



**COMMISSION  
AGENDA MEMORANDUM**

**Item No.**

8e

**ACTION ITEM**

**Date of Meeting**

July 11, 2023

**DATE:** June 30, 2023

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

**FROM:** Matt Breed, Chief Information Officer, Information and Communications Technology  
Eileen Francisco, Director, Aviation Project Management

**SUBJECT: Wi-Fi Improvements Project (CIP #800585)**

**Amount of this request:** \$4,685,000

**Total estimated project cost:** \$19,126,000

**ACTION REQUESTED**

Request Commission authorization for the Executive Director to (1) construct the remaining Wi-Fi Improvements project passenger loading bridge installations at the North Satellite of Seattle-Tacoma International Airport, and (2) increase the project's overall authorization by \$4,685,000 which includes a budget increase of \$2,685,000, for a total project authorization of \$19,126,000.

**EXECUTIVE SUMMARY**

The Wi-Fi Improvements project has completed all design efforts and begun construction of Wi-Fi improvements to the Passenger Loading Bridges (PLBs) on Concourse D at the Airport. PLBs are the articulating walkways that connect aircraft to the airport terminals. With the preparation of new cost estimates, the estimated project cost now exceeds the project budget by \$2,685,000 primarily due to construction cost escalation and soft costs and is outlined in more detail below.

With this request, the project will complete the final phase of Wi-Fi improvement scope by installing additions to all the Airport PLBs. These Wi-Fi additions will extend Wi-Fi coverage to the remaining portions of the ramp and aircraft parking areas not covered by earlier phases of the project and remain a strong interest of the airlines who will benefit from this increased coverage.

**JUSTIFICATION**

The Wi-Fi Improvements Project will install high performing networks and Wi-Fi access points to better meet the expectations and needs of passengers and airport and airline tenants. The project will provide ramp level Wi-Fi access to each gate position and passenger loading bridge on each concourse. The proposed technology supports the current needs as well as the anticipated growth in the number of connected devices, requirements for improved bandwidth for newer mobile devices, and enabled increased accuracy of location aware services. Overall,

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this project will provide up to 200% increase in the coverage and number of access points on concourse levels, tenfold increase in bandwidth, and support today's technology on wireless protocols for newer devices. Airline operations will benefit from the added Wi-Fi coverage at the aircraft parking areas and continue to strongly support this project.

Since its initial authorization in 2014, the project has had three budget increases. In 2016, the budget was increased by \$796,000 to cover the cost of additional antennas needed to address gaps in signal coverage at areas where antennas were previously installed. In 2021, the project budget was increased by \$5,765,000 to account for more complex design and construction and to add Wi-Fi coverage to the North Concourse PLBs which were not installed as part of the NorthSTAR program. This commission action is the third budget increase.

***Diversity in Contracting***

The design contract was awarded back in 2015 that had a Small Contractor and Supplier (SCS) goal of 7% and is currently achieving 7.4%. For construction, the project team plans to continue utilizing existing Job Order Contracts which is achieving 9% of a 10% WMBE aspirational goal.

**DETAILS**

This budget increase of \$2,685,000 has two factors: Construction costs went up by \$1,588,000, primarily due to material and equipment price increases both realized and forecast, and the resulting sales tax increase, and due to the change to JOC delivery. Port staff and designer costs went up by \$1,097,000, due in part to project delays leading to a longer schedule duration impacting project management costs, more overlapped construction phases impacting construction management costs, and a need for additional designer construction support.

Multiple projects at the Airport have worked together to provide Wi-Fi coverage across the Airport terminal buildings. Previously, the 'Fiber to Backstands' project provided Wi-Fi to the interior of Concourses A and B. Phases 1 – 6 of this project have provided high speed Wi-Fi to the interior of Concourses C and D, South Concourse, Central Terminal, TSA Checkpoints, Gina Marie Lindsey Hall, Ticketing and Baggage Claim and the Airport ramp areas. The International Arrivals Facility (IAF) project has provided Wi-Fi within the new IAF facility.

***Scope of Work***

The project will install Wi-Fi antennas or Wireless Access Points (WAPs) on PLBs to enhance the Wi-Fi coverage at the Airport. Construction is through the Job Order Contracting (JOC) alternative public works construction method.

The key elements of project's scope of work include the following:

- (1) Installation of WAPs, surge arrestors, and other necessary mounting equipment.
- (2) Relocation of existing installed equipment to meet coverage requirements.
- (3) Provision of necessary cabling to connect WAPs to Port network and communication system.

