estimate of \$80M. The project returned \$24M due to the low bid.

Pre-work began in December 2016 with Port Construction Services crews and small works electrical contractors. A new makeup unit has been installed. Horizon moved their operations to this new device in April 2017. The PCS crews are now working to complete a new odd-size device, from which TSA will begin to operate at the end of June 2017.

Small business requirements were also evaluated and set for the Phase 1 construction contract. The requirement for this contract is that 15% of the total contract value, including change orders, be performed by Small Business Enterprise(s). Within the 15% total requirement, at least 5% of the total contract value work shall be performed by one or more Certified Small Businesses.

ATTACHMENTS TO THIS REQUEST

- (1) Presentation slides

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

- October 25, 2016 – Baggage Quarter 4 Briefing
- July 12, 2016 – Commission authorization to advertise and execute a contract for construction Phase 1
- June 28, 2016– Baggage Program Briefing.
- May 17, 2016 – Checked Baggage Optimization Project Briefing.
- March 8, 2016 – Commission authorization for the Chief Executive Officer to amend the Baggage Optimization Design Services contract.
- June 23, 2015 – Checked Baggage Optimization Project Briefing.

Meeting Date: June 27, 2017

- September 10, 2013 – The Commission authorized the execution of an Other Transaction Agreement (OTA) with TSA for reimbursable costs for design; construction, and to authorize \$15 million to continue from 30% to 100% design; and execute a consultant service agreement for program management support services.
- August 20, 2013 – Response to questions from Commissioners asked during August 6, 2013 Commission Meeting.
- August 6, 2013 – The Commission was briefed on the near-term and long-term challenges related to handling checked baggage at the Airport.
- January 22, 2013 – The Commission authorized \$5 million for staff to begin design through 30%, and to enter into an agreement to allow reimbursement from the federal government to the Port for eligible elements of the 30% design effort.
- January 8, 2013 – Baggage Systems Briefing.
- August 14, 2012 – Baggage system recapitalization/optimization was noted in the 2013 business plan and capital briefing as a significant capital project not included in 2013-17 capital program.
- August 7, 2012 – Baggage system recapitalization/optimization was referenced as one of the drivers for the need to develop an Airport Sustainability Master Plan.
- June 26, 2012 – The Airport’s baggage systems were discussed during a briefing on terminal development challenges.
- May 10, 2012 – TSA’s interest in a national recapitalization/optimization plan for all baggage-screening operations was referenced in a design authorization request for the C60-C61 Baggage Handling System Modifications Project.