

File No. 160752

Committee Item No. 4
Board Item No. 37

COMMITTEE/BOARD OF SUPERVISORS

AGENDA PACKET CONTENTS LIST

Committee: Budget & Finance Sub-Committee

Date July 20, 2016

Board of Supervisors Meeting

Date July 26, 2016

Cmte Board

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OTHER (Use back side if additional space is needed)

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Completed by: Linda Wong Date July 15, 2016
Completed by: Linda Wong Date July 21, 2016

1 [Agreement - SPX Genfare - Procurement, Installation, and Maintenance of a Transit Vehicle
2 Farebox System - Not to Exceed \$29,264,755]

3 **Resolution approving the agreement with SPX Genfare, for services related to the**
4 **procurement, installation, and maintenance of a Transit Vehicle Farebox System, which**
5 **includes fareboxes, a Revenue Transfer and Collection System, a Data Collection and**
6 **Reporting System, Computer Aided Dispatch/Automatic Vehicle Location System**
7 **Integration, and five years of warranty and preventative maintenance services, in an**
8 **amount not to exceed \$29,264,755 and for an initial term that includes an installation**
9 **period plus five years commencing August 1, 2016, or later, with the option to extend**
10 **for up to two five-year terms for a total term not to exceed 16 years.**

11
12 WHEREAS, The fareboxes currently used San Francisco Municipal Transportation
13 Agency (SFMTA) transit vehicles date back to 1991, are nearing the end of their useful lives,
14 and are no longer supported by their manufacturer; and

15 WHEREAS, On August 18, 2015, the SFMTA Board of Directors adopted Resolution
16 No. 15-111 authorizing the Director of Transportation or his designee to issue a Request for
17 Proposals for a Transit Vehicle Farebox System, and to negotiate a contract for these
18 services with the highest-ranked proposer; and

19 WHEREAS, The SFMTA issued a Request for Proposals (RFP) on September 14,
20 2015, to conduct a competitive procurement process to award a new agreement; and,

21 WHEREAS, Four proposers, which were SPX Genfare, LECIP, Scheidt & Bachmann,
22 and Trapeze, submitted proposals; and

23 WHEREAS, An evaluation panel comprised of SFMTA and AC Transit personnel with
24 expertise in farebox technology and related services ranked SPX Genfare's proposal the
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highest; and

WHEREAS, The SFMTA has negotiated an agreement by which SPX Genfare will provide fareboxes, a Revenue Transfer and Collection System, a Data Collection and Reporting System, Computer Aided Dispatch/Automatic Vehicle Location (CAD/AVL) System Integration ("Farebox System"), and five years of warranty and preventative maintenance services, with an option to extend warranty and preventative maintenance services for an additional two five-year periods ("the Agreement"); and,

WHEREAS, The Farebox System will ensure a high level fare revenue security through improved accountability and tracking of revenues and ridership; and

WHEREAS, The Farebox System will print transfers at the time of fare payment, replacing current pre-printed paper tear-off transfers/fare receipts; and

WHEREAS, The Farebox System will collect and report fare payment data, which will improve the SFMTA's revenues management and transit service planning; and

WHEREAS, The SFMTA Board of Directors approved the Agreement on June 28, 2016, (Resolution No. 16-081) and also recommended that the Board of Supervisors approve the Agreement; and

WHEREAS, The Agreement is on file with the Clerk of the Board of Supervisors in File No. 160752; and

WHEREAS, On May 9, 2016, the SFMTA, under authority delegated by the Planning Department, determined that the Farebox System is not a "project" for purposes of environmental review under the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines, Sections 15060(c) and 15378(b); and

WHEREAS, Said CEQA determination is on file with the Secretary to the SFMTA Board

1 of Directors, and may be found in the records of the Planning Department at 1650 Mission
2 Street in San Francisco, and are incorporated herein by reference; and

3 WHEREAS, The SFMTA, under authority delegated by the Planning Department, has
4 determined that the Transit Vehicle Farebox System Procurement item is not a "project" for
5 purposes of environmental review under the California Environmental Quality Act (CEQA)
6 pursuant to CEQA Guidelines, Sections 15060(c) and 15378(b); and

7 WHEREAS, Due to the value and term of the Agreement, it is subject to Board of
8 Supervisors' approval under Charter, Section 9.118; now, therefore, be it

9 RESOLVED, That the Board of Supervisors authorizes the Director of Transportation of
10 the SFMTA, on behalf of the City, to execute SFMTA Contract No. 2015-45, "Transit Vehicle
11 Farebox System with SPX Genfare to provide Fareboxes, a Revenue Transfer and Collection
12 System, a Data Collection and Reporting System, Computer Aided Dispatch/Automatic
13 Vehicle Location (CAD/AVL) System Integration," (Agreement) including five years of warranty
14 and preventative maintenance services for an amount not to exceed \$29,264,755, for an initial
15 term that includes an installation period plus five years commencing on August 1, 2016, or
16 later, with the option to extend the term of the Agreement for up to two additional five-year
17 terms, for a total term not to exceed 16 years, and, be it

18 FURTHER RESOLVED, That the Board of Supervisors authorizes the SFMTA to enter
19 into any amendments or modifications to the Agreement that the Director of Transportation
20 determines, in consultation with the City Attorney, are in the best interest of the City, do not
21 materially increase the obligations or liabilities of the City, are necessary or advisable to
22 effectuate the purposes of the Agreement or this Resolution, and are in compliance with all
23 applicable laws, including the City's Charter; and, be it

24 FURTHER RESOLVED, That the Planning Department's determination that the actions
25 contemplated by this Resolution comply with the California Environmental Quality Act

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(California Public Resources Code, Sections 21000 et seq.) is affirmed by this Board; and, be it

FURTHER RESOLVED, That the Agreement shall be subject to certification as to funds by the City's Controller, pursuant to Charter, Section 3.105, and, be it

FURTHER RESOLVED, That within 30 days of the Agreement being fully executed by all parties, the final documents shall be provided to the Clerk of the Board for inclusion in the official file.

Item 4 File 16-0752	Department: Municipal Transportation Agency (MTA)
EXECUTIVE SUMMARY	
Legislative Objectives	
<ul style="list-style-type: none"> • The proposed resolution would approve an agreement between the MTA and Genfare, a division of SPX Corporation (SPX Genfare). The initial agreement term includes an installation period of approximately 245 days, beginning in approximately August 2016 to April 2017 and a warranty and maintenance period of five years from approximately April 2017 to March 2022. The agreement amount for the initial term is not-to-exceed amount \$30,000,000. There would also be two five-year options to extend the warranty and maintenance agreement to approximately March 2032. 	
Key Points	
<ul style="list-style-type: none"> • In 2008, the Board of Supervisors approved a sole source agreement between the San Francisco Municipal Transportation Agency (MTA) and Cubic Transportation Systems, Inc. for a total not-to-exceed amount of \$19 million for a term of 26 months from September 2008 to October 2010. • Under this agreement, Cubic Transportation Systems, Inc. refurbished fareboxes on all MTA revenue vehicles, equipment, and software for the purposes of tracking fare collection revenues and managing the fareboxes. Cubic Transportation Systems, Inc. also provided support for MTA staff. These fareboxes dated back to 1991. • The original agreement was amended as of February 2009 to extend the term by three months through January 2010 and to reduce the total not-to-exceed amount by \$1,500,777 from \$19 million to \$17,499,223. • In September 2015, MTA issued a new Request for Proposals (RFP) for the installation and maintenance of new fareboxes on all MTA revenue vehicles of the Transit Vehicle Farebox System. 	
Fiscal Impact	
<ul style="list-style-type: none"> • The MTA's budget for the proposed agreement is \$29,264,755 for the base farebox system, maintenance costs, and other expenses, which is \$735,245 less than the agreement not-to-exceed amount of \$30,000,000. 	
Recommendations	
<ul style="list-style-type: none"> • Amend the proposed resolution to reduce the requested not-to-exceed amount by \$735,245 from \$30,000,000 to \$29,264,755. • Approve the proposed resolution as amended. 	

MANDATE STATEMENT

City Charter Section 9.118(b) states that any contract entered into by a department, board or commission that (1) has a term of more than ten years, (2) requires expenditures of \$10 million or more, or (3) requires a modification of more than \$500,000 is subject to Board of Supervisors approval.

BACKGROUND**Former Agreement**

In 2008, the Board of Supervisors approved a sole source agreement between the San Francisco Municipal Transportation Agency (MTA) and Cubic Transportation Systems, Inc. for a total not-to-exceed amount of \$19 million for a term of 26 months from September 2008 to October 2010. Under this agreement, Cubic Transportation Systems, Inc. refurbished fareboxes on all MTA revenue vehicles, equipment, and software for the purposes of tracking fare collection revenues and managing the fareboxes. Cubic Transportation Systems, Inc. also provided support services for MTA staff.¹ These fareboxes dated back to 1991.

The agreement was issued on a sole-source basis because the technology used in the farebox system was proprietary to Cubic Transportation Systems, Inc. and Cubic Transportation Systems, Inc. was the only respondent to the Request for Proposals (RFP) issued by the MTA. The \$19 million was funded from the FY 2007-08 Public Transportation Modernization, Improvement, and Service Enhancement Account funds from the State of California as approved by the Board of Supervisors in March 2008.

The original agreement was amended as of February 2009 to extend the term by three months through January 2010 and to reduce the total not-to-exceed amount by \$1,500,777 from \$19 million to \$17,499,223. An MTA Revenue Service/Farebox Repair group consisting of in-house electronic maintenance technicians maintains the farebox system as one component of their duties.

New Request for Proposals Process

In September 2015, MTA issued a new Request for Proposals (RFP) for the installation and maintenance of new fareboxes on all MTA revenue vehicles under the Transit Vehicle Farebox System. MTA received four proposals, including Genfare, a division of SPX Corporation (SPX Genfare), LECIP, Scheidt & Bachmann, and Trapeze. An evaluation panel comprised of MTA and AC Transit personnel with expertise in farebox technology and related services ranked SPX Genfare as the highest scoring firm.

¹ 15 months of the 26-month agreement term were used for the installation of the refurbished fareboxes, while the remainder of the agreement term was used for post-installation training to support the system.

DETAILS OF PROPOSED LEGISLATION

The proposed resolution would approve an agreement between the MTA and Genfare, a division of SPX Corporation (SPX Genfare) for the installation and maintenance of new fareboxes on all MTA revenue vehicles. The initial agreement term includes an installation period of approximately 245 days, beginning in approximately August 2016 to April 2017 and a warranty and maintenance period of five years from approximately April 2017 to March 2022. The agreement amount for the initial term is not-to-exceed amount \$30,000,000. There would also be two five-year options to extend the warranty and maintenance agreement to approximately March 2032. Including the two five-year options, the total agreement term is approximately 15 years and 245 days.

Under the proposed agreement, SPX Genfare would provide services related to the procurement, installation, and maintenance of a Transit Vehicle Farebox System, which includes fareboxes, a revenue transfer and collection system, a data collection and reporting system, and a computer aided dispatch/automatic vehicle location system integration.

MTA, under the authority delegated by the Planning Department, has determined that the Transit Vehicle Farebox System Procurement item is not a "project" for purposes of environmental review under the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines, sections 15060(c) and 15378(b).

FISCAL IMPACT

The MTA's budget for the proposed agreement is \$29,264,755 for the base farebox system, maintenance costs, and related expenses as shown in Table 1 below, which is \$735,245 less than the agreement not-to-exceed amount of \$30,000,000. Therefore, the proposed resolution should be amended to reduce the agreement not-to-exceed amount from \$30,000,000 to \$29,264,755.

The agreement budget of \$29,264,755 includes the purchase of 1,286 new fareboxes for installation and 50 spare fareboxes. According to Mr. Jason Lee, MTA Project Manager, the source of funds to pay for the agreement is the MTA's operating budget for FY 2016-17.

Table 1. Total Costs for Farebox Base System and Associated Costs

Item Description	Total Cost
Base Farebox System Costs	
Farebox Equipment and Installation	\$15,932,700
Licensed Software, Equipment and Services	3,656,226
Computer Aided Dispatch(CAD)/Automatic Vehicle Location System Integration	623,869
Transfer/Fare Receipt (initial 20 million order)	290,000
Odyssey Farebox Spare Kit	1,144,122
Additional Spare Parts	<u>254,676</u>
<i>Subtotal</i>	<i>21,901,593</i>
Contingency funds for base farebox system (5%)	<u>1,098,407</u>
Total Base Farebox System Costs	\$23,000,000
Preventive Maintenance, Supplies, Adjustments	
Preventative Maintenance Services	\$ 2,829,200
Transfer and Ticket Stock	1,450,000
Farebox Height Adjustment	<u>262,048</u>
Total Preventive Maintenance, Supplies, Adjustments	\$4,541,248
Optional Costs	
Preventative Maintenance Facility and Transportation (Optional)	\$1,082,227
Smart Card Acceptance – Hardware (Optional)	<u>641,280</u>
Total Optional	\$1,723,507
Grand Total	\$29,264,755

Source: Municipal Transportation Agency staff.

During the implementation phase, the MTA and SPX Genfare would validate the number of fareboxes and spare parts needed and make price adjustments as necessary. However, the total cost of the farebox base system cannot exceed \$23,000,000, as stated in the proposed agreement and as shown in the Table 1 budget above.

\$4,541,248 would be budgeted for ongoing maintenance, transfer and ticket stock, and any height adjustments to fareboxes to comply with the American with Disabilities Act.

Optional Costs

The agreement provides for the option of having the vendor lease a facility to complete preventative maintenance tasks for an estimated \$1,082,227.

In addition, according to Mr. Lee, the Metropolitan Transportation Commission is currently considering a new Clipper Card system, which might include new card readers embedded in fareboxes or as stand-alone units, as it currently the case. In the event that the new card readers are embedded in fareboxes, the MTA has included \$641,280 for hardware and software development costs in the agreement amount.

RECOMMENDATIONS

1. Amend the proposed resolution to reduce the requested not-to-exceed amount by \$735,245 from \$30,000,000 to \$29,264,755.
2. Approve the proposed resolution as amended.

**City and County of San Francisco
Municipal Transportation Agency
One South Van Ness Ave. 7th floor
San Francisco, California 94103**

**Agreement between the City and County of San Francisco and
Genfare, a division of SPX Corporation for the Procurement,
Installation, and Maintenance of a Transit Vehicle Farebox System**

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**City and County of San Francisco
Municipal Transportation Agency
One South Van Ness Ave. 7th floor
San Francisco, California 94103**

**Agreement between the City and County of San Francisco and
Genfare, a division of SPX Corporation for the Procurement, Installation and Maintenance
of a Transit Vehicle Farebox System**

**Contract No. SFMTA-2016-16
Transit Vehicle Farebox System**

This Agreement for the Procurement, Installation, and Maintenance of a Transit Vehicle Farebox System (“Agreement”), dated for convenience as August 1, 2016, in the City and County of San Francisco, State of California, by and between Genfare, a division of SPX Corporation, 800 Arthur Avenue, Elk Grove Village, IL 60007 (“Contractor”) and City.

Recitals

- A. The SFMTA wishes to contract with a firm to provide a transit vehicle farebox system.
- B. The SFMTA issued a Request for Proposals (RFP) on September 14, 2015, and selected Contractor as the highest qualified scorer pursuant to the RFP.
- C. Contractor represents and warrants that it is qualified to perform the Services required by City as set forth under this Agreement.
- D. Approval for this Agreement was obtained when the Civil Service Commission approved Contract number 40379-15/16 on June 6, 2016.

Now, THEREFORE, the parties agree as follows:

Article 1 Definitions

The following definitions apply to this Agreement:

- 1.1 **“Agreement”** means this contract document, including all attached appendices, and all applicable City Ordinances and Mandatory City Requirements that are specifically incorporated into this Agreement by reference as provided herein.
- 1.2 **“Back-End System”** means the database and reporting support systems of the Data Collection and Reporting System.
- 1.3 **“Base Contract Amount”** means the agreed amount the SFMTA shall pay as compensation to Contractor for the successful implementation of the Base System.
- 1.4 **“Base System”** means the complete Transit Vehicle Farebox System, including ancillary software, equipment (including but not limited to Fareboxes, receiver vaults, transport bins, Garage

Computers, and ancillary equipment and infrastructure), , CAD/AVL system integration, and all related goods and installation, testing and implementation services required to provide Farebox revenue collection on SFMTA's revenue transit fleet, as described in this Agreement and specified in Appendix D, Section 1.

1.5 "CAD/AVL" means the OrbStar Computer Aided Dispatch/Automatic Vehicle Location System, currently supplied to the SFMTA by Xerox/ACS

1.6 "Cashbox" means a container used to store bills and coins within the Farebox, which is used to move fare revenues securely to the Revenue Transfer and Collection System

1.7 "CCO" means SFMTA Contract Compliance Office.

1.8 "City" means the City and County of San Francisco, a municipal corporation, acting by and through its Municipal Transportation Agency (SFMTA).

1.9 "Contract Amount" means the total sum that the SFMTA may be obligated to pay Contractor under this Agreement for Installation Services, Warranty Services, and Maintenance Services, excluding amendment of this Agreement by the parties.

1.10 "Contractor" or "Consultant" means Genfare, a division of SPX Corporation.

1.11 "Data Collection and Reporting System" or "Data System" means the hardware and software that enables the SFMTA track individual fare transactions, analyze and reconcile revenues, track Cashbox Events for reporting and auditing purposes, and manage and configure farebox settings.

1.12 "Deliverables" means Contractor's work product resulting from the Services that are provided by Contractor to City during the course of Contractor's performance of the Agreement, including without limitation, the work product described in the "Scope of Services" attached as Appendix A.

1.13 "Design Review" means the process by which the SFMTA and the Contractor meet to finalize project details and options.

1.14 "Effective Date" means the date upon which the SFMTA notifies Contractor that the City's Controller has certified the availability of funds for this Agreement as provided in Section 3.1 and the SFMTA issues to Contractor notice confirming that certification and directing Contractor to commence the Work (aka, "Notice to Proceed" or "NTP").

1.15 "Event" means a change in the status of a Farebox, Cashbox or other Farebox System component, such as ticket stock falling below a set threshold or the opening and closing of a Farebox door

1.16 "Farebox" means the equipment, including software to make said equipment function, on board a transit vehicle that collects and securely stores bill, coin and token fare revenue from the customer

1.17 "Farebox System" or "Transit Vehicle Farebox System" means all equipment, hardware, software, and support services that permit the SFMTA to collect bills, coins and token fare revenue from customers onboard transit vehicles, and transfer those revenues securely to a Revenue Collection Facility.

1.18 “Garage” or “Operating Division” means an SFMTA facility which houses transit vehicles and where vehicle maintenance takes places.

1.19 “Garage Computer” means the hardware and software system, implemented as Virtual Machines instead of a physical computer, which manages data uploads and downloads from Fareboxes at an individual Operating Division level, for data transfer to or from a central database

1.20 Installation Period means the twelve-month period commencing on the date of NTP during which Contractor must completed all Installation Work.

1.21 Installation Services means all work required under this Agreement to procure, install, test and implement the Farebox System, as described in this Agreement and the RFP.

1.22 “Maintenance Period” means the five-year period (or periods if SFMTA exercises options to extend) commencing at the expiration of the Warranty Period during which Contractor shall provide Maintenance Services to the SFMTA, as described in Appendix B.

1.23 “Mandatory City Requirements” means those City laws set forth in the San Francisco Municipal Code, including the duly authorized rules, regulations, and guidelines implementing such laws, which impose specific duties and obligations upon Contractor.

1.24 “Party” and “Parties” mean the City and Contractor either collectively or individually.

1.25 “Preventative Maintenance Option” means the option that the SFMTA may exercise to receive Preventative Maintenance Services from Contractor, as described in Appendix B, section B.

1.26 “Project” means the installation and testing of all fareboxes on vehicles, the installation and testing of all software and other technology necessary for the operation of the Farebox System, the installation and implementation of the Receiver Vaults and other Farebox System equipment in the Garages, and all other work necessary to install, implement, test and put into revenue service the Farebox System that vendor will provide to the SFMTA as specified in this Agreement.

1.27 “Revenue Cargo Truck” means the truck used to transport fare revenues from an Operating Division to a Revenue Collection Facility.

1.28 “Revenue Collection Facility” means the location where the SFMTA receives and counts all fare revenues and assembles the money for transfer to a bank.

1.29 “Revenue Transfer and Collection System” means all equipment, hardware and software that facilities enables the secure transfer of Cashbox fare revenues from the Farebox to SFMTA’s Revenue Collection Facility.

1.30 “Services” means the work performed by Contractor under this Agreement as specifically described in the “Scope of Services” attached as Appendix A, including all services, labor, supervision, materials, equipment, deliverables, actions and other requirements to be performed and furnished by Contractor under this Agreement.

1.31 “San Francisco Municipal Transportation Agency” or “SFMTA” means the agency of City with jurisdiction over all surface transportation in San Francisco.

1.32 “Warranty Commencement Date” means the date that the SFMTA accepts the Project as having met all specifications and requirements of this Agreement.

1.33 “**Warranty Period**” means the five-year period, during which Contractor shall provide Warranty Services to the SFMTA, as described in Appendix C.

1.34 **Warranty Services** means the services described in Appendix B.

1.35 “**Work**”- See “**Services**”

Article 2 Term of the Agreement

2.1 The term of this Agreement shall commence on the Effective Date and shall continue through the Installation Period, the Warranty Period and any Maintenance Period, as provided herein, unless earlier terminated as otherwise provided herein.

2.2 The City may at its option extend the Maintenance Period for two additional periods of five years each. The City may exercise its options to extend the Maintenance Period by providing written notice to Contractor.

Article 3 Financial Matters

3.1 **Certification of Funds; Budget and Fiscal Provisions; Termination in the Event of Non-Appropriation.** This Agreement is subject to the budget and fiscal provisions of the City’s Charter. Charges will accrue only after prior written authorization certified by the Controller, and the amount of City’s obligation hereunder shall not at any time exceed the amount certified for the purpose and period stated in such advance authorization. This Agreement will terminate without penalty, liability or expense of any kind to City at the end of any fiscal year if funds are not appropriated for the next succeeding fiscal year. If funds are appropriated for a portion of the fiscal year, this Agreement will terminate, without penalty, liability or expense of any kind at the end of the term for which funds are appropriated. City has no obligation to make appropriations for this Agreement in lieu of appropriations for new or other agreements. City budget decisions are subject to the discretion of the Mayor and the Board of Supervisors. Contractor’s assumption of risk of possible non-appropriation is part of the consideration for this Agreement.

THIS SECTION CONTROLS AGAINST ANY AND ALL OTHER PROVISIONS OF THIS AGREEMENT.

3.2 **Guaranteed Maximum Costs.** The City’s payment obligation to Contractor under this Agreement cannot at any time exceed the amount certified by City’s Controller for the purpose and period stated in such certification. Absent an authorized Emergency per the City Charter or applicable Code, no City representative is authorized to offer or promise, nor is the City required to honor, any offered or promised payments to Contractor under this Agreement in excess of the certified maximum amount without the Controller having first certified the additional promised amount and the Parties having modified this Agreement as provided in Section 11.5, “Modification of this Agreement.”

3.3 Compensation.

3.3.1 **Payment.** Contractor shall provide an invoice to the SFMTA on a monthly basis for Services completed in the immediate preceding month, unless a different schedule is set out in Appendix B, “Calculation of Charges.” Compensation shall be made for Services identified in the invoice that the SFMTA’s designee, in his or her sole discretion, concludes has been satisfactorily performed.

Payment shall be made within 30 calendar days of receipt of the invoice, unless the City notifies the Contractor that a dispute as to the invoice exists. In no event shall the amount of this Agreement exceed Thirty Million Dollars (\$30,000,000) (the "Contract Amount"). The breakdown of charges associated with this Agreement appears in Appendix B, "Calculation of Charges," attached hereto and incorporated by reference as though fully set forth herein. In no event shall City be liable for interest or late charges for any late payments.

3.3.2 Payment Limited to Satisfactory Services. Contractor is not entitled to any payments from City until the SFMTA approves Services, including any furnished Deliverables, as satisfying all of the requirements of this Agreement. Payments to Contractor by City shall not excuse Contractor from its obligation to replace unsatisfactory Deliverables, including equipment, components, materials, or Services even if the unsatisfactory character of such Deliverables, equipment, components, materials, or Services may not have been apparent or detected at the time such payment was made. Deliverables, equipment, components, materials and Services that do not conform to the requirements of this Agreement may be rejected by City and in such case must be replaced by Contractor without delay at no cost to the City.

3.3.3 Withhold Payments. If Contractor fails to provide Services in accordance with Contractor's obligations under this Agreement, the City may withhold any and all payments due Contractor until such failure to perform is cured, and Contractor shall not stop work as a result of City's withholding of payments as provided herein, provided that City may not unreasonably withhold payments and any such payments will be promptly made upon the Contractor's satisfaction of the obligation which led to the City's withholding.

3.3.4 Invoice Format. Invoices furnished by Contractor under this Agreement must be in a form acceptable to the Controller and City, and must include a unique invoice number. Payment shall be made by City to Contractor at the address specified in Section 11.1, "Notices to the Parties," or in such alternate manner as the Parties have mutually agreed upon in writing.

3.3.5 Getting Paid for Goods and/or Services from the City.

a. All City vendors receiving new contracts, contract renewals, or contract extensions must sign up to receive electronic payments through Paymode-X, the City's third party service that provides Automated Clearing House (ACH) payments. Electronic payments are processed every business day and are safe and secure. To sign up for electronic payments, visit www.sfgov.org/ach.

b. The following information is required to sign up: (i) The enroller must be their company's authorized financial representative, (ii) the company's legal name, main telephone number and all physical and remittance addresses used by the company, (iii) the company's U.S. federal employer identification number (EIN) or Social Security number (if they are a sole proprietor), and (iv) the company's bank account information, including routing and account numbers.

3.4 Audit and Inspection of Records. Contractor agrees to maintain and make available to the City, during regular business hours at reasonable times and upon reasonable prior notice, accurate books and accounting records relating to its Services. Contractor will permit City to audit, examine and make excerpts and transcripts from such books and records, and to make audits of all invoices, materials, payrolls, records or personnel and other data related to all other matters covered by this Agreement, whether funded in whole or in part under this Agreement. Contractor shall maintain such data and records

in an accessible location and condition for a period of not fewer than five years after final payment under this Agreement or until after final audit has been resolved, whichever is later. The State of California or any Federal agency having an interest in the subject matter of this Agreement shall have the same rights as conferred upon City by this Section. Contractor shall include the same audit and inspection rights and record retention requirements in all subcontracts.

