



**COMMISSION  
AGENDA MEMORANDUM**

**Item No.** 6j

**ACTION ITEM**

**Date of Meeting** November 12, 2019

**DATE:** November 4, 2019

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

**FROM:** Laurel Dunphy, Director, Aviation Operations  
Wayne Grotheer, Director, Aviation Project Management

**SUBJECT:** 2020 Airfield Pavement Replacement Projects (CIP # C800483)

**Amount of this request:** \$11,235,000

**Total estimated project cost:** \$18,416,000

**ACTION REQUESTED**

Request Commission authorization for the Executive Director to advertise and execute a major works construction contract for the replacement of damaged pavements, joint seal and related utilities for the 2020 Airfield Pavement portion of the 2016-2020 Airfield Pavement Replacement Program at the Seattle-Tacoma International Airport. The 2020 Airfield Pavement Replacement Project is estimated to cost \$18,416,000. The overall CIP budget is \$25,830,000. This authorization is for the remaining \$11,235,000 to perform this construction in the final year of the CIP.

**EXECUTIVE SUMMARY**

This project is part of the ongoing Pavement Management and Maintenance Program (PMMP) as required by the Federal Aviation Administration (FAA), and a recognized best practice to provide a safe and operable pavement system. 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 pavement areas on the airfield.

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 the 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), increase the likelihood of critical or emergency work, and drive costs higher in the future.

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This project is included in the 2018 – 2022 capital budget and plan of finance. This work is included in the airport’s 5-year Airport Capital Improvement Plan submitted to the FAA for Federal Funding under the Airport Improvement Program. It is the Port’s intention to pursue FAA grant funding for 2020 Airfield Pavement Replacement Projects.

This project does not have an FAA approved Project Labor Agreement (PLA). We are working with the FAA to get PLAs approved for future FAA grant funded work.

**JUSTIFICATION**

The 2020 Airfield Pavement Project is a continuation of the programmatic approach of replacing aged and distressed pavement as part of a multi-year program. Many sections of airfield pavement have exceeded their 20-year service life and have become cracked and damaged.

This project will interface with 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 STIA.

***Diversity in Contracting***

This project includes federally assisted funding that requires the use of the federal Disadvantaged Business Enterprise (DBE) program rules and regulations, which includes the setting of DBE goals. A DBE goal of 9% has been established for this construction project.

**DETAILS**

***Scope of Work***

The project scope includes replacing the following failing and distressed Airfield infrastructure:

- Portland Cement Concrete Pavement (PCCP) areas within Taxiway W and Taxiway B near the South Satellite.
- Asphalt Concrete Pavement (ACP) apron areas near the North Satellite Taxiway shoulder, the Airport Rescue and Fire Fighting station, and the Cargo 6 Hardstand.
- Vehicle Service Road pavements adjoining Cargo 2 and 3.
- ACP apron at Cargo 2 east equipment storage area.
- Upgrade of utilities located within the above pavement replacement work areas.
- Individual PCCPs at various location on the airfield.

***Schedule***

*Activity*

Construction start	2020 Quarter 1
In-use date	2020 Quarter 4

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<b>Cost Breakdown</b>	<b>This Request</b>	<b>Total Project</b>
Design	\$0	\$1,285,000
Construction	\$11,235,000	\$17,131,000
Total	\$11,235,000	\$18,416,000

**ALTERNATIVES AND IMPLICATIONS CONSIDERED**

**Alternative 1 - Delay the project beyond 2020**

Cost Implications: \$19,089,000

The estimate is based on delaying this project to 2021. If the project is delayed beyond 2021, the cost estimate would be further increased to reflect annual escalation.

Pros:

- (1) No construction cost for 2020.
- (2) No construction impacts to aircraft operations or airport operations at affected areas by this project in 2020.

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 it's delayed beyond 2020. This would result in contracting inefficiencies and more impact to airfield operations.
- (3) Lost opportunity to receive FAA Entitlement Funds allocated for Seattle-Tacoma International Airport for 2020 calendar year.

This is not the recommended alternative.

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

Cost Implications: \$7,342,000

Pros:

- (1) Reduced total construction cost for 2020. The replacement of damaged concrete panels helps with ensuring safe aircraft operations.

Cons:

- (1) Continued use of the aged 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.
- (3) Lost opportunity to receive FAA Entitlement Funds allocated for Seattle-Tacoma International Airport for 2020 calendar year.

This is not the recommended alternative.

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**Alternative 3 - Replace distressed pavements and supporting projects on the airfield during the 2020 construction season.**

Cost Implications: \$18,416,000

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 2020 construction season to increase efficiencies and minimize impacts to airport operations.
- (3) Support the Port’s Century Agenda.

Cons:

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

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

**FINANCIAL IMPLICATIONS**

<b><i>Cost Estimate/Authorization Summary</i></b>	<b>Capital</b>	<b>Expense</b>	<b>Total</b>
<b>COST ESTIMATE</b>			
Revised Budget	\$10,300,000	\$0	\$10,300,000
Budget Additions	\$15,530,000	\$0	\$15,530,000
Current Budget	\$25,830,000	\$0	\$25,830,000
<b>AUTHORIZATION</b>			
Previous authorizations	\$14,595,000	\$0	\$14,595,000
Current request for authorization	\$11,235,000	\$0	\$11,235,000
Total authorizations, including this request	\$25,830,000	\$0	\$25,830,000
Remaining amount to be authorized	\$0	\$0	\$0

***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 \$31,026,000. The budget of \$22 million was moved to the 2018 Taxiway Improvement project C800914. For the 2019 - 2023 capital budget, the remaining budget was \$10,300,00. This was not sufficient to cover the needed program for 2020, so budget was transferred from the 2021 – 2025 Airfield Pavement Program CIP (C800930). The funding sources for the 2020 work will be the Airport Development Fund and existing revenue bonds.

***Financial Analysis and Summary***

Project cost for analysis	\$25,830,000
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Business Unit (BU)	Airfield Movement Area
Effect on business performance (NOI after depreciation)	NOI after depreciation will increase
IRR/NPV (if relevant)	N/A
CPE Impact	\$.06 in 2021

***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 40 years for concrete pavement. Replacing pavement will result in maintenance cost avoidance.

**ATTACHMENTS TO THIS REQUEST**

- (1) Presentation slides

**PREVIOUS COMMISSION ACTIONS OR BRIEFINGS**

- October 9, 2018 – The Commission authorized design funds for construction documents for replacement of distressed pavement and related utilities in the 2019 portion of the 2016-2020 Airfield Pavement Program.
- 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.