



**COMMISSION  
AGENDA MEMORANDUM**

**Item No.** 6f

**ACTION ITEM**

**Date of Meeting** February 27, 2018

**DATE:** February 20, 2018

**TO:** Stephen P. Metruck, Executive Director

**FROM:** Jeffrey Brown, Director Aviation Facilities and Capital Programs  
Wayne Grotheer, Director, Aviation Project Management Group

**SUBJECT:** Passenger Loading Bridges Phase 2 (CIP#C800793)

**Amount of this request:** \$7,700,000

**Total estimated project cost:** \$10,000,000

**ACTION REQUESTED**

Request Commission authorization for the Executive Director to (1) prepare design and construction bid documents for the replacement of the passenger loading bridge (PLB) at Sea-Tac Airport Gates C11, C15, and S6 and the PLB and fixed walkway at Gates C9, C18, D11, and D4; (2) purchase seven new PLBs and four fixed walkways; (3) use Port crews and small works contracts. The amount of this request is \$7,700,000 for a total estimated project cost of \$10,000,000.

**EXECUTIVE SUMMARY**

Reliable, well operating passenger loading bridges are critical to airline and airport operations. Port staff has created a prioritized list of PLBs, whose age and condition indicate a need for replacement or refurbishment. Nine PLB's (and associated fixed walkways) considered to be at highest risk for failures are scheduled for replacement under this project: Gates B10, S11, C11, C15, S6, C9, C18, D11, and D4. Funding for the replacement of Gates S11 and B10 were approved under prior Commission action. This request will provide the necessary funding for the seven remaining highest risk PLBs. The airlines approved this project in 2017 through a Majority-in-Interest vote.

Staff will return to Commission as necessary to facilitate additions to the PLB renewal and replacement program.

**JUSTIFICATION**

The PLBs at Sea-Tac have high utilization compared to airports with comparable annual enplanements. In 2015, Sea-Tac processed approximately 217,000 passengers per gate, the highest of all peer airports and well above the national average of approximately 153,000. Any unplanned downtime due to PLB or fixed walkway failure impacts airlines and customer service.

Meeting Date: February 27, 2018

PLBs have a service life of approximately 25 years before major refurbishment or replacement is required. Many of the 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 recently occurred (December 2017) with gate C15 being inoperable for almost a month because of a failed, obsolete motor generator set.

### DETAILS

AV/PMG has worked in conjunction with AV Operations, AV Planning, AV Facilities and Infrastructure, and AV Maintenance to create a prioritized list of PLBs whose age and condition are cause for replacement or refurbishment. Gates S11 and B10 were approved for design and construction by the Commission on February, 28, 2017, both of which are 30+ years old. Two additional PLBs (D9 & D10) remain to be replaced, along with mid-life refurbishment of multiple PLBs on Concourse A.

Replacement of PLBs is preferred to refurbishment as it will take gates out of service for only three weeks while a complete refurbishment could leave the gate inoperative for up to 12 weeks.

PLBs that are 30+ years old.

1. C15 Bridge -- 1970's (A3 60/119)
2. C9 Bridge and Walkway -- 1980's (A3 44/78, 55' walkway)
3. D11 Bridge and Walkway -- 1984 (A3 43/80, 55' walkway)

PLBs that are 25+ years old.

1. C11 Bridge – 1992 (A2 57/84)
2. C18 Bridge and Walkway – 1992 (A3 58/110, 120' walkway)
3. S6 Bridge – 1988 (A3 53/104)
4. D4 Bridge and Walkway – 1992 (A3 58/110, 48' walkway)

Replacement Schedule:

1. 4Q2018: S6 & C15
2. 4Q2019: C9 & D11
3. 1Q2020: D4
4. 4Q2020: C11 & C18

*\*This schedule is tentative and can change due to changing conditions and priorities.*

Meeting Date: February 27, 2018

**Scope of Work**

- (1) Design services for this scope of work will be provided under existing indefinite delivery, indefinite quantity (IDIQ) design services contract.
- (2) Purchase and installation of new PLBs, associated fixed walkway, and related components at Gates C9, C11, C15, C18, D4, D11, and S6 along with necessary architectural, electrical, data and mechanical infrastructure upgrades to meet new PLB standards and current code requirements.
- (3) Port Construction Services will perform work associated with preparing the foundations upgrade or replacement and provide construction management services for PLB installations at all gates.
- (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 Maintenance for faster response.

**Small Business**

Through Port Construction Services (PCS), small works contracts are utilized, providing a number of small business opportunities within the project scope of work.

