



EXECUTIVE DECISION DOCUMENT

GENERAL MANAGER APPROVAL:		DocuSigned by: <i>Michael Jones</i> 47000790F2D7463...		GENERAL MANAGER ACTION REQ'D:	
DATE: 3/1/2024		3/6/2024		BOARD INITIATED ITEM: Yes	
Originator/Prepared by: Ana Maria Maxey		General Counsel		Controller/Treasurer	
Dept: New Car Procurement				District Secretary	
DocuSigned by: <i>Ana Maria Maxey</i> 24DE449C8B16463...		DocuSigned by: <i>Amelia Sandoval</i> 2528C067C44147D...		DocuSigned by: <i>Shane Gan</i> EE11C8CEEEA04FD...	
Signature/Date: 3/6/2024		3/6/2024 []		3/6/2024 []	
				BARC	
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				3/6/2024 []	

Change Order No. 006 to Contract No. 40FD-110 Train to Wayside and WiFi System

PURPOSE:

To obtain Board authorization for the execution of Change Order No. 006 (Train to Wayside and Wifi System), in the amount of \$620,607.78, to Contract No. 40FD-110, Procurement of Transit Vehicles ("the Contract").

DISCUSSION:

On November, 16, 2020, the Board authorized award of the Contract to then-Bombardier Transit Corporation (now Alstom) for the procurement of Fleet of the Future transit vehicles (E-cars only).

The San Francisco Bay Area Rapid Transit (BART) District (the District) intends to implement a Digital Railway Communications Subsystem for use with the BART Fleet of the Future (FOTF). Digital Railway equipment will connect to BART's wireless wayside infrastructure and offer in-car wireless services. Through extensive research, and discussions with other train operators, two vendors were identified with proven track records of delivering Digital Railway solutions capable of the performance sought by BART. Those vendors are RADWIN and Fluidmesh.

The Digital Railway will provide wireless bi-directional IP connectivity between the Wayside subsystem and the on-board subsystem and passengers electronic devices. The WiFi network shall have a throughput rate of 250-300 Mbps for each train or isolated car when uncoupled. The network supports a standalone car to a maximum train length of ten (10) cars with any possible combination of "D" and "E" car. The WiFi network provides WiFi access that spans all cars through the train. The Transportation Mobile Unit (TMU)

radio installed in each end car in a coupled consist or in a single decoupled car is set in transmitting mode while the radios in non-end cars are muted. In case of train length of two (2) cars or more, the two (2) TMU radios communicate to choose the best wayside access point where the TMU radio with the best connectivity is active at all times. When the vehicle is turned off, the vehicle battery is able to power up the WiFi system for at least 30 minutes.

The Digital Railway is made up of two (2) main subsystems, the wayside subsystem and the on-board subsystem. The two (2) subsystems are integrated to perform the functions required by BART. The wayside subsystem is composed of Transportation Base Station (TBS). The TBS units are installed at fixed locations along the wayside. The on-board subsystem is composed of Transportation Mobile Unit (TMU), Passenger Internet Access Switch (PIAS), two (2) Passenger Internet Access Points (PIAP), two (2) AP Antennas, and four Wireless Inter Car Links (WICL). Alstom will be providing the above equipment and all associated engineering work for this portion of the WiFi

Pursuant to Board Rule 5-2.3, for construction and procurement contracts greater than \$200 million, any Change Order involving an expenditure greater than \$500,000 requires Board approval.

The Office of the General Counsel will approve this Change Order as to form prior to execution.

The Procurement Department will review this Change Order for conformance with its Procedures prior to execution.

FISCAL IMPACT:

Funding in the amount of \$620,607.78 for Change Order No. 006 is included in the total Project budget for FMS #40FD001 - Rail Car Procurement.

The table below lists funding assigned to the referenced project and is included to track funding history against spending authority. As of March 1, 2024, the following fund sources have been secured out of the total project budget of \$1.043B.

Fund Category	Fund Source	Secured/ Allocated	Secured/ Unallocated	Total Funding	No
Federal	FTA CIG	203,870,671	-	203,870,671	
Regional	MTC Rail Car	157,480,372	-	157,480,372	

	Exchange Account				
Local	SFCTA Prop L	35,295,335	-	35,295,335	
Local	ACTC Measure BB	-	31,331,689	31,331,689	Aw
State	TIRCP	-	138,806,286	138,806,286	Aw
Regional	RM3	-	476,665,931	476,665,931	Aw
Total		396,646,378	646,803,906	1,043,450,284	

The following is the project expenditures summary as of March 1, 2024, for the Rail Car Procurement project:

Total Project Estimate	\$ 1,043,450,284
Expense to Date	\$69,362,000
Encumbrances	\$845,956,925
Reserved	\$0
This Action	\$ 620,608
Remaining Balance	\$127,510,751

This action is not anticipated to have any Fiscal Impact on unprogrammed District Reserves.

ALTERNATIVES:

Decline to approve this Change Order. No wireless services will be provided to patrons.

RECOMMENDATION:

It is recommended that the Board adopt the following motion.

MOTION:

The General Manager is authorized to execute Change Order No.006 for changes to the Technical Specification 15.10- Train to Wayside and Wifi System under Contract No. 40FD-110 Procurement of Transit Vehicles

