



**COMMISSION  
AGENDA MEMORANDUM**

**Item No.** 6c

**ACTION ITEM**

**Date of Meeting** October 9, 2018

**DATE:** September 14, 2018

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

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

**SUBJECT:** 2019 Airfield Pavement Replacement Projects (CIP #C800483)

**Amount of this request:** \$ 1,325,000  
**Total estimated project cost:** \$ 11,500,000

**ACTION REQUESTED**

Request Commission authorization for the Executive Director to proceed with design and prepare construction documents for the replacement of distressed pavements and related utilities for the 2019 Airfield Pavement portion of the 2016-2020 Airfield Pavement Replacement Program at the Seattle-Tacoma International Airport in an amount not to exceed \$1,325,000.

**EXECUTIVE SUMMARY**

This project is part of an ongoing Pavement Management and Maintenance Program (PMMP) as required by the Federal Aviation Administration (FAA). The focus of this program is to replace distressed and damaged pavement on the airfield. This project will take advantage of these replacements by also replacing in-pavement utilities and covers when it makes sense, as well as removing abandoned utilities within the general work area. The project includes emergent distressed areas on the airfield as well as areas surrounding the aircraft gates.

Replacing damaged pavement on the airfield supports the long-term strategy of the port's Century Agenda objective to "meet the region's air transportation needs at Seattle-Tacoma International Airport for the next 25 years." The PMMP maintains the integrity of airfield pavements and enables efficient airport operations. Deferring damaged pavement replacement could potentially increase risk to airfield operations, damage from ensuing foreign object debris (FOD) and drive costs higher in the future. This project was included in the 2017 – 2021 capital budget and plan of finance.

**JUSTIFICATION**

The 2019 Airfield Pavement Program is a continuation of the programmatic approach of replacing aging and distressed pavement as part of a multi-year program. Many sections of

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airfield pavement have exceeded their 20-year service life and have become cracked and damaged.

This project will replace sections of failing asphalt pavement located south of the Cargo 4 Maintenance Facility, the fire lane east of Hardstand 7 and behind the Alaska Airlines Hangar, the western edge of the South Satellite, the D Concourse Holdroom COBUS™ lane along the fence line to Gate E100, and individual panels of damaged concrete at various locations on taxiways, runways, and apron areas as determined by current inspections. The asphalt pavement in these areas is no longer structurally adequate to handle the constant traffic weight of large vehicles and ground support equipment (GSE). There have been foreign object debris (FOD) issues coming from the Cargo Maintenance area, related to asphalt damage and failing patches. This project will interface other projects and airline operations so that the scope and schedule of this project will not be in conflict. Replacing distressed pavements on the airfield ensures safe operations at Seattle-Tacoma International Airport.

Continual coordination with Airport Operations, airlines, and related tenants is done to ensure the least possible operational impact during construction. There are no planned construction impacts in 2019 to major taxiways or runways.

Through the Diversity in Contracting (DC) program, women- and minority-owned business enterprise (WMBE) aspirational goals will be administered to support community participation on this project.

Specific WMBE outreach efforts will be conducted through the Port of Seattle’s Small Business Generator (PortGen) program, which includes targeted announcements to those interested WMBEs within the categories of the project’s scope of work.

**DETAILS**

***Scope of Work***

- (1) Replace aging and distressed concrete pavement on the airfield.
- (2) Replace sections of damaged and failing asphalt.
- (3) Remove abandoned utilities and add or upgrade in-pavement utilities located within the distressed pavements work area when it makes sense.

***Schedule***

Design start	2018 Quarter 3
Commission construction authorization	2019 Quarter 1
Construction start	2019 Quarter 3
In-use date	2019 Quarter 4

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**Cost Breakdown**

	This Request	Total Project
Design	\$1,325,000	\$1,325,000
Construction	\$0	\$10,175,000
Total	\$1,325,000	\$11,500,000

**ALTERNATIVES AND IMPLICATIONS CONSIDERED**

**Alternative 1** – Delay the project beyond 2019

Cost Implications: \$12,064,000

The estimate is based on the assumption of delaying this project to 2020. If the project is delayed beyond 2020, the cost estimate would be further increased to reflect annual escalation.

Pros:

- (1) No construction cost for 2019.
- (2) No construction impacts to aircraft operations or airport operations at affected areas by this project in 2019.

