



**COMMISSION
AGENDA MEMORANDUM**

Item No. 10b

ACTION ITEM

Date of Meeting September 24, 2024

DATE: September 17, 2024

TO: Stephen P. Metruck, Executive Director

FROM: Eileen Francisco, Director Aviation Project Management
Laurel Dunphy, Director Airport Operations
Keri Stephens, Director Aviation Facility and Capital Program

SUBJECT: 2026-2030 Airfield Program (CIP# C801379)

Amount of this request: \$71,000,000

Total estimated project cost: \$400,000,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to (1) advertise and execute a service agreement for design and engineering services for the airfield capital improvement program with the combined value not to exceed \$28,000,000; (2) authorize design and preparation of construction documents for the 2026-2030 Airfield Program at the Seattle-Tacoma International Airport (SEA); (3) procure long lead material items; (4) enter into agreements with the Federal Aviation Administration (FAA) and/or other public agencies for the evaluation of impacts, protection and/or relocation of utilities and performance of flight checks; and (5) approve the use of a project labor agreement (PLA) for each year's construction contract. The use of a PLA will be subject to approval by the FAA for work receiving federal funding. Total request for this action is \$71,000,000. The total program cost is estimated at \$400,000,000.

EXECUTIVE SUMMARY

The 2026-2030 Airfield Program is a continuation of a programmatic approach for airfield infrastructure renewal and replacement, as well as projects needed to keep the airfield within regulatory compliance. The overarching goal of the Program is to provide safe and efficient conditions for aircraft operations at SEA and meet FAA and other regulatory requirements.

This program aligns with FAA Airport Capital Improvement Program (ACIP) to utilize available federal grants. To better align with both FAA grant schedules and to plan and execute the work efficiently, Port staff are requesting full 2026-2030 Program design authorization. Yearly construction design phases significantly overlap the preceding year's construction contracts. Full

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design authorization allows each year's project to move forward meeting required FAA grant schedule milestones and to do programmatic level planning for airfield operational impacts.

The Port will advertise and select a firm to provide design and engineering services for the airfield capital program from preliminary design through construction support. The solicitation will include the scope of work along with a list of projects as identified and/or updated in the airfield capital improvement plan.

Certain construction materials and equipment may have lead time exceeding standard contractor mobilization time frames. Port staff have done an initial analysis on items that might be long lead, which could potentially include but is not limited to lighting fixtures, transformers, constant current regulators, in-pavement lighting base cans, guidance signs, handholes, utility pipes and aircraft-rated utility castings. 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 annual construction schedule. Port staff will return to Commission on a yearly basis for Construction Authorization.

JUSTIFICATION

The Airport has approximately 21,850,000 square feet of runway, taxiway, taxilane, and apron pavement. To comply with the Federal Aviation Administration Pavement Management Program requirement, the Airport must complete yearly pavement inspections detailing pavement conditions according to specific FAA criteria. These yearly inspections support FAA project funding requests and aid in the development of prioritized work plans. The 2021-2025 Airfield Program has focused on the apron and taxilanes around the terminal areas. The 2026-2030 Program will focus on replacements of aging and damaged pavements on the runways, connecting taxiway system, vehicle service road and cargo areas. Most airfield pavements included in this program are 40 to 50 years old and have far exceeded their 20-year design service life and lacking the thickness to support the weight and growing volume of the current aircraft operations at SEA, these pavements have become cracked and damaged. A section of distressed pavement located at Cargo 2 is above an active water main owned by Seattle Public Utilities (SPU). This authorization will allow the Port to enter into agreements with SPU related to the construction scope.

A variety of capital improvements are required to replace and amend aging, failing, and over-capacity utility systems on the airfield including stormwater, domestic water, power, communications, and the industrial wastewater system (IWS). This program will focus on items either identified by the 2021 Utility Master Plan (UMP) or site verifications with poor conditions or capacity issues that warrant replacement.

Many airfield lighting circuits are either near the end of or beyond their service life. Runway and taxiway system is vital to safe and efficient operations at SEA and are required by the FAA to have functioning lighting system for pilots to follow to ensure safe passage under both regular and

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low-visibility conditions. This program will focus on circuits with signs of distress and low megohm reading deemed as “destined for rapid failure” according to the FAA Advisory Circular.