3.5 Submitting False Claims. The full text of San Francisco Administrative Code Chapter 21, Section 21.35, including the enforcement and penalty provisions, is incorporated into this Agreement. Pursuant to San Francisco Administrative Code §21.35, any contractor or subcontractor who submits a false claim shall be liable to the City for the statutory penalties set forth in that section. A contractor or subcontractor will be deemed to have submitted a false claim to the City if the contractor or subcontractor: (a) knowingly presents or causes to be presented to an officer or employee of the City a false claim or request for payment or approval; (b) knowingly makes, uses, or causes to be made or used a false record or statement to get a false claim paid or approved by the City; (c) conspires to defraud the City by getting a false claim allowed or paid by the City; (d) knowingly makes, uses, or causes to be made or used a false record or statement to conceal, avoid, or decrease an obligation to pay or transmit money or property to the City; or (e) is a beneficiary of an inadvertent submission of a false claim to the City, subsequently discovers the falsity of the claim, and fails to disclose the false claim to the City within a reasonable time after discovery of the false claim.

Article 4 Services and Resources

4.1 Services Contractor Agrees to Perform. Contractor agrees to perform the Services described in Appendix A, "Scope of Services." Officers and employees of the City are not authorized to request, and the City is not required to reimburse the Contractor for, Services beyond the Scope of Services listed in Appendix A, unless Appendix A is modified as provided in Section 11.5, "Modification of this Agreement."

4.2 Qualified Personnel. Contractor shall utilize only competent personnel under the supervision of, and in the employment of, Contractor (or Contractor's authorized subcontractors) to perform the Services. Contractor will comply with City's reasonable requests regarding assignment and/or removal of personnel, but all personnel, including those assigned at City's request, must be supervised by Contractor. Contractor shall commit adequate resources to allow timely completion within the project schedule specified in this Agreement.

4.3 Subcontracting. Contractor will subcontract with Xerox Corporation to integrate the Farebox System with the data functions of the radio system that Harris and Xerox are providing under a separate contract with the SFMTA. Contractor shall not further subcontract any portion of the Services unless expressly approved by amendment to this Agreement, executed as required by Section 11.5, below. If Contractor further subcontracts any of the Services, City requirements concerning small and local business enterprise goals and City contract requirements concerning subcontracting shall be included in the approving contract modification and subcontract(s).

4.4 Independent Contractor; Payment of Employment Taxes and Other Expenses.

4.4.1 Independent Contractor.

c. For the purposes of this Article 4; the term "Contractor" shall be deemed to include not only Contractor, but also any agent or employee of Contractor. Contractor acknowledges and agrees that at all times, Contractor shall be deemed at all times to be an independent contractor and is wholly responsible for the manner in which it performs the services and work requested by City under this Agreement.

d. Contractor, its agents, and employees will not represent or hold themselves out to be employees of the City at any time. Contractor or any agent or employee of Contractor shall not have employee status with City, nor be entitled to participate in any plans, arrangements, or distributions by City pertaining to or in connection with any retirement, health or other benefits that City may offer its employees. Contractor or any agent or employee of Contractor is liable for the acts and omissions of itself, its employees and its agents. Contractor shall be responsible for all obligations and payments, whether imposed by federal, state or local law, including, but not limited to, FICA, income tax withholdings, unemployment compensation, insurance, and other similar responsibilities related to Contractor's performing services and work, or any agent or employee of Contractor providing same. Nothing in this Agreement shall be construed as creating an employment or agency relationship between City and Contractor or any agent or employee of Contractor. Any terms in this Agreement referring to direction from City shall be construed as providing for direction as to policy and the result of Contractor's work only, and not as to the means by which such a result is obtained. City does not retain the right to control the means or the method by which Contractor performs work under this Agreement.

e. Contractor agrees to maintain and make available to City, upon reasonable prior request and during regular business hours, accurate books and accounting records demonstrating Contractor's compliance with this section. Should City determine that Contractor, or any agent or employee of Contractor, is not performing in accordance with the requirements of this Agreement, City shall provide Contractor with written notice of such failure. Within five business days of Contractor's receipt of such notice, and in accordance with Contractor policy and procedure, Contractor shall remedy the deficiency. Notwithstanding, if City believes that an action of Contractor, or any agent or employee of Contractor, warrants immediate remedial action by Contractor, City shall contact Contractor and provide Contractor in writing with the reason for requesting such immediate action.

f. No employee of the City shall be deemed or construed to an employee, agent, partner or legal representative of the Contractor for any purpose, by any term of this Agreement or any activity contemplated by this Agreement.

4.4.2 Payment of Employment Taxes and Other Expenses. Should City, in its discretion, or a relevant taxing authority such as the Internal Revenue Service or the State Employment Development Division, or both, determine that Contractor is an employee for purposes of collection of any employment taxes, the amounts payable under this Agreement shall be reduced by amounts equal to both the employee and employer portions of the tax due (and offsetting any credits for amounts already paid by Contractor which can be applied against this liability). City shall then forward those amounts to the relevant taxing authority. Should a relevant taxing authority determine such an employment tax liability for past services performed by Contractor for City, upon notification of such fact by City, Contractor shall promptly remit such amount due or arrange with City to have the amount due withheld from future payments to Contractor under this Agreement (again, offsetting any amounts already paid by Contractor which can be applied as a credit against such liability). A determination of employment status pursuant to the preceding two paragraphs shall be solely for the purposes of the particular tax in question,

and for all other purposes of this Agreement, Contractor shall not be considered an employee of City. Notwithstanding the foregoing, Contractor agrees to indemnify and save harmless City and its officers, agents and employees from, and, if requested, shall defend them against any and all claims, losses, costs, damages, and expenses, including attorneys' fees, arising from this section.

4.5 Assignment. The Services to be performed by Contractor are personal in character, and neither this Agreement nor any duties or obligations hereunder may be assigned or delegated by Contractor unless first approved by City by written instrument executed and approved as required by City law and SFMTA policies. The City shall not assign, transfer or delegate any of its rights and obligations under this Agreement without the express written permission of Contractor. Any purported assignment made in violation of this provision shall be null and void.

4.6 Warranty.

4.6.1 Contractor shall provide Warranty Services as described in this Section 4.6 and in Appendix B.

4.6.2 Contractor warrants to City that the Services will be performed with the degree of skill and care that is required by current, good and sound professional procedures and practices, and in conformance with generally accepted professional standards prevailing at the time the Services are performed so as to ensure that all Services performed are correct and appropriate for the purposes contemplated in this Agreement.

4.6.3 During the Warranty Period, Contractor warrants, to City, that the Contractor's Services will be free from defects in material and workmanship, and Contractor's Services will be in accordance with the specifications of this Agreement. If within such period any of said Services are nonconforming, such Services shall, at Contractor's option, be repaired, replaced, corrected or a substitute obtained, in accordance with the terms set forth in Appendix C. This warranty shall not apply to any loss or damage resulting from normal wear and tear or alteration, misuse or abuse or improper installation, operation or maintenance of equipment or software by City or a third party not authorized by Contractor.

4.6.4 Except as expressly set forth in this agreement, contractor makes no warranty of any kind whatsoever, and contractor expressly disclaims any warranties implied by law.

4.7 Liquidated Damages. By entering into this Agreement, Contractor agrees that in the event it has failed to complete Installation Services within twelve-months of NTP, the City will suffer actual damages that will be impractical or extremely difficult to determine. In such event, Contractor shall pay liquidated damages in the sum of five thousand dollars (\$5,000) per calendar day for each day of delay beyond the agreed Final System Acceptance date stated in Appendix F. Contractor agrees that the liquidated damage amounts stated herein are not a penalty, but are a reasonable estimate of the loss that City will incur based on the delay, established in light of the circumstances existing at the time this Agreement was awarded; provided that the total aggregate of all liquidated damages under this Agreement shall not exceed twenty percent of the Contract Amount. City may deduct a sum representing the liquidated damages from any money due to Contractor under this Agreement. Such deductions shall not be considered a penalty, but rather agreed upon monetary damages sustained by City because of Contractor's failure to furnish deliverables to City within the time fixed or such extensions of time permitted in writing by City. The collection of liquidated damages as specified in this Section 4.7 shall be City's sole compensation for any Contractor delay beyond the Installation Period.

4.8 Bond Requirements. The Contractor is required to furnish a performance bond on a form acceptable to the City, in a sum of not less than Four Million Dollars (\$4,000,000) to guarantee the faithful performance of Contractor's obligations of this Agreement, or at the City's option to compensate the City's costs to cover its damages arising from Contractor's failure or refusal to perform any provision of this Agreement such that the City determines that it must replace the Farebox System provided by Contractor. In such case, the performance bond shall compensate the City its costs to advertise an RFP, select a new vendor, and remove the installed and delivered elements of the Contractor's farebox system, less any salvage value the SFMTA may obtain for the removed equipment. The terms and conditions of the performance bond shall be subject to the City Risk Manager's approval.

4.9 Delivery; Transfer of Title and Risk of Loss. Unless otherwise agreed in writing signed by Contractor: (a) each shipment of goods shall be delivered to a designated SFMTA facility, fully insured by Contractor against loss and damage for the replacement value of the shipped goods and (b) title to such goods and risk of damage or loss shall pass to City at the time of delivery of such goods to the SFMTA's designated facility. Delivery and transfer of title for Equipment shall not determine SFMTA's obligation to compensate Contractor for said Equipment, which terms and conditions are set out in Appendix E.

4.10 Force Majeure. Neither party shall be liable for any delay that is not caused by factors beyond its reasonable control or caused by accident, bad weather, embargo, act of the other party or third parties, labor disputes, national emergency, riots, non-delivery of suppliers, delays of carriers or delivery agents, inability to obtain labor, materials or manufacturing facilities, acts of God, including fires, earthquakes, and other natural forces, or government restrictions, prohibitions or requirements. In the event of any such delay, the time period for delivery or performance by the party whose performance is delayed by such force majeure event shall be extended by a period equal to the delay.

Article 5 Insurance and Indemnity

5.1 Insurance.

5.1.1 Required Coverages. Without in any way limiting Contractor's liability pursuant to the "Indemnification" section of this Agreement, Contractor must maintain in force, during the full term of the Agreement, insurance in the following amounts and coverages:

Workers' Compensation, in statutory amounts, with Employers' Liability Limits not less than \$1,000,000 each accident, injury, or illness; and

Commercial General Liability Insurance with limits not less than \$5,000,000 each occurrence and \$5,000,000 general aggregate for Bodily Injury and Property Damage, including Contractual Liability, Personal Injury, Products and Completed Operations; and

Commercial Automobile Liability Insurance with limits not less than \$2,000,000 "Combined Single Limit" for Bodily Injury and Property Damage, including Owned, Non-Owned and Hired auto coverage, as applicable.

Blanket fidelity bond covering all officers and employees of Vendor performing Work at any Garage or who have access to the Fareboxes or Garage Vaults, in a coverage amount not less than \$1,000,000.

Alternatively, Vendor may fulfill the fidelity bond obligation by providing a crime policy with coverage of One Millions Dollars (\$1,000,000).

5.1.2 Commercial General Liability and Commercial Automobile Liability Insurance policies must be endorsed to provide:

Include as Additional Insured the City and County of San Francisco, its Officers, Agents, and Employees.

To the extent allowable by law such policies are primary insurance to any other insurance available to the Additional Insureds, with respect to any claims arising out of this Agreement, and that insurance applies separately to each insured against whom claim is made or suit is brought.

5.1.3 All policies shall be endorsed to provide 30 days' advance written notice to the City of cancellation for any reason, intended non-renewal, or reduction in coverages. Notices shall be sent to the City address set forth in Section 11.1, entitled "Notices to the Parties." All notices, certificates and endorsements shall include the SFMTA contract number and title on the cover page.

5.1.4 Should any of the required insurance be provided under a claims-made form, Contractor shall maintain such coverage continuously throughout the term of this Agreement and, without lapse, for a period of three years beyond the expiration of this Agreement, to the effect that, should occurrences during the contract term give rise to claims made after expiration of the Agreement, such claims shall be covered by such claims-made policies.

5.1.5 Should any required insurance lapse during the term of this Agreement, requests for payments originating after such lapse shall not be processed until the City receives satisfactory evidence of reinstated coverage as required by this Agreement, effective as of the lapse date. If insurance is not reinstated, the City may, at its sole option, terminate this Agreement effective on the date of such lapse of insurance.

5.1.6 Before commencing any Services, Contractor shall furnish to City certificates of insurance and additional insured policy endorsements with insurers with ratings comparable to A-, VIII or higher, that are authorized to do business in the State of California, and that are satisfactory to City, in form evidencing all coverages set forth above. Approval of the insurance by City shall not relieve or decrease Contractor's liability hereunder.

5.1.7 The Workers' Compensation policy(ies) shall be endorsed with a waiver of subrogation in favor of the City for all work performed by the Contractor, its employees, agents and subcontractors.

5.1.8 If Contractor will use any subcontractor(s) to provide Services, Contractor shall require the subcontractor(s) to provide all necessary insurance and to name the City and County of San Francisco, its officers, agents and employees and the Contractor as additional insureds.

5.2 Indemnification. Contractor shall indemnify and hold harmless City and its officers, agents and employees (collectively, "Indemnitees") from, and shall defend them from and against any and all third party claims, demands, losses, damages, costs, expenses, and liability (legal, contractual, or otherwise) arising from or in any way connected with any: (i) injury to or death of a person, including employees of City or Contractor; or (ii) loss of or damage to property that arises directly or indirectly from Contractor's performance of this Agreement, including, but not limited to, Contractor's use of facilities or equipment provided by City or others, regardless of the negligence of, and regardless of

whether liability without fault is imposed or sought to be imposed on City, except to the extent that such indemnity is void or otherwise unenforceable under applicable law, and except where such loss, damage, injury, liability or claim is the result of the active negligence or willful misconduct of City and is not contributed to by any act of, or by any omission to perform some duty imposed by law or agreement on Contractor, its subcontractors, or an agent or employee of either Contractor or its subcontractors. The foregoing indemnity shall include, without limitation, reasonable fees of attorneys, consultants and experts and related costs and City's costs of investigating any claims against the City.

5.3 In addition to Contractor's obligation to indemnify City, Contractor specifically acknowledges and agrees that it has an immediate and independent obligation to defend City from any claim which actually or potentially falls within this indemnification provision, even if the allegations are or may be groundless, false or fraudulent, which obligation arises at the time such claim is tendered to Contractor by City and continues at all times thereafter.

5.4 Contractor shall indemnify and hold City harmless from all loss and liability, including attorneys' fees, court costs and all other litigation expenses for any infringement of the patent rights, copyright, trade secret or any other proprietary right or trademark, and all other intellectual property claims of any person or persons arising directly or indirectly from the Contractor's Services provided under this Agreement. The foregoing indemnity shall not apply to any claim that arises out of (i) any articles that have been altered or modified by any party other than Contractor; or (ii) the use of the articles in combination with other services, equipment and materials not furnished by Contractor, which infringement would not exist without such combination. In the event any articles are held to constitute infringement, Contractor shall, at its expense, either: (A) procure for City the right to continue using the article; (B) modify such article to make it non-infringing; or (C) substitute another article of similar capability.

Article 6 Liability of the Parties

6.1 Liability of City. City's payment obligations under this Agreement shall be limited to the payment of the compensation provided for in Section 3.3.1 ("Payment"). Notwithstanding any other provision of this agreement, in no event shall City be liable, regardless of whether any claim is based on contract or tort, for any special, consequential, indirect or incidental damages, including, but not limited to, lost profits, arising out of or in connection with this agreement or the services performed in connection with this Agreement.

6.2 Liability for Use of Equipment. City shall not be liable for any damage to persons or property as a result of the use, misuse or failure of any equipment used by Contractor, or any of its subcontractors, or by any of their employees, even though such equipment is furnished, rented or loaned by City.

6.3 Liability of Contractor. Contractor shall have no liability to City for any type of special, consequential or incidental damages arising out of or connected with Contractor's performance of the Work. This limit of liability applies under all circumstances including, but not limited to, the breach, completion, termination, suspension or cancellation of the services under this Contract, and negligence or strict liability of Contractor to the City. This limit of liability shall NOT, however, apply to, limit or preclude: (a) Contractor's obligation to pay Liquidated Damages as set forth in the Contract Documents; (b) damages caused by Contractor's gross negligence, reckless conduct, willful acts or omissions, fraud or

illegal or unlawful acts; (c) Contractor's obligations to indemnify and defend the City and other indemnified parties as set forth in Section 5.2 of this Agreement; (d) Contractor's liability for any type of damage to the extent such damage is required to be covered by insurance as specified in the Contract Documents; (e) wrongful death caused by Contractor; (f) punitive damages; and (g) Contractor's liability for statutory damages imposed by the City upon Contractor under the City Ordinances and Municipal Codes specified in the Contract Documents. Contractor's maximum aggregate liability under this Agreement to the City shall not exceed the Contract Amount. But said limit to Contractor's liability shall apply only to claims brought by the City; said limitation of liability shall not limit Contractor's obligations to indemnify and defend the City against any claims brought by any third party, including but not limited to claims based in tort, contract or intellectual property (i.e., copyright, trademark and patent) infringement, as provided in Article 5, above.

Article 7 Payment of Taxes

7.1 Except for any applicable California sales and use taxes charged by Contractor to City, Contractor shall pay all taxes, including possessory interest taxes levied upon or as a result of this Agreement, or the Services delivered pursuant hereto. Contractor shall remit to the State of California any sales or use taxes paid by City to Contractor under this Agreement. Contractor agrees to promptly provide information requested by the City to verify Contractor's compliance with any State requirements for reporting sales and use tax paid by City under this Agreement.

7.2 Contractor is not granted by this Agreement the right to possess, occupy, or use any City property, but the SFMTA may grant Contractor use of space in SFMTA facilities as a convenience to the SFMTA for the efficient implementation of the Project. Contractor acknowledges that this Agreement may create a "possessory interest" for property tax purposes. Generally, such a possessory interest is not created unless the Agreement entitles the Contractor to possession, occupancy, or use of City property for private gain. If such a possessory interest is created, then the following shall apply:

7.2.1 Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that Contractor, and any permitted successors and assigns, may be subject to real property tax assessments on the possessory interest.

7.2.2 Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that the creation, extension, renewal, or assignment of this Agreement may result in a "change in ownership" for purposes of real property taxes, and therefore may result in a revaluation of any possessory interest created by this Agreement. Contractor accordingly agrees on behalf of itself and its permitted successors and assigns to report on behalf of the City to the County Assessor the information required by Revenue and Taxation Code section 480.5, as amended from time to time, and any successor provision.

7.2.3 Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that other events also may cause a change of ownership of the possessory interest and result in the revaluation of the possessory interest. (See, e.g., Rev. & Tax. Code section 64, as amended from time to time). Contractor accordingly agrees on behalf of itself and its permitted successors and assigns to report any change in ownership to the County Assessor, the State Board of Equalization or other public agency as required by law.

7.2.4 Contractor further agrees to provide such other information as may be requested by the City to enable the City to comply with any reporting requirements for possessory interests that are imposed by applicable law.

Article 8 Termination and Default

8.1 Termination for Convenience

8.1.1 City shall have the option, in its sole discretion, to terminate this Agreement, at any time during the term hereof, for convenience and without cause. City shall exercise this option by giving Contractor written notice of termination. The notice shall specify the date on which termination shall become effective, which date shall be no less than 30 days after Contractor's receipt of such notice of termination for convenience. (The City may at any time terminate the Agreement for cause, if the Contractor after receipt of notice of breach has not cured its breach within a reasonable time required by the City, or if Contractor's breach is of such a nature that it cannot reasonably be cured.)

8.1.2 Upon receipt of the notice of termination, Contractor shall commence and perform, with diligence, all actions reasonably necessary on the part of Contractor to effect the termination of this Agreement on the date specified by City and to minimize the liability of Contractor and City to third parties as a result of termination. The City shall have no obligation to compensate Contractor for costs arising from such termination unless approved in advance by City. Such actions shall include, without limitation:

Halting the performance of all Services under this Agreement on the date(s) and in the manner specified by SFMTA.

Terminating all existing orders and subcontracts for products or services which are for the sole purpose of this Agreement and could not otherwise be used on another Contractor project in the near term, and not placing any further orders or subcontracts for materials, Services, equipment or other items for fulfillment of this Agreement.

At SFMTA's direction, assigning to SFMTA any or all of Contractor's right, title, and interest under the orders and subcontracts terminated. Upon such assignment, SFMTA shall have the right, in its sole discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts.

Settling all outstanding liabilities and all claims arising out of the termination of orders and subcontracts.

Completing performance of any Services that SFMTA designates to be completed prior to the date of termination specified by SFMTA, provided that such designated Services can reasonably be completed prior to the date of termination.

Taking such action as may be reasonably necessary, or as the SFMTA may reasonably direct, for the protection and preservation of any property related to this Agreement which is in the possession of Contractor and in which SFMTA has or may acquire an interest.

8.1.3 Within 30 days after the specified termination date, Contractor shall submit to SFMTA an invoice, which shall set forth each of the following:

The reasonable cost to Contractor, without profit for all Services prior to the specified termination date (including costs associated with the actions described in Section 8.1.2), for which Services SFMTA has not already tendered payment and for which the Contract does not establish compensation. Reasonable

costs may include a reasonable allowance for actual overhead, not to exceed a total of 10% of Contractor's direct costs for Services. Any overhead allowance shall be separately itemized. Contractor may also recover the reasonable cost of preparing the invoice.

A reasonable allowance for profit on the cost of the Services described in the immediately preceding subsection (a)..

The reasonable cost to Contractor of handling material or equipment returned to the vendor, delivered to the SFMTA or otherwise disposed of as directed by the SFMTA.

A deduction for the cost of materials to be retained by Contractor, amounts realized from the sale of materials and not otherwise recovered by or credited to SFMTA, and any other appropriate credits to SFMTA against the cost of the Services or other work.

8.1.4 In no event shall SFMTA be liable for costs incurred by Contractor or any of its subcontractors after the termination date specified by SFMTA, except for those costs specifically enumerated and described in Section 8.1.3. Such non-recoverable costs include, but are not limited to, anticipated profits on the Services under this Agreement, post-termination employee salaries, post-termination administrative expenses, post-termination overhead or unabsorbed overhead, attorneys' fees or other costs relating to the prosecution of a claim or lawsuit, prejudgment interest, or any other expense which is not reasonable or authorized under Section 8.1.3.

8.1.5 In arriving at the amount due to Contractor under this Section, SFMTA may deduct: (i) all payments previously made by SFMTA for Services covered by Contractor's final invoice; (ii) any claim which SFMTA may have against Contractor in connection with this Agreement; (iii) any invoiced costs or expenses excluded pursuant to the immediately preceding subsection 8.1.4; and (iv) in instances in which the cost of any Service performed under this Agreement is excessively high due to costs incurred to remedy or replace defective or rejected Services, the difference between the invoiced amount and a reasonable cost of performing the invoiced Services in compliance with the requirements of this Agreement.

8.1.6 SFMTA's payment obligation under this Section shall survive termination of this Agreement.

8.2 Termination for Default; Remedies.

8.2.1 Each of the following shall constitute an immediate event of default ("Event of Default") under this Agreement:

Contractor fails or refuses to perform or observe any term, covenant or condition contained in any of the following Sections of this Agreement:

3.5	Submitting False Claims.
4.5	Assignment
Article 5	Insurance and Indemnity
Article 7	Payment of Taxes
10.4	Nondisclosure of Private, Proprietary or Confidential Information
10.10	Alcohol and Drug-Free Workplace
11.10	Compliance with Laws

Either party fails or refuses to perform or observe any other material term, covenant or condition contained in this Agreement, including any obligation imposed by ordinance or statute and incorporated by reference herein, and such default continues for a period of thirty calendar days after written notice thereof from the non-defaulting party to the defaulting party.

Either party (i) is generally not paying its debts as they become due; (ii) files, or consents by answer or otherwise to the filing against it of a petition for relief or reorganization or arrangement or any other petition in bankruptcy or for liquidation or to take advantage of any bankruptcy, insolvency or other debtors' relief law of any jurisdiction; (iii) makes an assignment for the benefit of its creditors; (iv) consents to the appointment of a custodian, receiver, trustee or other officer with similar powers of such party or of any substantial part of such party's property; or (v) takes action for the purpose of any of the foregoing.

A court or government authority enters an order (i) appointing a custodian, receiver, trustee or other officer with similar powers with respect to a party or with respect to any substantial part of such party's property, (ii) constituting an order for relief or approving a petition for relief or reorganization or arrangement or any other petition in bankruptcy or for liquidation or to take advantage of any bankruptcy, insolvency or other debtors' relief law of any jurisdiction or (iii) ordering the dissolution, winding-up or liquidation of a party.

8.2.2 On and after any Event of Default, the non-defaulting party shall have the right to exercise its legal and equitable remedies including, without limitation, the right to terminate this Agreement or to seek specific performance of all or any part of this Agreement. If City terminates this Agreement for a Contractor Event of Default, City shall have the right (but no obligation) to cure (or cause to be cured) on behalf of Contractor any Event of Default by procuring replacement goods or services substantially similar and functionally equivalent to those to be purchased pursuant to this Agreement; Contractor shall promptly pay to City all reasonable excess costs and expenses incurred by City in effecting such cure, with interest thereon from the date of incurrence at the maximum rate then permitted by law. If Contractor terminates this Agreement for a City Event of Default, subject to proof, City shall pay to Contractor amounts owed for services rendered as provided in the Agreement through the termination date. City shall have the right to offset from any amounts due to Contractor under this Agreement: (i) all damages, losses, costs or expenses incurred by City as a result of an Event of Default; and (ii) any liquidated damages levied upon Contractor pursuant to the terms of this Agreement; and (iii), any damages imposed by any ordinance or statute that is incorporated into this Agreement by reference.

8.2.3 Except as otherwise specifically set forth herein, all remedies provided for in this Agreement may be exercised individually or in combination with any other remedy available hereunder or under applicable laws, rules and regulations. The exercise of any remedy shall not preclude or in any way be deemed to waive any other remedy. Unless expressly stated in this Agreement, nothing in this Agreement shall be inferred to constitute a waiver or limitation of any rights that a party may have under applicable law.

8.2.4 Any notice of default must be sent by registered mail to the address set forth in Article 11.

8.3 Non-Waiver of Rights. The omission by either party at any time to enforce any default or right reserved to it, or to require performance of any of the terms, covenants, or provisions hereof by the other party at the time designated, shall not be a waiver of any such default or right to which the party is entitled, nor shall it in any way affect the right of the party to enforce such provisions thereafter.