Cons:

- (1) Continued use of the pavement could result in increased FOD, creating additional safety hazards for aircraft ingestion.
- (2) This project would likely lose the opportunity to be combined with other construction projects if delayed beyond 2019. This would result in contracting inefficiencies and more impact to airfield operations.

This is not the recommended alternative.

**Alternative 2** – Only replace the individual damaged concrete panels on taxiways, runways, and apron.

Cost Implications: \$3,800,000

Pros:

- (1) Reduced total construction cost for 2019.
- (2) The replacement of damaged concrete panels helps with ensuring safe aircraft operations.

Cons:

- (1) Continued use of the aging and distressed asphalt pavement would result in increased FOD and potentially increase risk to airfield operations.
- (2) Deferring asphalt replacement would likely drive costs higher in the future.

This is not the recommended alternative.

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**Alternative 3** – Replace distressed pavements and supporting projects on the airfield during the 2019 construction season.

Cost Implications: \$11,500,000

Pros:

- (1) Programmatic replacement of distressed pavements provides stable structural support to aircraft and airport operations.
- (2) This project could be combined with other construction projects during the 2019 construction season to increase efficiencies and minimize impacts to airport operations.
- (3) Supports the port’s Century Agenda.

Cons:

- (1) Earlier capital spending than the other alternatives.

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

**FINANCIAL IMPLICATIONS of 2019 Airfield Pavement Project C800483**

<b><i>Cost Estimate/Authorization Summary</i></b>	<b>Capital</b>	<b>Expense</b>	<b>Total</b>
<b>COST ESTIMATE</b>			
Original Budget	\$32,500,000	\$0	\$32,500,000
Budget transfers – primarily to 2018 Taxiway Improvement Project	(\$22,200,000)		(\$22,200,000)
Budget Transfer from 2020-2024 Pavement Replacement Program CIP	\$2,100,000		\$2,100,000
Revised Current Budget	\$12,400,000		\$12,400,000
2019 Cost Estimate	\$11,500,000	\$0	\$11,500,000
<b>AUTHORIZATION</b>			
Previous authorizations	\$1,515,000		\$1,515,000
Current request for authorization (2019 Design)	<b>\$1,325,000</b>		<b>\$1,325,000</b>
Total authorizations, including this request	\$2,840,000	\$0	\$2,840,000
Remaining amount to be authorized for (2019 Program – Construction)	\$9,560,000		\$9,560,000

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

The Airfield Pavement Program (C800483) is included in the 2018-2022 capital budget and plan of finance with a budget of \$32,500,000. The budget of \$22 million was moved to the 2018 Taxiway Improvement project C800914. To provide adequate budget for the 2019 projects, \$2.1 million was transferred from the 2020 – 2024 Airfield Pavement Program. The 2019 Airfield Pavement improvements are estimated to be \$11,500,000. The funding sources for this project will be the Airport Development Fund (ADF) and 2018A revenue bonds.

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***Financial Analysis and Summary***

Project cost for analysis	\$12,400,000
Business Unit (BU)	Airfield Apron
Effect on business performance (NOI after depreciation)	NOI after depreciation will increase
IRR/NPV (if relevant)	N/A
CPE Impact	\$0.05 in 2020

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

Annual Operating and Maintenance costs are not anticipated to change appreciably. The estimated life expectancy for this project is 20 years for concrete pavement. Replacing pavement will result in maintenance cost avoidance. Replacing joint sealant will help with extending pavement service life and reducing lifecycle cost.

**ATTACHMENTS TO THIS REQUEST**

- (1) Presentation slides

**PREVIOUS COMMISSION ACTIONS OR BRIEFINGS**

November 14, 2017 – The Commission authorized advertisement and execution of a single construction contract which included the 2018 Airfield Pavement Replacement as part of the 2018 Taxiway Improvement Projects and approved non-use of PLA.

May 9, 2017 – The Commission authorized design funds for construction documents for replacement of distressed pavement and joint sealant replacement in the 2018 portion of the 2016-2020 Airfield Pavement Program, and approved use of PLA.

October 25, 2016 – The Commission authorized advertisement and execution of contract for retrofits of 400 Hz In-ground power units and reconstruction of existing pavement at Cargo 2.

February 24, 2015 – The Commission authorized design funds for construction documents, for replacement of distressed pavement and joint seal in the 2016 portion of the 2016-2020 Pavement Program.