There are drainage issues in the infield areas between the runways and taxiways that attract wildlife to the Airport Movement Area (AMA). Over 75% of all civil bird-aircraft strikes occur within a horizontal distance of 10,000 feet from an airfield. Wildlife strikes are a significant potential safety hazard at SEA and can result in significant costs from the damage to aircrafts. The FAA requires airports to take immediate measures and mitigate wildlife hazards whenever hazardous conditions exist. This program will address drainage issues in the infield areas and install anti-perching devices on airfield signs to reduce the attraction of wildlife to AMA to improve air traffic safety at SEA.

Runways at SEA are required to be renumbered from 16-34 to 17-35 to accommodate the move of the magnetic pole to ensure FAA regulatory compliance. This program will replace all runway designation signs and markings prior to the FAA’s publication date in 2028. Port staff are coordinating with the FAA on scope, schedule, phasing, impacts, flight checks, and other emergent items associated with the runway renumbering. This authorization will allow the Port and the FAA to enter into agreements for reimbursement of costs by both parties.

There is a Runway 16L safety area wall behind a critical FAA Navigational Aids (NAVAIDs) facility leaning out of vertical alignment and posing safety risks. This program will replace the wall with a slope with close coordination with the FAA to relocate their NAVAIDs facility.

Diversity in Contracting

2026-2030 Airfield Program is set to be partially funded with FAA grants. Each year, Port staff anticipate establishing two separate construction contracts:

Contract #1 - encompassing federally funded scope. FAA ACIP Entitlement Funding of \$40M is anticipated over the life of this program.

Contract #2 - all other airfield work (non-federally funded scope).

The project staff, in coordination with the Diversity in Contracting Department, will evaluate and establish goals for both the service agreement for design and engineering services and construction contracts. Airfield Contract #1 is federally funded work and will include a Disadvantaged Business Enterprises (DBE) goal. Contract #2 and the service agreement are not federally funded and as such will include Woman and Minority Business Enterprise (WMBE) aspirational goals.

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DETAILS

The program consists of a variety of interdependent capital improvement scope items. These scope items are planned to be delivered concurrently for purposes of Airfield safety, efficiency, and minimization of operational impacts. Some scope items or the schedule may change based on the continued aging of the airfield infrastructure and the need to prioritize replacements of failing infrastructure.

The service agreement for design and engineering services will be program specific and the scope is primarily based upon the five-year capital program. The selected firm shall provide the necessary professional services starting in 2025, including all labor, equipment, and materials to successfully provide airfield design, engineering and construction support services for the airfield capital program.

This program will interface with other projects and airline operations. Continual coordination with Airport Operations, airlines and related tenants is done to ensure the least possible operational impact during construction.

A PLA will be used for projects under this program based on the importance of labor continuity and the need to minimize any risk of impact to operations during construction.

Scope of Work

- (1) Replacement of distressed airfield pavement and joint sealant to reduce Foreign Object Debris (FOD) hazards and ensure SEA provides a safe and operable pavement system for aircraft. This program will focus on high priority areas with low Pavement Condition Index (PCI) based on SEA's Pavement Maintenance Management Program (PMMP). PMMP tracks pavement condition and is required to receive federal grants to construct, reconstruct, or repair airfield pavement.
- (2) Replacement of aging and failing airfield utilities including leaking water lines, over-capacity storm drainage pipe, failing non-standard flush fire hydrant access hatches and an allowance of \$500,000 per year in the budget for unidentified critical utilities.
- (3) Replacement of aging electrical circuits with low megger readings and installation of LED lighting fixtures and signs to provide functioning and reliable lighting system to ensure safe aircraft operations.
- (4) Wildlife hazard management to reduce wildlife attractants on the airfield and minimize safety risks of aircraft-wildlife collisions. This program will remove turf edge dams along runways, taxiways and access roads, mitigate ponding spots within the airport movement area by regrading and installing drains, and installation of anti-perching devices.
- (5) Runway renumbering from 16/34 to 17/35 by replacing runway designation signs and pavement markings to accommodate the move of the magnetic pole and to ensure FAA regulatory compliance. This scope needs to be completed prior to the FAA's Publication Date of October 26th, 2028.

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- (6) Replacement of a failing retaining wall located adjacent to the RW 16L safety area with a slope to provide a clear area free of obstacles or hazards to minimize the risk of damage to an aircraft in the event of an overrun, undershoot, or excursion from the runway.

Schedule*Activity*

Construction Year	2026	2027	2028	2029	2030
Commission design authorization	2024 Q3				
Design start	2024 Q3	2025 Q3	2026 Q3	2027 Q3	2028 Q3
Commission construction authorization	2025 Q4	2026 Q4	2027 Q4	2028 Q4	2029 Q4
Construction start	2026 Q1	2027 Q1	2028 Q1	2029 Q1	2030 Q1
In-use date	2026 Q4	2027 Q4	2028 Q4	2029 Q4	2030 Q4

Cost Breakdown

	This Request	Total Project
Design	\$71,000,000	\$71,000,000
Construction	0	329,000,000
Total	\$71,000,000	\$400,000,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Delay parts of or the entire program to 2031 or beyond.

