



## Board Report

File #: 2024-0505, File Type: Contract

Agenda Number: 24.

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### OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE SEPTEMBER 19, 2024

**SUBJECT: P3010 LIGHT RAIL VEHICLE INTEGRATED DATA AND COMMUNICATION SYSTEM (IDCS)**

**ACTION: APPROVE RECOMMENDATION**

#### **RECOMMENDATION**

AUTHORIZE the Chief Executive Officer to execute Contract Modification No. 2, and exercise Option 1, install and commission the Integrated Data and Communication System (IDCS) on the P3010 Light Rail Vehicle under Contract No. TS83056-2000 to Siemens Mobility, Inc. in the firm fixed amount of \$18,051,025, increasing the total Contract amount from \$5,043,855 to \$23,094,880. This action does not change the board-approved LOP for this project of \$44,436,129.

#### **ISSUE**

The IDCS will provide real-time access to information and video on the train, reducing operations and maintenance response and diagnostics time. Further, the IDCS will improve real-time arrival predictions by tracking the vehicle location using the Global Positioning System (GPS) and calculating the vehicle location when GPS is unavailable, such as in tunnels. The system will also allow for more automatic retrieval of historical maintenance data and CCTV video. In addition, the IDCS provides live viewing of the CCTV system, enabling security personnel to respond faster to incidents. Finally, this System will employ the latest cybersecurity technology to prevent disruption from external and internal threats while providing our passengers Wi-Fi access.

#### **BACKGROUND**

Option 1 is the first of four Options for the Base Contract of the A650 subway fleet. The project was divided into Options for each fleet type to facilitate phased budgeting and implementation. The sequence of the Options was determined based on multiple factors. The A650 was selected as the Base Contract because it was considered a higher priority due to the need for improved location tracking in the tunnels. The P3010 was selected as the first option because it is the largest and fully available fleet. The P2000 and P2550 were selected as Option 2 and Option 3, respectively, because they are undergoing modernization. The HR4000 was selected as Option 4 because the vehicles are still in production. Please refer to Board Report File No. 2023-0488 for additional details. Fourteen of seventeen milestones have been completed for the A650 base contract. Production is scheduled to be complete by March 2025.

## **DISCUSSION**

Metro is seeking to acquire the IDCS to provide rail connectivity and real-time access to information on the train, which will reduce operations, maintenance, and security response and diagnostics time through the following:

- Train arrival prediction information
- Maintenance response times to vehicle health monitoring
- Security and safety response times, as well as evidence collection

The IDCS is comprised of the physical device onboard (e.g., hardware) and the data management system (e.g., software). The onboard device will monitor the train's equipment to retrieve and store data on the Contractor's cloud-based server but will not be able to control any other onboard system.

The IDCS will improve real-time arrival predictions by tracking the vehicle location using the Global Positioning System (GPS) and calculating the vehicle location when GPS is unavailable (e.g., tunnels). Additionally, the IDCS will enable remote, live viewing of the CCTV system, enabling security personnel to respond more quickly to incidents. The IDCS data will also be accessible via a secure web portal interface.

Lastly, the IDCS will employ the latest cybersecurity technology to prevent disruption from external and internal threats while providing our passengers Wi-Fi. Metro trains do not currently have free public Wi-Fi, and having this access is an amenity that many customers expect whenever they occupy a building or vehicle.

Due to the successful implementation, testing and results on the Base Contract A650 prototype cars along with the approval of the First Article Inspection activities, and in addition to the successful prototype P3010 car, the IDCS Project team is confident in proceeding with this option on the P3010 fleet.

## **DETERMINATION OF SAFETY IMPACT**

The approval of exercising Option No. 1 to the Contract for the P3010 fleet will enhance system safety, service quality, system reliability, maintainability, and overall customer satisfaction. The IDCS project will permit Metro to embrace technological enhancements to improve maintenance capabilities, train arrival prediction algorithms, and provide access to real-time CCTV video.

