



Motion No. M2022-88

Contract with Woojin IS America, Inc to upgrade electronic systems for 62 Light Rail Vehicles and provide maintenance services

Meeting:	Date:	Type of action:	Staff contact:
Rider Experience and Operations Committee	12/01/2022	Final action	Suraj Shetty, Executive Director, Operations Harry Demarest, Director Operations Engineering & Technology Adam Worobec, Senior Systems Engineer, Operations Engineering & Technology Eva Relano, Senior Project Manager, Operations Engineering & Technology

Proposed action

Authorizes the chief executive officer to execute a five-year contract with ten one-year options to extend with Woojin IS America, Inc. to upgrade the electronic systems for 62 light rail vehicles and provide maintenance services in the amount of \$31,844,776, with 13 percent contingency of \$4,104,560, for a total authorized contract amount not to exceed \$35,949,336, plus applicable taxes, contingent upon Board approval of the Proposed 2023 Budget through Resolution No. R2022-35.

Key features summary

- This contract would allow Sound Transit to upgrade the communications on the existing 62 Kinkisharyo light rail vehicles (LRV) fleet to continue delivering a reliable, passenger-focused, high-quality, and safe service.
- The scope of work includes cross-functional design, implementation services, spare parts, and software with ten one-year options for software maintenance and LRV system maintenance for the life of the contract.
 - Schedule A: LRV Electronics Suite Upgrade
 - Schedule B: Maintenance work for Schedule A
 - Schedule C: Enhancements to door status signaling functionality
 - Schedule D: Maintenance work for Schedule C
 - 10 one-year options for maintenance work starting in year 6
- The systems being upgraded include operator controls, communications, closed-circuit television, automated passenger counter, in-car and trainline communication networks, monitoring diagnostic system, event recorder, and wayside functions.

- Upgrades enable live communication between the Passenger Information Management System (PIMS) and the existing 62 Kinkisharyo LRVs for real-time ad hoc messaging, vehicle location and passenger count data exchange.
- The proposed services for anticipated enhancements and preferred service requirements include new door LED lights & approaching stop indication to improve passenger experience and better align anticipated functionality between Kinkisharyo fleet and the ST2 Siemens fleet, predictive maintenance, supply parts management and on-going training (beyond the initial training), which are included in the Contractor's revised proposal.
- The authorized amount requested supports these expected activities for the full 15-year term of the contract.
- Design and upgrade of the vehicles is expected to take place between 2023 and 2026.
- The total authorized amount includes a thirteen percent contingency that will cover unforeseen design changes and supply chain shortages that may develop during the life of the project.
- Applicable taxes are currently estimated to be \$3,684,807.

Background

The design of Sound Transit's fleet of 62 Kinkisharyo light rail vehicles (LRV) began in 2005 and the vehicles entered service in 2009. Several of the communications sub-systems onboard the LRVs are beginning to experience degraded performance. Other communications sub-systems contain obsolete components or are comprised of hardware and/or software that is no longer supported by the original equipment manufacturer. The existing communication subsystems also limit critical functionality of the Passenger Information Management System (PIMS) project, responsible for providing visual and audio information to passengers at stations and transfer facilities. By the time the communications upgrade work on the vehicles begins in 2023, the communications systems will have been in service for fourteen years. To ensure a state of good repair of the Kinkisharyo vehicles and to enable full functionality of the PIMS, a major upgrade of communications systems on board the LRVs is required.

The solution will play a key role in providing customer-focused, high-quality, safe, easy-to-use and proven light rail services to the region. Reliability, maintenance, and component availability are to be improved so that a good state of repair is maintained for the 10-year expected remaining life of the vehicles. The following principles are used to guide the project outcome:

- Design and deliver a customer-focused, high-quality, and safe service.
- Attract and retain passengers by providing a service that is reliable and easy to use.
- Demonstrate best practice lifecycle maintenance for systems while providing flexibility to accommodate future improvements in technology.
- Minimize dependencies on single vendor solution.
- Embrace modern standards to maximize compatibility and ease of integration.
- Embrace a modular and decoupled design so that specific components can be replaced with minimal effort.
- Minimize the use of transitional products, which are products or services implemented on a temporary basis only to be removed at a later phase.

Procurement information

Prior to issuing the solicitation for these services, Sound Transit considered the project scope, the determining factors for contract award, and the need for proposal discussions and revisions, and determined that a Request for Proposals procurement method was the most advantageous.

Sound Transit advertised Request for Proposals No. RTA/RP 0082-20 on June 17, 2021. Three firms submitted a proposal, and the proposals were evaluated based on the advertised evaluation criteria including Cross-Functional Approach; Firm(s) Experience and Personnel Expertise; Price; Project Management, Safety & Quality Assurance, and ADA; Commitment to DBEs and other Small Businesses and Good Faith Efforts; Commitment to and Compliance with Equal Employment and Opportunity Law. The two highest rated firms were invited to continue in the procurement process for interviews and demonstrations after having been provided their proposal weaknesses that were identified by the Evaluation Committee. Following these activities both firms were invited to revise their proposals. Revised proposals were evaluated based on the same advertised evaluation criteria and Woojin was identified as the top ranked firm. Sound Transit entered into negotiations with Woojin.

Sound Transit recommends award of this contract based upon the determination that Woojin's negotiated revised proposal best meets the evaluation criteria and offers the best value to Sound Transit. Unique factors affecting this procurement were its level of complexity and the number of Requests for Information submitted by the marketplace. Addressing these inquiries necessitated adding three months to the solicitation schedule as well as adding two months to the evaluation schedule.

