

Clipper Executive Board

November 16, 2020

Agenda Item 3c

Next-Generation Clipper (C2) System Integrator Contract Change Order – Bay Area Rapid Transit (BART) and San Francisco Municipal Transportation Agency (SFMTA) Tri Reader 4 (TR4) Card Validator Integration with Exercise of Open Payments Option: Cubic Transportation Systems, Inc. (Cubic) (\$13,600,000)

Subject: Request for approval of a Change Order to implement the TR4, Cubic’s next-generation card validator, on BART and SFMTA equipment and exercise the Open Payments Option.

Background: The Contract requires Cubic to leverage BART’s legacy Tri Reader 3 (TR3) card validator and network architecture to integrate BART with the C2 system. However, during discussions about account-based network design, BART communicated concerns about allowing Clipper’s cloud-based architecture to operate on a combined network supporting multiple BART functions. After analyzing several strategies for mitigating security risks to both BART and Cubic without compromising performance requirements, BART communicated its intention to fund and implement a separate network on which C2 could operate independently. However, this solution requires Cubic to integrate TR4 validators to operate on BART’s new network. To gain cost reductions by eliminating the TR3 validator tasks and implementing consistent architecture across the C2 system, MTC (with direction from the Change Control Board) requested that Cubic’s Impact Assessment include the implementation of TR4 validators on SFMTA faregates as well as on BART’s equipment.

Since TR4 validators are an open payments requirement that, under the Contract, was contemplated to be implemented only if the Open Payments Option were exercised after System Completion, Cubic also calculated the effects of TR4 implementation on the cost of exercising the Open Payments Option early (at Change Order execution) or as originally contracted (after System Completion). See Attachment A for a comparison of the capital costs associated with the Open Payments Option as originally priced under the Contract and the revised Open Payments Option if exercised early with the TR4 implementation or after System Completion as originally contracted.

Cubic’s Impact Assessment identifies a cost savings if the Clipper Program were to exercise this Option as part of the proposed TR4 Card Validator Integration Change Order rather than after System Completion. Exercising the Open Payments option now would reduce the risk and complexity of reengineering the Clipper system to accept open payments in the future. Cubic has stated that open payments functionality could be implemented as early as 2022 without delaying Critical Milestones associated with the delivery of the next-generation Clipper system. MTC will work with operators to discuss and formalize policies to support the region’s future acceptance of open payments.

Issues: Staff is working with MTC’s Funding Programs and Policy section to identify funding to pay for this work as neither the implementation of TR4 validators nor exercise of the Open Payments Option were authorized in the approval of the C2 System Integrator Contract. If no new funding is identified, the work could be funded from the previously approved Contract contingency.

Recommendation: Staff recommends the Board's approval of one or more Contract Change Order or Change Order Amendments with Cubic in an amount not to exceed \$13,600,000 for the work described above.

Attachments: Attachment A: PowerPoint


Carol Kuester

REQUEST FOR COMMITTEE APPROVAL

Summary of Proposed Contract Change Order

Work Item No.: 310-2780

Consultant: Cubic Transportation Systems, Inc.
San Diego, CA

Work Project Title: BART and SFMTA Tri Reader 4 (TR4) Card Validator Integration

Purpose of Project: Install new Clipper TR4 card validators on BART and SFMTA devices to facilitate a secure integration with the next-generation Clipper account-based system and exercise the Contract's Open Payments Option at Change Order execution

Brief Scope of Work: Implement the next-generation Clipper TR4 validator at BART devices and SFMTA faregates to support the region-wide implementation of open payments for all participating Operators

Project Cost Not to Exceed: \$13,600,000 (including \$2.6M in Operating costs)