8.4 Rights and Duties upon Termination or Expiration.

8.4.1 This Section and the following Sections of this Agreement listed below, shall survive termination or expiration of this Agreement:

3.3.2	Payment Limited to Satisfactory Services
3.3.7(a)	Grant Funded Contracts - Disallowance
3.4	Audit and Inspection of Records
3.5	Submitting False Claims
Article 5	Insurance and Indemnity
6.1	Liability of City
6.3	Liability for Incidental and Consequential Damages
Article 7	Payment of Taxes
8.1.6	Payment Obligation
Article 9	Rights in Deliverables; License to City
9.1	Ownership of Results
9.2	Works for Hire
10.4	Nondisclosure of Private, Proprietary or Confidential Information
11.6	Dispute Resolution Procedure
11.7	Agreement Made in California; Venue
11.8	Construction
11.9	Entire Agreement
11.10	Compliance with Laws
11.11	Severability
App. G	Federal Contract Requirements (as applicable)
App. H	Software and Technology License

8.4.2 Subject to the survival of the Sections identified in Section 8.4.1 above, if this Agreement is terminated prior to expiration of the term specified in Article 2, this Agreement shall be of no further force or effect. Contractor shall transfer title to City, and deliver in the manner, at the times, and to the extent, if any, directed by City, any work in progress, completed work, supplies, equipment, and other materials produced as a part of, or acquired in connection with the performance of this Agreement, and any completed or partially completed work which, if this Agreement had been completed, would have been required to be furnished to City.

Article 9 Rights In Deliverables; License to City

9.1 Ownership of Results. Contractor and its subcontractors retain title to all intellectual property, patents, trademarks, know-how, copyrights, software, engineering and designs, models, production prints, technical data, drawings, plans, specifications, blueprints, studies, reports, memoranda, computation sheets, computer files and media and other information and documents prepared by Contractor or its subcontractors in connection with the Services, including in the Deliverables

(collectively "the Licensed Materials"). Contractor shall specifically identify the Licensed Materials in each Deliverable. The Licensed Materials shall be proprietary to Contractor and the City shall use them solely for inspecting, installing, operating and maintaining the Farebox System and ancillary systems.

9.2 No Works for Hire. If, in connection with Services, Contractor or its subcontractors creates Deliverables including, without limitation, artwork, copy, posters, billboards, photographs, videotapes, audiotapes, systems designs, software, reports, diagrams, surveys, blueprints, source codes, or any other original works of authorship, whether in digital or any other format, such works of authorship shall not be works for hire as defined under Title 17 of the United States Code, and all copyrights in such works shall remain the property of the Contractor. For the avoidance of doubt, Contractor shall have no ownership rights in any City artwork, specification, documents, or designs that the City created or developed, including but not limited to City, SFMTA, and Muni logos and trademarks.

9.3 License to City. Contractor grants to the City a nonexclusive, nontransferable, royalty-free, perpetual license to use and copy the Licensed Materials described in Sections 9.1 and 9.3, above. See also, Appendix H, Software and Technology License Agreement.

Article 10 Additional Requirements Incorporated by Reference

10.1 Laws Incorporated by Reference. The full text of the laws listed in this Article 10, including enforcement and penalty provisions, are incorporated by reference into this Agreement. The full text of the San Francisco Municipal Code provisions incorporated by reference in this Article and elsewhere in the Agreement ("Mandatory City Requirements") are available at www.sfgov.org under "Government."

10.2 Conflict of Interest. By executing this Agreement, Contractor certifies that it does not know of any fact which constitutes a violation of Section 15.103 of the City's Charter; Article III, Chapter 2 of City's Campaign and Governmental Conduct Code; Title 9, Chapter 7 of the California Government Code (Section 87100 *et seq.*), or Title 1, Division 4, Chapter 1, Article 4 of the California Government Code (Section 1090 *et seq.*), and further agrees promptly to notify the City if it becomes aware of any such fact during the term of this Agreement.

10.3 Prohibition on Use of Public Funds for Political Activity. In performing the Services, Contractor shall comply with San Francisco Administrative Code Chapter 12G, which prohibits funds appropriated by the City for this Agreement from being expended to participate in, support, or attempt to influence any political campaign for a candidate or for a ballot measure. Contractor is subject to the enforcement and penalty provisions in Chapter 12G.

10.4 Nondisclosure of Private, Proprietary or Confidential Information.

10.4.1 If this Agreement requires City to disclose "Private Information" to Contractor within the meaning of San Francisco Administrative Code Chapter 12M, Contractor and subcontractor shall use such information only in accordance with the restrictions stated in Chapter 12M and in this Agreement and only as necessary in performing the Services. Contractor is subject to the enforcement and penalty provisions in Chapter 12M.

10.4.2 In the performance of Services, each Party (the "Receiving Party") may have access to the other Party's ("Disclosing Party") proprietary or confidential information, the disclosure of

which to third parties may damage Disclosing Party (“Confidential Information”). Confidential Information does not include (a) any information that is in the public domain, (b) any information independently developed by the Receiving Party, (c) any information that was otherwise rightfully disclosed to the Receiving Party without any confidentiality obligations and (d) any information that is required to be disclosed by law or other legal compulsion (provided that, to the extent permitted by law, the Receiving Party provides the Disclosing Party prior notice of such information to be disclosed prior to such disclosure). If Disclosing Party discloses proprietary or confidential information to Receiving Party, such information must be held by Receiving Party in confidence and used only in performing the Agreement. Receiving Party shall exercise the same standard of care to protect such information as a reasonably prudent person would use to protect its own proprietary or confidential information. The Receiving Party may (i) disclose the Confidential Information to those of its officers, directors, employees, contractors, agents and representatives (“Representatives”) who need to know such Confidential Information to assist such party in relation to this Agreement and who agree to keep such Confidential Information confidential in accordance with the terms of this Agreement and (ii) make any disclosure of such Confidential Information to which the Disclosing Party gives its prior, specific written consent. The Receiving Party shall be responsible for the acts and omissions of its Representatives with respect to the Confidential Information. The Receiving Party shall return or destroy all Confidential Information of the Disclosing Party upon termination of this Agreement, except for Licensed Materials.

10.5 Nondiscrimination Requirements

10.5.1 Non-Discrimination in Contracts. Contractor shall comply with the provisions of Chapters 12B and 12C of the San Francisco Administrative Code. Contractor shall incorporate by reference in all subcontracts the provisions of Sections 12B.2(a), 12B.2(c)-(k), and 12C.3 of the San Francisco Administrative Code and shall require all subcontractors to comply with such provisions. Contractor is subject to the enforcement and penalty provisions in Chapters 12B and 12C.

10.5.2 Nondiscrimination in the Provision of Employee Benefits. San Francisco Administrative Code 12B.2. Contractor does not as of the date of this Agreement, and will not during the term of this Agreement, in any of its operations in San Francisco, on real property owned by San Francisco, or where work is being performed for the City elsewhere in the United States, discriminate in the provision of employee benefits between employees with domestic partners and employees with spouses and/or between the domestic partners and spouses of such employees, subject to the conditions set forth in San Francisco Administrative Code Section 12B.2.

10.6 Local Business Enterprise and Non-Discrimination in Contracting Ordinance. Contractor shall comply with all applicable provisions of Chapter 14B (“LBE Ordinance”). Contractor is subject to the enforcement and penalty provisions in Chapter 14B. C

10.7 Minimum Compensation Ordinance. Contractor shall pay covered employees no less than the minimum compensation required by San Francisco Administrative Code Chapter 12P. Contractor is subject to the enforcement and penalty provisions in Chapter 12P. By signing and executing this Agreement, Contractor certifies that it is in compliance with Chapter 12P.

10.8 Health Care Accountability Ordinance. Contractor shall comply with San Francisco Administrative Code Chapter 12Q. Contractor shall choose and perform one of the Health Care Accountability options set forth in San Francisco Administrative Code Chapter 12Q.3. Contractor is subject to the enforcement and penalty provisions in Chapter 12Q.

10.9 First Source Hiring Program. Contractor must comply with all of the provisions of the First Source Hiring Program, Chapter 83 of the San Francisco Administrative Code, that apply to this Agreement, and Contractor is subject to the enforcement and penalty provisions in Chapter 83. The parties agree that due to Contractor's principal place of business, the entry level positions that would be available to First Source Hiring applicants would be limited to person performing farebox installation, Warranty Services, and Maintenance Services.

10.10 Alcohol and Drug-Free Workplace. City reserves the right to deny access to, or require Contractor to remove from, City facilities personnel of any Contractor or subcontractor who City has reasonable grounds to believe has engaged in alcohol abuse or illegal drug activity which in any way impairs City's ability to maintain safe work facilities or to protect the health and well-being of City employees and the general public. City shall have the right of final approval for the entry or re-entry of any such person previously denied access to, or removed from, City facilities. Illegal drug activity means possessing, furnishing, selling, offering, purchasing, using or being under the influence of illegal drugs or other controlled substances for which the individual lacks a valid prescription. Alcohol abuse means possessing, furnishing, selling, offering, or using alcoholic beverages, or being under the influence of alcohol.

Contractor agrees in the performance of this Agreement to maintain a drug-free workplace by notifying employees that unlawful drug use is prohibited and specifying what actions will be taken against employees for violations; establishing an on-going drug-free awareness program that includes employee notification and, as appropriate, rehabilitation. Contractor can comply with this requirement by implementing a drug-free workplace program that complies with the Federal Drug-Free Workplace Act of 1988 (41 U.S.C. § 701) and California Drug-Free Workplace Act of 1990 Cal. Gov. Code, § 8350 et seq.

10.11 Limitations on Contributions. By executing this Agreement, Contractor acknowledges that it is familiar with Section 1.126 of the City's Campaign and Governmental Conduct Code, which prohibits any person who contracts with the City for the rendition of personal services, for the furnishing of any material, supplies or equipment, for the sale or lease of any land or building, or for a grant, loan or loan guarantee, from making any campaign contribution to (1) an individual holding a City elective office if the contract must be approved by the individual, a board on which that individual serves, or the board of a state agency on which an appointee of that individual serves, (2) a candidate for the office held by such individual, or (3) a committee controlled by such individual, at any time from the commencement of negotiations for the contract until the later of either the termination of negotiations for such contract or six months after the date the contract is approved. The prohibition on contributions applies to each prospective party to the contract; each member of Contractor's board of directors; Contractor's chairperson, chief executive officer, chief financial officer and chief operating officer; any person with an ownership interest of more than 20 percent in Contractor; any subcontractor listed in the bid or contract; and any committee that is sponsored or controlled by Contractor. Contractor must inform each such person of the limitation on contributions imposed by Section 1.126 and provide the names of the persons required to be informed to City.

10.12 Reserved (Slavery Era Disclosure).

10.13 Reserved (Working with Minors).

10.14 Consideration of Criminal History in Hiring and Employment Decisions

10.14.1 Contractor agrees to comply fully with and be bound by all of the provisions of Chapter 12T, “City Contractor/Subcontractor Consideration of Criminal History in Hiring and Employment Decisions,” of the San Francisco Administrative Code (“Chapter 12T”), including the remedies provided, and implementing regulations, as may be amended from time to time. The provisions of Chapter 12T are incorporated by reference and made a part of this Agreement as though fully set forth herein. The text of the Chapter 12T is available on the web at <http://sfgov.org/olse/fco>. A partial listing of some of Contractor’s obligations under Chapter 12T is set forth in this Section. Contractor is required to comply with all of the applicable provisions of 12T, irrespective of the listing of obligations in this Section. Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Chapter 12T.

10.14.2 The requirements of Chapter 12T shall only apply to a Contractor’s or Subcontractor’s operations to the extent those operations are in furtherance of the performance of this Agreement, shall apply only to applicants and employees who would be or are performing work in furtherance of this Agreement, and shall apply when the physical location of the employment or prospective employment of an individual is wholly or substantially within the City of San Francisco. Chapter 12T shall not apply when the application in a particular context would conflict with federal or state law or with a requirement of a government agency implementing federal or state law.

10.15 Reserved (Public Access to Nonprofit Records and Meetings).

10.16 Reserved (Food Service Waste Reduction Requirements).

10.17 Waived (Sugar-Sweetened Beverage Prohibition). Contractor agrees that it will not sell, provide, or otherwise distribute Sugar-Sweetened Beverages, as defined by San Francisco Administrative Code Chapter 101, as part of its performance of this Agreement.

10.18 Tropical Hardwood and Virgin Redwood Ban. Pursuant to San Francisco Environment Code Section 804(b), the City urges Contractor not to import, purchase, obtain, or use for any purpose, any tropical hardwood, tropical hardwood wood product, virgin redwood or virgin redwood wood product.

10.19 Reserved (Preservative Treated Wood Products). Contractor shall comply with the provisions of San Francisco Environment Code Chapter 13, which requires that each Contractor purchasing preservative-treated wood products on behalf of the City, shall only purchase such products from the list of alternatives adopted by the Department of the Environment pursuant to Section 1302 of Chapter 13, unless otherwise granted an exemption by the terms of that Chapter.

Article 11 General Provisions

11.1 Notices to the Parties. Unless otherwise indicated in this Agreement, all written communications sent by the Parties may be by U.S. mail or e-mail, and shall be addressed as follows:

To City: Jason Lee, Manager
San Francisco Municipal Transportation Agency
One South Van Ness Ave., 3rd Floor
San Francisco, CA 94103
E-mail: jason.lee@sfmta.com

To Contractor: Kim Green

Executive Director, Business Development
Genfare
800 Arthur Avenue
Elk Grove Village, IL 60007
E-mail: kim.green@spx.com

Any notice of default must be sent by registered mail. Either Party may change the address to which notice is to be sent by giving written notice thereof to the other Party. If email notification is used, the sender must specify a receipt notice.

11.2 Compliance with Americans with Disabilities Act. Contractor shall provide the Services in a manner that complies with the Americans with Disabilities Act (ADA), including but not limited to Title II's program access requirements, and all other applicable federal, state and local disability rights legislation.

11.3 Reserved (Payment Card Industry (PCI) Requirements).

11.4 Sunshine Ordinance. Contractor acknowledges that this Agreement and all records related to its formation, Contractor's performance of Services, and City's payment are subject to the California Public Records Act, (California Government Code §6250 et. seq.), and the San Francisco Sunshine Ordinance, (San Francisco Administrative Code Chapter 67). Such records are subject to public inspection and copying unless exempt from disclosure under federal, state or local law.

11.5 Modification of this Agreement. This Agreement may not be modified, nor may compliance with any of its terms be waived, except as noted in Section 11.1, "Notices to Parties," regarding change in personnel or place, and except by written instrument executed and approved as required under City law and under the policy of the SFMTA Board of Directors. Contractor shall cooperate with the SFMTA to submit to the CCO any amendment, modification, supplement or change order that would result in a cumulative increase of the original amount of this Agreement by more than 20% (CMD Contract Modification Form).

11.6 Dispute Resolution Procedure.

11.6.1 Negotiation; Alternative Dispute Resolution. The Parties will attempt in good faith to resolve any dispute or controversy arising out of or relating to the performance of Services under this Agreement. If the Parties are unable to resolve the dispute, then, pursuant to San Francisco Administrative Code Section 21.35, Contractor may submit to the Project Manager a written request for administrative review and documentation of the Contractor's claim(s). Upon such request, the contracting officer shall promptly issue an administrative decision in writing, stating the reasons for the action taken and informing the Contractor of its right to judicial review. If agreed by both Parties in writing, disputes may be resolved by a mutually agreed-upon alternative dispute resolution process. If the parties do not mutually agree to an alternative dispute resolution process or such efforts do not resolve the dispute, then either Party may pursue any remedy available under California law. The status of any dispute or controversy notwithstanding, Contractor shall proceed diligently with the performance of its obligations under this Agreement in accordance with the Agreement and the written directions of the City. Neither Party will be entitled to legal fees or costs for matters resolved under this section.

11.6.2 Government Code Claim Requirement. No suit for money or damages may be brought against the City until a written claim therefor has been presented to and rejected by the City in conformity with the provisions of San Francisco Administrative Code Chapter 10 and California

Government Code Section 900, et seq. Nothing set forth in this Agreement shall operate to toll, waive or excuse Contractor's compliance with the California Government Code Claim requirements set forth in San Francisco Administrative Code Chapter 10 and California Government Code Section 900, et seq.

11.7 Agreement Made in California; Venue. The formation, interpretation and performance of this Agreement shall be governed by the laws of the State of California. Venue for all litigation relative to the formation, interpretation and performance of this Agreement shall be in San Francisco.

11.8 Construction of Agreement.

11.8.1 All section headings and paragraph captions are for reference only and shall not be considered in construing this Agreement.

11.8.2 Whenever the words "as directed," "as required," "as permitted," or words of like effect are used, it shall be understood as the direction, requirement, or permission of the SFMTA. The words "sufficient," "necessary," or "proper," and the like, mean sufficient, necessary or proper in the judgment of the SFMTA, unless otherwise indicated by the context.

11.9 Entire Agreement. This Agreement sets forth the entire agreement between the parties, and supersedes all other oral or written provisions. This Agreement may be modified only as provided in Section 11.5, "Modification of this Agreement."

11.10 Compliance with Laws. Contractor shall keep itself fully informed of the City's Charter, codes, ordinances and duly adopted rules and regulations of the City and of all state, and federal laws in any manner affecting the performance of this Agreement, and must at all times comply with such local codes, ordinances, and regulations and all applicable laws as they may be amended from time to time.

11.11 Severability. Should the application of any provision of this Agreement to any particular facts or circumstances be found by a court of competent jurisdiction to be invalid or unenforceable, then (a) the validity of other provisions of this Agreement shall not be affected or impaired thereby, and (b) such provision shall be enforced to the maximum extent possible so as to effect the intent of the parties and shall be reformed without further action by the parties to the extent necessary to make such provision valid and enforceable.

11.12 Cooperative Drafting. This Agreement has been drafted through a cooperative effort of City and Contractor, and both Parties have had an opportunity to have the Agreement reviewed and revised by legal counsel. No Party shall be considered the drafter of this Agreement, and no presumption or rule that an ambiguity shall be construed against the Party drafting the clause shall apply to the interpretation or enforcement of this Agreement.

11.13 Order of Precedence. Contractor agrees to perform the services described below in accordance with the terms and conditions of this Agreement, implementing task orders, the RFP, and Contractor's proposal dated October 22, 2015. The RFP and Contractor's proposal are incorporated by reference as though fully set forth herein. Should there be a conflict of terms or conditions, such conflicts shall be resolved as follows: (a) this Agreement controls over (b) any implementing task orders, which shall control over (c) the RFP, which shall control over the Contractor's proposal

Article 12 MacBride Principles And Signature

12.1 MacBride Principles -Northern Ireland. The provisions of San Francisco Administrative Code §12F are incorporated herein by this reference and made part of this Agreement. By

signing this Agreement, Contractor confirms that Contractor has read and understood that the City urges companies doing business in Northern Ireland to resolve employment inequities and to abide by the MacBride Principles, and urges San Francisco companies to do business with corporations that abide by the MacBride Principles.

Article 13 Large Vehicle Driver Safety Training Requirements

13.1 Contractor agrees that before any of its employees and subcontractors drive large vehicles within the City and County of San Francisco, those employees and subcontractors shall successfully complete either (a) the SFMTA's Large Vehicle Urban Driving Safety training program or (b) a training program that meets the SFMTA's approved standards for large vehicle urban driving safety. The SFMTA's approved standards for large vehicle urban driving safety is available for download at www.SFMTA.com/largevehicletestingstandards. This requirement does not apply to drivers providing delivery services who are not employees or subcontractors of the Contractor. For purposes of this section, "large vehicle" means any single vehicle or combination of vehicle and trailer with an unladen weight of 10,000 pounds or more, or a van designed to carry 10 or more people.

13.2 By entering into this Agreement, Contractor agrees that in the event the Contractor fails to comply with the Large Vehicle Driver Safety Training Requirements, the City will suffer actual damages that will be impractical or extremely difficult to determine; further, Contractor agrees that the sum of up to One Thousand Dollars (\$1,000) per employee or subcontractor who is permitted to drive a large vehicle in violation of these requirements is not a penalty, but is a reasonable estimate of the loss that City will incur based on the Contractor's failure to comply with this requirement, established in light of the circumstances existing at the time this Contract was awarded. City may deduct a sum representing the liquidated damages from any money due to Contractor. Such deductions shall not be considered a penalty, but rather agreed monetary damages sustained by City because of Contractor's failure to comply.

Article 14 Federal Contract Requirements

If federal funds are used to pay for any of the services or equipment provided under this Agreement, the requirements stated Appendix G to this Agreement shall apply.

Article 15 Incorporated Appendices

The following documents are appended to this Agreement and are incorporated by reference:

- Appendix A: Scope of Services
- Appendix B: Maintenance Services
- Appendix C: Warranty Terms
- Appendix D: Equipment and Services Pricing
- Appendix E: Project and Payment Milestones
- Appendix F: Project Schedule
- Appendix G: Federal Contract Requirements
- Appendix H: Software and Technology License

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day first mentioned above.

CITY	CONTRACTOR
San Francisco Municipal Transportation Agency	Genfare, a division of SPX Corporation
Edward D. Reiskin Director of Transportation	Kim Green, Executive Director 800 Arthur Avenue Elk Grove Village, IL 60007
Approved as to Form:	
Dennis J. Herrera City Attorney	City vendor number: [vendor number]
By: _____	
Robert Stone Deputy City Attorney <small>n:\ptc\as2016\1000420\01112189.docx</small>	
AUTHORIZED BY:	
MUNICIPAL TRANSPORTATION AGENCY BOARD OF DIRECTORS	
Resolution No: _____	
Adopted: _____	
Attest: _____	
Roberta Boomer, Secretary	
Board of Supervisors	
Resolution No: _____	
Adopted: _____	
Attest: _____	
Clerk of the Board	

Appendix A Scope of Services

Contractor agrees to provide a Farebox System that meets the performance requirements and specifications set out in this Agreement, the RFP, and the Contractor's Proposal, in accordance with Section 11.13 of the Agreement (Order of Precedence). The tasks and services that Contractor shall perform and the Equipment that Contractor shall provide to meet said requirements are set out in the Agreement at Appendices A – H.

1. Farebox System Performance Requirements

The Contractor shall provide a complete Farebox System comprising the components described in Appendix A and listed in Appendix D. The Farebox System shall meet the Key Performance Indicators in Appendix A, Section G, and adhere to the following general requirements:

A. Hardware/Equipment

The Farebox System shall be modular so that additional equipment can be added without modifying or replacing existing equipment. Individual hardware components of the Farebox System described herein (e.g., Fareboxes, Revenue Transfer and Collection System, Ancillary Field Equipment and Data Collection and Reporting System) shall be interchangeable with any other unit.

The Farebox shell as well as each major subcomponent shall have a unique serial number and associated barcode to enable parts tracking.

B. Licensed Software

The Contractor shall comply with open architecture and open standards with non-proprietary interfaces to enable software support from third-party vendors. Subject to the terms specified in Appendix H, the Contractor shall also provide software to support the Farebox System, including the most current versions (as of the Effective Date of the Agreement) of the following software programs:

- (1) Odyssey Plus farebox software
- (2) Odyssey Operator Control Unit software
- (3) Garage Data System software and operating system with WiFi and Dynamic Probing
- (4) Cashbox Identification system software
- (5) Network manager software and operating system

C. Americans with Disabilities Act (ADA) Compliance

The Farebox System as used in revenue service shall comply with the Americans with Disabilities Act (ADA).

2. Farebox Functions and Features

The Contractor shall install its Odyssey model Farebox on all Muni trolley coach, motor coach, light rail vehicles and most historic streetcars. Historic streetcars with antique fareboxes and cable cars are not included in this procurement. As shown in Figure A.1, the Odyssey Farebox will include a color passenger display, slots for coin and bill currency, a transfer/fare receipt dispenser and a transfer/fare receipt reader.

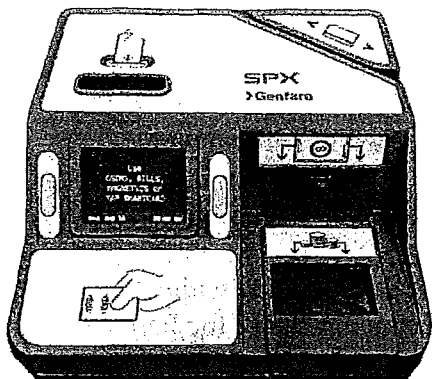


Figure A-1: Odyssey Farebox with color passenger display

The Farebox shall have the following features:

A. Customer Displays

- (1) The top of the Farebox shall include a customer display with the following characteristics:
 - a. Display: Thin Film Transistor (TFT) Color Liquid Crystal Display (LCD)
 - b. Size: 3.5" Diagonal
 - c. Resolution: 320xRGBx240 (Red, Green and Blue color system)
 - d. Backlight: Light Emitting Diode (LED)
- (2) The Farebox shall produce two tones: a continuous tone (beep) to indicate the payment of a full adult fare and an intermittent tone (warble) to indicate a failed transaction.

B. Operator Control Unit

As shown in Figure A-2, the Farebox System shall include an Operator Control Unit (OCU) furnished with an interface and display to permit the Transit Operator to manage and control the Farebox. The OCU shall be housed separately from the Farebox and mounted in a position where the Transit Operator can easily access it without body strain. The OCU's positioning and maneuverability shall allow Transit Operators of varying size and stature can enter and exit the vehicle's seat easily. The OCU shall electronically connect to the side of the Farebox through a movable ball pivot arm or be mounted separately on the operator console and connected with cabling, depending on the vehicle configuration and type. The SFMTA shall approve the

positioning of the OCU for each vehicle type during Design Review. The Farebox System, including the OCU, shall not obscure the Transit Operator's view to ensure safe operation of the vehicle.

The OCU shall be configurable to allow:

- (1) Transit Operator Log on or off (although the primary log on and off will take place on through the OrbStar CAD/AVL system)
- (2) Recording of the type of fare paid (e.g., adult, youth, senior/disabled) or underpayments
- (3) Creation of "route/run" records
- (4) Review of the contents of the Farebox summary data registers
- (5) Logging of maintenance tasks

The OCU dimensions shall be no greater than 8 inches by 7 inches by 3 inches.

