

**RESOLUTION NO. R2018-42**
**Increasing the Project Budget for the Digital Passenger Information System program**

<b>MEETING:</b>	<b>DATE:</b>	<b>TYPE OF ACTION:</b>	<b>STAFF CONTACT:</b>
Capital Committee	12/13/2018	Recommend to Board	Jason Weiss, Chief Information Officer
Board of Directors	12/20/2018	Final Action	<b>David Ginsberg, Senior Program Manager, Passenger Information Systems</b>

**PROPOSED ACTION**

(1) Amends the Digital Passenger Information System program by (a) increasing the authorized project allocation to date from \$1,617,150 to \$49,575,698, and (b) increasing the 2019 annual budget from \$1,617,150 to \$15,886,226 to modernize and standardize Sound Transit's passenger information systems across Link, Tacoma Link, and Sounder, with support for future expansion including Bus Rapid Transit and Parking and (2) changes the program name to Passenger Information Management System.

**KEY FEATURES SUMMARY**

- The proposed action would increase the project budget for the Passenger Information Management System (PIMS).
- The Sounder passenger communications system was put into service along with Sounder in 2000 and is well past it's 10 year expected life. The Link passenger communications system was put into service in 2009 and cannot support another end point (e.g., East Link), and the existing digital signage in the DSTT offers poor support for multiple lines on Link. Additionally Link, Sounder and Tacoma Link do not currently offer a consistent rider experience, and are operated using different solutions developed organically over time.
- The PIMS system will be designed and implemented using an open architecture approach to provide flexibility as technology and needs change.
- Primary functions of the PIMS program include:
  - **Customer Experience:** improved arrival predictions, improved digital signage with enhanced readability and ability to differentiate between lines with color, and consistent rider experience across transit modes.
  - **Operational Enhancements:** open architecture, minimized vendor lock-in, consistent management across transit modes, improved lifecycle maintenance for systems, enables information security compliance and enhanced operations management and reporting.
  - **Scalability:** support for East Link, scalable to meet needs for future system expansion, and capable of accommodating new rider information data.
  - **Agency Impacts:** aligned with associated project work, optimizes long-term operational costs, similar to lower total expenditures over life of ST3.
- The requested amount funds the PIMS program through 2025, enabling the PIMS program primary functions and enhancing rider experience and operational efficiency.
- The following implementation schedule is planned for PIMS:

- East Link will include PIMS core infrastructure including Station Control Units (SCUs) and signs from the PIMS program. The PIMS system will be thoroughly tested prior to pre-revenue service for East Link.
- The Northgate Link Extension will open with existing public announcement and variable messaging system functionality because of the schedule risks associated with getting PIMS in place prior to revenue service. The three new station SCUs will be retrofitted after the start of revenue service on East Link.
- Tacoma Link and Sounder will be implemented in mid-2022 and early 2023, respectively.

## **BACKGROUND**

Sound Transit must replace the Public Address/Variable Message Signs (PA/VMS) solutions for its Link and Sounder services, and seeks to add VMS capability to Tacoma Link. These are the systems that provide passenger announcements and content for Sound Transit's digital signs. As BRT and parking are developed, those services will also require PA/VMS capability. In addition to replacing existing, basic signage functions, Sound Transit seeks to increase the accuracy of its arrival predictions and to be able to provide additional information to customers to enhance their rider experience. ST Express is not in scope for PA/VMS because bus stops can and do move periodically and do not lend themselves to this sort of infrastructure investment, though PIMS will be capable of supporting it if the agency decides to add public address and digital signage to ST Express Bus stops in the future.

In addition to enhanced arrival predictions, Sound Transit needs the ability to differentiate between routes using color. Additional information related to the customer journey is also desired, including train size, passenger load, and an out-of-service indicator. In some cases, new data sources might require creation to replace manual processes. In the same way that this information is desired on signage, it is similarly desired on the Sound Transit website, on OneBusAway, in the public transit data feeds and third-party services such as Google Transit. Over time, as additional data is deemed valuable, PIMS will allow that data to be easily integrated with and delivered to passengers in a timely manner.

The PIMS program elements were developed through an iterative, collaborative process engaging a large group of stakeholders from across the agency. A working group conducted requirements gathering sessions and deep-dives to develop a thorough list of requirements. The internal PIMS steering committee then vetted the identified requirements, making carefully considered additions and subtractions before settling on the final program scope.

If the PIMS program is not undertaken, total State of Good repair expenditures for passenger information systems are projected to be as high or higher than the cost of the PIMS through 2041, but with none of the benefits of PIMS. Additionally, if the PIMS program is not undertaken Sound Transit will not be able to provide passenger information via digital signage for the East Link line, or other new lines to be introduced as part of our capital expansion programs.

