



**COMMISSION  
AGENDA MEMORANDUM**

**Item No.** 8b

**ACTION ITEM**

**Date of Meeting** February 23, 2021

**DATE:** February 12, 2021

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

**FROM:** Dave Wilson, Director AV Innovation  
Wayne Grotheer, Director Aviation Project Management

**SUBJECT: Wi-Fi Improvements Project (C800585)**

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

**Total estimated project cost:** \$ 16,441,000

**ACTION REQUESTED**

Request Commission authorization for the Executive Director to (1) construct the Wi-Fi Improvements project Passenger Loading Bridge installations for the entire Seattle-Tacoma International Airport, except for the North Satellite; (2) design the Wi-Fi scope for the Passenger Loading Bridges at the North Satellite; (3) increase the project's overall budget by \$6,000,000, for a total amount of \$16,441,000 to complete the project. This request is in the amount of \$4,000,000.

**EXECUTIVE SUMMARY**

Since 2014, the Wi-Fi Improvements project at Seattle-Tacoma International Airport (Airport) has provided significantly enhanced Wi-Fi coverage. In 2016, the first phase of this project included improvements to the Airport ramp and gate areas and the second phase, completed enhancements to the Main Terminal. These improvements have a substantial impact on the speed of wireless access customers and tenants experience at the Airport. This is reflected in positive social media posts and through improved Airport Service Quality (ASQ) scores.

This final phase of the Wi-Fi Improvements project will complete Wi-Fi additions to all the Airport's Passenger Loading Bridges (PLBs). PLBs are the articulating walkways that connect aircraft to the airport terminals. 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.

**JUSTIFICATION**

Throughout the Wi-Fi project, there are interior and exterior high-speed devices being targeted. The interior high-speed wireless access points provide much improved Internet access for passenger and tenants in public areas of the Airport. The exterior devices will support airport, airline, and tenant operations outside the facility on the ramp level at passenger loading bridges.

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The overall Wi-Fi Improvements project will provide up to a 200% increase in the coverage and number of access points on concourse levels, up to tenfold increase in bandwidth, with support for newer devices by supporting today's technology on wireless protocols. Surveys conducted with enplaning passengers clearly demonstrate the desire for high performance and free Wi-Fi in the terminal.

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

This project will utilize a Job Order Contract (JOC) to construct this project's scope of work. The overall JOC contract has a 16% Women and Minority Business Enterprise (WMBE) goal. Each work order within the JOC contract strives to obtain the WMBE participation goal; however, it is dependent on the available trades at the time of the proposal.

### **DETAILS**

The budget increase in the amount of \$6,000,000, is due to two primary factors. The first is the complexity of the PLB installation. As the project team began the design of this phase it became apparent that virtually every PLB required a unique solution to route the necessary cabling through the articulated telescoping structure. As a result, this requires a variety of solutions much larger than originally conceived when the project began and therefore, necessitates the additional amount of \$3,400,000.

The second is the addition of the North Satellite PLBs. Originally, the Wi-Fi project did not include any work at the North Satellite, as that work would be completed by the NorthSTAR (NSAT) project.

The subject scope is a component of the full Wi-Fi scope included in the NSAT contract and was transferred from the NSAT project to this one. This scope transfer was accepted for the following reasons:

- (1) This project is better positioned to address NSAT PLB Wi-Fi improvements. In comparison to the NSAT project, the Wi-Fi project can incorporate design revisions that ensure consistent specification and detailing across all PLB installations as well as obtain a competitively solicited vendor/contractor to complete the work.
- (2) Bundling NSAT PLB Wi-Fi scope with this project is a project lesson learned. Cost and quality can be improved, by having a consistent team performing all the work and standardizing the installation process.
- (3) Wi-Fi installations at PLBs are complicated. The PLB Wi-Fi scope programmed for NSAT assumed standard detailing across all PLBs. That assumption, as proven at NSAT is challenging to accomplish. To ensure high quality and coverage standards are maintained for PLB Wi-Fi coverage, each PLB must be addressed separately with

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consideration of elements like PLB movement patterns, physical adjacencies, and cable travel limitations.

The NSAT PLB scope transfer was approved by the Aviation Project Review Board in addition to Aviation Investment Committee in the amount of \$2,600,000. The total additional budget amount, of \$6,000,000, will increase the estimated project budget to \$16,441,000.

In order to complete this work, staff will complete the following efforts:

- (1) The project design consultant contract will need additional budget to support construction of the work that is designed. The contract will be amended by an additional \$55,000.
- (2) A new consultant procurement will be used to hire the designer for the NSAT scope addition.