**Schedule**

*Activity*

Commission design authorization	2018 Quarter 1
Design start	2018 Quarter 2
Commission construction authorization	2018 Quarter 1
Construction start	2018 Quarter 4
In-use date	2020 Quarter 4

**Cost Breakdown**

	This Request	Total Project
Design	\$1,100,000	\$1,500,000
Construction	\$6,600,000	\$8,500,000
Total	\$7,700,000	\$10,000,000

**ALTERNATIVES AND IMPLICATIONS CONSIDERED**

**Alternative 1 – Status Quo:** Only replace Gates S11 and B10. This work is fully funded and currently at 30%.

Cost Implications: \$2,300,000

Pros:

- (1) This alternative minimizes the capital investment by only replacing the two gates currently funded.

Meeting Date: February 27, 2018

Cons:

- (1) This option does not provide the Port dependable equipment to facilitate airline operations; when PLB's are out of service, it impacts the airlines, operations, and passengers.
- (2) This alternative would significantly degrade the quality of passenger experience at Sea-Tac.
- (3) This alternative would potentially lead to airlines insisting on processing departing passengers in severely congested hold rooms on other concourses already being used for other flights.
- (4) This alternative does not provide reliable gate capacity for the increasing number of flights.
- (5) This alternative does not give airlines, tenants, and passengers a reliable gate system to provide customer service and process guests for arrivals and departures.

This is not the recommended alternative.

**Alternative 2** – Speed up the Construction Timeline (four PLB's in 2018 and five PLB's in 2019).

Cost Implications: \$10,000,000

Pros:

- (1) This alternative completes the project in less time.

Cons:

- (1) Same capital investment used to complete the project, but in a shorter timeframe; budget not spread out over multiple years.
- (2) Potentially stress PCS resources to complete five replacements in 2019.
- (3) Stress airline operations by having multiple gates out of service in 2019.

This is not the recommended alternative.

**Alternative 3** – Replace the PLB's on Current Timeline (four PLB's in 2018, two PLB's in 2019, and three PLB's in 2020).

Cost Implications: \$10,000,000

Pros:

- (1) Spreads the capital investment over more years.
- (2) It allows PCS flexibility in replacement of gates.

Cons:

- (1) This is the longest construction time.

***This is the recommended alternative.***

Meeting Date: February 27, 2018

**FINANCIAL IMPLICATIONS**

***Cost Estimate/Authorization Summary***

Capital

Expense

Total

<b>COST ESTIMATE</b>			
Original estimate	\$10,000,000	\$0	\$10,000,000
<b>AUTHORIZATION</b>			
Previous authorizations	\$2,300,000	\$0	\$2,300,000
Current request for authorization	\$7,700,000	\$0	\$7,700,000
Total authorizations, including this request	\$10,000,000	\$0	\$10,000,000
Remaining amount to be authorized	\$0	\$0	\$0

***Annual Budget Status and Source of Funds***

The Passenger Loading Bridges Project CIP#C800793 is included in the 2018-2022 capital budget and plan of finance with a budget of \$10,000,000. The funding sources will include the Airport Development Fund and future revenue bonds.

***Financial Analysis and Summary***

Project cost for analysis	\$10,000,000
Business Unit (BU)	Passenger Loading Bridges
Effect on business performance (NOI after depreciation)	NOI after depreciation will increase
IRR/NPV (if relevant)	N/A
CPE Impact	\$.04 in 2021

***Future Revenues and Expenses (Total cost of ownership)***

This is a renewal and replacement program that replaces existing equipment that is old and dated. Replacement of the equipment will require a similar level of maintenance and an anticipated reduced level of repairs and does not have a material impact on current Aviation Maintenance O&M costs.

**OTHER BACKGROUND**

PLBs were historically predominantly owned by airlines. Over the past fifteen years or so, the Port has increasingly taken over ownership of PLBs when they needed to be replaced in order to provide a consistent level of maintenance and level of service for all PLBs. Currently, Alaska is the only airline owning PLBs at Sea-Tac. Upon the completion of this project and the North Satellite Expansion project, the Port will own and maintain all of the PLBs at Sea-Tac.

**ATTACHMENTS TO THIS REQUEST**

None

Meeting Date: February 27, 2018

**PREVIOUS COMMISSION ACTIONS OR BRIEFINGS.**

February 28, 2017 – The Commission approved \$2,300,000 for the design, construction, and purchase of PLBs at gates S11 and B10 and the fixed walkway at S11.