COMMISSION
AGENDA MEMORANDUM **Item No.** 6f

ACTION ITEM **Date of Meeting** January 22, 2019

DATE: January 14, 2019

TO: Stephen P. Metruck, Executive Director

FROM: Michael Ehl, Director, Aviation Operations
Wayne Grotheer, Director, Aviation Project Management Group

SUBJECT: Parking Garage Elevator Modernization (CIP# C800789)

Amount of this request: $4,251,500
Total estimated project cost: $23,276,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to (1) prepare design and construction bid documents for Phase 2 of the Parking Garage Elevator Modernization project at Seattle-Tacoma International Airport; and (2) use Port of Seattle crews and small works contracts for preliminary work if required. The amount of this request is $4,251,500. The total estimated project cost is $23,276,000.

EXECUTIVE SUMMARY

The Seattle-Tacoma International Airport parking garage elevators provide vertical circulation services for millions of airport parking and ground transportation customers every month. Continued and reliable operations of these systems are vitally important to the traveling public as well as Airport operations. Using energy efficient drives and equipment, this project will reduce energy usage in the Airport parking garage by an estimated 56,000 to 211,000 kilowatt hours (kWh) per year.

The Airport has developed a renewal and replacement program to ensure thoughtful modernization of all 27 elevators, which vary by age and condition. As a result, the Parking Garage Elevator Modernization project is comprised of two major phases. The first phase, which was approved under a prior authorization, weatherizes the 8th floor parking garage sections PGB and PGC, and eliminates slip/trip hazards in the Section PGB, PGC, PGD, and PGE elevator lobbies on all eight floors.

The second phase of the project, which is seeking authorization under this action, will renovate the interior architectural finishes of all elevator cabs and modernize the mechanical and electrical systems as necessary to ensure continued reliable vertical circulation in the Airport

parking garage. The total estimated cost of this project is $23,276,000 and it is included in the 2019 – 2023 capital budget.

JUSTIFICATION

This project provides for continued reliable vertical circulation services within the airport parking garage for the next ten plus years while reducing maintenance costs and decreasing energy consumption. Additionally, this project will contribute to the Port's Long Range Plan (LRP, HPO Strategy 1, Objective 1a) to improve customer service.

The project replaces worn end-of-life components with new energy efficient systems and extends their useful life. The modernized elevators will use energy efficient regenerative drives that use less energy and produce less waste heat. The total energy savings is estimated at 56,000 to 211,000 kilowatt hours (kWh) per year. This energy reduction represents approximately 0.1 percent of the total airport electrical energy consumption. This project will contribute to the Port's goal to be the greenest and most energy efficient port in North America.

DETAILS

Scope of Work

The elevators located in the parking garage are organized physically into five elevator sections from North to South: PGA, PGB, PGC, PGD, and PGE. Elevator section PGA contains seven elevators, while the remaining four elevator sections PGB, PGC, PGD, and PGE contain five elevators each for a total of 27 elevators. Many of these elevators and associated facilities are over 40 years old and are at the end of their service lives.

This second phase of the Parking Garage Elevator Modernization project is comprised of the following project scope:

Elevator section PGA was refreshed approximately nine years ago and is still in good mechanical and electrical condition. It will be updated with new architectural finishes only.

Elevator sections PGB and PGC are approximately 48 years old, have reached the end of their useful lives, and will receive comprehensive modernization of all components.

Elevator sections PGD and PGE were installed approximately 19 years ago and are in generally good mechanical condition. However, the electrical drive systems on all but one of these elevators are at the end of their service life and will be renewed with more energy efficient systems.

Diversity in Contracting

The project manager will work with the Diversity in Contracting Department to determine participation opportunities and set goals for women and minority business enterprises (WMBE)

attainment. These affirmative efforts are in accordance with Resolution No. 3737.

Execution of a project labor agreement for this project was approved previously by the Commission.