**Scope of Work**

This last phase of the project will install Wi-Fi Access Points on the PLBs at Concourses A, B, C, D, SSAT and NSAT. This work will require installation of network cabling within each PLB.

**Schedule**

*Activity*

Design start (NSAT)	2021 Quarter 2
Construction start (All except NSAT)	2021 Quarter 2
Commission construction authorization (NSAT)	2021 Quarter 4
Construction start (NSAT)	2021 Quarter 4
Substantial Completion (All except NSAT)	2022 Quarter 4
Substantial Completion (NSAT)	2022 Quarter 4

**Cost Breakdown**

	This Request	Total Project
Design	\$600,000	\$2,697,000
Construction	\$3,400,000	\$13,744,000
Total	\$4,000,000	\$16,441,000

**ALTERNATIVES AND IMPLICATIONS CONSIDERED**

**Alternative 1** – Do not proceed with construction of remaining PLB Wi-Fi scope

Cost Implications: \$0 further cost (the cost of design would be expensed, \$337,000)

Pros:

- (1) Many ramp areas have Wi-Fi coverage but that does not cover the entire ramp.
- (2) Airlines have installed proprietary Wi-Fi systems on the ramp as well.

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Cons:

- (1) Costs have already been incurred for design.
- (2) There will be areas that do not benefit from upgraded Wi-Fi thus encouraging tenants to further implement their own systems. This will create multiple different Wi-Fi networks across the airport.
- (3) The passenger and tenant experience will continue to suffer.

This is not the recommended alternative.

**Alternative 2** – Proceed with construction of PLB Wi-Fi at the airport

Cost Implications: \$6,000,000

Pros:

- (1) The originally proposed level of service will be achieved for ramp Wi-Fi.
- (2) The airport will have a single, continuous, high speed Wi-Fi network across most of the Airport Terminal area.

Cons:

- (1) Airlines with proprietary systems would need to dismantle them after converting to the Port’s Wi-Fi network as agreed.
- (2) Proceeding will cost more than not proceeding.

*This is the recommended alternative.*

**FINANCIAL IMPLICATIONS**

<i>Cost Estimate/Authorization Summary</i>	Capital	Expense	Total
<b>COST ESTIMATE</b>			
Original estimate	\$10,296,000	\$145,000	\$10,441,000
Current change	\$6,000,000	\$0	\$6,000,000
Revised estimate	\$16,296,000	\$0	\$16,441,000
<b>AUTHORIZATION</b>			
Previous authorizations	\$10,296,000	\$145,000	\$10,441,000
Current request for authorization	\$4,000,000	\$0	\$4,000,000
Total authorizations, including this request	\$14,296,000	\$145,000	\$14,441,000
Remaining amount to be authorized	\$2,000,000	\$0	\$2,000,000

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

The Wi-Fi Enhancements Phase 2 project (C800585) was included in the 2021-2025 capital budget and plan of finance with a budget of \$10,296,000. The capital budget increase of \$6,000,000 was

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transferred from the Aeronautical Allowance (C800753). The funding source will be existing revenue bonds.

### ***Financial Analysis and Summary***

Project cost for analysis	\$16,441,000
Business Unit (BU)	Airfield Apron, Terminal Building and PLB
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	\$.12 in 2023

### ***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 the 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 maintenance fee estimated increase of \$20,000 will be budgeted in ICT Operating Budget. Recurring labor costs to maintain the system are not expected to change as a result of this project.

This project will have no impact on Aviation Maintenance Operating & Maintenance costs as this is budgeted through the ICT department.

### **ADDITIONAL BACKGROUND**

The Airport has multiple projects that work together to provide industry leading high-speed wireless Internet across the Airport terminal building. Previously, the ‘Fiber to Backstands’ project provided Wi-Fi to the *interior* of Concourses A and B. This enhancement project provides high speed Wi-Fi to the *interior* of Concourses C and D, South Satellite, Central Terminal, TSA Checkpoints, Gina Marie Lindsey Hall, Ticketing and Baggage Claim. It will also install *exterior* Wi-Fi on the ramps of Concourses A, B, C, D, South Satellite and North Satellite. The International Arrivals Facility (IAF) project will provide Wi-Fi within the new IAF facility.

### **ATTACHMENTS TO THIS REQUEST**

- (1) Presentation slides

### **PREVIOUS COMMISSION ACTIONS OR BRIEFINGS**

March 13, 2018 – The Commission authorized 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.

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August 8, 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 5, 2014 – The Commission authorized the preparation of design and construction bid documents for the Wi-Fi Improvements project.