

## **RESOLUTION NO. R2018-33**

### **Budget Amendment for Light Rail Vehicle Wireless Communication Upgrade Project**

<b>MEETING:</b>	<b>DATE:</b>	<b>TYPE OF ACTION:</b>	<b>STAFF CONTACT:</b>
Capital Committee	09/13/2018	Recommend to Board	Bonnie Todd, Executive Director of Operations
Board	09/27/2018	Final Action	<b>Harold Demarest, Director of Operations Engineering and Technology Ted Ellis, Deputy Director Operations Technology</b>

### **PROPOSED ACTION**

Amends the Light Rail Vehicle Wireless Communication Upgrade project by (1) increasing the project allocation to date from \$156,000 to \$404,800, and (2) increasing the 2018 annual budget from \$156,000 to \$404,800 to implement the light rail vehicle wireless communication upgrade.

### **KEY FEATURES SUMMARY**

- The existing Wi-Fi network that transmits light rail vehicle (LRV) maintenance data and passenger counts to a central server workstation is designed for the current Kinkisharyo-manufactured LRVs. The current network will not support the new Siemens LRVs, and the equipment is at end of life and no longer supported by Kinkisharyo.
- The original project scope only included upgrading the current LRVs' Wi-Fi network. This amendment expands the project to create an enhanced Wi-Fi system that will connect to the new Siemens vehicles being purchased to support ST2 system expansion. Once the connection to the new LRVs is complete, the current LRVs will be migrated to the upgraded system.
- This amended project will install antennas and wireless access points to create an enhanced managed yard Wi-Fi network that can route across multiple maintenance facilities as system expansion continues.

### **BACKGROUND**

The original scope of this project was to upgrade the existing Wi-Fi network that only connects Link light rail's current fleet of LRVs that were manufactured by Kinkisharyo to the Kinkisharyo Maintenance Workstation. The Maintenance Workstation is a computer that collects maintenance data on the LRVs as well as passenger count data. The Wi-Fi network and workstation are no longer supported by Kinkisharyo and need to be replaced.

The new ST2 Siemens LRVs will begin arriving in early 2019 and require a wireless network to transmit vehicle and passenger count data to the Siemens provided server. The new vehicles and addition of the OMF: East facility changed the scope of the required wireless network, which needs to work across multiple facilities.

Initially the current and new networks will run side by side. Eventually a new Kinkisharyo workstation will be built on the new vehicle network, and the Kinkisharyo LRVs will be migrated to the new workstation.

The new network will need to be installed and ready to go when the new Siemens cars arrive to prevent a delay in the testing and commissioning for revenue service.

The project scope will implement a new wireless solution that will support timely transmission of LRV maintenance information, automatic passenger count (APC) data, and future signage data such as passenger alerts and emergency notifications.

**FISCAL INFORMATION**

The proposed action will increase the allocated project budget to date and annual budget by \$248,269 to \$403,783

**Light Rail Vehicle Wireless Communication Upgrade**

(in thousands)

Project Phase	Annual Project Budget			Authorized Project Allocation to Date		
	Adopted 2018 Annual Project Budget	Budget Revision	Revised 201 Annual Project Budget	Authorized Project Allocation to Date (Current)	Allocation Change	Authorized Project Allocation to Date (New)
Agency Administration						
Preliminary Engineering						
Final Design	30		30	30		30
Third Party Agreements						
Right of Way						
Construction	126	248	374	126	248	374
Construction Services						
Vehicles						
Contingency						
<b>Total</b>	<b>\$156</b>	<b>\$248</b>	<b>\$404</b>	<b>\$156</b>	<b>\$248</b>	<b>\$404</b>

**Notes:**

Amounts are expressed in Year of Expenditure.  
 For detailed project information, see page 80 in the Adopted 2018 Transit Improvement Plan.

**SMALL BUSINESS/DBE PARTICIPATION**

Not applicable to this action.

**PUBLIC INVOLVEMENT**

Not applicable to this action.

**TIME CONSTRAINTS**

A one-month delay could delay commissioning the ST2 vehicles for revenue service.

**ENVIRONMENTAL REVIEW**

KH 8/30/18

**LEGAL REVIEW**

AJP 9/7/18

## **RESOLUTION NO. R2018-33**

A RESOLUTION of the Board of the Central Puget Sound Regional Transit Authority amending the Light Rail Vehicle Wireless Communication Upgrade project by (1) increasing the project allocation to date from \$156,000 to \$404,800, and (2) increasing the 2018 annual budget from \$156,000 to \$404,800 to implement the light rail vehicle wireless communication upgrade.

WHEREAS, the Central Puget Sound Regional Transit Authority, commonly known as Sound Transit, was formed under chapters 81.104 and 81.112 RCW for the Pierce, King, and Snohomish Counties region by action of their respective county councils pursuant to RCW 81.112.030; and

WHEREAS, Sound Transit is authorized to plan, construct, and permanently operate a high-capacity system of transportation infrastructure and services to meet regional public transportation needs in the Central Puget Sound region; and

WHEREAS, in general elections held within the Central Puget Sound Regional Transit Authority district on November 5, 1996, November 4, 2008, and November 8, 2016, voters approved local funding to implement a regional high-capacity transportation system for the Central Puget Sound region; and

WHEREAS, in December 2017, the Board approved Resolution No. R2017-44, adopting an annual budget for the period from January 1 through December 31, 2018, and adopting the 2018 Transit Improvement Plan; and

WHEREAS, the Light Rail Vehicle Wireless Communication Upgrade Project was established in the 2018 Annual Budget; and

WHEREAS, the existing Wi-Fi network that transmits light rail vehicle (LRV) maintenance data and passenger counts to a central server workstation is designed for the current Kinkisharyo-manufactured LRVs. The current network will not support the new Siemens LRVs, and the equipment is at end of life and no longer supported by Kinkisharyo; and

WHEREAS, the original project scope only included upgrading the current LRVs' Wi-Fi network, and the project amendment will create an enhanced Wi-Fi system that will connect to the new Siemens vehicles being purchased to support ST2 system expansion. Once the connection to the new LRVs is complete, the current LRVs will be migrated to the upgraded system; and

WHEREAS, a two-thirds affirmative vote of the entire membership of the Sound Transit Board is required to revise the adopted 2018 budget.

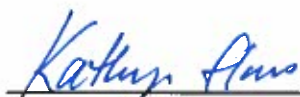
NOW, THEREFORE, BE IT RESOLVED by the Board of the Central Puget Sound Regional Transit Authority that the Light Rail Vehicle Wireless Communication Upgrade Project is amended by (1) increasing the project allocation to date from \$156,000 to \$404,800, and (2) increasing the 2018 annual budget from \$156,000 to \$404,800 to implement the light rail vehicle wireless communication upgrade.

ADOPTED by the Board of the Central Puget Sound Regional Transit Authority at a regular meeting thereof held on September 27, 2018.



Dave Somers  
Board Chair

ATTEST:



Kathryn Flores  
Board Administrator