Cost Implications: \$0 - \$400M in Capital Cost for 2026-2030 Airfield Program.

Pros:

- (1) Reduces capital spending in 2026-2030.
- (2) Less construction impacts to airport/airline operations in 2026-2030.

Cons:

- (1) Not in compliance with FAA regulatory requirements.
- (2) Increases cost in the future due to escalation.
- (3) Safety risks associated with wildlife hazards, failed airfield pavement, utilities, and/or supporting infrastructure will continue to increase.
- (4) Operational impacts from emergency repair/replacement.
- (5) Loss of FAA grants allocated for this program.

This is not the recommended alternative.

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Alternative 2 – Deliver each scope item with separate construction contracts.Cost Implications: \$414M in Capital Cost for 2026-2030.Pros:Cons:

- (1) Reduces efficiencies due to multiple contracts and separate jurisdictional coordination such as with the FAA.
- (2) Additional labor costs for contractor on-boarding and mobilizations, multiple-project ramp up and close out.
- (3) Increases coordination required between overlapping projects.
- (4) Increases construction safety risk due to overlapping work areas.
- (5) Additional and recurring impacts to airfield operations until all efforts are completed.

This is not the recommended alternative.

Alternative 3 – Move forward with full scope proposed in this program.Cost Implications: \$400MPros:

- (1) Provides safe and efficient conditions for aircraft operations and meet Federal Aviation Regulations and other regulatory requirements.
- (2) Reduces safety risks, minimizes operational impacts and increases efficiencies as coordination and construction is managed as combined construction contracts.
- (3) Reduces maintenance costs by investing in renewal of critical assets.
- (4) Environmental benefits for LED lighting, signs and in-field work.
- (5) In alignment with FAA’s 5-year ACIP and receive grants.
- (6) Full program design authorization supports the Port’s Process Improvement objectives by reducing both time and document preparation for repeat design authorizations.

Cons:

- (1) Large capital costs in 2026-2030.
- (2) Operational impacts during construction.

This is the recommended alternative.**FINANCIAL IMPLICATIONS*****Cost Estimate/Authorization Summary***

	Capital	Expense	Total
COST ESTIMATE			
Original estimate	\$390,000,000	\$10,000,000	\$400,000,000
AUTHORIZATION			
Previous authorizations	\$298,000	\$0	\$298,000
Current request for authorization	\$70,000,000	\$1,000,000	\$71,000,000

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Total authorizations, including this request	\$70,298,000	\$1,000,000	\$71,298,000
Remaining amount to be authorized	\$319,702,000	\$9,000,000	\$328,702,000

Annual Budget Status and Source of Funds

C801379 - 2026-2030 Airfield pavement program was not in the 2024-2028 capital budget and plan of finance. The capital budget of \$390,000,000 was transferred from the Aeronautical Allowance CIP C800753 resulting in no net change to the Airport capital budget. This project C801379 replaced an existing project C801302- Airfield Infrastructure and Security which was in the 2024 Plan of Finance with a budget amount of \$199,500,000. The budget for C801302- Airfield Infrastructure and Security was returned to the Aeronautical Allowance CIP C800753. Project C801379 - 2026-2030 Airfield pavement program anticipates approximately \$40M in Federal Aviation Administration (FAA) entitlement funds with the opportunity to receive additional discretionary funds. The funding sources will be the Airport Development Fund, FAA grants, and revenue bonds. This project will require Airline Majority-In-Interest approval before construction begins per Signatory Lease Operating Agreement (SLOA) IV.

Financial Analysis and Summary

Project cost for analysis	\$400,000,000
Business Unit (BU)	Airfield movement and Airfield apron
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	Total project cost CPE of \$1.08 in 2031; annual CPE of \$0.19

Future Revenues and Expenses (Total cost of ownership)

This program will reduce the amount of time currently spent by the Port Maintenance team on joint seal and pavement spall repairs. The new pavement will have a 40-year asset life and a greatly reduced risk of loose gravel and rock Foreign Object Debris (“FOD”) that could be picked up by vehicle tires or blown by jet engine exhaust and spread across the apron, taxiways and runways.