Fiscal information

This action executes a contract with Woojin IS America, Inc. to upgrade the electronic systems of light rail vehicles and maintenance services, for a total contract amount of \$39,634,143 including contingency and estimated sales tax. The contract is funded from both capital and operating budgets.

- For schedule A and C, pending approval of the 2023 budget, the authorized project allocation for the Kinkisharyo LRV System Upgrade project is \$31,688,100. Within that amount, \$30,062,100 has been allocated to the vehicle phase for KI LRV Electronic Suite Upgrade. The action would commit \$29,886,971 (including contingency and sales tax) and leave a budget of \$175,129 in the vehicle phase.
- Schedule B, D and the remaining 10 one-year options are maintenance work and will be funded by the Operations department anticipated to start after upgrade in 2024 and/or beyond. The Operations department spend for \$9,747,172 including contingency and estimated sales tax, will be funded from the Services category. Funding for the portion of contract will be included in the future annual budget requests.

Woojin IS America, Inc.

Contract Detail (in thousands)	Board Approvals to Date	Current Approved Contract Status	Proposed Action	Proposed Total for Board Approval
Total Contract			\$31,845	31,845
Total Contingency			\$4,105	4,105
Total Contract (with contingency)	\$	\$	\$35,949	\$35,949
Estimated sales tax			\$3,685	3,685
Total Contract (with estimated sales tax)			\$39,634	\$39,634
Percent Contingency	0%	0%	13%	13%
Funded via the Kinkisharyo LRV System Upgrade Project				
Schedule A	\$	\$	\$22,590	\$22,590
Schedule C			1,887	1,887
Contingency			2,631	2,631
Total project funded (with contingency)	\$	\$	\$27,108	\$27,108
Estimated sales tax			2,779	2,779
Total project funded (with estimated sales tax)	\$	\$	\$29,887	\$29,887
Percent Contingency	0%	0%	11%	11%
Funded via the Operations Department				
Schedule B			1,106	1,106
Schedule D			705	705
10 one year option			5,557	5,557
Contingency			1,473	1,473
Total department funded (with contingency)	\$	\$	\$8,841	\$8,841
Estimated sales tax			906	906
Total department funded (with estimated sales tax)	\$	\$	\$9,747	\$9,747
Percent Contingency	0%	0%	20%	20%

Kinkisharyo LRV System Upgrade

Project Phase	Revised Project Allocation*	Board Approvals	This Action	Board Approved Plus Action	Uncommitted / (Shortfall)
Agency Administration	\$72	\$7		\$7	\$65
Preliminary Engineering	498	425		425	73
Final Design	1,056				1,056
Vehicles	30,062		29,887	29,887	175
Total Budget	\$31,688	\$432	\$29,887	\$30,319	\$1,369

Notes:

Amounts are expressed in Year of Expenditure \$000s.

Board Approvals = Committed and PO Contingency Remaining as of 10/31/2022.

This project is managed under the Operations SOGR portfolio, see page 163 of 172 of the 2023 Financial Plan & Proposed Budget.

Disadvantaged and small business participation

Participation by small businesses and disadvantaged business enterprises (DBEs)

Sound Transit promotes and encourages small business participation, which also includes disadvantaged business enterprises (DBEs). Consistent with Sound Transit Policies and federal regulations, Sound Transit has established small business/DBE goals for this contract. These goals are based upon an examination of subcontracting opportunities contained in the work of this contract and the number of small businesses/DBEs available to perform such subcontracting work.

For this specific contract, the following goals were set, and the successful Bidder/Proposer has committed to the following small business/DBE participation:

Small business and disadvantaged business enterprise (DBE) goals	
Sound Transit small business goal: 9%	Small business commitment: 12.81%
DBE goal: 5%	DBE commitment: 5.18%

Subconsultant/Subcontractor	Business Type	% of Work
Raul V Bravo & Associates	DBE	3.82%
BBA Projects Inc.	DBE	1.36%
Red Arrow Consulting	Small business	0.23%
Transit Air	Small business	5.45%
Turner Engineering	Small business	1.95%
Total		12.81%

Public involvement

Not applicable to this action.

Time constraints

A one-month delay would create a significant impact to the project schedule.

Environmental review – LS 11/12/22

Legal review – AJP 11/23/22



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A motion of the Rider Experience and Operations Committee of the Central Puget Sound Regional Transit Authority authorizing the chief executive officer to execute a five-year contract with ten one-year options to extend with Woojin IS America, Inc. to upgrade the electronic systems for 62 light rail vehicles and provide maintenance services in the amount of \$31,844,776, with 13 percent contingency of \$4,104,560, for a total authorized contract amount not to exceed \$35,949,336, plus applicable taxes, contingent upon Board approval of the Proposed 2023 Budget through Resolution No. R2022-35.

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Motion

It is hereby moved by the Rider Experience and Operations Committee of the Central Puget Sound Regional Transit Authority that the chief executive officer is authorized to execute a five-year contract with ten one-year options to extend with Woojin IS America, Inc. to upgrade the electronic systems for 62 light rail vehicles and provide maintenance services in the amount of \$31,844,776, with 13 percent contingency of \$4,104,560, for a total authorized contract amount not to exceed \$35,949,336, plus applicable taxes, contingent upon Board approval of the Proposed 2023 Budget through Resolution No. R2022-35.

APPROVED by the Rider Experience and Operations Committee of the Central Puget Sound Regional Transit Authority at a regular meeting thereof held on _____.

Kristina Walker
Rider Experience and Operations Chair

Attest:

Kathryn Flores
Board Administrator