## **FISCAL INFORMATION**

The authorized project allocation to date is increased by \$47,958,698 from \$1,671,000 to \$49,575,952. Additionally, there is a change to the adopted 2019 annual budget, which is increased by \$14,719,076 from \$1,167,000 to \$15,886,226.

This change in authorized project allocation is expected to fund the PIMS program through 2025 with changes to the following phases: agency administration, preliminary engineering, final design, and construction.

**Passenger Information Management System**

(in thousands)

Project Phase	Annual Project Budget			Authorized Project Allocation to Date		
	Proposed 2019 Annual Project Budget	Budget Revision	Revised Proposed 2019 Annual Project Budget	Authorized Project Allocation to Date (Current)	Allocation Change	Authorized Project Allocation to Date (New)
Agency Administration	\$748	\$198	\$945	\$1,179	\$3,425	\$4,605
Preliminary Engineering				19	150	\$169
Final Design	420	(204)	216	420	2,488	\$2,907
Third Party Agreements						
Right of Way						
Construction		14,725	14,725		41,896	\$41,896
Construction Services						
<b>Total</b>	<b>\$1,167</b>	<b>\$14,719</b>	<b>\$15,886</b>	<b>\$1,617</b>	<b>\$47,959</b>	<b>\$49,576</b>

The agency’s analysis shows that the cost of the project is within the capacity of the agency to fund.

**SMALL BUSINESS/DBE PARTICIPATION AND APPRENTICESHIP UTILIZATION**

Not applicable to this action.

**PUBLIC INVOLVEMENT**

The PIMS team works closely with the Signage Governance Team, which develops standards in accordance with industry best practices and includes representation from Rider Experience, Communications and Accessibility Services.

**TIME CONSTRAINTS**

The current Link public announcement system is unable to support the multiple light rail lines that will be in service with the opening of East Link. If PIMS is not completed in time for the opening of East Link, Sound Transit will not be able to display train arrival information or send messages via the public address system. There is no float in the PIMS schedule, so a one month delay would result in a delay in PIMS elements needed for East Link.

**ENVIRONMENTAL REVIEW**

KH 12/3/18

**LEGAL REVIEW**

AJP 12/7/18



**RESOLUTION NO. R2018-42**

A RESOLUTION of the Board of the Central Puget Sound Regional Transit Authority (1) Amending the Digital Passenger Information System program by (a) increasing the authorized project allocation to date from \$1,617,150 to \$49,575,698, and (b) increasing the 2019 annual budget from \$1,617,150 to \$15,886,226 to modernize and standardize Sound Transit's passenger information systems across Link, Tacoma Link, and Sounder, with support for future expansion including Bus Rapid Transit and Parking and (2) changing the program name to Passenger Information Management System.

WHEREAS, the Central Puget Sound Regional Transit Authority, commonly known as Sound Transit, was formed under chapters 81.104 and 81.112 of the Revised Code of Washington (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 Sound Transit 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 Digital Passenger Information System program was established in the 2018 Annual Budget; and

WHEREAS, the Sounder passenger communications system was put into service along with Sounder in 2000 and is well past its 10 year expected life; the Link passenger communications system was put into service in 2009 and cannot support another end point (e.g., East Link); the existing digital signage in the DSTT offers poor support for multiple lines on Link; and the Link, Sounder and Tacoma Link modes do not currently offer a consistent passenger information experience; and

WHEREAS, the requested amount funds the PIMS program through 2025, enabling the customer experience and operational enhancements; and


WHEREAS, a two-thirds affirmative vote of the entire membership of the Sound Transit Board is required to amend the adopted 2019 budget.

NOW, THEREFORE, BE IT RESOLVED by the Board of the Central Puget Sound Regional Transit Authority that:

(1) The Digital Passenger Information System program is amended by (a) increasing the authorized project allocation to date from \$1,617,150 to \$49,575,698, and (b) increasing the 2019 annual budget from \$1,617,150 to \$15,886,226 to modernize and standardize Sound Transit's passenger information systems across Link, Tacoma Link, and Sounder, with support for future expansion including Bus Rapid Transit and Parking.

(2) The program name is changed to Passenger Information Management System.

ADOPTED by no less than a two-thirds affirmative vote of the entire membership of the Board of the Central Puget Sound Regional Transit Authority at a regular meeting thereof held on December 20, 2018.



Dave Somers  
Board Chair

ATTEST:



Kathryn Flores  
Board Administrator