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

ATTACHMENTS TO THIS REQUEST

- (1) Presentation slides

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PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

Below are the previous Commission Actions or Briefings for 2021-2025 Airfield Program:

2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program (CIP C800930)

March 12, 2024 - The Commission authorized for the Executive Director to (1) advertise and execute a construction contract for 2024 Airfield Projects–Contract 2; (2) transfer budget/authorization, as necessary, between the 2024 Airfield Projects; (3) procure long lead items; (4) include a Project Labor Agreement for the contract; and (5) authorize use of Port crews for abatement work. The amount of this authorization request is \$13,074,500.

October 24, 2023 – The Commission authorized for the Executive Director to (1) advertise and execute a construction contract for 2024 Airfield Projects - Contract 1; (2) transfer budget/authorization, as necessary, between the 2024 Airfield Projects; (3) transfer budget/authorization for Gate B11 Passenger Loading Bridge (PLB) civil foundation from CIP C801180 PLB Phase 3 Project to CIP C800930 2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program; (4) procure long lead items; (5) include a Project Labor Agreement for the contract; and (6) authorize use of Port crews for abatement work. 2024 Airfield Projects – Contract 1 encompasses federally funded pavement and utility infrastructure. The amount of this authorization request is \$50,500,000.

October 25, 2022 – The Commission authorized the Executive Director to (1) advertise, execute two separate construction contracts, and transfer budget/authorization, as necessary, among the 2023 Airfield Projects; (2) procure long lead items; (3) include a Project Labor Agreement for both contracts; (4) authorize use of Port crews for abatement work. The amount of this authorization request is \$67,153,000. The total estimated cost for all projects included in this authorization is \$255,945,000.

November 16, 2021 - The Commission authorized the Executive Director to (1) advertise and execute a major works construction contract and (2) include a Project Labor Agreement for the 2022 Airfield Pavement and Supporting Infrastructure Replacement Project, at the Seattle-Tacoma International Airport. This authorization is for \$24,000,000 with a total authorized to date of \$79,195,000 and a previously approved total 2021-2025 program budget of \$153,500,000.

August 10, 2021 – The Commission authorized the Executive Director to advertise and award a major public works contract to replace the North Runway Protection Zone Culvert (NRPZ Culvert), a year 2022 component of the 2021 to 2025 Airfield Pavement and Supporting Infrastructure Replacement Program. This construction authorization is for \$3,800,000 for a total program authorization to date of \$55,195,000. The total 2021-2025 program cost is \$153,500,000.

November 10, 2020 – The Commission authorized the Executive Director to (1) advertise and execute a major works construction contract and (2) include a project labor agreement for the replacement of distressed pavements and supporting infrastructure for the 2021 portion of the 2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program at the Seattle-Tacoma International Airport. This construction authorization is for \$37,900,000

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for a total authorization to date of \$51,395,000. The total 2021-2025 program cost is \$153,500,000.

October 22, 2019 – The Commission authorized the Executive Director to authorize design and preparation of construction documents for the 2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Projects at the Seattle-Tacoma International Airport in the amount of \$16,000,000 and approve the use of a project labor agreement (PLA) for each year's construction contract.

Airfield Utilities Infrastructure (AUI) (CIP C801177)

October 24, 2023 – The Commission authorized for the Executive Director to (1) advertise and execute a construction contract for 2024 Airfield Projects - Contract 1; (2) transfer budget/authorization, as necessary, between the 2024 Airfield Projects; (3) transfer budget/authorization for Gate B11 Passenger Loading Bridge (PLB) civil foundation from CIP C801180 PLB Phase 3 Project to CIP C800930 2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program; (4) procure long lead items; (5) include a Project Labor Agreement for the contract; and (6) authorize use of Port crews for abatement work. 2024 Airfield Projects – Contract 1 encompasses federally funded pavement and utility infrastructure. The amount of this authorization request is \$50,500,000.

October 25, 2022 – The Commission authorized the Executive Director to (1) advertise, execute two separate construction contracts, and transfer budget/authorization, as necessary, among the 2023 Airfield Projects; (2) procure long lead items; (3) include a Project Labor Agreement for both contracts; (4) authorize use of Port crews for abatement work. The amount of this authorization request is \$67,153,000. The total estimated cost for all projects included in this authorization is \$255,945,000.

August 10, 2021 – The Commission authorized the Executive Director to (1) complete design and prepare construction documents for the Airfield Utilities Infrastructure (AUI) project at Seattle-Tacoma International Airport (SEA) and (2) enter into reimbursable agreements with the Federal Aviation Administration. This design authorization is for an amount of \$6,300,000 out of a total estimated project cost of \$46,200,000.