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**Schedule**

This project experienced delays caused in part by extended (and ultimately fruitful) negotiations with the JOC contractor and much longer than anticipated procurement lead times for electronic equipment including network switches and WAPs.

*Activity*

Construction start	2022 Quarter 4
Final in-use date	2025 Quarter 2

**Cost Breakdown**

	This Request	Total Project
Design	\$0	\$2,697,000
Construction	\$4,685,000	\$16,429,000
Total	\$4,685,000	\$19,126,000

**ALTERNATIVES AND IMPLICATIONS CONSIDERED**

**Alternative 1** – Reduce the project scope to complete within its existing authorization.

Cost Implications: current authorized budget of \$16,441,000.

Pros:

- (1) Lower capital cost due to reduction in scope of work.

Cons:

- (1) Wi-Fi coverage for two concourses (such as Concourse A and the South Concourse) would not be provided for airline operations and passenger use.
- (2) Some design costs, all of which have been incurred, would need to be written off.

This is not the recommended alternative.

**Alternative 2** – Increase the project budget and complete the work at all gates.

Cost Implications: Capital investment of \$19,126,000.

Pros:

- (1) Provides airline operations personnel access to Wi-Fi in and around the passenger loading bridges and aircraft envelop at all concourses.
- (2) The travelling public may see an increase in connectivity as well while on board the aircraft.
- (3) The airport will have a single, continuous, high speed Wi-Fi network across most of the Airport Terminal area.

Cons:

- (1) Capital cost is higher than Alternative 1

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

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**FINANCIAL IMPLICATIONS**

<i>Cost Estimate/Authorization Summary</i>	Capital	Expense	Total
<b>COST ESTIMATE</b>			
Original estimate	\$9,880,000	\$0	\$9,880,000
Previous changes – net	6,416,000	\$145,000	\$6,561,000
Current change	\$2,685,000	0	\$2,685,000
Revised estimate	18,981,000	\$145,000	\$19,126,000
<b>AUTHORIZATION</b>			
Previous authorizations	\$14,296,000	\$145,000	\$14,441,000
Current request for authorization	\$4,685,000	0	\$4,685,000
Total authorizations, including this request	18,981,000	\$145,000	\$19,126,000
Remaining amount to be authorized	\$0	\$0	\$0

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

The Wi-Fi Enhancement project (C800585) was included in the 2023-2027 capital budget and plan of finance with a budget of \$16,296,000. The capital budget increase of \$2,685,000 was transferred from the Aeronautical Allowance (C800753). The funding sources are Airport Development Fund (ADF) and existing revenue bonds.

***Financial Analysis and Summary***

Project cost for analysis	\$19,126,000
Business Unit (BU)	Airfield Apron 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	\$0.07 in 2025

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

Although the enhanced Wi-Fi system provides significant performance improvements and better coverage, renewal and replacement of some network components will be required in three-to-five-year time frame to keep pace with innovation in the wireless industry and compliance with potentially upgraded Port network standards.

A software license and increased maintenance fee estimated to be \$20,000 will be budgeted in the ICT operating budget. Recurring Port labor costs required to maintain the system are not expected to change due to this project.

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**ATTACHMENTS TO THIS REQUEST**

- (1) Presentation slides

**PREVIOUS COMMISSION ACTIONS OR BRIEFINGS**

February 23, 2021 – The Commission authorized (1) award and execution of construction contracts for the PLBs installation at all concourses except North Satellite, (2) design the Wi-Fi scope for the PLBs at the North Satellite, (3) increase of project’s overall budget to complete the project.

March 13, 2018 – The Commission authorized the award and execution of a major public works construction contract for the second phase of the Wi-Fi Improvements project. No additional funding was requested.

August 08, 2017 – The Commission authorized the (1) advertisement and execution of contracts for the second phase of the Wi-Fi Improvements project, (2) amendment of the Infrastructure Design Services for Wi-Fi and Video Surveillance System Enhancements Projects service agreement and (3) use of port crews and small works contracts in conjunction with major works contracts.

May 24, 2016 – The Commission authorized the (1) advertisement and execution of contracts for the first phase of construction of the Wi-Fi Improvements project and (2) increase of the project’s overall budget for additional scope.

August 05, 2014 – The Commission authorized the preparation of design and construction bid documents for the Wi-Fi Improvements project.