



**COMMISSION  
AGENDA**

**MEMORANDUM**

**Item No.** 10b

**ACTION ITEM**

**Date of Meeting** March 26, 2024

**DATE :** March 18, 2024  
**TO:** Stephen P. Metruck, Executive Director  
**FROM:** Eileen Francisco, Director Aviation Project Management  
Keri Stephens, Director Aviation Facility and Capital Program  
**SUBJECT: Taxiway A Recircuiting (CIP# C801303)**

**Amount of this request:** \$39,205,000  
**Total estimated project cost:** \$39,500,000

**ACTION REQUESTED**

Request Commission authorization for the Executive Director to (1) authorize final design and preparation of construction bid documents; (2) advertise, award, and execute a major public works construction contract; (3) procure long lead material items; (4) include a Project Labor Agreement for the contract; (5) authorize use of Port crews for abatement work for Taxiway A Circuit Replacement project at Seattle-Tacoma International Airport.

Total request for this action is \$39,205,000. The total project cost is estimated at \$39,500,000.

**EXECUTIVE SUMMARY**

This project will replace Taxiway A's centerline lighting conduit, cabling, lighting, and supporting infrastructure. Taxiway A, on the North side of the airfield, is part of the dual Taxiway A/B system that permits access of aircrafts to the North side of the Runways. Taxiway A is vital to efficient operations at Seattle-Tacoma International Airport. Taxiways are required by Federal Aviation Administration (FAA) to have functioning centerline lighting for pilots to follow to ensure safe passage. Taxiway A's centerline lighting have exhibited signs of failure compounded by the conduit underneath corroding, requiring replacement of the conduit and the pavement above. Furthermore, replacing lighting fixtures with Light Emitting Diode (LED) will creating savings on electrical demand.

**JUSTIFICATION**

Taxiway A is a critical part of efficient operations at Seattle-Tacoma International Airport. FAA requires centerline lighting for safe transiting of aircraft during periods of low visibility. Taxiway A centerline lighting is 30 years old, nearing the end of its useful life, costly to maintain, and in need of replacement. This project replaces the entirety of Taxiway A centerline lighting, changing

Meeting Date: March 26, 2024

the system to be more energy efficient and installs more resilient infrastructure that meets modern standards.

Certain construction materials and equipment may have lead time exceeding standard contractor mobilization time frames. The project staff has done an initial analysis on items that might be long lead, which could potentially include but is not limited to taxiway centerline lighting fixtures, transformers, constant current regulators, base cans, taxiway guidance signs, and handholes. Further analysis will be conducted as design progresses to verify the needs of owner furnished/contractor installed (OFCI) items. Early procurement of long lead items will help maintain the construction schedule starting in Q1 through Q4 2025.

### ***Diversity in Contracting***

The design services contract (P-00320176) includes a 17.30% Women and Minority Business Enterprise (WMBE) participation requirement and is currently trending below the requirement. However, the Service Directive (SD) and associated Modification for this project are estimated to provide 22% utilization, which will help the overall Service Agreement utilization. The project staff will stay in close coordination with Diversity in Contracting Department to identify and include a WMBE goal in the procurement of the construction contract.

### **DETAILS**

This project will be constructed in conjunction with the 2025 scope elements of the 2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program (CIP# C800930) and Airfield Utility Improvement Program (CIP# C801177). These projects have overlapping work areas and design functionality, interdependent operational impacts, and share 2025 schedule milestones. As such they are being planned, designed, and phased to be delivered concurrently for purposes of Airfield safety, efficiency, and minimization of operational impacts.

These projects will interface with other projects and airline operations. Continual coordination with Airport Operations, the FAA, Airlines, and related Tenants will ensure the least possible operational impact during construction.

A project labor agreement will be used for these projects based on the importance of labor continuity and the need to minimize any risk of impact to operations during construction.

### ***Scope of Work***

This project replaces centerline lighting circuit of Taxiway A, including:

- (1) Centerline lighting fixtures, replacing incandescent with LED.
- (2) Centerline lighting base cans.
- (3) Circuit cables.
- (4) Conduit.