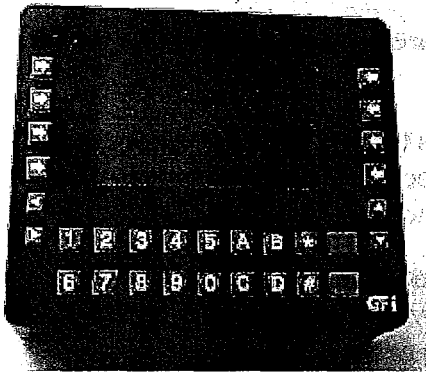


Figure A-2: Operator Control Unit

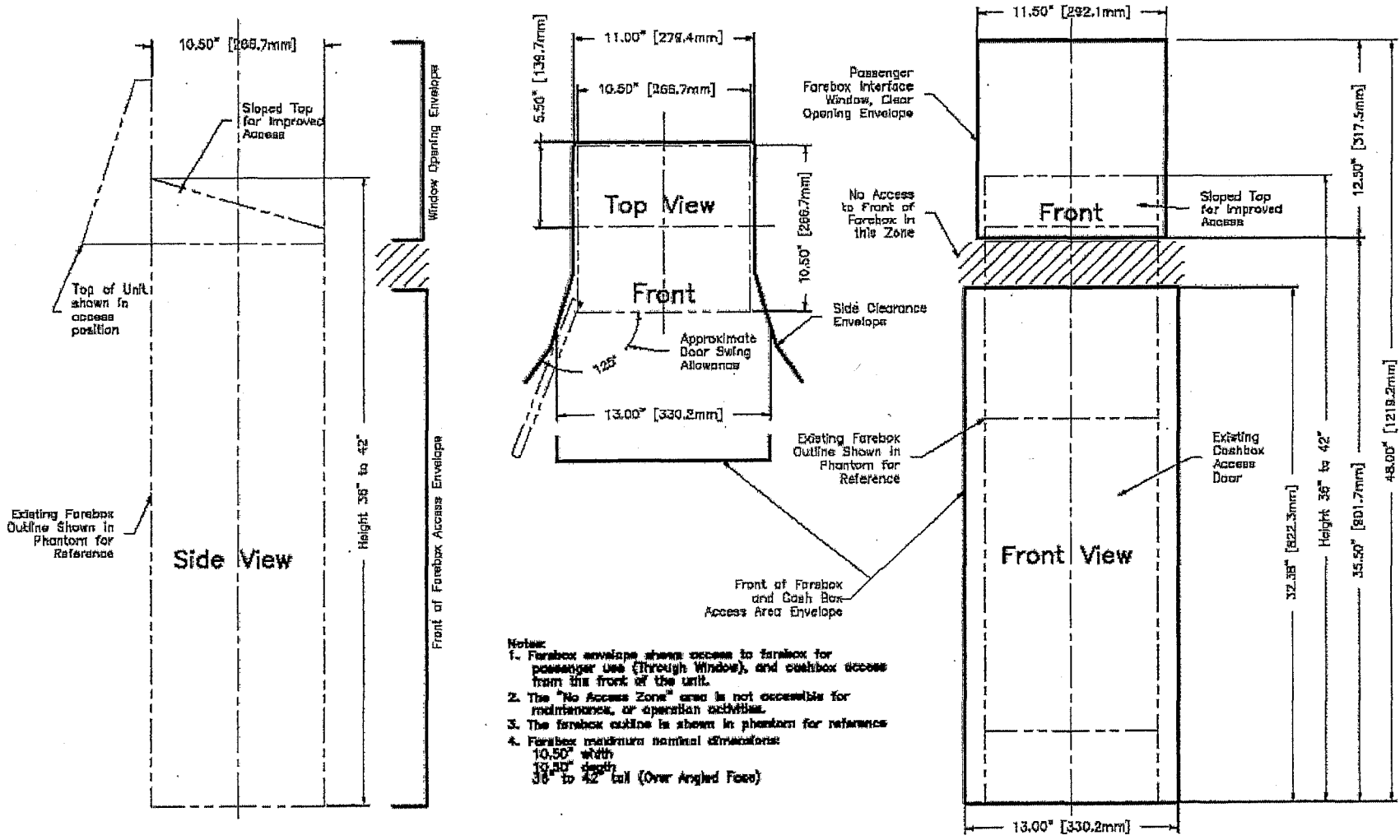
C. Currency Acceptance

- (1) The Farebox shall automatically identify and count all U.S. coins currently in general circulation, including Sacagawea and Susan B. Anthony dollar coins, and any U.S. coins that may be issued during the service life of the Farebox System. The Farebox shall also accept Muni tokens.
- (2) The coin validator mechanism shall be capable of processing coins at an insertion rate of not less than five items per second on a continuous basis.
- (3) The coin validator mechanism shall be capable of electronically verifying all coins inserted for fare payment. The customer display shall show the value of the coins accepted by the coin validator.

- (4) Within reasonable limits, the coin validator shall be capable of handling deformed coins (i.e., coins that are bent or bulged, not perfectly round, or have attached foreign material).
- (5) The Farebox shall be able to accommodate the following: (1) allowing valid coins to enter the Cashbox, and (2) rejecting coins that cannot be electronically verified and returning them to the customer via a coin return cup located at the front of the Farebox. The coin return cup shall be fitted with a door to prevent coins falling from the cup. Alternatively, on light rail vehicles, the Farebox shall allow both valid and invalid coins to be directed to the Cashbox.
- (6) The Farebox shall include a bill acceptor/validator module capable of accepting, validating, and counting \$1, \$2, \$5, \$10, and \$20 U.S. bills, including all denominations of bills currently in circulation. It shall not be capable of accepting \$50 and \$100 bills. The module shall be capable of accepting bills of "street quality" (that is, worn and crinkled) inserted flat and unfolded. The bill validator shall accept and correctly identify valid U.S. bills, without the Transit Operator's participation or action, while rejecting and returning to the passenger torn, mutilated, partial, and counterfeit or foreign bills. The bill acceptor shall accept an inserted bill in any orientation: face up or face down, either end first.
- (7) The Farebox shall be configurable to accept future editions of bills issued by the U.S. Treasury.
- (8) Valid coins shall be accepted at a rate of not less than 95% on first insertion and 98% on second insertion. Valid bills shall be accepted at a rate of not less than 95% on first insertion and 99% on second insertion.
- (9) The Farebox shall count deposited bills, coins and tokens with at least 99.5% accuracy. The Farebox shall immediately display the value of coins and bills upon insertion. If the coin verification functionality is not available due to a jam or equipment malfunction, the vehicle operator shall have the ability to place the coin module into bypass mode with no verification by pressing a lever. While in bypass mode, all inserted coins shall be directly deposited into the Cashbox.

D. Farebox Dimensions and Attachment

- (1) The dimensions of the Farebox shall be no greater than ten and a half (10.5") inches wide and ten and half inches (10.5") deep and either thirty-six or forty-one inches (36" or 41") tall, at SFMTA's option.
- (2) The Farebox shall fit within the interface envelope illustrated in Figure A-3. This Figure shows the interface envelope from the side, top and front views. Containing the Farebox within this interface envelope ensures that the Farebox will fit on any transit vehicle regardless of mode or model. The Contractor is responsible for verifying this information prior to manufacturing and installation of the Fareboxes, and fitting the Fareboxes on all SFMTA transit revenue vehicles.



SFMTA Farebox Interface Envelope

Figure A-3: SFMTA Farebox Interface Envelope

- (3) The floor configuration of each vehicle mode (motor coach, electric trolley coach, light rail vehicles and historic streetcars) and model may vary. With the approval of the SFMTA, the Contractor shall (a) employ an adapter plate that utilizes the existing Farebox mounting holes, or (b) drill and thread holes into a pedestal or floor depending on the vehicle configuration. If Farebox mounting requires the installation of new fasteners beneath the floor, the Contractor shall ensure that removing and/or installing a Farebox in the future does not require maintenance personnel to access the underside of the vehicle after the initial installation. Specifically, the Contractor shall secure those fasteners such that they remain in place and do not spin when base mounting bolts are installed or removed.
- (4) The Farebox may utilize the existing farebox electrical wire harness on each vehicle. The Contractor shall be responsible for installing any hardware, such as a voltage converter, necessary to use vehicle voltage input, which may vary based on vehicle mode and model. Upon coordination and approval from the SFMTA, the Contractor shall perform any necessary rewiring of the existing wire harness to the appropriate power circuit. Wherever possible, the farebox shall be connected to a 24Vdc circuit. On buses (motor coaches and electric trolley coaches), this may require moving the connection from 12Vdc to 24Vdc. On Breda light rail vehicles, this may require installing a voltage converter since the nominal voltage is 37 V and the maximum voltage is 38.75 V.
- (5) Installation of the Fareboxes shall not damage, interfere with or disrupt any existing hardware or equipment (e.g., break lines or wiring).

E. Farebox Location

- (1) On most vehicles, with the exception of the new Siemens light rail vehicles, Contractor shall install fareboxes in the same location as existing fareboxes.
- (2) On buses (motor coaches and electric trolley coaches) and most historic streetcars (e.g., Presidents' Conference Committee streetcars), the Farebox shall generally be located to the right side of the Transit Operator's seat near the front entrance. On some historic streetcars (e.g., Milan streetcars), the Farebox may be located directly behind the partition separating the operator from the passenger cab. The SFMTA and Contractor shall separately confer prior to the installation of Fareboxes on historic streetcars as to the Farebox location.
- (3) On light rail vehicles, two Fareboxes shall be installed, one in each Transit Operator cab at either end of the vehicle. On existing Breda light rail vehicles, the Farebox is at roughly a 135-degree angle (partway between the right and rear sides) from the direction the Transit Operator faces and separated from customers by a movable door. There is a door with a sliding window that allows customers to access the Farebox.
- (4) Siemens is under contract with the SFMTA to build the next generation of light rail vehicles. The Farebox on the Siemens light rail vehicle will be placed in the operator's cab behind a wall with an access panel. At the direction of the SFMTA, the Contractor shall work with Siemens to ensure that (a) the Farebox fits within the

operator cab, (b) maintenance staff can easily open the Farebox to remove the Cashbox and make repairs and (c) customers can access the Farebox to deposit their money, receive a transfer/fare receipt and retrieve rejected currency.

- (5) The Farebox shall allow Transit Operators of varying sizes and statures to enter or leave their seats easily, and shall be positioned so that entering customers may quickly and easily insert the required fare. The Farebox's position on each vehicle shall facilitate all required maintenance and fare collection tasks, including the easy removal of the Cashbox.

F. Fare Validation and Programming

- (1) The Farebox shall accommodate a minimum of ten fare sets, each providing an array of fare categories (e.g., adult cash fare, youth cash fare, adult day pass, etc.). The preset amounts shall be between \$0.01 and \$100.00. The fare categories available for selection within each fare set shall be software configurable. The Contractor shall provide details on the fare set configuration, set-up, capacities, and means of updating fare set data to Fareboxes. Under normal circumstances, the fare table shall be maintained via the Data Collection and Reporting System described in Appendix A, Section 3 below and automatically downloaded to the Farebox whenever the Farebox is probed.
- (2) The Farebox shall be able to accommodate either of the following options:
 - (a) Option 1: Automatically beeping and dispensing a time-stamped transfer without customer or operator intervention each time a customer has inserted a default fare (e.g., a full adult fare). The Operator would key in exceptions at the OCU and have the Farebox issue the appropriate transfer(s)/fare receipt(s), including, but not limited to:
 - (i) Discount fares for youths, seniors and people with disabilities
 - (ii) Multiple people travelling together with one bill (e.g., \$5.00 to cover two adults at \$2.25 each).
 - (iii) Other fare products.
 - (b) Option 2: Enabling the Operator to press a key for every customer based on the type of fare paid.

SFMTA shall inform the Contractor of which option it elects no later than the start of Design Review (see Appendix F).

- (3) Currently, the SFMTA has a flat fare for all bus and rail routes (with the exception of cable cars) during all times of the day. In the future, the SFMTA may adopt more variable fare policies and products. The Farebox System shall be programmable to accommodate different fare settings to reflect these fare policies and products.
- (4) Periodically, the SFMTA adjusts cash fares. The Farebox System shall be capable of loading new fare sets before an effective date that shall become active on the programmed effective date and time. On occasion, the SFMTA offers a "Free Ride" to customers on certain dates or times, such as on New Year's Eve. The Farebox

System shall provide the SFMTA with the ability to pre-program a “Free Ride” (a) fleet wide by date, time and duration and (b) for specific routes (by fareset change). “Free Ride” message shall be shown to the customer on the Farebox display. As described in Appendix A, Section 6B below, the Farebox shall be WiFi-enabled to permit the uploading of fare changes via the Wireless Local Area Network (WLAN) at each Operating Division.

G. Transfer/Fare Receipts Issuance

- (1) The Farebox shall contain a magnetic ticket reader/issuer machine (TRiM) capable of encoding and printing on fare cards that have a magnetic stripe. The TRiM unit shall dispense a time-stamped transfer/fare receipt consistent with SFMTA fare policies as currently established and as they may be amended. Currently, paper transfers/fare receipts are valid for 90 minutes with the exception of late evening and overnight hours. “Late Night Transfers” are issued daily after 8:30 pm and are valid until 5:00 am. “Late Night Transfers” shall be issued as follows: all paper transfers/fare receipts issued after 8:30 pm until 3:30 am shall expire at 5:00 am. All paper transfers/fare receipts issued from 3:30 am until 8:30 pm shall be valid for 90 minutes. These timeframes shall be part of the farebox source code and can be modified by the Contractor.
- (2) The printed transfer/fare receipt shall include (a) the fare product and category (i.e., adult, youth, senior or person with disability), (b) the date and time of issuance, (c) the expiration time, (d) the amount paid and (e) the bus number and unique ticket number, and (f) a code unique to each day to prevent counterfeiting.
- (3) Printing on a transfer/fare receipt shall use thermal technology. Printing shall be sufficiently legible to allow passengers and SFMTA personnel to read, inspect and determine the validity of the transfer/fare receipt.
- (4) To improve fare compliance and reduce fare disputes with customers, Transit Operators shall be able to press a key to indicate fare underpayment (for example, when a customer deposits only \$2.00 when the adult fare is \$2.25). The Farebox shall record the amount actually paid. The Farebox shall be configurable to either (a) not issue a transfer/fare receipt in the event of an underpayment, or (b) print the fare category and the amount the customer paid onto the transfer/fare receipt.
- (5) The Farebox shall accommodate a minimum of 700 transfers/fare receipts. To minimize customer inconvenience in case stock runs out while a vehicle is in revenue service, the Farebox shall be configured to allow the Transit Operator to insert a blank ticket that can be processed by the TRiM unit if the internal stock falls below a threshold amount without the need to open the Farebox top cover.
- (6) The Farebox shall inform the operator of low ticket stock when the quantity of remaining tickets reaches approximately 50. The Farebox shall also transmit a low ticket Event via WiFi once a vehicle has reached an SFMTA Operating Division. SFMTA staff shall also be able to determine visually when transfer/fare receipts paper or cards need replenishing.

H. Smart Card Acceptance (Optional)

- (1) The SFMTA may exercise an option to have Fareboxes accept smart cards. At the SFMTA's discretion, the Contractor shall supply an integrated smart card reader capable of reading a contactless integrated circuit card that is ISO/IEC 14443 compliant. ISO/IEC 14443 is an international standard that defines proximity cards used for identification, and the transmission protocols for communicating with it. The smart card reader shall be located in the lower left hand corner of the farebox top (see Figure A-1).
- (2) If the SFMTA exercises the smart card option, it shall provide the Contractor with all necessary encoding information that is encrypted on the cards, and work with the Contractor and the card encoding supplier to specify the software development work required for smart card acceptance.

I. Cashbox

- (1) To store revenues securely, each Farebox shall contain a Cashbox as shown in Figure A-4. All U.S. coins and bills shall be deposited into a single Cashbox, securely compartmentalized to separate the coins from the bills.

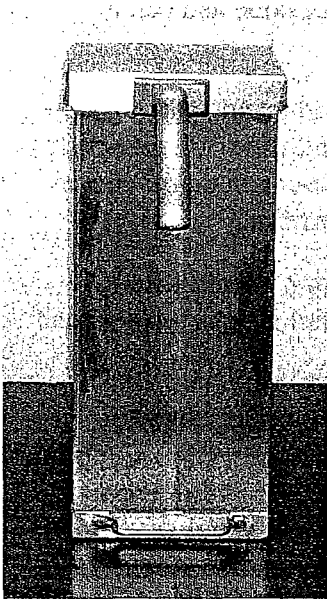


Figure A-4: Cashbox

- (2) The Cashbox shall have two separate compartments, one to receive and retain coins and the other to receive and retain bills. The Cashbox shall accept not less than \$500 value in mixed coins, 200 tokens and not less than 800 bills. A fully-loaded Cashbox shall suffer no operational impediment or security breach, if dropped in the upright position to a hard floor and landing on its bottom or bottom corner from a height of 36 inches. The Cashbox shall not distort when filled to capacity. To minimize risks to personnel associated with lifting, replacing and carrying the Cashboxes between the vehicles and the Receivers, the Cashbox shall have two handles and not weigh more than twenty (20) pounds when empty.
- (3) Each Cashbox shall have its unique serial number (a physical ID).

3. Revenue Transfer and Collection System

A. The Contractor shall provide and install a Revenue Transfer and Collection System at each of the nine SFMTA Operating Divisions to securely transfer cash from revenue transit vehicles to SFMTA's Revenue Collection Facility. Cash shall not be accessible by personnel or the public from the time of its insertion into the Farebox until the time authorized SFMTA staff empty the mobile bins at the Revenue Collection Facility. The Revenue Transfer and Collection System shall consist of the following components:

- (1) *Infrared Data Probe* – This tethered data probe connects to a sensor on the Farebox door. After receiving an electronic code from the probe, the probe also extracts any data from the Farebox that has not already been collected via WiFi as described in Appendix A, Section 5 below. The Farebox door then opens to allow authorized personnel to remove the Cashbox to start the revenue transfer process.
- (2) *Cashbox Receiver* – Mounted atop the vault housing, the Cashbox Receiver accepts a Cashbox and permits authorized personnel to empty its contents into the mobile bin securely into the appropriate bill or coin container. The Cashbox Receiver shall then automatically empty its contents into the Mobile while maintaining complete secure separation of all coins from bills.
- (3) *Mobile Bin* – Once locked inside the vault housing, the Mobile Bin accepts the emptied cash and stores it in dual compartments, one for coins/tokens and one for bills/tickets. The bin can be removed from the vault structure only in a closed and locked condition. The bin is then transported to a counting room or bank where its contents can be removed and counted. The bin has a capacity of 10,000 bills and \$10,000 in mixed coins. Each Mobile Bin shall have a unique serial number capable of being tracked through the Data Collection and Reporting System, as described in Appendix A, Section 6G below.
- (4) *Vault Housing* – A secure and weather resistant housing for the Mobile Bin. The Contractor shall permanently install the Vault Housing and its stationary components at SFMTA-specified locations adjacent to a vehicle service lane within each Operating Division.

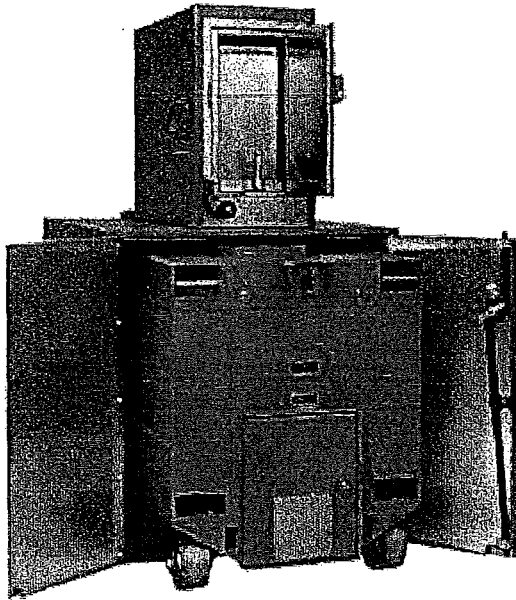


Figure A-5: Revenue Transfer and Collection System Components, including a Cashbox Receiver (top), Mobile Bin (bottom, on wheels) and Vault Housing (container with doors)

4. Ancillary Field Equipment

The Contractor shall provide a minimum of four (4) Portable Data Units (PDUs) that allows authorized personnel to extract data from the Farebox and open the Farebox door to access the Cashbox while a vehicle is away from an Operating Division. When connected to the Data Collection and Reporting System, described in Section 5 below, the PDU shall transfer collected data and Events to the System. The PDU shall include both of the following devices, and record an Event when they are used:

- (1) Portable Data Probe – Extracts data and opens the Farebox door
- (2) Electronic Key – Opens the Farebox door but does not extract data

5. Farebox and Revenue Transfer Security

A. The Farebox, including the Cashbox and electronic and logic components, shall not permit unauthorized personnel to access bill and coin fare revenue at any time. This includes the general public, Transit Operators, maintenance and revenue collection staff. The Farebox shall prevent forced entry, unauthorized data acquisition or other electronic manipulation.

B. Each Farebox shall have an access door to protect and conceal the Cashbox inside. The door shall be fitted with an internal electronic locking device that shall permit the door to open upon successful transmission of data or receipt of a proper security signal from an Infrared Data Probe, as described in Section 3 above. The Farebox shall record the time and device used to open the door whenever it is opened.

C. The Contractor shall also provide a lockbox to secure the Infrared Data Probe to

restrict access to only authorized SFMTA personnel. To open the lockbox, an SFMTA employee would be required to use a smart card or employee identification badge. The lockbox would record an Event electronically associating an employee with the opening and closing of the lockbox, representing the release and return of the probe.

D. As described in Section 4 above, authorized SFMTA personnel may also open the access door using a Portable Data Unit with a Portable Data Probe or an Electronic Key. Each time someone uses a Portable Data Probe or an Electronic Key, the Farebox shall record the key's serial number for subsequent uploading to the Data Collection and Reporting System.

6. Data Collection and Reporting System

A. Reports.

- (1) The Contractor shall provide a Data Collection and Reporting System to be installed in the SFMTA's Operating Divisions and at 1 South Van Ness, which will include hardware and software that enables the SFMTA (a) track individual fare transactions, (b) analyze and reconcile revenues, (c) track Cashbox and Mobile Bin Events for reporting and auditing purposes and (d) manage and configure farebox settings.
- (2) The Contractor shall provide the SFMTA with reports that contain, at a minimum, (a) exception reports, (b) expected revenue by route, (c) security, (d) Cashbox audits, (e) maintenance, (f) Magnetic Ticket Reader/Issuer Machine (TRiM) diagnostics, (g) probing summary, and (h) Farebox preventative maintenance. In addition, the Contractor shall provide raw data such that the SFMTA can create its own customized reports. The SFMTA shall also own all data.

B. Farebox Communications

The Farebox shall be WiFi-enabled to facilitate secured wireless bulk data transfer downloads and uploads. These transmissions shall occur via an SFMTA-maintained Wireless Local Area Network (WLAN) at each Operating Division or more generally at any WiFi location throughout the SFMTA service area. Any data for downloading from or uploading to the Farebox that is not successfully transmitted via WiFi shall be retrievable through the infrared (IR) probing device. The Farebox antenna system shall be based on standard 802.11 technology.

The Contractor shall be responsible for ensuring the WiFi functionality of each Farebox, but shall not be responsible for WiFi connectivity at SFMTA Operating Divisions or other locations.

C. Garage Computer Data Reporting

- (1) The Contractor shall provide a means of storing and forwarding data for each of the SFMTA's nine Operating Divisions. Each Operating Division shall be able to control and manage the transfer of Farebox data to the central Network Manager database. Its primary purpose shall be to poll and communicate with the probes, distribute data to the Fareboxes, collect and consolidate data from the Fareboxes, and monitor all Revenue Collection and Transfer System operations.
- (2) Reporting from the database shall be provided by the central computer system. A complete listing of equipment, accessories and software to support the Data Collection and Reporting System is provided in Appendix D.

- (3) The Garage Computer equipment shall be interchangeable, having identical hardware and software, such that a replacement unit may be installed without any setup requirement unique to the installation location. The location ID is to be provided through local connections (either hardware or LAN interface).
- (4) The Contractor shall supply two (2) spare equipment sets complete with applicable software, ready for quick replacement of a failed equipment at any system location.
- (5) The Contractor shall provide the Garage Computer system as Virtual Machines instead of physical computer hardware. SFMTA will be responsible for ensuring that the SFMTA network is capable of supporting reliable and timely data communication between the Farebox, Revenue Transfer and Collection System and the Virtual Machines as identified by the Contractor. Maintenance and management of the Virtual Machines shall be performed by SFMTA.

D. Data Requirements – Individual Fare Transactions

- (1) The Farebox System shall collect accurate and comprehensive data on ridership and usage of fare products for planning and marketing purposes. The Farebox must keep track of all fare transactions for later uploading to SFMTA servers via WiFi, with the minimum following information: (a) fare category (adult, youth, senior or persons with disabilities), (b) fare type (e.g., single fare), (c) amount paid, including overpays and underpays, (d) vehicle number, (e) date and time, (f) Farebox ID, (g) route, and (h) run number.
- (2) The Contractor shall furnish transactional level data to the SFMTA in XML-formatted files. The Contractor shall work with SFMTA Technology staff to determine the XML file definition.

E. Data Requirements – Farebox Opening Events

- (1) As described in Appendix A, Section 5C above, SFMTA personnel must open and close a lockbox using a smart card or employee identification badge in order to release or return the Infrared Data Probe used to open the Farebox to access the Cashbox. Whenever an opening or closing Event employee opens, the lockbox unit shall automatically generate an Event record and upload this information to the SFMTA servers via WiFi. An Event record shall include the following information: time of opening or closing and the employee serial number associated with the Event.
- (2) The Farebox shall record an Event when a Portable Data Unit or electronic key is used to open the Farebox for later uploading to SFMTA servers via WiFi. This shall include all successful and attempted access to the Farebox. If any transactional data become blanked or erased, the system shall record an Event which includes the last electronic key entered to open the Farebox.

F. Data Requirements – Cashbox Opening Events

Whenever the Cashbox is removed and returned to the Farebox, the Farebox shall automatically generate an Event record for later uploading to SFMTA servers via WiFi. Contractor shall specify the maximum time duration and distance to antenna for complete download of maximum estimated data file size via WiFi during Design Review. Cashbox Event records shall include the

following minimum information: (a) Cashbox ID, (b) time the Cashbox was removed, (c) time the Cashbox was re-inserted, (d) the probe used to open the Farebox, (e) the revenue in the Cashbox when the Farebox was opened, including the quantity of each bill and coin denomination, (f) the number of fare transactions by category (e.g., adult, youth, etc.), (g) the number of underpayments and (h) the number of transfers/fare receipts issued and (i) upon integration with a CAD/AVL system, the location of the vehicle and Farebox. The Farebox shall retain data in case of power loss.

G. Data Requirements – Mobile Bin Events

The Farebox shall record an event each time a Mobile Bin is removed from or inserted to the Vault Housing as part of the Revenue Transfer and Collection System at each Operating Division. Mobile Bin Events shall include the following minimum information: (a) Mobile Bin ID, (b) time the Mobile Bin was removed, (c) time the Mobile Bin was re-inserted, and (d) the revenue in the Mobile Bin at the time of removal, including the quantity of each bill and coin denomination.

H. Data Requirements – Maintenance

The Farebox shall record suspected maintenance Events for later uploading to SFMTA servers via WiFi. Examples include cold starts, warm starts, Coin mechanism preventive maintenance due, coin misreads, bill mechanism preventive maintenance due, Farebox memory cleared and hardware clock failure.