Schedule – Phase 1

Design start	3rd Quarter 2018
Commission construction authorization	2nd Quarter 2019
Construction start	3rd Quarter 2019
In-use date (Core Structures)	4th Quarter 2019
In-use date (Lobbies)	4th Quarter 2019

Schedule – Phase 2

Design start	2nd Quarter 2019
Commission construction authorization	1st Quarter 2020
Construction start	1st Quarter 2021
In-use date (First Elevator Bank)	4th Quarter 2021
In-use date (Final Elevator Bank)	1st Quarter 2023

Cost Breakdown – Phase 1	This Request	Total Work Project
Design	$0	$595,000
Construction	$0	$2,004,000
Sub-Total	$0	$2,599,000

Cost Breakdown – Phase 2	This Request	Total Work Project
Design	$4,251,500	$4,366,000
Construction	$0	$16,311,000
Sub-Total	$4,251,500	$20,677,000

Combined (Phases 1 & 2) Cost Breakdown	This Request	Total Project
Design	$4,251,500	$4,961,000
Construction	$0	$18,315,000
Total	$4,251,500	$23,276,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Do not proceed to prepare design and construction bid documents for this project.

Cost Implications: An estimated $81,000 in costs to date would need to be expensed if this project is canceled.

Pros:

(1) Does not require capital investment.
(2) Does not involve any shutdown of current facilities

Cons:

(1) This option would result in the facility continuing to deteriorate until potential failures of greater impact and severity occur.
(2) Since the parking garage is critical infrastructure and a significant revenue source, a "planned" outage is far more desirable than an "unplanned" outage.
(3) The parking garage facility would not experience the energy savings that the replacement systems in the two banks would deliver.

This is not the recommended alternative.

Alternative 2 – Proceed with the recommended scope but schedule the work to remove only one elevator at a time per bank from service.

Cost Implications: $23,866,000

Pros:

(1) This option will result in the planned renewal of critical Airport infrastructure and minimize the risk of an "unplanned" outage.
(2) Minimizes disruption to customers in the parking garage.
(3) The parking garage facility will experience the energy savings that the replacement systems in the two banks will deliver.

Cons:

(1) Would result in a total construction schedule of approximately seven years.
(2) The long construction schedule increases the risk of elevator failure prior to replacement.

This is not the recommended alternative.

Alternative 3 – Proceed with the recommended scope and allow entire elevator cores to be removed from service to improve the project schedule.

Cost Implications: $23,276,000

Pros:

(1) This option will result in the planned renewal of critical Airport infrastructure and minimize the risk of an "unplanned" outage.
(2) The parking garage facility will experience the energy savings that the replacement systems in the two banks will deliver.

(3) Minimizes the total construction schedule to approximately two years.

Cons:

(1) Will result in significant impacts for parking garage customers during construction.

This is the recommended alternative.

FINANCIAL IMPLICATIONS

Cost Estimate/Authorization Summary	Capital	Expense	Total
COST ESTIMATE			
Original estimate	$23,276,000	$0	$23,276,000
Previous changes – net	0	0	0
Revised estimate	$23,276,000	0	$23,276,000
AUTHORIZATION			
Previous authorizations	$709,500	0	$709,500
Current request for authorization	$4,251,500	0	$4,251,500
Total authorizations, including this request	$4,961,000	0	$4,961,000
Remaining amount to be authorized	$18,315,000	$0	$18,315,000

Annual Budget Status and Source of Funds

The Parking Garage Elevator Modernization project (#C800789) is included in the 2019-2023 capital budget and plan of finance with a budget of $23,276,000 for all phases. The funding source would be the Airport Development Fund and future revenue bonds.

This project is categorized as a non-aeronautical cost center, which does not impact the airline rate base.

Financial Analysis and Summary

Project cost for analysis	$23,276,000
Business Unit (BU)	Parking
Effect on business performance (NOI after depreciation)	NOI after depreciation will decrease
IRR/NPV (if relevant)	N/A
CPE Impact	N/A

Future Revenues and Expenses (Total cost of ownership)

Renovation is expected to reduce future repair costs and increase the operational availability of the system. The estimated useful life will be extended for all 27 elevators located in the parking garage. The new elevators in Sections PGB and PGC (10 elevators total) will have a useful life of

approximately 20 years, while the remaining 17 elevators located in Sections PGA, PGD and PGE will have a useful life of 10 years.

ATTACHMENTS TO THIS REQUEST

(1) Presentation slides

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

May 8, 2018 – The Commission authorized design of *WP U00434 (Phase 1)* work.