



**COMMISSION
AGENDA MEMORANDUM**

Item No. 8e

ACTION ITEM

Date of Meeting January 12, 2021

DATE: December 18, 2020

TO: Stephen P. Metruck, Executive Director

FROM: Eileen Francisco, Acting Director, Aviation Facilities and Capital Programs
Wayne Grotheer, Director, Aviation Project Management

SUBJECT: Passenger Loading Bridge Renewal and Replacement Phase 3 (CIP#C801180)

Amount of this request: \$13,850,000

Total estimated project cost: \$14,000,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to: (1) Prepare design and construction bid documents for the replacement of the Passenger Loading Bridges (PLBs) at Seattle-Tacoma International Airport and ; (2) Purchase seven PLBs, six fixed walkways and seven 400 Hz gate boxes for specified Gates; (3) Use Port of Seattle crews, as well as small and major works on-call contracts to perform the construction work. This request is in the amount of \$13,850,000, for a total estimated project cost of \$14,000,000.

EXECUTIVE SUMMARY

This project will replace the next set of seven PLBs that are at the end of their service life and/or have significant maintenance issues, which require a full replacement. Gates C18, C20, D3, D5, D8, D9, and D10 have been identified to be included in the next phase of this project. The project will remove the existing equipment, including the columns, install newly constructed equipment that meets current design standards, and upgrade the foundations for each column, if necessary.

JUSTIFICATION

The PLBs at Seattle-Tacoma International Airport (Airport) have high utilization compared to airports with similar annual enplanements. In 2019, the Airport processed approximately 336,000 passengers per bridge, well above the average of the top 20 airports at approximately 220,000 passengers per bridge. Any unplanned downtime, due to PLB or fixed walkway failure, impacts airlines and customer service. PLBs have a service life of approximately 25 years before replacement is required. Many of the replacement parts for 25+ year old PLBs are no longer available. As a result, repair time is extended, while parts are fabricated or re-manufactured, or used parts are located from other PLB owners. Unplanned downtime caused by failure of obsolete parts can extend for several weeks, seriously disrupting airline operations. This occurred at Gate S12, in May 2019, after a quarterly inspection found the structure to be critically failing.

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This required the PLB to be shut down for a significant amount of time to make temporary repairs until the PLB could be replaced.

The work will renew and replace existing assets that are highly utilized by customers and employees as they travel through the airport. Disruption to the bridge operations have a direct impact to operations.

Diversity in Contracting

The project team intends to increase investment in Women/Minority Business Enterprise (WMBE) to ensure their increased access to opportunities by using an existing IDIQ design contract which has a 24% WMBE aspirational goal. Small works contracts will be administered in support of this project, and the Diversity in Contracting Department along with the project team will be conducting outreach to WMBE businesses of the construction opportunities.

DETAILS

The Port Construction Services crew is knowledgeable and capable of completing the modifications and replacements. The crew also provides the ability to quickly re-prioritize which gates are being replaced and the timing. Given the dynamic environment of the Airport and operations, the project team can respond to challenges and take advantage of opportunities to complete the replacements.

Scope of Work

- (1) Design services for this scope of work will be provided under an existing IDIQ design service contract.
- (2) Purchase and installation for PLBs, associated fixed walkway, and related components at Gates C18, C20, D3, D5, D8, D9, and D10. This includes the necessary architectural, electrical, data, and mechanical infrastructure upgrades to meet new PLB standards and current code requirements.
- (3) PCS will perform work associated with preparing the foundations upgrade or replacement and provide construction management services for all PLB installations at all gates. The foundation for each column will be evaluated to determine if an upgrade is required for compliance with the 2018 seismic code revision.
- (4) The new bridges will be connected to the Port's facility monitoring system so any malfunction that shuts the bridge down will be promptly reported to Airport Maintenance for faster response.

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Schedule

Replacement Schedule:

- 2021: Gates C18 & C20
- 2022: D3 & D5
- 2023: D10 & D9
- 2024: D8

This schedule is tentative and can change due to varying conditions and priorities for gate outages. The order can change as well, if there are opportunities to overlap outages with other project closures.

Activity

Design start	2021 Quarter 1
Commission construction authorization	2021 Quarter 1
Construction start	2021 Quarter 3
First In-use date	2021 Quarter 4
Last In-use date	2024 Quarter 4

Cost Breakdown

	This Request	Total Project
Design	\$3,581,000	\$3,581,000
Construction	\$10,419,000	\$10,419,000
Total	\$14,000,000	\$14,000,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Delay the project

Cost Implications: Approximately \$20,000 would need to be expensed; potential for additional costs if PLB fails during delay and is rushed to be replaced.

Pros:

- (1) Delayed capital investment.

Cons:

- (1) Bridges will be operating beyond their service life.
- (2) Emergency bridge replacements cost more and have a greater impact to operations.
- (3) Future replacement projects may cost more.
- (4) Increased risk of gate outages.
- (5) Separate projects will need to replace smaller components of the bridge to keep it functional.
- (6) Outdated technology may not support other bridge improvements (Safedock, Jetdock).

This is not the recommended alternative.

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Alternative 2 – PLB Bridge Replacement Only

Cost Implications: \$13,500,000

Pros:

- (1) Replace all seven PLBs that are at the end of their service life.
- (2) Upgrade bridge foundation to meet current code requirements.
- (3) Install new equipment with capacity for future improvements.

Cons:

- (1) Higher capital investment.
- (2) Will not replace all 400 Hz gate boxes that are near or beyond end of life.
- (3) A separate project is required to replace the gate boxes.

This is not the recommended alternative.

Alternative 3 – PLB Bridge Replacement and New 400 hz Gate Boxes

Cost Implications: \$14,000,000

Pros:

- (1) Replace all seven PLBs that are at their service life.
- (2) Upgrade bridge foundation to meet current code requirements.
- (3) Install new equipment with capacity for future improvements.
- (4) Replace seven aging 400 Hz gate boxes.

Cons:

- (1) Highest capital investment.

This is the recommended alternative.

FINANCIAL IMPLICATIONS

<i>Cost Estimate/Authorization Summary</i>	Capital	Expense	Total
COST ESTIMATE			
Original estimate	\$12,165,000	\$0	\$12,165,000
Current change	\$1,835,000	0	\$1,835,000
Revised estimate	\$14,000,000	0	\$14,000,000
AUTHORIZATION			
Previous authorizations	\$150,000	0	\$150,000
Current request for authorization	\$13,850,000	0	\$13,850,000
Total authorizations, including this request	\$14,000,000	0	\$14,000,000
Remaining amount to be authorized	\$0	\$0	\$0

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Annual Budget Status and Source of Funds

This project (CIP C801180), was included in the 2021-2025 Capital Budget and Plan of Finance with a budget amount of \$12,165,000. A budget increase in the amount of \$1,835,000 was transferred from the Aeronautical Reserve (CIP C800753) resulting in zero net change to the Aviation capital budget. The funding source will be the Airport Development fund and revenue bonds. This project was submitted on December 4, 2020, to the airlines for the Majority-in-Interest approval.

Financial Analysis and Summary

Project cost for analysis	\$14,000,000
Business Unit (BU)	Passenger Loading Bridge
Effect on business performance (NOI after depreciation)	NOI after depreciation will increase due to inclusion of capital (and operating) costs in airline rate base.
IRR/NPV (if relevant)	N/A
CPE Impact	\$.03 in 2022; \$.05 by 2024

ATTACHMENTS TO THIS REQUEST

- (1) Presentation slides

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

July 9, 2019 (6F) – Authorization to advertise and award a PLB specific IDIQ contract.