I. Fare Updates

The Data Collection and Reporting System shall also enable the SFMTA to program future fare changes at up to five (5) secured SFMTA workstations. The System shall support a minimum of two fare structures, the one currently used and the one for automatic implementation at a designated date. Within 24 hours of programming, the System shall upload a new fare table to each Farebox via WiFi at the next available opportunity.

7. CAD/AVL Integration

A. The SFMTA is implementing a system wide Xerox/ACS OrbStar CAD/AVL system that will provide single-point Transit Operator log-on and additional integration for all of the onboard systems. Functions of the OrbStar CAD/AVL system include determining vehicle location, route and run number and integrating with the Digital Voice Annunciation System (DVAS) and Automatic Passenger Counters (APCs).

B. The Contractor shall integrate its Fareboxes with the Xerox/ACS (OrbStar) - CAD/AVL system via an SAE J1708/1587 interface. The Contractor shall establish a separate agreement with Xerox/ACS to perform this integration and shall be responsible for its implementation. The SFMTA shall be a third-party beneficiary to that agreement and have an opportunity to review and comment prior to its execution.

C. Fareboxes shall arrive with the appropriate hardware pre-installed that allows for a J1708 connection to the CAD/AVL system.

D. When interface between the Farebox and the CAD/AVL system has been implemented, the Contractor shall be responsible for ensuring that the Farebox System has the following functionality:

- (1) Associate vehicle number, route number, route direction, block number, run number and stop location with individual fare transactions
- (2) Provide real-time notification of full, non-operating or otherwise problematic Fareboxes to the extent that these alarms are in the standard J1708 message set.
- (3) Provide real-time alerts when transfer/fare receipt ticket stock need replenishing at a pre-programmed threshold (in addition to a visual indicator on the Farebox exterior)

8. Implementation Approach

A. The Contractor and SFMTA have established a Project Milestone timeline shown in Appendix F. This timeline contains major project milestones, including vehicle installations (by type of vehicle), Operating Division installation, software installation and configuration, system testing, SFMTA operator and maintenance staff training, and final completion activities.

B. For new vehicles, the SFMTA may request either (1) The Contractor work directly with the vehicle manufacturer to install Fareboxes and related equipment prior to SFMTA's acceptance of the vehicle from the manufacturer, or (2) SFMTA staff will transfer Fareboxes from retired vehicles to the new vehicles. The Contractor shall be responsible for training SFMTA staff to ensure that Fareboxes can be transferred between vehicles.

9. Quantity and Installation Schedule

A. The SFMTA is in the process of replacing many of its revenue vehicles. Table A-1 shows SFMTA's estimated net number of Fareboxes the SFMTA will require, listed by vehicle type from 2015 through 2020. Buses (motor coaches and trolley coaches) and most historic streetcars require one Farebox. Light rail vehicles and some historic streetcars require two Fareboxes because they are double-ended.

Table A-1: Projected Net Farebox Requirements by Year

Vehicle Type	2015	2016	2017	2018	2019	2020
30' Motor Coach	30	30	30	*	*	*
40' Motor Coach	400	400	386	*	*	*
60' Motor Coach	168	201	214	*	*	*
40' Trolley Coach	239	214	214	*	*	*
60' Trolley Coach	45	60	93	*	*	*
Light Rail Vehicle – Breda (2 Fareboxes per vehicle)	298	298	298	298	298	298
Light Rail Vehicle – Siemens (2 Fareboxes per vehicle)	0	0	4	52	100	128
Historic Streetcars (1-2 Fareboxes per vehicle)	51	51	51	51	51	51
Spare Fareboxes	0	50	50	50	50	50
Total Fareboxes (includes float for during the fleet transition period)	1,231	1,304	1,340**	*	*	*

* Fleet size for motor coaches and trolley coaches in 2018 and beyond in unknown due to funding uncertainty.

** Includes four fareboxes for Siemens light rail vehicles; the Contractor shall enter into a separate agreement with Siemens to provide those fareboxes.

B. For the Base System, the Contractor shall provide 1,336 Fareboxes, which includes 50 spares and excludes 4 fareboxes the Contractor shall provide under a separate

agreement to Siemens. Fareboxes that Contractor cannot install because vehicles are not available shall be considered Spares, which the SFMTA will make available to Contractor for installation at a later date. During the Base Term of the Agreement, the SFMTA plans to retire many vehicles and replace them with new vehicles. Upon vehicle retirement, SFMTA employees may transfer Fareboxes from retired to replacement vehicles. To facilitate that transfer, each Farebox shall function the same way irrespective of vehicle type (e.g., motor coach, electric trolley coach, light rail vehicles and historic streetcars. The Contractor shall also provide wiring harnesses that can be used without modification to different vehicle types and models that have different mounting plate sizes.

C. If required by the SFMTA, Contractor shall enter into separate agreements with third-party vehicle suppliers to provide Fareboxes and ancillary equipment on new vehicles. As directed by the SFMTA, equipment shall be installed prior to the arrival of the vehicle at SFMTA Operating Divisions. Examples of third-party vehicle suppliers include Siemens, which manufactures light rail vehicles, and New Flyer, which manufactures electric trolley coaches and diesel motor coaches. If these separate agreements stipulate direct payment from the third-party vendor to the Contractor, the quantities that Contractor shall provide to the SFMTA under this Agreement directly shall be adjusted downward accordingly. The Contractor shall sell Fareboxes and ancillary equipment to third-party vendors at the same prices contained in Appendix D.

10. Training and Documentation

A. As part of the Farebox System Documentation, the Contractor shall develop and submit detailed maintenance manuals for each component of the Farebox System, including but not limited to the Farebox, Cashbox, Revenue Transfer and Collection System, and Data Collection and Reporting System. The Contractor shall provide SFMTA-designated revenue collection, operations and maintenance staff with training on all aspects of the Farebox System. The Contractor shall submit to the SFMTA confirmation of completion of this training prior to the deployment of the Farebox System.

B. The Contractor shall provide experienced and qualified instructors to conduct the following training for approximately one to five days per group:

- (1) Transit Operations – The Contractor shall conduct a train the trainer program for approximately 50 SFMTA Transit Supervisors, who in turn shall be responsible for the actual training of Transit Operators. This training shall include a demonstration using a Farebox, and shall take place at Operating Divisions.
- (2) Farebox Maintenance – The Contractor shall conduct maintenance training for approximately 10 to 15 Assistant Electronic Maintenance Technicians, Electronic Maintenance Technicians and their supervisors. This training shall include a demonstration using a Farebox and Revenue Transfer and Collection System components, and how to move Fareboxes safely on and off vehicles. The training shall take place at an Operating Division.
- (3) Revenue Collections – The Contractor shall conduct training on how transfer fare revenues securely for approximately 15 Fare Collections Receivers, Senior Fare Collections Receivers and Principal Fare Collections Receivers. This training shall include a demonstration using a Farebox and Revenue Transfer and Collection System components, and shall take place at an Operating Division.

- (4) Information Technology – The Contractor shall conduct training on how to use the Data Collection and Reporting System for approximately 5 Information Systems Engineers Senior Information Systems Engineers and Principal Information Systems Engineers. This training shall take place at SFMTA headquarters.

C. The Contractor shall provide the SFMTA with sample marketing materials from other transit agencies for use in a public relations campaign aimed at educating customers on how to use the new Fareboxes to pay their fares.

11. Acceptance Criteria

A. At the direction of the SFMTA, the Contractor shall test fit the Farebox on all existing trolley coach, motor coach, historic streetcar and light rail vehicle models to ensure compliance with technical specifications and all applicable codes and regulations, including but not limited to the Americans with Disabilities Act.

B. At the direction of the SFMTA, the Contractor shall install the complete Farebox System at one pilot Operating Division. The Contractor shall notify the SFMTA when it has completed installation of the Farebox System at said Operating Division, so that the SFMTA may conduct acceptance testing for that Operating Division. The Contractor shall support the SFMTA in conducting acceptance testing at that Operating Division for as long as necessary for the Contractor to meet the acceptance criteria in Table A-2.

B. After acceptance of the Farebox System at the pilot Operating Division, the Contractor shall install the Farebox System at other Operating Divisions at the direction of the SFMTA. The Contractor shall support the SFMTA in conducting acceptance testing at each of the other Operating Divisions. Appendix F shows the approximate installation schedule.

C. Acceptance testing support from the Contractor includes remote and on-site assistance in trouble shooting problems and errors in the Farebox System and components and correcting those problems and errors. Acceptance testing shall include verifying Back-End System functionality, which shall occur at both Operating Divisions and SFMTA headquarters. At each Operating Division, the Fareboxes must meet the following standards before the SFMTA accepts them:

Table A-2: Farebox Acceptance Criteria for each Operating Division

Performance Metric	Definition	Acceptance Standard
Model Fit on Vehicles	Percentage of vehicles for which Fareboxes physically fit and do not disrupt any existing hardware (e.g., break lines or wiring)	100%*
Farebox Availability	Fareboxes, using spares if necessary, that are available to meet revenue service fleet requirements	100%
Data Collection and Reporting System Operability	Percentage of time that the Data Collection and Reporting System is functioning	99.5%

Performance Metric	Definition	Acceptance Standard
Data Collection and Reporting System Accuracy	Accuracy of Data Collection and Reporting System transactional-level data	99.5%
Farebox Revenue Accuracy	The difference between SFMTA-counted revenue and Farebox-reported revenue. The test sample shall be comprised of a minimum of 10 Fareboxes returning from at least two different routes and Operating Divisions.	±1% for each Farebox based on a minimum of \$250 in deposited cash and coins

* 100% means the component fully complies with all specifications and performance requirements of the Agreement.

B. The SFMTA shall not grant Final Acceptance of the Transit Vehicle Farebox System until the Farebox System as delivered by the Contractor:

- (1) Meets all the Acceptance Criteria at all SFMTA Operating Divisions;
- (2) Is successfully integrated with the Xerox/ACS OrbStar CAD/AVL System, such that for a test sample comprised of a minimum of 50 Fareboxes from 10 different routes, 99.5% of fare transaction are associated with the correct vehicle number, route number, route direction, block number, run number and stop location;
- (3) Resolved to SFMTA's satisfaction all problems and deficiencies in the Farebox System discovered during Final Acceptance Testing;
- (4) Delivered all licenses, Documentation, operating manuals, and final design documents required by the Agreement.

12. Warranty

The Contractor shall provide the warranty services described in in Section 4.6 of the Agreement and Appendix B.

13. Maintenance

The Contractor shall provide the maintenance services described in Appendix C.

14. Fleet Defect

The Contractor shall address fleet defects as described in Appendix B.

15. Farebox System Performance Indicators

A. Event and Status Logs.

- (1) The Farebox shall record an Event each time a status change in the Farebox occurs. Examples of status change Events to be recorded include: (a) powering-up of the Farebox, (b) powering-down of the Farebox, (c) a full Cashbox, (d) a low number of transfers/fare receipts and (e) inoperable Farebox modules. During Design

Review, the SFMTA may identify additional status change Events for implementation.

- (2) Whenever a vehicle pulls into an Operating Division, the Farebox shall upload the event log to the Garage Computer via WiFi. Any data contained within the Farebox controller that is not successfully transmitted via WiFi shall be retrievable through the Infrared Data Probe.
- (3) Whenever the Farebox is powered up, the Farebox shall generate a record containing the health status of each Farebox subsystem.

B. Performance Monitoring and Reporting.

- (1) The Contractor shall monitor the performance of each Farebox both through the Data Collection and Reporting System described in Section 5 above and through the preventative maintenance activities described in Appendix B. The Contractor shall provide the SFMTA with a monthly report that summarizes overall performance as it relates to the metrics in the table below. Contractor shall report the Farebox System metrics to the SFMTA on a monthly basis no later than thirty (30) calendar days following the close of the month, beginning with the installation of the pilot garage and lasting as long as the Contractor provides Preventative Maintenance. The SFMTA reserves the right to audit independently or engage an independent third-party to conduct performance audits.
- (2) For the duration of this Agreement, the Contractor commits to achieving the standards for the performance metrics for availability, reliability and accuracy denoted in Table A-3. Contractor shall be required to meet these standards effective immediately at each garage upon Farebox System acceptance.

Table A-3: Farebox Performance Metrics

Performance Metric	Definition	Performance Standard
Farebox Availability	Fareboxes, using spares if necessary, that are available to meet revenue service fleet requirements	100%
Farebox Reliability	Mean Transactions Between Failures (number of instances that the Farebox is inoperable due to a component failure divided by the total number of fare transactions using the Farebox)	12,000
Farebox Revenue Accuracy	Accuracy of SFMTA-counted revenue compared to Farebox-reported revenue	99.5%
Data Collection and Reporting System Operability	Percentage of time that the Data Collection and Reporting System is functioning	99.5%

Performance Metric	Definition	Performance Standard
Data Collection and Reporting System Accuracy	Accuracy of Data Collection and Reporting System transactional-level data	99.5%

C. Liquidated Damages for Failing to Meet System Performance Standards.

- (1) Should the Contractor fail to meet the performance standards for any given month, the Contractor shall work with the SFMTA to meet the performance standard. If, after sixty (60) calendar days, the Contractor still has not achieved the performance standards, cannot document good faith efforts to remedy the situation and produce an SFMTA-approved plan to meet said standards, the Contractor shall be subject to Daily Liquidated Damages of a maximum of \$5,000 per day.
- (2) If any parts of the Farebox System fail or are incomplete due to fault or error of the Contractor or other cause or factor within the Contractor's control such that the SFMTA cannot collect Farebox revenues for a continuous period exceeding 15 minutes affecting five (5) percent or more of Fareboxes on SFMTA's transit fleet, the Contractor shall be liable for Liquidated Damages using the following formula:

$$\text{Daily Liquidated Damages} = \text{Number of Fareboxes Unable to Collect Revenue} * \text{Average Daily Cash Revenue per Farebox} * (\text{Hours Fareboxes are Unable to Collect Revenue}/24)$$

D. Liquidated Damages for Delay

- (1) Contractor shall provide a complete fully-functional Farebox System, including Fareboxes installed on all active transit revenue vehicles, within twelve months of Notice to Proceed. A fully-functional Farebox System shall meet the requirements set forth in this Agreement.
- (2) At the discretion of the SFMTA, should Contractor fail to provide a complete fully-functional Farebox System, Contractor shall be liable for liquidated damages until remedied as described in Section 4.7.
- (3) If any parts of the Farebox System are incomplete such that the SFMTA cannot collect, track or reconcile Farebox revenues, and/or Contractor has not provided training to relevant SFMTA employees, the Farebox System shall be considered non-functional.
- (4) Daily liquidated damages shall be a maximum of \$5,000 per day for each day the Farebox System is not fully functional commencing on the 365th day following Notice to Proceed.

14. Reports.

Contractor shall submit written reports as requested by the SFMTA. The SFMTA shall determine

the format for the content of such reports. The timely submission of all reports is a necessary and material term and condition of this Agreement. Unless the SFMTA requests otherwise, the Contractor shall submit the reports in electronic format.

15. Department Liaison

In performing the Services provided for in this Agreement, Contractor's liaison with the SFMTA will be **Jason Lee, Project Manager, SFMTA**, or subsequently designated Project Manager.

Appendix B

Warranty Terms

1. Scope of Warranty.

A. Warranty shall cover all parts and labor during the Warranty Period defined in Section 1 below associated with the factory repair of the equipment listed in Section 2 below.

B. The Contractor warrants to the City that all equipment furnished under this Agreement shall be free from defects in material and workmanship under normal operating use and service. Contractor shall repair or replace at its cost all Farebox System components that fail during the Warranty Period, where that failure is not due to abuse, negligence, accident, or vandalism. System Components that do not meet the definition of warranty will be considered out-of-warranty. The Contractor will be responsible for the repair and/or replacement of defective equipment that meet warranty conditions.

C. Remedial work to correct any and all potential deficiencies will include the repair or replacement of equipment, components, devices, and/or materials. Contractor will be responsible for the costs of all materials and labor, except as specifically provided herein.

2. Warranty Period

A. The Contractor will provide Warranty at no charge for a period of five (5) years after the installation and SFMTA's acceptance of all equipment for the Base System.

B. The five-year Warranty Period for equipment installed for transit vehicles not included in the Base System shall commence upon accepted installation (if installed at SFMTA) or the SFMTA's acceptance of said vehicles from the factory (where installation of the Farebox was performed at the factory). Examples of factory installation include Siemens light rail vehicles or New Flyer electric trolley coaches and diesel motor coaches delivered after January 1, 2017.

3. Extended Warranty

If the SFMTA exercises one or both of the five-year Agreement extension options, the SFMTA shall also have the option of purchasing an extended warranty on an annual basis at the conclusion of the initial five-year Warranty Period. Prices for the extended warranty option are provided in Appendix C, Section 2.

4. Warranty Coverage

System components covered under Warranty include the following list of Contractor-provided hardware and software, as well as any part listed in Appendix D:

- (1) Fareboxes (including Cashboxes and all other components)
- (2) Operator Control Units

- (3) Revenue Transfer and Collection System (including Infrared Data Probes, Cashbox Receivers, Mobile Bins and Vault Housing)
- (4) Portable Data Units (including Portable Data Probes and Portable Electronic Keys)
- (5) Audit Units
- (6) Garage Computers
- (7) Spare Modules
- (8) System Software (as described in Appendix G)

The Warranty shall apply to system components under normal operating conditions, including temperature extremes, humidity, vehicle vibration, dirt, dust, diesel soot and ambient electric conditions.

5. SFMTA Responsibilities

The SFMTA will operate and maintain the Equipment in accordance with Appendix C, Section 1. First-Line Maintenance to maintain Warranty coverage. The Warranty shall not apply to any equipment that: (1) has been repaired and/or modified without knowledge or consent of the Contractor, where such repair or modification has affected the stability, reliability or operating performance of the equipment; or, (2) has not been maintained in accordance with the Contractor's Operations & Maintenance manuals.

6. Failure Types and Associated Remedial Actions

A. Random Failure – Failure of a given component and/or device in a singular item of equipment and/or failure of a given group of equipment, essentially unrelated in cause.

For Random Failures, the SFMTA is responsible for removal of the affected devices and/or components and preparing them for pickup at one Operating Division on a weekly basis. The Contractor shall transport the failed modules to the local Preventative Maintenance facility, and return the repaired modules to the designated Operating Division. If the Contractor has to ship a module covered under warranty to its home facility, the Contractor shall be responsible for shipping charges. If the module is not covered under warranty, the SFMTA shall be responsible for shipping charges to the Contractor's home facility.

B. Pattern Failure – Three (3) or more identical failures of a module (the same serial number) within a two (2) year period, which in the opinion of the SFMTA and the Contractor is related in cause.

For Pattern Failures, the SFMTA is responsible for removal of the affected devices and/or components and preparing them for pickup at one Operating Division on a weekly basis. The Contractor shall transport the failed modules to the local Preventative Maintenance facility. The Contractor may either (a) replace the module, or (b) document in writing the reason for the failure, recommended corrective action for SFMTA approval, and repair the module. If the Contractor has to ship a module covered under warranty to its home facility, the Contractor

shall be responsible for shipping charges. If the module is not covered under warranty, the SFMTA shall be responsible for shipping charges to the Contractor's home facility.

C. **Fleet Defect** – Failure of a given component and/or device in ten percent (10%) of the installed Farebox Equipment. The determination of a "Fleet Defect" by the SFMTA and the Contractor will assume that all such equipment within its respective category has these defects and shall ultimately experience these same failures.

Should any element of the Farebox System have a defective part or parts with multiple occurrences, the Contractor shall investigate and replace the part or parts. If the failure rate hits five percent (5%) of the number of those parts purchased, the Contractor shall investigate and report in writing to the SFMTA whether there is a "fleet defect" within ten (10) business days. If there is a "fleet defect", the Contractor shall propose a corrective action for approval by the SFMTA. The Contractor shall replace that part throughout the entire Farebox System, including any spares, if the failure of a given component and/or device is ten percent (10%) or greater of the number of those parts purchased.

7. **Equipment Removal, Shipping, and Reinstallation Costs**

A. The Contractor shall be responsible for all costs associated with the removal of components and/or devices, shipping charges to and from the Contractor's repair facilities, and reinstallation.

B. To maintain normal transit operations, the Contractor shall provide the SFMTA with additional components and/or devices for use while Contractor repairs the Equipment after SFMTA spares have been exhausted. The Contractor shall complete repairs with 30 calendar days, unless the nature of the repair or availability of parts requires a longer repair period, in which case the Contractor shall confer with the City to determine a reasonable schedule for the repairs. The Contractor shall provide all personnel, tools, and materials necessary to effect repairs at its own expense.

C. Contractor shall repair all Garage equipment, such as vaults and portable bins, at the Garage in which that equipment is located.

8. **Out-of-Warranty Repair**

A. Warranty shall not apply to equipment that has been subject to abuse, negligence, accident, vandalism, or improper First-Line Maintenance or repair conducted by the SFMTA.

B. The procedure for disposition of Out-of-Warranty repairs will be as follows:

- (1) Any modules that have been identified as out-of-warranty will be tracked and stored at the Preventative Maintenance facility described in Appendix B, Section 2.
- (2) Genfare will notify the SFMTA of the out-of-warranty status and of the estimated labor and material costs to repair the module. The SFMTA shall have the option of purchasing a replacement part in lieu of paying for repairs.

- (3) The SFMTA shall respond to Genfare with either an authorization to repair, a denial to repair and/or an authorization to purchase a replacement part within fifteen (15) business days of notification.

C. The Contractor shall invoice the SFMTA on at the end of each calendar month for all out-of-warranty repair services.

9. Non-Defective Parts

The SFMTA shall endeavor to minimize returning non-defective parts to the Contractor for repair. If these occurrences exceed 100 returned components per month, the SFMTA shall be responsible for reimbursing the Contractor for 30 minutes of labor at the Contractor's On-Call Hourly Maintenance rate per returned component exceeding the 100 per month. Components returned to the Contractor for exhibiting identical failures shall be exempted from this calculation.

10. Warranty Dispute Resolution Process

The SFMTA and Contractor shall establish a Failure Review Committee consisting of a representative of the SFMTA, the SFMTA Project Manager, and a representative of the Contractor. The Failure Review Committee shall review Contractor adherence to the Performance Standards denoted in Table A-2 to determine if equipment is working as specified, to identify problem areas, and determine corrective action. The Failure Review Committee shall meet on a monthly basis to review Farebox System performance and any corrective action required and taken. Following final acceptance, the Failure Review Committee shall meet on an as-needed basis to resolve any issues requiring corrective action or disputes between the parties.

Appendix C

System Maintenance

1. SFMTA First-Line Maintenance

The SFMTA shall be responsible for First-Line Maintenance, comprised of Corrective Maintenance and Mid-Year Cleaning and Inspection as described herein. First-Line Maintenance is routine maintenance in response to identified system faults and periodic hardware maintenance.

A. Corrective Maintenance.

Corrective Maintenance is as-needed maintenance in response to hardware issues experienced in typical day-to-day Farebox usage. Corrective maintenance examples include coin jams, currency validation errors and inoperable Infrared Data Probes. SFMTA staff will identify and diagnose issues and provide corrective maintenance.

When the SFMTA identifies a component that requires Contractor repair, the parties will use the following process:

- (1) The SFMTA will identify and replace the suspected faulty component using spare parts from stock.
- (2) The SFMTA will document the part number, serial number, failure mode and symptoms on a Genfare provided repair tag, attach it to the faulty component and deliver to Contractor's designated inventory control personnel. SFMTA and the Contractor will work to establish electronic documentation for easier tracking and analysis.
- (3) The SFMTA will set aside the faulty component with repair tag or other means of failure identification for transport to the Preventative Maintenance facility as described in Section 2 below.
- (4) The SFMTA may bundle shipments such that multiple equipment transfers may occur simultaneously. SFMTA will provide shipping information for all transfers, including the part number (P/N), serial number (S/N), quantity (QTY) and return material authorization (RMA) number for all returned failed parts. SFMTA and the Contractor will work to establish electronic documentation for easier tracking and analysis.
- (5) The Contractor shall evaluate the failed parts for warranty eligibility. Eligible failures will be repaired or replaced. Ineligible failures will be treated as Out-of-Warranty repairs (see Appendix B, Section 8).

B. Mid-Year Cleaning and Inspection

First-Line Maintenance includes one mid-year cleaning and inspection of Farebox equipment listed in Table C-1, spaced approximately midway between preventative maintenance cycles. The following table indicates the activities that will occur during Mid-Year Cleaning and Inspection:

Table C-1: Mid-Year Cleaning and Inspection Activities

Module	Component(s)	Task	Material Required/Comment
Magnetic swipe card reader		4 swipes with cleaning card	Cleaning card, The Contractor part #A14243-0001
Coin/token insertion cup		Clean	Sponge & isopropyl alcohol
Farebox exterior	Sheet metal, windows	Clean as needed	Mild detergent
OCU	Keypad	Clean as needed	Mild detergent
Passenger display and buttons		Clean as needed	Soft damp cloth
Coin validator		Clean, remove lint, debris Coin validator	Externally – mild detergent on damp cloth; internally, compressed air, or isopropyl alcohol
	Solenoid	Inspect, clean	Cotton swab and isopropyl alcohol
Coin/token return cup		Clean	All-purpose cleaner or mild detergent & water
Bill validator		Clean as needed	Externally – mild detergent on damp cloth; internally – compressed air or damp cloth
Bill transport	"O" rings	Clean as needed	Mild detergent

2. Contractor Preventative Maintenance Services

A. Preventive maintenance minimizes the need for Corrective Maintenance and maximizes the Farebox System’s performance.

B. The Contractor shall be responsible for Preventive Maintenance and cycle all Fareboxes through the process at least once per year, or more often if necessary to meet the performance standards in Table A-3. Warranty shall cover component or module failure under yearly preventative maintenance.

C. The PM program shall begin six months after Farebox System acceptance at the Pilot garage (see Appendix F), giving priority to Farebox System equipment experiencing the highest usage based on the maintenance reports generated by the Data Collection and Reporting System.