## **FINANCIAL IMPACT**

The LOP for project 214004 includes funds for the IDCS equipment/installation, software services for one-year, spare parts, workforce labor, and contingency reserves, totaling \$44,436,129. Currently, \$3,000,000 is budgeted in the FY25 budget in Cost Center 3942 under CP-214004, IDCS project. Since this is a multi-year contract, the cost center manager will be responsible for dispersing the cost for subsequent years.

### Impact to Budget

The current source of funds for this action is TDA Article 4. This funding is eligible for Capital and Operating Projects. Staff is also pursuing additional Federal, State, and Local funding sources as they become available.

### EQUITY PLATFORM

This procurement maintains the availability of all the Rail Fleets in LA Metro, including those servicing Equity Focus Communities. Approval of this Option 1 contract for the P3010 fleet ensures that all customers on Metro's light rail lines can access up-to-date technology. Additionally, this procurement supports Metro's revised Code of Conduct, a Bias-Free Policing Policy, and a Public Safety Analytics Policy by providing enhanced access to vehicle CCTV systems. The current DBE goal for this project is 18%.

### IMPLEMENTATION OF STRATEGIC PLAN GOALS

The recommendation supports Metro's Strategic Plan Goal 5) Provide responsive, accountable, and trustworthy governance within the Metro organization. The completion and rollout of the IDCS project will provide state-of-the-art assets that will provide train location, passenger WIFI, real-time CCTV viewing, and vehicle health monitoring for all Metro trains.

### ALTERNATIVES CONSIDERED

Staff considered using in-house Metro resources to perform this work. This approach is not recommended as Metro does not have sufficient resources and subject matter experts available.

The Board of Directors may choose not to authorize the Options award for this project; however, Metro staff does not recommend this alternative because this IDCS project is new to all Metro rail fleets. Delays in exercising the Options will impact dependencies in providing these improved services to the remaining Metro rail fleets.

### NEXT STEPS

The Integrated Data and Communication System (IDCS) Option 1- P3010 LRV Fleet will proceed upon Board approval. The current schedule projects completion of the P3010 fleet by November 2025 in advance of the 2026 World Cup and 2028 Summer Olympics.

### ATTACHMENTS

Attachment A - Procurement Summary

Attachment B - Contract Modification Log

Attachment C - DEOD Summary

Prepared by: Chandrani Kahanda, Senior Engineer, Transit Vehicle Engineering  
(213)-617 6221

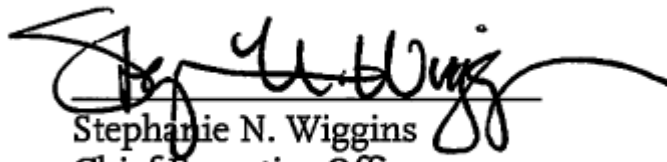
Aaron Disman, Senior Director, Transit Vehicle Engineering  
(213) 617-6280

Bob Spadafora, Senior Executive Officer, Rail Fleet Services  
(213) 922-3144

Nick Madanat, Deputy Executive Officer, Transit Vehicle  
Engineering, (213).617.6281