Meeting Date: March 26, 2024

- (5) Concrete panels along centerline.
- (6) New constant current regulators.

**Schedule**

*Activity*

Design start	2023 Quarter 4
Construction start	2025 Quarter 1
In-use date	2026 Quarter 1

**Cost Breakdown**

	This Request	Total Project
Design	\$6,282,000	\$6,577,000
Construction	\$30,527,000	\$30,527,000
Sales Tax	\$2,396,000	\$2,396,000
Total	\$39,205,000	\$39,500,000

**ALTERNATIVES AND IMPLICATIONS CONSIDERED**

**Alternative 1** – Reconstruct Taxiway A circuit over several construction seasons.

Cost Implications: \$62,722,000

Pros:

- (1) Taxiway A centerline lighting circuit still gets reconstructed.
- (2) Less capital expenditures in 2024 and 2025.
- (3) Dividing the work into several years allows easier phasing during peak seasons with less operational impacts in 2024 and 2025.

Cons:

- (1) Higher overall cost.
- (2) Prolongs the risk of an emergency lighting system failure and not in compliance with FAA requirements for safe operations at Taxiway A and access to the Runways.
- (3) Operational impacts in 2026 and beyond.

This is not the recommended alternative.

Meeting Date: March 26, 2024

**Alternative 2 – Status Quo**

Cost Implications: \$0

Pros:

- (1) No capital expenditure in 2024 or 2025.
- (2) No operational impacts due to construction from this project.

Cons:

- (1) Risks of not in compliance with FAA requirements for safe operations at Taxiway A and access to the Runways.
- (2) Large, unplanned operational impacts from emergency lighting system failure.

This is not the recommended alternative.

**Alternative 3 – Reconstruct Taxiway A project in one construction season.**

Cost Implications: \$39,500,000

Pros:

- (1) Ensure compliance with FAA requirements and safe operations at Taxiway A and access to the Runways.
- (2) Create more sustainable airfield infrastructure with lower demand LED bulbs resulting in cost savings and environmental benefits.
- (3) Install PVC conduit, which is more resilient and less brittle with a longer service life. It also allows Maintenance to trouble shoot and replace aging and failing cables, both under normal operations, and in an emergency.

Cons:

- (1) Operational impacts during construction.
- (2) Taxiway A relocation is a near term Sustainable Airport Master Plan (SAMP) project. The final product of this construction would be demolished if the new Taxiway A is built as part of SAMP.
- (3) Expenditures in 2024, 2025 and 2026.

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

**FINANCIAL IMPLICATIONS**

<i>Cost Estimate/Authorization Summary</i>	Capital	Expense	Total
<b>COST ESTIMATE</b>			
Original estimate	\$39,500,000	\$0	\$39,500,000
Current change	(\$90,000)	\$90,000	0
Revised estimate	\$39,410,000	\$90,000	\$39,500,000
<b>AUTHORIZATION</b>			

Meeting Date: March 26, 2024

Previous authorizations	\$295,000	0	\$295,000
Current request for authorization	\$39,115,000	\$90,000	\$39,205,000
Total authorizations, including this request	\$39,410,000	\$90,000	\$39,500,000
Remaining amount to be authorized	\$0	\$0	\$0

**Annual Budget Status and Source of Funds**

This project was included in the 2024-2028 capital budget and plan of finance with a budget of \$39,500,000. The budget of \$90K, for environmental remediation cost, was transferred from capital to expense. The funding sources will be the Airport Development Fund and future revenue bonds.

**Financial Analysis and Summary**

Project cost for analysis	\$39,500,000
Business Unit (BU)	Airfield Movement Area
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	\$0.13 in 2027

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

The Taxiway A project will cause a decrease in annual operating & maintenance costs. This is because the project will install more resilient LED lighting, which is easier to maintain as it has a longer life than the current incandescent lighting. Furthermore, PVC conduit will be installed, which makes cable pulling easier.

**ATTACHMENTS TO THIS REQUEST**

- (1) Presentation slides.

**PREVIOUS COMMISSION ACTIONS OR BRIEFINGS**

None.