D. The Contractor is responsible for the PM activities listed in the Tables C-2 and C-3, below.

Table C-2: Contractor Preventative Maintenance Activities

Module	Component	Task	Material Required/Comment
Bill transport (1)	Idler posts and drive pulleys	Inspect/Lubricate/ Replace as needed	Dow Corning 200 fluid oil Contractor part #A24914-0001
Bill transport (2)	20-tooth spur drive	Inspect/Lubricate/ Replace as needed	Molykote 33 lubricant, Contractor part #A01417-0001
Coin validator		Clean, remove lint, debris/replace wear parts	Externally – mild detergent on damp cloth; internally, compressed air or isopropyl alcohol
Coin validator	Solenoid	Inspect, clean, replace wear parts	Cotton swab and isopropyl alcohol
Coin/token return cup		Clean	All-purpose cleaner or mild detergent & water
Bill validator		Clean/replace wear parts	Externally – mild detergent on damp cloth; internally – compressed air or damp cloth
Coin bypass mechanism		Replace spring	Spring, Contractor part #B00054-0004
Pedestal floor and base casting		Clean	Scotchbrite™ and wire brush Clean underside of pedestal and top edges of base casting

Table C-3: Contractor Preventative Maintenance Activities – Magnetic Ticket Reader/Issuer Machine (TRiM)

Component	Task	Material Required/Comment
Drive belt	Inspect/clean/replace as needed	
Feed (yellow) roller	Inspect/clean/replace as needed	Lint-free tissue or cotton swab; isopropyl alcohol
Rubber (black) rollers	Inspect/clean/replace as needed	Cleaning card
Optical sensors (6)	Inspect/clean/replace as needed	Lint-free tissue or cotton swab; isopropyl alcohol; compressed air

Component	Task	Material Required/Comment
Magnetic heads	Inspect/clean/replace as needed	Cleaning card <i>or</i> lint-free tissue or cotton swab; isopropyl alcohol
Print head	Inspect/clean/replace as needed	Cleaning card <i>or</i> lint-free tissue or cotton swab; isopropyl alcohol
Solenoids	Inspect/clean/replace as needed	Lint-free tissue or cotton swab; isopropyl alcohol
Gears	Inspect/clean/replace as needed	Damp rag
Edge guides	Clean/inspect	Damp rag
Drive belt	Inspect/clean/replace as needed	Damp rag
Belt pulleys	Inspect/clean/replace as needed	Damp rag
Ticket cassette	Inspect cassette; adjust stripper gap if required	Replace cassette if damaged; adjust gap using feeler gauge
Print head	Inspect/clean/replace as needed	Every 125,000 cycles or sooner
Bearings, bushings and motor	Inspect/clean/replace as needed	

E. The Contractor shall employ local service technicians who will rotate between Operating Divisions to perform the Preventative Maintenance work on-site. The SFMTA will cooperate with the Contractor in scheduling and providing assistance at each division to allow access to vehicles scheduled for Preventative Maintenance on a given day. The Contractor will complete all Preventative Maintenance work at an Operating Division before moving to the next Operating Division.

F. The SFMTA agrees to purchase 50 Fareboxes for rotating spare stock to support Contractor Preventative Maintenance activities.

G. The Contractor shall supply all parts and consumables required for Preventative Maintenance replacement as listed in Appendix D, Section 4, which includes but is not limited to belts, motors, and other components subject to wear.

H. Contractor technicians shall perform all Preventative Maintenance activities without removing the Farebox from the bus or rail vehicle. Contractor shall have a supply of previously maintained Farebox top sections (which includes most of the electro-mechanical assemblies including the transfer printer, coin and bill validators, bill transport mechanism, top cover (lid) and most electronics) which would be “swapped” with top sections of in service Fareboxes. Contractor shall exchange the Cashbox and complete the Preventative Maintenance work on the Farebox lower section (electronic lock). The swapped top section and Cashbox would then be transported to the Preventative Maintenance facility to be put through the preventative maintenance process and used for the next set of vehicles in a “round-robin” manner.

I. The cost of Preventative Maintenance services includes all costs to Contractor to transport materials, equipment and personnel between Operating Divisions and the Preventative Maintenance facility. The Contractor shall be responsible for purchasing, insuring and maintaining a maintenance van for the transportation of the Farebox top sections, parts and assemblies needed between SFMTA facilities.

J. The Contractor shall be responsible for all parts, labor and other expenses arising from improper or ineffective preventative maintenance.

3. Preventative Maintenance Facility

A. Contractor shall conduct preventative maintenance activities at a centralized facility of approximately 2,000 square feet. This Preventative Maintenance facility shall include workspace to conduct repairs and store parts. The facility shall be equipped with sufficient work stations, computers and other equipment as necessary to perform the repairs work.

B. There are two options for the facility: (1) an SFMTA-provided site, and (2) a Contractor-leased site. In consultation with the Contractor, the SFMTA will decide which option to implement. The SFMTA shall endeavor to establish a Preventative Maintenance facility no later than six months following the acceptance of the Farebox System at the pilot Operating Division.

D. Regardless of the option chosen, the Contractor shall be responsible for paying any property taxes associated with use of the facility. The Contractor shall also be responsible for transportation of its own employees and Farebox System parts between the facility and Operating Divisions. This includes, but is not limited to, the procurement, insurance and maintenance of a van for said transportation. The Contractor shall be entirely responsible for the conduct of its employees at the Preventative Maintenance Facility.

4. Software Problems

A. If the SFMTA identifies a bug or any other problem with Fare System Software listed in Appendix A, Section 1, the SFMTA shall notify the Contractor. The Contractor shall modify, reload and/or provide new Software, as necessary to remedy or correct the problem. The Contractor shall begin remediation and provide an estimate of the duration to address the issue no later than 12 hours after SFMTA provides notification of a Software problem.

B. When a software failure occurs, the Contractor will attempt to diagnose the failure remotely. If the failure cannot be diagnosed remotely, the Contractor will dispatch a technician to address the issue within 12 hours after Contractor's initial diagnosis attempt. The Contractor shall notify SFMTA's Help Desk Manager, or other designated Information Technology staff member, if the Software diagnosis and/or fix requires interfacing with an SFMTA-maintained software system.

5. On-Call Maintenance

Within one business day of SFMTA's notice, Contractor shall provide On-Call Maintenance for any issues not included or covered in either First-Line Maintenance or Preventative Maintenance.

6. Maintenance Documentation and Manuals

As provided in the Project Milestone schedule set out in Appendix F, Contractor shall provide the SFMTA with the following documentation and manuals to assist with Farebox System maintenance coincident with staff training. Documentation and manuals shall be in both hard and electronic copy format.

A. Equipment Operation and Maintenance (O&M) Manuals

- (1) The manuals shall provide a detailed explanation of Farebox System equipment, including wiring diagrams, flow diagrams, board level schematics and system diagrams.
- (2) Each Farebox System component specification shall include the manufacturer(s), model/part number, address and contact information.
- (3) The Contractor may include manufacturer's data and handbooks for individual sub-component items.
- (4) Except in cases where a device or component is of such nature that local repairs cannot be made and it must be returned to the factory as a unit for overhaul, the manuals shall provide specific information concerning breakdown of devices into component parts and repair.
- (5) The Software User Manual shall clearly explain how to navigate and use software, including screen captures, and include an index.

B. Special Equipment

Contractor shall provide nine (9) Farebox test chasses to facilitate failure analysis and repair of all modules, including diagnostic programs to exercise and identify failures or components.

**Appendix D
Equipment & Services Pricing**

1. Base System Costs.

A. This Appendix D sets out the prices for all components of the Farebox System to be procured as the Base System under this Agreement, which are set out in Tables D-1, D-2, D-3, D-4, D-5, D-6 and D-7 below.

Table D-1 Base System Costs

Detailed Table	Description	Base System Pricing (1,286 Installed and 50 Spare Fareboxes)
D-2	Farebox Equipment and Installation	\$15,932,700
D-3	Licensed Software, Equipment and Services	\$3,656,226
D-4	CAD/AVL System Integration	\$623,869
D-5	Transfer/Fare Receipt (Initial 20 Million order)	\$290,000
D-6	Odyssey Farebox Spare Kit	\$1,144,122
D-7	Additional Spare Parts	\$254,676
D-8, D-9 and D-10	Spare Parts Included in Preventative Maintenance	Included
Total	All Base System Costs	\$21,901,593

B. The Base System consists of the complete Transit Vehicle Farebox System, including the Licensed Software, Documentation, Equipment and services, spare parts and CAD/AVL system integration, required to provide Farebox revenue collection on SFMTA's revenue transit fleet as it exists on January 1, 2017.

C. For the Base System, the Contractor shall initially supply 20 million Transfer/Fare Receipts ticket stock consisting of a printed card with no magnetic stripe. Pricing for Transfer/Fare Receipt options is shown in Table D-5.

D. Contractor shall ensure that it has sufficient spare parts available for SFMTA to order, so that sufficient stock is available when required, so that Fareboxes will continue to function on all vehicles while modules are under repair. Contractor shall provide spare parts to the SFMTA at the unit prices contained in the following tables. Tables D-6 and D-7 indicates the quantity of spare parts the SFMTA and the Contractor have determined shall be required to ensure that Fareboxes are functioning on all revenue transit vehicles.

E. The Contractor shall supply all parts and consumables required to support Preventative Maintenance activities at no additional cost to the SFMTA. These parts and consumables include, but are not limited to belts, motors, and other components subject to wear, contained in Tables D-8, D-9 and D-10.

E. The total Base System Cost, which includes the purchase of 1,336 Fareboxes and associated items summarized in Table D-1, is \$21,901,593. During the implementation phase as outlined in Appendix F, the SFMTA and Contractor shall mutually validate quantities of Fareboxes and spare parts and make pricing adjustments if there are any quantity changes based on the unit prices contained in Tables D-2, D-3, D-4, D-5, D-6 and D-7 as necessary. In no case shall the Base System Cost exceed \$23,000,000. In no case shall the total value of the initial five-year term of this Contract, including the exercising of options, exceed \$30,000,000.

F. At the direction of the SFMTA, Contractor shall enter into a separate agreement(s) with third-party vehicle suppliers to provide Fareboxes and ancillary equipment on new vehicles (e.g., Siemens light rail vehicles or New Flyer trolley coaches and motor coaches). If this separate agreement stipulates direct payment from the third-party vehicle supplier to the Contractor, pricing shall be identical to the base unit prices contained herein. The Contractor may not double charge the SFMTA and the third-party for the same equipment or services.

G. The SFMTA shall be credited any quantity-based or other discount for purchases made through third-party vehicle suppliers that result in a cumulative purchase (based on the sum of equipment purchased by third-party vehicle suppliers added to the amount of equipment purchased by the SFMTA) that meets the threshold for a discount. For example, if a third-party purchases 20 Fareboxes such that the Contractor has delivered 1,420 Fareboxes for SFMTA vehicles cumulatively, the SFMTA would receive a \$200 credit for each of those 20 Fareboxes.

Table D-2 Farebox Equipment and Installation

Item	1,250-1,400 Fareboxes Unit Cost	1,401 or more Fareboxes Incremental Unit Cost	Units	Subtotal (Assumes 1,286 Installed and 50 Spare Fareboxes)
Fareboxes (including Cashboxes and Operator Control Units)*	\$8,600	\$8,600	1,336	\$11,489,600
Installation and Testing Costs	\$550	\$550	1,286	\$707,300
Remove and Dispose of Old Fareboxes**	\$100	\$100	1,286	\$128,600
Magnetic Ticket Reader/Issuer Machine (TRiM) Unit to accommodate printed Transfer/Fare Receipt card with magnetic stripe (Incremental cost)*	\$2,700	\$2,500	1,336	\$3,607,200
Farebox Equipment and Installation Subtotal	\$11,950	\$11,750	1,336	\$15,932,700

*Prices include initial 5-year warranty

Note: Prices stated above shall apply to Fareboxes that the Contractor sells to third-party vehicle manufacturers.

**Contractor shall credit SFMTA with the proceeds from the disposal of old fareboxes.

If this Agreement is extended for years 6-10 and 11-15, the SFMTA will permit Contractor each year to increase the above unit costs by a level no greater than inflation, as measured by Bureau of Labor Statistics, San Francisco-Oakland-San Jose Consumer Price Index (CPI-U)

Table D-3 Licensed Software, Equipment and Services

Item	Base System Units	Unit Cost	Subtotal
Portable Data Unit (PDU)*	4	\$18,850	\$75,400
Portable Electronic Key*	4	\$900	\$3,600
Mobile Vault* (Cashbox Receiver and Vault Housing)	24	\$25,250	\$606,000
Mobile Bin*	60	\$12,450	\$747,000
Garage Computers*	9	\$46,650	\$419,850
Licensed Software	1	\$48,700	\$48,700
Spare Parts (see Section 3 below)	1	\$1,398,798	\$1,398,798
Farebox Test Chassis	9	\$13,905	\$125,145
TRiM Diagnostic Kits	9	\$3,000	\$27,000
Key Sets	10	\$200	\$2,000
Other Equipment Not Listed Above**	1	\$118,733	\$118,733
Installation and Testing	1	\$70,000	\$70,000
Training	1	\$14,000	\$14,000
Licensed Software, Equipment and Services Subtotal	-	-	\$3,656,226

*Minimum purchase; SFMTA reserves the right to request up to 50% more units at the same unit cost.

** Other Equipment Not Listed Above: 12 Additional Probing Lane equipment kits for the Garage Computers, Cashbox Identification Interface Box for 9 Operating Divisions and 12,600 feet of Belden cable for 9 garage installations.

Prices include initial 5-year warranty costs

If this Agreement is extended for years 6-10 and 11-15, the SFMTA will permit Contractor each year to increase the above unit costs by a level no greater than inflation, as measured by Bureau of Labor Statistics, San Francisco-Oakland-San Jose Consumer Price Index (CPI-U)

(http://www.bls.gov/regions/west/data/consumerpriceindex_sanfrancisco_table.pdf)

Table D-4 CAD/AVL System Integration

CAD/AVL System	Base Price	Per Farebox Increment	Total (assumes 1,286 Installed Fareboxes*)
Xerox/ACS (OrbStar)	\$430,969	\$150	\$623,869

Note: *The Per Farebox Increment price does not apply to spare Fareboxes that are not installed on vehicles and therefore not integrated with the CAD/AVL system. Price includes any necessary subcontracting to the CAD/AVL system vendors to ensure that their systems properly integrate with the Proposer's Farebox System

Table D-5 Transfer/Fare Receipt Ticket Stock

Item	0 to 20,000,000 transfers per year Unit Cost	20,000,001 to 40,000,000 transfers per year Unit Cost	40,000,001 or more transfers per year Unit Cost	5-Year Total (Assumes 20 million per year)
Printed card with no magnetic stripe	\$0.0145	\$0.0145	\$0.0145	\$1,450,000
Printed card with magnetic stripe	\$0.0290	\$0.0289	\$0.0288	\$2,900,000

If this Agreement is extended for years 6-10 and 11-15, the SFMTA will permit Contractor each year to increase the above unit costs by a level no greater than inflation, as measured by Bureau of Labor Statistics, San Francisco-Oakland-San Jose Consumer Price Index (CPI-U) (http://www.bls.gov/regions/west/data/consumerpriceindex_sanfrancisco_table.pdf)

Table D-6 Odyssey Farebox Spare Kit (ODY-SP-KIT)

MATERIAL #	DESCRIPTION	Quantity	Price	Extended Price
B22263-0001	S/A, CABLE – OCU	50	\$ 24.59	\$ 1,229.50
B22708-0003	COIN CUP ASSY	150	\$ 34.35	\$ 5,152.50
C03881-0001	REC. CASHBOX I.D.	50	\$ 90.10	\$ 4,505.00
C22167-0004	S/A, SWIPE CARD READER(MAGTEK) – ODY	50	\$ 170.98	\$ 8,549.00
C22807-0007	S/A CONVERTER-60V	150	\$ 398.00	\$ 59,700.00
C23931-0019P	S/A COIN VALIDATOR-NO TOK,USAC	150	\$ 330.63	\$ 49,594.50
C26300-0001	S/A BILL VALIDATOR (BV08)	150	\$ 437.75	\$ 65,662.50
D03525-0001	S/A PC. BD. CASH BOX I.D.	125	\$ 66.29	\$ 8,286.25
D22146-0003	S/A ELECTRONIC LOCK	100	\$ 327.08	\$ 32,708.00
D22832-0001	S/A OCU, 30 BUTTON	150	\$1,012.10	\$ 151,815.00
D23696-0004	BILL TRANSPORT ASSEMBLY	150	\$ 535.59	\$ 80,338.50
D25718-0004	S/A CONTROLLER PCB-W SND COM, ODYSSEY	150	\$1,012.50	\$ 151,875.00
D22192-0001	COMPLETE TRIM UNIT	175	\$2,500.00	\$ 437,500.00
D18630-000X	S/A CASHBOX, S.S.,DUAL,W/CBID	125	\$ 697.65	\$ 87,206.25
Total				\$ 1,144,122.00

Table D-7 Additional Spare Parts

MATERIAL #	DESCRIPTION	Quantity	Price	Extended Price
D22070-0003	S/A, Card Cassette	1,298	\$138.00	\$179,124.00
R00551-0002	Cashbox Audit Unit	1	\$11,100.00	\$11,100.00
D24090-0002	Removable Dollar Bill Bin (for mobile vault)	70	\$190.95	\$13,366.50
N/A	Data Probe Lockbox w/Smart Card Reader	21	\$1,735.00	\$36,435.00
D18630-000X	S/A Cashbox, S.S.,Dual,W/CBIDV2	21	\$697.65	\$14,650.65
Total				\$254,676.15

Table D-8 Spare Parts Included in Preventative Maintenance: ODYSSEY Farebox Spare Kit (ODY-SP-KIT)

MATERIAL #	DESCRIPTION
A24693-0004	WIRE ASSY., JL - TOP
A24779-0001	SPRING COMP. KEYSTONE #211D
B00016-0055	SPRING, COMPRESSION
B00054-0043	SPRING, EXTENSION #LE-026C-0MW
B21455-0002	S/A DATA PORT PCB-W/O DRWR - LOW SPEED
B22060-0001	S/A PCB, LAMP - COIN CUP
B22091-0001	S/A PCB, SWIPE READER LAMP
B22193-0001	S/A PCB MOTOR SENSOR
B22263-0001	S/A, CABLE - OCU
B22265-0001	S/A, CABLE - COMM. & POWER
B22271-0001	S/A, SPEAKER
B22272-0002	S/A, CABLE - CASHBOX DOOR SW.
B22273-0002	S/A, SWITCH - LOCKBAR/BYPASS
B22284-0001	S/A CABLE, MOTOR-ELOCK & CONV.
B22286-0001	S/A, CABLE - CHOPPER
B22296-0001	S/A, HARNESS - LOCK LIMIT SW.
B22298-0001	S/A, CABLE - ON/OFF SWITCH
B22311-0001	S/A, ON/OFF SWITCH
B22312-0003	CABLE, COVER HOLD (6.21 LG)
B22493-0002	S/A CABLE - SWIPE READER - ODY
B22708-0003	COIN CUP ASSY
B23634-0001	S/A PCB, MOTOR CNTRL BILL XP
B23901-0002	S/A MOTOR DRIVE
B24777-0007	FUSE, MINI BLADE 15 AMP #297015
B25238-0001	S/A, CABLE, LAMP - ODY
C03881-0001	REC. CASHBOX I.D.
C09132-0023	BELT, GROOVED TIMING
C22068-0001	KEYPAD, ONE BUTTON
C22075-0001	CIRCUIT, FLEX - PATRON
C22171-SET	LABELS, COVER - STANDARD ODY
C22267-0003	S/A CABLE COIN VALIDATOR
C22290-0002	S/A, CABLE - RIBBON
C22291-0001	S/A, CABLE - POWER SUPPLY
C22292-0007	S/A CABLE VALIDATOR (W2) JLSW
C22294-0002	S/A HARNESS WIRING (W15)
C22299-0001	S/A, CABLE - DISPLAY (W13)-ODY
C22494-0003	S/A DISPLAY, COVER-PHX (UNIVERSAL) - ODY
D03525-0001	S/A PC. BD. CASH BOX I.D.
D22264-0001	S/A, HARNESS - PEDESTAL
D23141-0004	INSERT, COIN CUP P-211-I

Table D-9 Spare Parts Included in Preventative Maintenance: ODYSSEY Magnetic Ticket Reader/Issuer Machine (TRiM) Spare Kit (ODYTRIM-SP-KIT)

MATERIAL #	DESCRIPTION
A14788-0001	BELT, PGGT - 83T.
B12698-0001	PRINT HEAD KHT-51-8MPE1-GF
C09132-0006	BELT GROOVED TIMING 40 GROOVE

MATERIAL #	DESCRIPTION
C12675-0003	S/A PCB, POWER SUPPLY-MARTEK
C14201-0001	BELT SYN MXL 175 GROOVES
D21126-0007	CONTROLLER BOARD TRIM 2
D22597-0001	S/A PCB, TRIM CONVEYOR
D23130-0005	S/A MOTOR CONTROL

Table D-10 Spare Parts Included in Preventative Maintenance: Mobile Vault D25268-0001 - Receiver Rehab Parts Kit A

MATERIAL #	DESCRIPTION
A00845-0001	PIN, BRAKE
A00846-0001	BRAKE, KEY STOP
A00891-0001	GEAR, MITER
A01798-0001	WASHER
A03069-0001	BEARING, FLANGE
A03397-0001	PLUG, BUTTON; CAPLUG #BPF-1/2
B00010-0324	PIN, ROLL 3/32X.750
B00010-0432	ROLL PIN 1/8X1 SP45-8-16
B00054-0004	SPRING #LE037CD-10
B00054-0006	SPRING, EXT. LE049D-13 MODIFIED
B00818-0003	BEARING, #P812-8 TEFLON, PLAIN
B00818-0004	BEARING, TEFLON, #P1216-6 PLAIN
B00827-0001	BEARING, FLANGE (.#BJ4F101408)
B00827-0002	BEARING, FLANGE (#BJ4F081206)
B00827-0003	BEARING, FLANGE (#BJ4F121608)
B00876-0002	CATCH, CASHBOX
B00881-0001	CASH BOX GUIDE, LEFT
B00881-0002	CASH BOX GUIDE, RIGHT
B00883-0001	DOOR ACTUATOR ASSY
B01785-0001	KEY, WOODRUFF
B01785-0002	KEY, WOODRUFF

2. Options

- A. The SFMTA may exercise the option to purchase Preventative Maintenance and Warranty Options at the prices set forth in Table D-11.
- B. The SFMTA may exercise the option to purchase Ancillary Software, Equipment and Services Warranty Options at the prices set forth in Table D-12.
- C. The SFMTA may exercise the option to have the Contractor lease a Preventative Maintenance facility and to provide transportation of materials and Contractor staff between said facility and SFMTA Operating Divisions at the prices set forth in Table D-13.

- D. The SFMTA may exercise the option to purchase hourly on-call maintenance services from the Contractor at the prices set forth in Table D-14.
- E. The SFMTA may exercise the option to install a Smart Card reader on the Farebox, as described in Appendix A, Section 2H at the prices set forth in Table D-15.
- F. The SFMTA may exercise the option to adjust the Farebox height (from 36 inches to 41 inches, or vice versa), which would necessitate the replacement of the Farebox base shell and Cashbox. The SFMTA may also exercise the option to reduce the height of the farebox base by approximately 0.5 inch. These options shall be at the prices set forth in Table D-16.
- G. The SFMTA may exercise the option to upgrade the wireless antenna within the Farebox, which is used to communicate with the SFMTA Wireless Local Area Network (WLAN) at each Operating Division at the price set forth in Table D-17.

Table D-11 Farebox Preventative Maintenance and Warranty Options

Option	Units (Assumes 1,286 Installed and 50 Spare Fareboxes)	Unit Price	Annual Total
As-Needed Preventative Maintenance, Years 1-5*	1,286	\$440	\$565,840
As-Needed Preventative Maintenance, Years 6-10*	1,286	\$500	\$643,000
As-Needed Preventative Maintenance, Years 11-15*	1,286	\$580	\$745,880
Years 1-5 Annual Warranty	1,336	Included	Included
Extended Years 6-10 Annual Warranty (Optional)**	1,336	\$220	\$293,920
Extended Years 11-15 Annual Warranty (Optional)**	1,336	\$375	\$501,000

*Priced per year. SFMTA would have the option of extending the PM in one-year increments for years 6-10 and years 11-15.

*Preventative Maintenance is an optional activity requested by the SFMTA for the entire fleet. Unit price for each Farebox for a single preventative maintenance cycle.

** Farebox extended warranty per year. SFMTA would have the option of extending the warranty in one-year increments for years 6-10 and years 11-15.

Table D-12 Ancillary Software, Equipment and Services Warranty Options

Option	Units	Unit Price	Total
Years 1-5 Annual Warranty	1	Included	Included

Option	Units	Unit Price	Total
Extended Years 6-10 Annual Warranty (Optional)*	5	\$18,300	\$91,500
Extended Years 11-15 Annual Warranty (Optional)*	5	\$24,500	\$122,500

* Ancillary equipment extended warranty per year. SFMTA would have the option of extending the warranty in one-year increments for years 6-10 and years 11-15.

Table D-13 Preventative Maintenance Facility Options

Item	Units	Unit Price	Subtotal
One-Time Facility Startup Costs	1	\$243,277	\$243,277
Years 1-5 Annual Facility Lease	5	\$145,530	\$727,650
Years 6-10 Annual Facility Lease	5	\$160,083	\$800,415
Years 11-15 Annual Facility Lease	5	\$176,090	\$880,450
Year 1 Annual Preventative Maintenance Transportation	1	\$65,400	\$65,400
Years 2-5 Annual Preventative Maintenance Transportation	4	\$11,475	\$45,900
Year 6 Annual Preventative Maintenance Transportation	1	\$71,940	\$71,940
Years 7-10 Annual Preventative Maintenance Transportation	4	\$12,625	\$50,500
Year 11 Annual Preventative Maintenance Transportation	1	\$79,130	\$79,130
Years 12-15 Annual Preventative Maintenance Transportation	4	\$13,885	\$55,540

Table D-14 Maintenance As-Needed and On-Call Service

Item	Hourly Rate
Warranty Compliance	Included in Farebox Pricing
As-Needed Preventative Maintenance	Included in per Farebox Preventative Maintenance Pricing
On-Call Maintenance (Years 1-5)*	\$150

* Hourly on-call rates are inclusive of all salaries, benefits and overhead.

If this Agreement is extended for years 6-10 and 11-15, the SFMTA will permit Contractor each year to increase the above unit costs by a level no greater than inflation, as measured by Bureau of Labor Statistics, San Francisco-Oakland-San Jose Consumer Price Index (CPI-U) (http://www.bls.gov/regions/west/data/consumerpriceindex_sanfrancisco_table.pdf)

Table D-15 Smart Card Acceptance Option

Option	Units	Unit Price	Total
Smart Card Reader Hardware	1,336	\$350	\$467,600
Installation Costs*	1,336	\$130	\$173,680

* Applicable only if the Contractor installs the smart card reader after Farebox delivery. If the Contractor installs the smart card reader while it is manufacturing the Farebox, there would be no installation charge. The above prices do not include any costs associated with development of integration, interface or SFMTA P-600 (1-16)

processing software.