Debra Avila, Deputy Chief, Vendor/Contract Management Officer (213) 418-3051

Reviewed by: Conan Cheung, Chief Operations Officer, (213) 418-3034



Stephanie N. Wiggins  
Chief Executive Officer

**ATTACHMENT A**

**PROCUREMENT SUMMARY**

**P3010 LIGHT RAIL VEHICLE INTEGRATED DATA AND COMMUNICATIONS SYSTEM (IDCS)/TS83056-2000**

1.	<b>Contract Number:</b> TS83056-2000		
2.	<b>Contractor:</b> Siemens Mobility, Inc.		
3.	<b>Mod. Work Description:</b> Exercise Option 1 authorizing the Contractor to install, integrate, commission and test the IDCS for the P3010 fleet (235 rail cars).		
4.	<b>Contract Work Description:</b> This is in support of the implementation of the IDCS to provide real-time access to the information on the train. The Contractor shall be responsible for design, manufacturing, installation, integration, testing and commissioning of the monitoring system.		
5.	<b>The following data is current as of July 19, 2024:</b>		
6.	<b>Contract Completion Status</b>		<b>Financial Status</b>
	<b>Contract Awarded:</b>	November 7, 2023	<b>Contract Award Amount:</b> \$5,043,855 Base (A650)
	<b>Notice to Proceed (NTP):</b>	December 6, 2023	<b>Total of Modifications Approved:</b> 1
	<b>Original Complete Date:</b>	September 29, 2028	<b>Pending Modifications (including this action):</b> \$18,051,025 Option 1 (P3010)
	<b>Current Est. Complete Date:</b>	September 29, 2028	<b>Current Contract Value (with this action):</b> \$23,094,880 Base Plus Option 1
7.	<b>Contract Administrator:</b> Aniza Wan Nawang		<b>Telephone Number:</b> 213-922-4677
8.	<b>Project Manager:</b> Bob Spadafora		<b>Telephone Number:</b> 213-922-3144

**A. Procurement Background**

This Board Action is to approve Contract Modification No. 2 to exercise Option No. 1 for the design, manufacturing, installation, integration, testing and commissioning of the Integrated Data and Communication System (IDCS) for the P3010 LRV fleet for a firm-fixed-price of \$18,051,025 increasing the total contract value from \$5,043,855 to \$23,094,880. The firm-fixed-price amount option was competitively solicited during the procurement phase of the Base Contract Award.

This Contract Modification will be processed in accordance with Metro’s Acquisition Policy. The Contract with Siemens Mobility, Inc. was approved by the Board of Directors

on October 19, 2023 under Agenda Number 32. Exercising Contract Option No. 1 will not impact the original period of performance.

**B. Cost/Price Analysis**

The Option No. 1 amount was evaluated at the time of award for the Base Contract Pricing. The recommended price of \$18,051,025.00 has been determined to be the best attainable, fair and reasonable price based on adequate price competition, negotiations, technical evaluation, and price analysis. In addition, a recent market survey confirmed Option 1 pricing is still in Metro’s best interest since no other alternatives are currently available.

	<b>Proposer Name</b>	<b>BAFO III Option No. 1 Proposal</b>	<b>Metro ICE for Option No. 1</b>
1.	Siemens Mobility	\$18,051,025	\$16,643,101
2.	Quester Tangent	\$59,347,449	\$16,643,101

This Contract Option is being exercised within the validity of the Option period and the price is not subject to escalation.

**CONTRACT MODIFICATION/CHANGE LOG**

**P3010 LIGHT RAIL VEHICLE INTEGRATED DATA AND TELECOMMUNICATIONS  
SYSTEM (IDCS)/TS83056-2000**

<b>Mod. no.</b>	<b>Description</b>	<b>Status (approved or pending)</b>	<b>Date</b>	<b>Amount</b>
1	Add new Article 0 (Signature) and revise payment milestone schedule	Approved	06-20-24	\$0
2	<b>Exercise Option 1 – P3010</b>	<b>Pending</b>	<b>TBA</b>	<b>\$18,051,025</b>
	<b>Modification Total:</b>			<b>\$18,051,025</b>
	<b>Original Contract:</b>			<b>\$5,043,855</b>
	<b>Total:</b>			<b>\$23,094,880</b>

**DEOD SUMMARY**

**INTEGRATED DATA AND COMMUNICATION SYSTEM (IDCS) ON THE P3010 LRV FLEET/TS83056-2**

**A. Small Business Participation**

Siemens Mobility, Inc. (SMI) made an 18% Disadvantaged Business Enterprise (DBE) commitment. The project is 20% complete and the current (DBE) participation is 0.00%, representing a 18% shortfall of the commitment.

SMI stated that the installation work scheduled to be performed by the DBE firm has not commenced yet, and as confirmed by Metro’s Project Manager, the production phase will begin in late October 2024, at which time the DBE will be engaged. SMI reported that it anticipates achieving its commitment in early 2025.