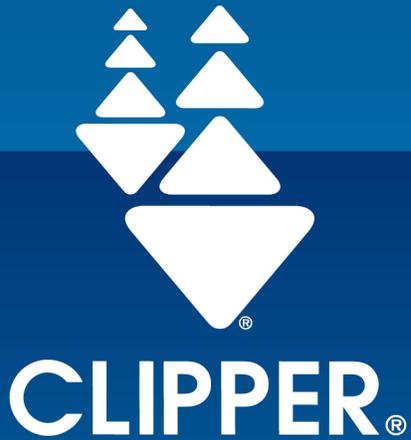
Funding Source: FTA, FHWA, OBAG2, STP, CMAQ, STA, STP Exchange, TCP, Regional Measure 2 Capital and Regional Measure 2 Operating, CARES Act funds, Regional Measure 3, SB1 State of Good Repair

Fiscal Impact: Funding conditional upon future FTA/FHWA funds through 2022, subject to federal appropriation and future Commission action, including Commission approval of the Transit Capital Priorities program for FY2020-21 and FY2021-22 or Commission approval of like amount from alternate sources.

Motion by Committee: That a contract change order with Cubic Transportation Systems, Inc. for the purpose described herein and in the Executive Director's summary sheet dated November 16, 2020, is hereby approved by the Clipper Executive Board.

Clipper Executive Board: _____
Rick Ramacier, Chair

Approved: November 16, 2020



BART and SFMTA Tri Reader 4
(TR4) Card Validator
Integration with Exercise of
Open Payments Option
Clipper Executive Board

November 16, 2020

Next-Generation Clipper Solution for BART

- C2 System Integrator (C2 SI) Contract currently requires Cubic to leverage BART's legacy card validator and network for C2 integration
 - BART had security concerns
- MTC, Cubic & BART negotiated alternative design
- Staff identified two-prong solution that requires upgrade to the Tri Reader 4 (TR4), Cubic's next-generation card validator
 - BART responsible for funding and delivering separate network for fare collection functions before March 2022
 - Change Order required for Cubic to implement TR4 validators for BART devices



Positive Implications of BART Solution

- Creates incentive to also implement TR4 validators on SFMTA faregates
 - Results in consistent architecture across the C2 system, simplifying operations and maintenance by eliminating legacy readers
- Reduces cost of exercising C2 SI Contract's Open Payments Option
 - TR4 validator on BART and SFMTA is a requirement for region-wide open payments
 - Significant amount of equipment and software development work will be completed as part of BART and SFMTA integration



TR4 and Open Payments Implementation Pricing

	<u>Status Quo</u> Current Contract (Open Payment Option @ System Completion)	<u>Recommended Solution</u> TR4 Integration (Open Payment Option @ Change Order Execution)	<u>Alternative Approach</u> TR4 Integration (Open Payment Option @ System Completion)
BART/SFMTA TR4 Procurement (est.)	\$4M	\$4M	\$4M
BART/SFMTA TR4 Integration	N/A	\$4.4M	\$4.4M
Taxes and Contingency (est.)	\$0.8M	\$0.8M	\$0.8M
<u>Open Payment Capital Implementation</u>	<u>\$7M</u>	<u>\$1.8M</u>	<u>\$3.6M</u>
Total Cost (Capital)	\$11.8M	\$11M	\$12.8M
BART/SFMTA TR4 O&M (Total for contract term)	N/A	\$1.8M	\$1.8M
<u>Open Payment O&M</u> (Total for contract term, excluding credit card fees)	<u>\$1.5M</u>	<u>\$0.8M</u>	<u>\$0.9M</u>
Total Cost for Contract Term (Operating)	\$1.5M	\$2.6M	\$2.7M
Total Cost (Capital + Operating)	\$13.3M	\$13.6M	\$15.5M
Year of Open Payment Acceptance (est.)	2024	2022	2024

Recommended Open Payments Strategy

- Reduces cost and complexity of adding open payments functionality
 - Capital cost of integration work reduced from \$7M to \$1.8M if open payments option exercised now
- Leverages Cubic program management resources and reduces risk
 - Should not affect current Critical Milestone dates
- Open payments functionality available as early as 2022
 - Allows time for operators to develop policies and operating rules to support open payments