<b>Small Business Commitment</b>	<b>18% DBE</b>	<b>Small Business Participation</b>	<b>0% DBE</b>
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	<b>DBE Subcontractors</b>	<b>Ethnicity</b>	<b>% Committed</b>	<b>Current Participation<sup>1</sup></b>
1.	Kambrian Corporation (Withdraw)	Asian-Pacific American	18%	0%
2.	Ametrade, Inc.	Hispanic American	Added	0%
	<b>Total</b>		<b>18%</b>	<b>0%</b>

<sup>1</sup>Current Participation = Total Actual amount Paid-to-Date to DBE firms ÷ Total Actual Amount Paid-to-date to Prime.

**B. Living Wage and Service Contract Worker Retention Policy Applicability**

The Living Wage and Service Contract Worker Retention Policy is not applicable to this modification.

**C. Prevailing Wage Applicability**

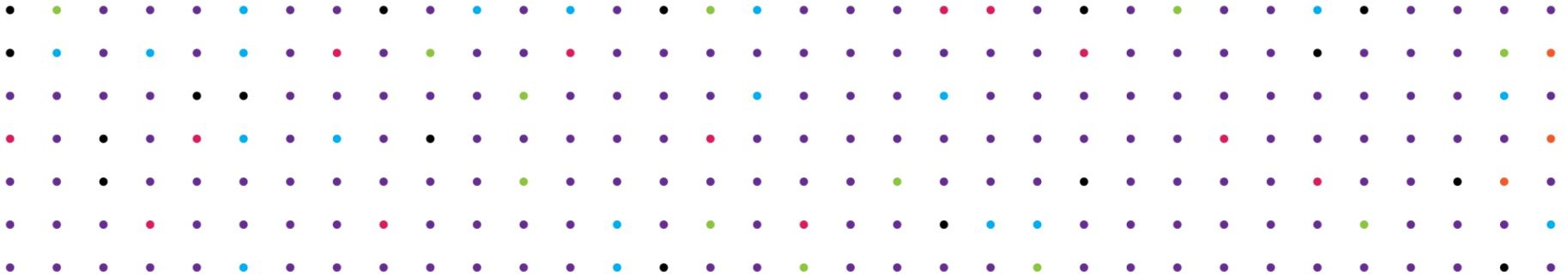
Prevailing wage is not applicable to this modification.

**D. Project Labor Agreement/Construction Careers Policy**

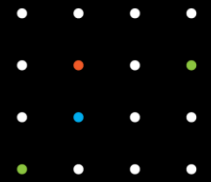
Project Labor Agreement/Construction Careers Policy is not applicable to this Contract. PLA/CCP is applicable only to construction contracts that have a construction related value in excess of \$2.5 million.



# Exercise Option for P3010 Light Rail Vehicle Integrated Data & Communication System (IDCS)

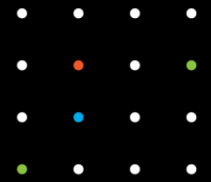


# RECOMMENDATION



AUTHORIZE the Chief Executive Officer to execute Contract Modification No. 2, and exercise Option 1, install and commission the Integrated Data and Communication System (IDCS) on the P3010 Light Rail Vehicle under Contract No. TS83056-2000 to Siemens Mobility, Inc. in the firm fixed amount of \$18,051,025, increasing the total Contract amount from \$5,043,855 to \$23,094,880. This action does not change the board-approved LOP for this project of \$44,436,129.

# ISSUE & DISCUSSION



## ISSUE

The IDCS will provide real-time access and automatic retrieval of system data and CCTV video, including live streaming. Additionally, it will improve arrival predictions by tracking vehicle location using GPS and calculating vehicle location when GPS is not available (e.g., in tunnels). The latest in cybersecurity technology will be implemented to prevent disruption from external and internal threats while providing passengers with Wi-Fi access.

## DISCUSSION

Metro is seeking to acquire the IDCS to provide rail connectivity and real-time video downloading and access to information on trains, which will reduce operations, maintenance, and security response and diagnostic time.