If this Agreement is extended for years 6-10 and 11-15, the SFMTA will permit Contractor each year to increase the above unit costs by a level no greater than inflation, as measured by Bureau of Labor Statistics, San Francisco-Oakland-San Jose Consumer Price Index (CPI-U) (http://www.bls.gov/regions/west/data/consumerpriceindex_sanfrancisco_table.pdf)

Table D-16 Farebox Height Adjustment Options

Modification	Unit Price
Farebox Base Shell Replacement (36" to 41" farebox model, or vice versa)	\$1,651
Cashbox Replacement (36" to 41" farebox model, or vice versa)	\$697
Farebox Base Height Modification (0.5" reduction)	\$45

If this Agreement is extended for years 6-10 and 11-15, the SFMTA will permit Contractor each year to increase the above unit costs by a level no greater than inflation, as measured by Bureau of Labor Statistics, San Francisco-Oakland-San Jose Consumer Price Index (CPI-U) (http://www.bls.gov/regions/west/data/consumerpriceindex_sanfrancisco_table.pdf)

Table D-17 Wireless Antenna Upgrade

Modification	Units	Unit Price	Total
Develop Farebox Ethernet connection to on-board router	Lot	\$47,400	\$47,400
Install Farebox Ethernet connection to on-board router	1,286	\$78	\$100,308

If this Agreement is extended for years 6-10 and 11-15, the SFMTA will permit Contractor each year to increase the above unit costs by a level no greater than inflation, as measured by Bureau of Labor Statistics, San Francisco-Oakland-San Jose Consumer Price Index (CPI-U) (http://www.bls.gov/regions/west/data/consumerpriceindex_sanfrancisco_table.pdf)

Appendix E Payment Milestones

1. Base System Cost

The Base System Cost, which includes the purchase of 1,336 Fareboxes and associated items summarized in Table D-1, is \$21,901,593. During the project implementation phase as outlined in Appendix F, the SFMTA and Contractor shall mutually validate quantities of Fareboxes and spare parts and make pricing adjustments if there are any quantity changes based on the unit prices contained in Tables D-2, D-3, D-4, D-5, D-6 and D-7 as necessary. In no case shall the total payments for the purchase of 1,336 Fareboxes and associated items summarized in Table D-1 exceed \$23,000,000.

2. Payment Amounts – Base System Installation

Initially, Contractor shall implement the System at one pilot Operating Division. The Contractor shall invoice the SFMTA:

- 5% of the Base System Cost upon installation at the pilot Operating Division
- 5% of the Base System Cost upon acceptance of the System at the pilot Operating Division

Upon acceptance of the System at the pilot Operating Division, the SFMTA shall direct the Contractor to implement the System at eight other facilities sequentially. For each subsequent Operating Division, the Contractor shall invoice the SFMTA:

- 9% of the Base System Cost upon installation at each subsequent Operating Division
- 1% of the Base System Cost upon acceptance at each subsequent Operating Division

The Contractor shall invoice the SFMTA the remaining 10% of the Base System Cost to the Contractor upon the SFMTA's overall System Acceptance. If the SFMTA and Contractor adjust Farebox and spare parts quantities during implementation, this last payment installation shall be adjusted accordingly such that the total payments from the SFMTA to the Contractor equal the adjusted Base System Cost.

3. Payment Amounts – Ongoing Expenses

For ongoing costs, such as for Preventative Maintenance services and Spare Parts purchases, the Contractor shall invoice the SFMTA upon SFMTA's receipt of said services and materials. In no case shall the total value of the initial five-year term of this Contract, including the payment of ongoing expenses and the exercising of all options, exceed \$30,000,000.

4. Invoice and Payment Process

The Contractor shall send the SFMTA an invoice combining all charges for services and equipment provided at the end of each calendar month. The SFMTA shall remit payment for undisputed charges to the Contractor within thirty (30) days of receipt of invoice.

Appendix F
Project Milestone and Payment Schedule

Calendar Days after Notice to Proceed	Milestone (Task or Event)	Payment Invoice (Base System Cost is \$21,901,593)
7	Kickoff Meeting	-
7-21	Test Fit Farebox on all Trolley Coach, Motor Coach, Historic Streetcar and Light Rail Vehicles Models	
28	Detailed Schedule and Implementation Plan & Design Review	-
28	Submit Equipment Operations and Maintenance Manuals	-
14-56	Training – Operators, Farebox Maintenance, IT Support	-
56-77	Pilot Operating Division Installation and Testing – Potrero (includes IT system testing, radio system integration) 6-Month Pre-Warranty Period begins after acceptance at pilot Operating Division	\$1,095,079.65 upon installation \$1,095,079.65 upon acceptance
84	Operating Division 2 Installation* Acceptance Testing for 3 weeks after installation	\$1,971,143.37 upon installation \$219,015.93 upon acceptance
91	Operating Division 3 Installation Acceptance Testing for 3 weeks after installation	\$1,971,143.37 upon installation \$219,015.93 upon acceptance
112	Operating Division 4 Installation Acceptance Testing for 3 weeks after installation	\$1,971,143.37 upon installation \$219,015.93 upon acceptance
133	Operating Division 5 Installation Acceptance Testing for 3 weeks after installation	\$1,971,143.37 upon installation \$219,015.93 upon acceptance
147	Operating Division 6 Installation Acceptance Testing for 3 weeks after installation	\$1,971,143.37 upon installation \$219,015.93 upon acceptance
168	Operating Division 7 Installation Acceptance Testing for 3 weeks after installation	\$1,971,143.37 upon installation \$219,015.93 upon acceptance
182	Operating Division 8 Installation Acceptance Testing for 3 weeks after installation	\$1,971,143.37 upon installation \$219,015.93 upon acceptance
224	Operating Division 9 Installation Acceptance Testing for 3 weeks after installation	\$1,971,143.37 upon installation \$219,015.93 upon acceptance
238	Secure Preventative Maintenance Site	-
245	Overall System Acceptance	\$2,190,159.30**
245	Warranty Period begins	

*The SFMTA will determine the order in which Contractor shall install the Farebox System in the Operating Divisions and the respective vehicle types.

** If the SFMTA and Contractor adjust Farebox and spare parts quantities during implementation, this last payment installation shall be adjusted accordingly such that the total payments from the SFMTA to the Contractor equal the adjusted Base System Cost.

Appendix G Federal Contract Requirements

FTA REQUIREMENTS FOR PERSONAL SERVICES CONTRACTS

1. DEFINITIONS

Approved Project Budget means the most recent statement, approved by the FTA, of the costs of the Project, the maximum amount of Federal assistance for which the City is currently eligible, the specific tasks (including specified contingencies) covered, and the estimated cost of each task.

Contractor means the individual or entity awarded a third party contract financed in whole or in part with Federal assistance originally derived from FTA.

Cooperative Agreement means the instrument by which FTA awards Federal assistance to a specific Recipient to support a particular Project or Program, and in which FTA takes an active role or retains substantial control.

Federal Transit Administration (FTA) is an operating administration of the U.S. DOT.

FTA Directive includes any FTA circular, notice, order or guidance providing information about FTA's programs, application processing procedures, and Project management guidelines. In addition to FTA directives, certain U.S. DOT directives also apply to the Project.

Grant Agreement means the instrument by which FTA awards Federal assistance to a specific Recipient to support a particular Project, and in which FTA does not take an active role or retain substantial control, in accordance with 31 U.S.C. § 6304.

Government means the United States of America and any executive department or agency thereof.

Project means the task or set of tasks listed in the Approved Project Budget, and any modifications stated in the Conditions to the Grant Agreement or Cooperative Agreement applicable to the Project. In the case of the formula assistance program for urbanized areas, for elderly and persons with disabilities, and non-urbanized areas, 49 U.S.C. §§ 5307, 5310, and 5311, respectively, the term "Project" encompasses both "Program" and "each Project within the Program," as the context may require, to effectuate the requirements of the Grant Agreement or Cooperative Agreement.

Recipient means any entity that receives Federal assistance directly from FTA to accomplish the Project. The term "Recipient" includes each FTA "Grantee" as well as each FTA Recipient of a Cooperative Agreement. For the purpose of this Agreement, Recipient is the City.

Secretary means the U.S. DOT Secretary, including his or her duly authorized designee.

Third Party Contract means a contract or purchase order awarded by the Recipient to a vendor or contractor, financed in whole or in part with Federal assistance awarded by FTA.

Third Party Subcontract means a subcontract at any tier entered into by Contractor or third party subcontractor, financed in whole or in part with Federal assistance originally derived from FTA.

U.S. DOT is the acronym for the U.S. Department of Transportation, including its operating administrations.

2. FEDERAL CHANGES

Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and

directives, including without limitation those listed directly or by reference in the Master Agreement between the City and FTA, as they may be amended or promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract.

3. ACCESS TO RECORDS

The Contractor agrees to provide the City and County of San Francisco, the FTA Administrator, the Comptroller General of the United States or any of their authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to this Agreement for the purposes of making audits, examinations, excerpts and transcriptions.

The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

The Contractor agrees to maintain all books, records, accounts and reports required under this Agreement for a period of not less than three years after the date of termination or expiration of this Agreement, except in the event of litigation or settlement of claims arising from the performance of this Agreement, in which case Contractor agrees to maintain same until the City, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto. 49 CFR 18.36(i)(11).

4. DEBARMENT AND SUSPENSION

See Certification Regarding Debarment, Suspension, and Other Responsibility Matters.

5. NO FEDERAL GOVERNMENT OBLIGATIONS TO CONTRACTOR

The City and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the City, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

6. CIVIL RIGHTS

- a. **Nondiscrimination** - In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 41 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.
- b. **Equal Employment Opportunity** - The following equal employment opportunity requirements apply to the underlying contract:
- c. **Race, Color, Creed, National Origin, Sex** - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49

U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOT) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 CFR Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

i. **Age** - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

ii. **Disabilities** - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 CFR Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

7. DBE/SBE ASSURANCES

Pursuant to 49 C.F.R. Section 26.13, the Contractor is required to make the following assurance in its agreement with SFMTA and to include this assurance in any agreements it makes with subcontractors in the performance of this contract:

The Contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 C.F.R. Part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor or Subcontractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as SFMTA deems appropriate.

8. Reserved. (Patent Rights)

9. Reserved (Rights in Data and Copyrights)

A.

10. CONTRACT WORK HOURS AND SAFETY STANDARDS (*applicable to nonconstruction contracts in excess of \$100,000 that employ laborers or mechanics on a public work*)

A. Overtime requirements - No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

B. Violation; liability for unpaid wages; liquidated damages - In the event of any violation of the clause set forth in paragraph A of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph A of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph A of this section.

C. Withholding for unpaid wages and liquidated damages - The City and County of San Francisco shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

D. Subcontracts - The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs A through D of this section and also a clause requiring the subcontractors to meet those requirements.

11. ENERGY CONSERVATION REQUIREMENTS

The Contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

12. CLEAN WATER REQUIREMENTS (*applicable to all contracts in excess of \$100,000*)

The Contractor agrees to comply with all applicable standards, orders, or regulations

issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§ 1251 et seq. Contractor agrees to report each violation of these requirements to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA regional office.

The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

13. CLEAN AIR *(applicable to all contracts and subcontracts in excess of \$100,000, including indefinite quantities where the amount is expected to exceed \$100,000 in any year.)*

Contractor agrees to comply with applicable standards, orders, or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq. The Contractor agrees to report each violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

14. PRIVACY

If Contractor or its employees administer any system of records on behalf of the Federal Government, Contractor and its employees agree to comply with the information restrictions and other applicable requirements of the Privacy Act of 1974, 5 U.S.C. § 552a (the Privacy Act). Specifically, Contractor agrees to obtain the express consent of the Federal Government before the Contractor or its employees operate a system of records on behalf of the Government. Contractor acknowledges that the requirements of the Privacy Act, including the civil and criminal penalties for violations of the Privacy Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of this Agreement. The Contractor also agrees to include these requirements in each subcontract to administer any system of records on behalf of the Federal Government financed in whole or in part with Federal assistance provided by FTA.

15. DRUG AND ALCOHOL TESTING

To the extent Contractor, its subcontractors or their employees perform a safety-sensitive function under the Agreement, Contractor agrees to comply with, and assure compliance of its subcontractors, and their employees, with 49 U.S.C. § 5331, and FTA regulations, "Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations," 49 CFR Part 655.

16. TERMINATION FOR CONVENIENCE OF CITY *(required for all contracts in excess of \$10,000)*

See Agreement Terms and Conditions.

17. TERMINATION FOR DEFAULT *(required for all contracts in excess of \$10,000)*

See Agreement Terms and Conditions.

18. FALSE OR FRAUDULENT STATEMENTS AND CLAIMS

A. The Contractor acknowledges that the provisions of the Program Fraud Civil

Remedies Act of 1986, as amended, 31 U.S.C. §§ 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 CFR Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying Agreement, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA-assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

B. The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.

C. The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

19. FLY AMERICA

The Contractor agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and subrecipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S. Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

20. INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS

The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any (name of grantee) requests which would cause (name of grantee) to be in violation of the FTA terms and conditions.

21. Reserved (Transit Employee Protective Agreements)

22. Reserved. (National ITS Architecture Policy)

23. TEXTING WHILE DRIVING; DISTRACTED DRIVING

Consistent with Executive Order 13513 “Federal Leadership on Reducing Text Messaging While Driving”, Oct. 1, 2009 (available at <http://edocket.access.gpo.gov/2009/E9-24203.htm>) and DOT Order 3902.10 “Text Messaging While Driving”, Dec. 30, 2009, SFMTA encourages Contractor to promote policies and initiatives for employees and other personnel that adopt and promote safety policies to decrease crashes by distracted drivers, including policies to ban text messaging while driving, and to include this provision in each third party subcontract involving the project.

24. SEAT BELT USE

In compliance with Executive Order 13043 “Increasing Seat Belt Use in the United States”, April 16, 1997 23 U.S.C. Section 402 note, the SFMTA encourages Contractor to adopt and promote on-the-job seat belt use policies and programs for its employees and other personnel that operate company owned, rented, or personally operated vehicles, and to include this provision in each third party subcontract involving the project.

Appendix H Software License

1. Definitions. Where any word or phrase defined below, or a pronoun used in place thereof, is used in any part of this Software License, it shall have the meaning herein set forth.

Acceptance	Notice from the City to Contractor that the Licensed Software meets the specifications contained in the Documentation. City's Acceptance of the Licensed Software shall be governed by the procedures set forth in Section 7.
Agreement	The "Agreement for the Procurement, Installation, and Maintenance of a Transit Vehicle Farebox System," dated July ____, 2016, by and between Genfare, a division of SPX Corporation, 800 Arthur Avenue, Elk Grove Village, IL 60007 ("Contractor") and City, including any future written and executed amendments.
Designated CPU	Any central processing unit or attached processor complex, including its peripheral units, described in the Authorization Document. The Authorization Document may designate more than one CPU.
Designated Sites	The SFMTA Operating Divisions and administrative offices, or any other SFMTA facility as the SFMTA may designate from time to time in writing as a Designated Site.
Documentation	The technical publications relating to the use and maintenance of the Licensed Software, such as reference, installation, administrative, training and programmer manuals provided by Contractor.
Errors, Defects and Malfunctions	Either a deviation between the function of the Software and the documentation furnished by Contractor for the Software, or a failure of the Software which degrades the use of the Software
Fix	Repair or replacement of source, object or executable code in the Software to remedy an Error, Defect or Malfunction.
Licensed Materials	The Licensed Software and associated Documentation licensed to City by Licensor, as listed in Section 5 of this Appendix H, and any modification or Upgrades or modifications to the program(s) provided under this License or the Maintenance provisions of the Agreement.
Licensed Software	The proprietary computer software programs identified in the Section 5 of this Appendix H, all related materials, Documentation, all subsequent versions of those software program, and any Fixes, Patches, or Updates thereto, and Documentation from Contractor, whether in machine-readable or printed form.
Object Code	Machine readable compiled form of Licensed Software provided by Contractor.

Patch	Temporary repair or replacement of code in the Software to remedy an Error, Defect or Malfunction. Patches may be made permanent and released in Subsequent Releases of the Software.
Source Code	The human readable compliant form of the Licensed Software to be provided by Contractor.
Specifications	The functional and operational characteristics of the Licensed Software as described in Contractor's current published product descriptions and technical manuals
Update	Either an enhancement to the Licensed Software code to add new features or functions to the system or software programming revisions containing corrections to Errors, Defects and Malfunctions that have been reported by users or discovered by the Contractor.
Workaround	A change in the procedures followed or end user operation of the software to avoid an Error, Defect or Malfunction without significantly impairing functionality or degrading the use of the Software.

2. **Term of the License.** Subject to Section 5, the license granted under this Software License shall commence upon the SFMTA's acceptance of the Farebox System installed at the Pilot Garage, and shall continue in perpetuity (except as otherwise provided herein) unless sooner terminated in accordance with the provisions of this Software License.

3. **Effective Date of the License.** The effective date of this Software License shall be the same as the Agreement (see Agreement, section 1.15).

4. **License**

a. **Grant of License.** Subject to the timely payment of the License Fees, which shall be deemed paid upon the City's payment as set forth in Section 11 herein and the terms and conditions of this Agreement, Contractor grants City a non-exclusive and non-transferable, perpetual (except as otherwise provided for herein), enterprise license to use the Licensed Software and the Documentation for the operation and maintenance of the Farebox System and management and reporting of data generated by the Farebox System. City acknowledges and agrees that the Licensed Software is the proprietary information of Contractor and that this Agreement grants City no title or right of ownership in the Licensed Software.

Contractor agrees that in the event it discontinues its obligations under the terms of this Agreement, except as expressly provided for in Section 8 (Termination), or ceases to market and/or provide maintenance and support for the Licensed Software, and there is no successor in interest by merger, operation of law, assignment, purchase, or otherwise, it will provide City, without charge, one (1) copy of the then-current Source Code for all of the programs and all supporting Documentation for the Licensed Software then operating and installed at City's locations. If City should obtain the Source Code and the Documentation pursuant to this section, the only use made of the Source Code and the Documentation will be for the proper maintenance of the Licensed Software in connection with City's use of the Licensed Software as provided for, and limited by, the provisions of this Agreement.

In furtherance of its obligations as stated above, Contractor will provide to City a copy of the

Source Code which corresponds to the most current version of the Licensed Software. Contractor agrees to update, enhance or otherwise modify such Source Code promptly upon its release of a new version of the Licensed Software to its other Licensees such that the Source Code is maintained as corresponding to the newest released version of the Licensed Software. City's right to possession of the Source Code will be governed by Appendix A.

b. **Restrictions on Use.** City is authorized to use the Licensed Software only for the purposes set forth in the Agreement and only at the Designated Sites. City agrees that it will not use or knowingly permit the Licensed Software to be used in any manner, whether directly or indirectly, that would enable any other person or entity to use the Licensed Software for purposes other than set forth in the Agreement or at other than the authorized the Designated Sites. The City shall not modify, translate, decode, reverse engineer, disassemble, create derivative works from or modify the Licensed Software without the written permission of Contractor. Said limitations shall not prohibit or in any way restrict the SFMTA's right or ability to create Application Programming Interfaces (APIs) to enable the SFMTA to create reports from the data generated by the Farebox System outside the reports that it may generate using the APIs provided by Genfare.

c. **Recovery Copies.** For the purpose of any bona fide City disaster recovery plan or with respect to the use of computer software in its municipal operations, City may make up to three copies of the Licensed Software for archival purposes and use such archival copy at a site other than the Designated Site, so long as such alternative CPU or site is owned or controlled by City. The use of such archival copies shall be limited to (1) the purpose of conducting limited testing of the disaster recovery plan's procedures and effectiveness and (2) during any period subsequent to the occurrence of an actual disaster during which the City cannot operate the Licensed Software on the Designated CPU or at the Designated Site. City agrees to furnish evidence of its disaster recovery plan and procedures upon Contractor's request.

d. **Transfer of Products.** City may move the Licensed Software and supporting materials to another City site which physically replaces the original installation site upon prior written notice to Contractor.

e. **Documentation.** Contractor shall provide City with the Licensed Software and a minimum of two copies of the Documentation per installation. Contractor grants to City permission to duplicate all printed Documentation for City's internal use.

f. **Proprietary Markings.** City agrees not to remove or destroy any proprietary markings or proprietary legends placed upon or contained within the Licensed Software or any related materials or Documentation.

g. **Authorized Modification.** City shall also be permitted to develop, use and modify Application Program Interfaces (API's), macros and user interfaces. For purposes of this Agreement, such development shall be deemed an authorized modification and the use of the Licensed Software with those APIs, macros and interfaces is also an authorized use. Any such APIs, macros or other interfaces developed by the City shall become the property of the City.

5. **Licensed Software.** Contractor licenses to the City the then-current versions (as of the Effective Date of the Agreement) of the following software programs, subject to the terms and conditions of the Agreement and of the license stated in this Appendix H:

- (6) Odyssey Plus farebox software
- (7) Odyssey Operator Control Unit software
- (8) Garage Data System software and operating system with WiFi and Dynamic Probing

- (9) Cashbox Identification system software
- (10) Network manager software and operating system

6. Delivery

a. **Delivery.** One copy of each of the Licensed Software products in computer readable form shall be delivered to the SFMTA by the date indicated in the Project Schedule, Appendix F. Program storage media (magnetic tapes, disks and the like) and shipping, fully insured against loss or damage, shall be provided at no charge by Contractor for the original delivery of the Licensed Software and all subsequent Updates.

b. **Installation.** Contractor shall install the programs by the date indicated in the Project Schedule, Appendix F.

c. **Risk of Loss.** If any of the Licensed Software products are lost or damaged during shipment or before installation is completed, Contractor shall promptly replace such products, including the replacement of program storage media if necessary, at no additional charge to the City. If any of the Licensed Software products are lost or damaged while in the possession of the City, Contractor will promptly replace such products at Contractor's direct costs, except for program storage media, unless supplied by the City.

7. **Acceptance Testing.** After Contractor has installed the Licensed Software, the City shall have a period of 60 days ("Acceptance Testing Period") from the date of installation to verify that the Licensed Software substantially performs to the specifications contained in the Documentation. In the event that the City determines that the Licensed Software does not meet such specifications, the City shall notify the Contractor in writing, and Contractor shall modify or correct the Licensed Software so that it satisfies the Acceptance criteria. The date of Acceptance will be that date upon which City provides Contractor with written notice of satisfactory completion of Acceptance testing. If City notifies Contractor after the Acceptance Testing Period that the Licensed Software does not meet the Acceptance criteria of this section, then City shall be entitled to terminate this License in accordance with the procedures specified in Section 18 herein, and shall be entitled to a full refund of the license fee.

8. **Training.** Contractor will provide up training in the use and operation of the Licensed Software as provided in Appendix A, section 10 and Appendix F. Upon request by the City, Contractor will provide additional training at its current best government rates.

9. Database Access

The Farebox System shall maintain the Data in a machine readable (raw) format, and which shall be readily exportable to the Oracle database system specified in the Agreement. The Licensed Software may only be used by: (a) City's employees (including temporary employees and contract employees) authorized by City to access and use the Licensed Software on City's behalf, and (b) City's service providers that have need to access the Licensed Software, provided such third parties are subject to written restrictions comparable to the restrictions on use in this Software License and may only use the Licensed Software for purposes of providing services to City (provided that the acts and omissions of such third parties shall be deemed the acts and omissions of City). In addition, if the Licensed Software includes customer-facing component (e.g., a rider application), City's end users may also access (and, as applicable, download from locations designated by Contractor) such component of the Licensed Software.

10. Maintenance and Support

a. **Maintenance and Support Services.** After Acceptance of the Licensed Software and subject to the terms, conditions, and charges set forth in this Section, Contractor will provide City: (1) maintenance and support services for the Licensed Software as provided in Appendices B and C to the Agreement to ensure that the Licensed Software performs in accordance with the requirements and specifications of this Agreement; (2) Contractor will provide, for City's use, whatever improvements, enhancements, extensions and other changes to the Licensed Software Contractor may develop, and (3) Contractor will update the Licensed Software, as required, to cause it to operate under new versions or releases of the Operating System during the Warranty Period and any Maintenance Period.

b. During any Maintenance Period, Contractor shall ensure that the Licensed Software is at all times compatible with any Windows operating system supported by Microsoft and is also compatible with the immediately previous version of that operating system. The costs of any Upgrade to the Licensed Software to maintain that operating system compatibility shall be included in the annual maintenance fee.

11. License Fee. Included in the Base System Cost. See Appendix D, section 1 and Table D-2.

12. Warranties: Right to Grant License. Contractor hereby warrants that it has title to and/or the authority to grant a license of the Licensed Software to the City.

13. Warranties: Conformity to Specifications. Contractor warrants that when the Licensed Software specified in the Authorization Document and all updates and improvements to the Licensed Software are delivered to City, they will be free from defects as to design, material, and workmanship and will perform on the Designated CPU in accordance with the Contractor's published specifications for the Licensed Software for a period of [insert number] days from City's Acceptance of such Licensed Software.

14. Infringement Indemnification. See Article 6 of the Agreement.

15. Payment. License fees for the Licensed Software and the Documentation is included in the Base Cost. See Appendix D, section 1 and Table D-2 of the Agreement.

16. Ownership of Data. The electronic information of fare transactions ("Data") that is generated by and stored in the Farebox System, including but not limited to historic fare payment data, current fare payment data, and reports generated using said data, is the property of the SFMTA alone. Contractor agrees that it has no rights to or interest of any kind in the Data. Contractor shall assist and shall not at any time limit or prevent the SFMTA from accessing, copying, processing, downloading, creating interfaces with, reporting or otherwise using the Data in any manner.

17. Confidential Information. The Licensed Software and Documentation are Confidential Information to be treated as provided in Section 10.4.2 of the Agreement.

18. Termination of License.

a. **Basis for Termination by City.** City shall have the right, without further obligation or liability to Contractor (except as specified in Sections 17 (Confidential Information) and 18(c) (Disposition of Licensed Software on Termination) hereof) to immediately terminate this Agreement or the applicable Authorization Document if Contractor commits any breach of this Agreement and fails to remedy such breach within thirty (30) days after written notice by City of such breach, in which event, Contractor shall reimburse City in the same manner as for the removal of the Licensed Software due to infringement. (See Article 6 (Indemnity) of the Agreement.) Termination of this Agreement or the applicable Authorization Document by City shall be effective upon receipt by Contractor of written notice of said termination.

b. **Disposition of Data on Termination.** Upon request and without charge, Contractor shall provide the Data stored in the Farebox System to the SFMTA in a machine readable form in a code format determined by the SFMTA. The Contractor shall deliver the Data to the SFMTA on discs or other storage media determined by the SFMTA.

c. **Disposition of Licensed Software on Termination.** Conditional and contingent upon Contractor's delivery of the Data to the SFMTA as provided by section 16.b, within 30 days of the expiration or termination of the Agreement for any reason other than as provided for in Section 4(a) (Grant of License), City shall immediately: (1) return the Licensed Software to Contractor together with all Documentation; (2) purge all copies of the Licensed Software or any portion thereof from SFMTA computer storage medium or device on which City has placed or permitted others to place the Licensed Software; and (3) give Contractor written certification that through its best efforts and to the best of its knowledge, City has complied with these obligations.

d. **Basis for Termination by Contractor.** The License shall terminate if: (a) any of the Equipment, License Software or Licensed Materials, is moved outside of the United States; (b) the Licensed Software is no longer used in connection with the Equipment; (c) the Agreement is terminated pursuant to Section 8.2 of the Agreement, and the City fails to cure the default within thirty (30) days of receipt of Genfare's written notice.

e. Termination of the Licenses shall not relieve either party from the duty to discharge in full all obligations accrued or due prior to the date thereof nor shall either party's exercise of the right to terminate constitute a waiver of any other remedies that such party may have in law or equity.

f. Upon any termination of the Software License granted hereunder, the terms of this Software License that, by their nature, are clearly intended to survive termination shall survive.

SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY
BOARD OF DIRECTORS

RESOLUTION No. _____

WHEREAS, The fareboxes currently used San Francisco Municipal Transportation Agency (SFMTA) transit vehicles date back to 1991, are nearing the end of their useful lives, and are no longer supported by their manufacturer; and,

WHEREAS, On August 18, 2015, the SFMTA Board of Directors adopted Resolution No. 15-111 authorizing the Director of Transportation or his designee to issue a Request for Proposals for a Transit Vehicle Farebox System, and to negotiate a contract for these services with the highest-ranked proposer; and,

WHEREAS, The SFMTA issued a Request for Proposals (RFP) on September 14, 2015 to conducted a competitive procurement process to award a new agreement; and,

WHEREAS, Four proposers, which were SPX Genfare, LECIP, Scheidt & Bachmann, and Trapeze submitted proposals; and,

WHEREAS, An evaluation panel comprised of SFMTA and AC Transit personnel with expertise in farebox technology and related services ranked SPX Genfare's proposal the highest; and,

WHEREAS, The SFMTA has negotiated a proposed Agreement by which SPX Genfare will provide Fareboxes, a Revenue Transfer and Collection System, a Data Collection and Reporting System, Computer Aided Dispatch/Automatic Vehicle Location (CAD/AVL) System Integration, and five years of warranty and preventative maintenance services, with an option to extend warranty and preventative maintenance services for an additional two five-year periods; and,

WHEREAS, The new Farebox System will ensure a high level fare revenue security through improved accountability and tracking of revenues and ridership; and,

WHEREAS, The new Farebox System will print transfers at the time of fare payment, replacing current pre-printed paper tear-off transfers/fare receipts; and,

WHEREAS, The new Farebox System will collect and report fare payment data, which will improve the SFMTA's revenues management and transit service planning; and,

WHEREAS, On May 9, 2016, the SFMTA, under authority delegated by the Planning Department determined that the Transit Vehicle Farebox System Procurement item is not a "project" for purposes of environmental review under the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Sections 15060(c) and 15378(b); and,

WHEREAS, Said CEQA determination is on file with the Secretary to the SFMTA Board of Directors, and may be found in the records of the Planning Department at 1650 Mission Street in San Francisco, and are incorporated herein by reference; and

WHEREAS, Due to the value and term of the proposed agreement, it is subject to Board of Supervisors' approval under Charter Section 9.118; now, therefore, be it

RESOLVED, The San Francisco Municipal Transportation Agency Board of Directors authorizes the Director of Transportation to execute SFMTA Contract No. 2015-45, Transit Vehicle Farebox System with SPX Genfare to provide Fareboxes, a Revenue Transfer and Collection System, a Data Collection and Reporting System, Computer Aided Dispatch/Automatic Vehicle Location (CAD/AVL) System Integration, and five years of warranty and preventative maintenance services for an amount not to exceed \$30 million, for an initial term that includes an installation period plus five years commencing on August 1, 2016, or later, with the option to extend for up to two five-year terms for a total term not to exceed sixteen years, and, be it further

RESOLVED, The SFMTA Board recommends this Procurement, Installation, and Maintenance Agreement for a Transit Vehicle Farebox System to the Board of Supervisors for approval.

I certify that the foregoing resolution was adopted by the San Francisco Municipal Transportation Agency Board of Directors at its meeting of June 28, 2016.

Secretary to the Board of Directors
San Francisco Municipal Transportation Agency



SFMTA
 Municipal
 Transportation
 Agency

Edward M. Lee, Mayor

Tom Nolan, *Chairman*

Cheryl Brinkman, *Co-Chairman*

Gregory E. Borders, *Director*

Edward D. Rendón, *Director of Transportation*

Melissa Mendicino, *Director*

Joel Korman, *Director*

Cristina Fueno, *Director*

Transit Vehicle Farebox System Procurement

The SFMTA proposes to issue a contract of up to fifteen years for a new Transit Vehicle Farebox System. The new Vehicle Farebox System—which will be installed on the SFMTA’s fleet of light rail vehicles, historic streetcars, trolley coaches, and motor coaches—will allow the SFMTA to continue to collect fare revenues by upgrading existing fareboxes, many of which have reached the end of their useful lives.

Not defined as a “project” under CEQA pursuant to CEQA Guidelines 15060(c) and 15378(b) because the action would not result in a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

5/9/2016

Erik Jaszewski

Date

San Francisco Municipal Transportation Agency

SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY
BOARD OF DIRECTORS

RESOLUTION No. 15-111

WHEREAS, Collecting fare revenue on SFMTA bus and rail vehicles helps pay for the operating expenses of providing transit service; and

WHEREAS, Existing fareboxes date back to 1991 and underwent refurbishment under a \$19 million Board-approved 2008 contract with the vendor Cubic; and

WHEREAS, Cubic no longer manufactures or supports fareboxes; and,

WHEREAS, The SFMTA desires to procure a new Transit Vehicle Farebox System for its growing fleet of new and replacement transit vehicles and to incorporate the latest technology in fare collection and revenue reporting; and,

WHEREAS, The SFMTA seeks a farebox design that is easier for Muni's customers and transit operators to use; and,

WHEREAS, The SFMTA also desires to replace pre-printed transfer/fare receipt books with transfers/fare receipts printed on-demand at the farebox; and,

WHEREAS, The SFMTA aims to improve the tracking of individual fare transactions and support analyses of farebox revenues through accurate reporting from the farebox; and,

WHEREAS, The SFMTA proposes to solicit bids from firms that can deliver a complete Transit Vehicle Farebox System that meets these objectives with the purpose of selecting the most qualified bidder whose proposal represents the best value to the SFMTA; now therefore, be it

RESOLVED, That the San Francisco Board of Directors authorizes the Director of Transportation or his designee to issue a Request for Proposals for SFMTA Contract No. 2015-45 for a Transit Vehicle Farebox System, and to negotiate a contract for these services with the highest-ranked proposer for a term of five years, with an option to extend the contract for two additional five -year terms.

I certify that the foregoing resolution was adopted by the San Francisco Municipal Transportation Agency Board of Directors at its meeting of August 18, 2015.

R. Boomer

Secretary to the Board of Directors
San Francisco Municipal Transportation Agency

SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY
BOARD OF DIRECTORS

RESOLUTION No. 16-081

WHEREAS, The fareboxes currently used San Francisco Municipal Transportation Agency (SFMTA) transit vehicles date back to 1991, are nearing the end of their useful lives, and are no longer supported by their manufacturer; and,

WHEREAS, On August 18, 2015, the SFMTA Board of Directors adopted Resolution No. 15-111 authorizing the Director of Transportation or his designee to issue a Request for Proposals for a Transit Vehicle Farebox System, and to negotiate a contract for these services with the highest-ranked proposer; and,

WHEREAS, The SFMTA issued a Request for Proposals (RFP) on September 14, 2015 to conducted a competitive procurement process to award a new agreement; and,

WHEREAS, Four proposers, which were SPX Genfare, LECIP, Scheidt & Bachmann, and Trapeze submitted proposals; and,

WHEREAS, An evaluation panel comprised of SFMTA and AC Transit personnel with expertise in farebox technology and related services ranked SPX Genfare's proposal the highest; and,

WHEREAS, The SFMTA has negotiated a proposed Agreement by which SPX Genfare will provide Fareboxes, a Revenue Transfer and Collection System, a Data Collection and Reporting System, Computer Aided Dispatch/Automatic Vehicle Location (CAD/AVL) System Integration, and five years of warranty and preventative maintenance services, with an option to extend warranty and preventative maintenance services for an additional two five-year periods; and,

WHEREAS, The new Farebox System will ensure a high level fare revenue security through improved accountability and tracking of revenues and ridership; and,

WHEREAS, The new Farebox System will print transfers at the time of fare payment, replacing current pre-printed paper tear-off transfers/fare receipts; and,

WHEREAS, The new Farebox System will collect and report fare payment data, which will improve the SFMTA's revenues management and transit service planning; and,

WHEREAS, On May 9, 2016, the SFMTA, under authority delegated by the Planning Department determined that the Transit Vehicle Farebox System Procurement item is not a "project" for purposes of environmental review under the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Sections 15060(c) and 15378(b); and,

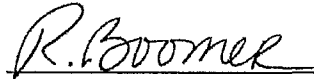
WHEREAS, Said CEQA determination is on file with the Secretary to the SFMTA Board of Directors, and may be found in the records of the Planning Department at 1650 Mission Street in San Francisco, and are incorporated herein by reference; and

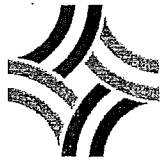
WHEREAS, Due to the value and term of the proposed agreement, it is subject to Board of Supervisors' approval under Charter Section 9.118; now, therefore, be it

RESOLVED, The San Francisco Municipal Transportation Agency Board of Directors authorizes the Director of Transportation to execute SFMTA Contract No. 2015-45, Transit Vehicle Farebox System with SPX Genfare to provide Fareboxes, a Revenue Transfer and Collection System, a Data Collection and Reporting System, Computer Aided Dispatch/Automatic Vehicle Location (CAD/AVL) System Integration, and five years of warranty and preventative maintenance services for an amount not to exceed \$30 million, for an initial term that includes an installation period plus five years commencing on August 1, 2016, or later, with the option to extend for up to two five-year terms for a total term not to exceed sixteen years, and, be it further

RESOLVED, The SFMTA Board recommends this Procurement, Installation, and Maintenance Agreement for a Transit Vehicle Farebox System to the Board of Supervisors for approval.

I certify that the foregoing resolution was adopted by the San Francisco Municipal Transportation Agency Board of Directors at its meeting of June 28, 2016.


Secretary to the Board of Directors
San Francisco Municipal Transportation Agency



SFMTA
Municipal
Transportation
Agency

Edwin M. Lee, *Mayor*

Tom Nolan, *Chairman*

Cheryl Brinkman, *Vice-Chairman*

Gwyneth Borden, *Director*

Edward D. Reiskin, *Director of Transportation*

Malcolm Heinicke, *Director*

Joél Ramos, *Director*

Cristina Rubke, *Director*

June 28, 2016

**The Honorable Members of the Board of Supervisors
City and County of San Francisco
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102**

Subject: Approval of Transit Vehicle Farebox System Agreement with SPX Genfare

Honorable Members of the Board of Supervisors:

The SFMTA is requesting your approval to execute a new agreement to commence on August 1, 2016 with SPX Genfare to provide a complete Transit Vehicle Farebox System for SFMTA bus and rail vehicles. The Farebox System will allow the SFMTA to collect cash fares onboard Muni vehicles securely. The vendor was selected by an evaluation committee based on an open request for proposal process.

Key benefits of the new system include:

- Improving security through improved accountability and tracking of revenues and the elimination of pre-printed paper tear-off transfer/fare receipt books
- Introducing real-time printing of transfers/fare receipts with consistent expiration times
- Collecting and maintaining fare payment data to improve the SFMTA's understanding of where and when customers pay cash fares

The following summarizes the major components of the Farebox System. Further detailed information is included in the report presented to the SFMTA Board of Directors at its June 28, 2016 meeting and available at this link (<https://www.sfmta.com/about-sfmta/organization/divisions-and-units/board-directors>).

- **Fareboxes:** The Contractor will provide currency-validating fareboxes for SFMTA's fleet of light rail vehicles, historic streetcars, electric trolley coaches and motor coaches. The fareboxes will meet Americans with Disabilities Act (ADA) requirements, and will issue transfers/fare receipts printed in a real-time that indicate the expiration time and type of fare paid. The farebox will record the time, date and location of each fare transaction.
- **Revenue Transfer and Collection System:** The Revenue Transfer and Collection System will consist of equipment and software to facilitate the secure transfer of cash revenues from each SFMTA operating division to the agency's Revenue Collection Facility. The Farebox System will prevent unauthorized access to bill and coin fare revenues.
- **Data Collection and Reporting System:** The Data Collection and Reporting System includes hardware and software that enables the SFMTA to register individual fare

transactions, analyze and reconcile revenues, monitor security, and manage and configure farebox settings.

- **Computer Aided Dispatch/Automatic Vehicle Location (CAD/AVL) System Integration:**
The Farebox System will fully integrate with the SFMTA's CAD/AVL System, which will allow individual fare transactions to be associated with routes and customer boarding locations. This feature will help the SFMTA better understand where and when customers are currently paying cash.

The Contractor will also provide preventative maintenance services, including replacement parts, on an annual cycle for each farebox. Preventative maintenance will ensure that fareboxes are kept in a state of good repair.

Cost: The complete Transit Vehicle Farebox System includes 1,336 fareboxes, ancillary software, equipment, CAD/AVL system integration, and all related goods and installation, spare parts, an initial five-year warranty and testing and implementation services required to provide farebox revenue collection on the existing SFMTA transit fleet. The capital cost of this base system is \$21.9 million.

For the initial five-year maintenance period, annual expenditures will primarily consist of \$0.6 million for preventative maintenance, which includes replacement parts, and approximately \$0.3 million for transfers/fare receipts assuming an order of 20 million tickets per year. A warranty is included at no additional cost. The Total Not to Exceed amount for the initial term of the contract is \$30.0 million.

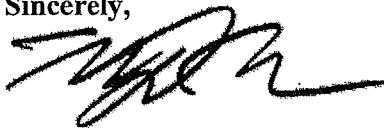
Exercising the 5-year extension will require returning to both the SFMTA Board of Directors and Board of Supervisors for approval.

Recommendation:

The SFMTA recommends that the San Francisco Board of Supervisors adopt the resolution approving the Transit Vehicle Farebox System Agreement with SPX Genfare to provide Fareboxes, a Revenue Transfer and Collection System, a Data Collection and Reporting System, Computer Aided Dispatch/Automatic Vehicle Location (CAD/AVL) System Integration, and five years of warranty and preventative maintenance services for an amount not to exceed \$30 million. The initial term would include an installation period plus five years commencing on August 1, 2016, or later, with the option to extend for up to two five-year terms for a total term not to exceed sixteen years.

Should you have any questions or require more information, please contact Sonali Bose, SFMTA's Chief Financial Officer. Thank you for your support of SFMTA and the transportation system!

Sincerely,



Edward D. Reiskin
Director of Transportation

Introduction Form

By a Member of the Board of Supervisors or the Mayor

Time stamp
or meeting date

I hereby submit the following item for introduction (select only one):

- 1. For reference to Committee. (An Ordinance, Resolution, Motion, or Charter Amendment)
- 2. Request for next printed agenda Without Reference to Committee.
- 3. Request for hearing on a subject matter at Committee.
- 4. Request for letter beginning "Supervisor [] inquires"
- 5. City Attorney request.
- 6. Call File No. [] from Committee.
- 7. Budget Analyst request (attach written motion).
- 8. Substitute Legislation File No. []
- 9. Reactivate File No. []
- 10. Question(s) submitted for Mayoral Appearance before the BOS on []

lease check the appropriate boxes. The proposed legislation should be forwarded to the following:

- Small Business Commission Youth Commission Ethics Commission
- Planning Commission Building Inspection Commission

Note: For the Imperative Agenda (a resolution not on the printed agenda), use a Imperative Form.

Sponsor(s):

Breed

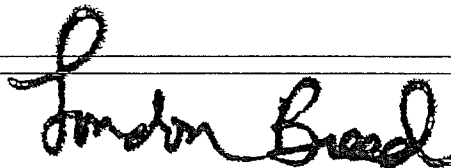
Subject:

Agreement – SPX Genfare - Procurement, Installation and Maintenance of a Transit Vehicle Farebox System not-to-exceed \$30.0 million

The text is listed below or attached:

Resolution approving the Agreement with SPX Genfare, for services related to the Procurement, Installation and Maintenance of a Transit Vehicle Farebox System, which includes Fareboxes, a Revenue Transfer and Collection System, a Data Collection and Reporting System, Computer Aided Dispatch/Automatic Vehicle Location (CAD/AVL) System Integration and five years of warranty and preventative maintenance services in an amount not-to-exceed \$30.0 million and for an initial term that includes an installation period plus five years commencing August 1, 2016, or later, with the option to extend for up to two five-year terms for a total term not to exceed sixteen years.

Signature of Sponsoring Supervisor: _____



For Clerk's Use Only:

FORM SFEC-126:
NOTIFICATION OF CONTRACT APPROVAL
 (S.F. Campaign and Governmental Conduct Code § 1.126)

City Elective Officer Information <i>(Please print clearly.)</i>	
Name of City elective officer(s): Members, Board of Supervisors	City elective office(s) held: Members, Board of Supervisors
Contractor Information <i>(Please print clearly.)</i>	
Name of contractor: Genfare, a division of SPX Corporation	
<i>Darren Dickson (President); Kim Green (Executive Director, Business Development); Mark Mahon (Director of Sales, Western Region); Sabeena Haridas (Senior Program Manager)</i>	
Contractor address: 800 Arthur Avenue, Elk Grove Village, IL 60007	
Date that contract was approved: July 26, 2016	Amount of contract: \$30.0 million (not to exceed amount)
Describe the nature of the contract that was approved: Contractor will provide a complete Transit Vehicle Farebox System for SFMTA bus and rail vehicles. The project includes Fareboxes, a Revenue Transfer and Collection System, a Data Collection and Reporting System, Computer Aided Dispatch/Automatic Vehicle Location (CAD/AVL) System Integration, and five years of warranty and preventative maintenance services.	
Comments:	

This contract was approved by (check applicable):

the City elective officer(s) identified on this form

a board on which the City elective officer(s) serves: San Francisco Board of Supervisors
Print Name of Board

The board of a state agency (Health Authority, Housing Authority Commission, Industrial Development Authority Board, Parking Authority, Redevelopment Agency Commission, Relocation Appeals Board, Treasure Island Development Authority) on which an appointee of the City elective officer(s) identified on this form sits

Print Name of Board

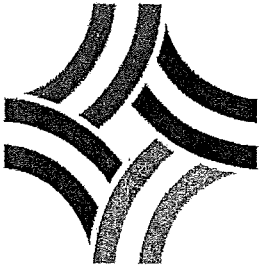
Filer Information <i>(Please print clearly.)</i>	
Name of filer:	Contact telephone number:
Address:	E-mail:

 Signature of City Elective Officer (if submitted by City elective officer)

 Date Signed

 Signature of Board Secretary or Clerk (if submitted by Board Secretary or Clerk)

 Date Signed



SFMTA
Municipal
Transportation
Agency

Transit Vehicle Farebox System Contract

July 20, 2016

Budget and Finance Committee

San Francisco Board of Supervisors

File # 160752
Received in Committee
7/20/16
for

Background

- Existing Muni fareboxes date back to 1991 and are nearing the end of their useful lives
- The fareboxes were refurbished beginning in 2008 but were not upgraded
- The current vendor no longer manufactures or supports the existing fareboxes
- There are insufficient fareboxes to support fleet expansion
- Existing farebox do not provide records of individual transactions for reconciliation and data analytics purposes



New Farebox (left)
Existing Farebox (right)

New Farebox System Benefits

- Improve dependability and reliability
- Improve accountability and tracking of revenues and ridership
- Replace pre-printed tear-off transfers/fare receipts with on-demand real-time printing of transfers/fare receipts
- Increase Transit Operator safety and security
- Accommodate future fare policy changes
- Tracks individual fare transactions and associates them with routes and boarding locations for data analytics

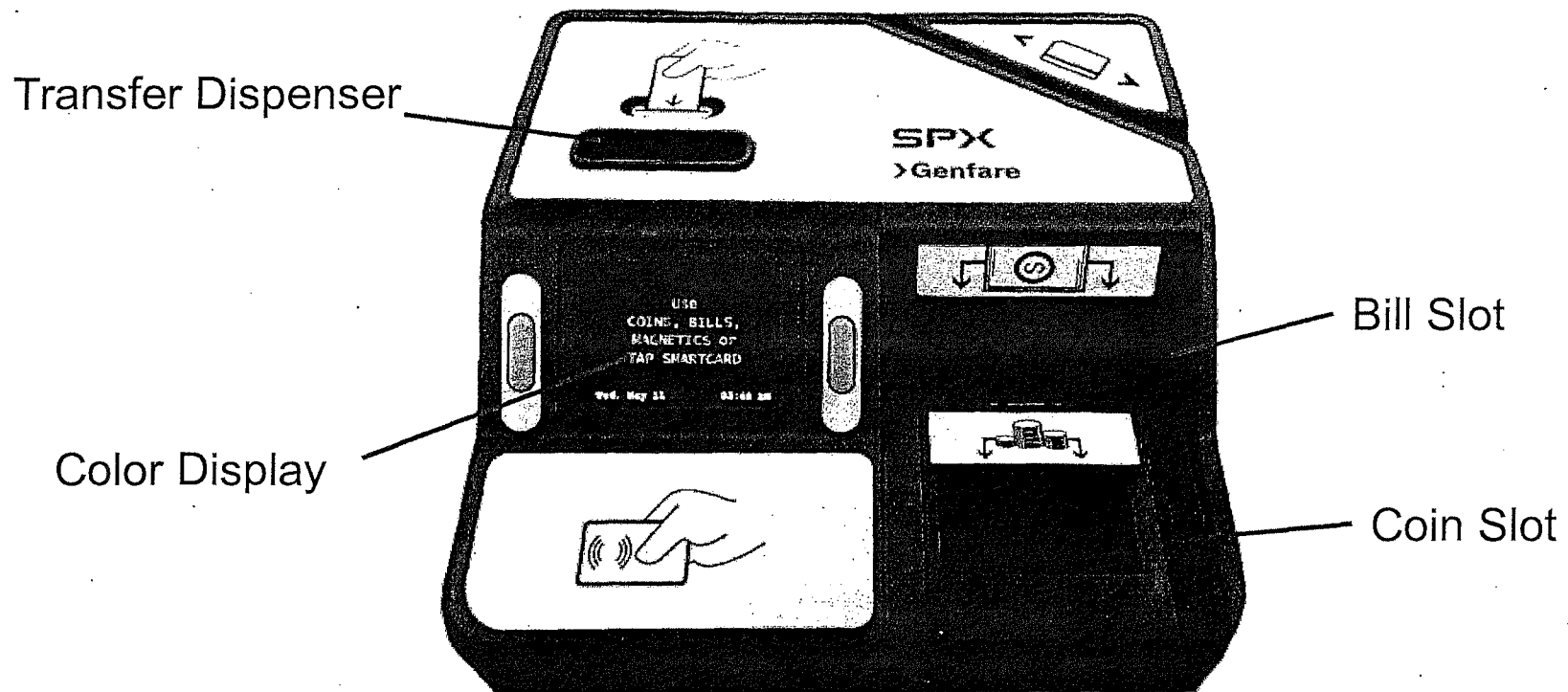
General Contract Terms

Contract Terms	Description
Vendor Selected	SPX Genfare
Length	5 Years (following installation), plus options for two additional 5-Year Terms
Cost	\$21.9 million + \$0.6 million for annual preventative maintenance (not to exceed \$29.3 million)
Fareboxes	1,336 (includes 50 spares)
Vehicles	Trolley Coaches, Motor Coaches, Historic Streetcars and Light Rail Vehicles (incl. Siemens)
Other Major Equipment	24 Mobile Vaults 60 Mobile Bins 9 Garage Computers Software System Spare Parts CAD/AVL System Integration

Project Budget

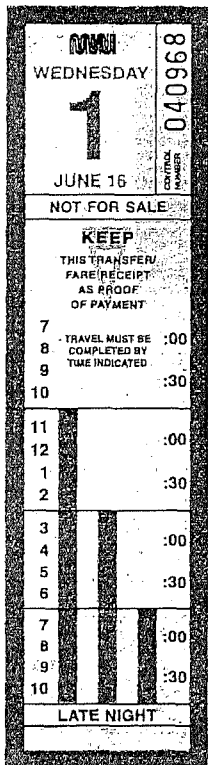
Item Description	Total Cost
Base Farebox System Costs	
Farebox Equipment and Installation	\$15,932,700
Licensed Software, Equipment and Services	3,656,226
Computer Aided Dispatch(CAD)/Automatic Vehicle Location System Integration	623,869
Transfer/Fare Receipt (initial 20 million order)	290,000
Odyssey Farebox Spare Kit	1,144,122
Additional Spare Parts	<u>254,676</u>
<i>Subtotal</i>	21,901,593
Contingency funds for base farebox system (5%)	<u>1,098,407</u>
Total Base Farebox System Costs	\$23,000,000
Preventive Maintenance, Supplies, Adjustments	
Preventative Maintenance Services	\$ 2,829,200
Transfer and Ticket Stock	1,450,000
Farebox Height Adjustment	<u>262,048</u>
Total Preventive Maintenance, Supplies, Adjustments	\$4,541,248
Optional Costs	
Preventative Maintenance Facility and Transportation (Optional)	\$1,082,227
Smart Card Acceptance – Hardware (Optional)	<u>641,280</u>
Total Optional	\$1,723,507
Grand Total	\$29,264,755

Farebox Features



- Farebox is compliant with the Americans with Disabilities Act (ADA)

Transfers/Fare Receipts



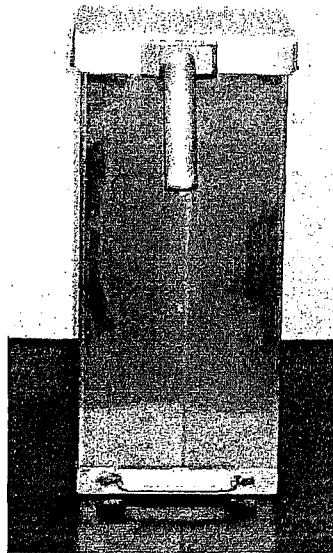
SFMTA
Thank You!
Senior Receipt
ISSUED: 02:26A
Sat 12 May16
BUS: 0
ROUTE: 38
EXPIRE: 03:56A

No. 00000123

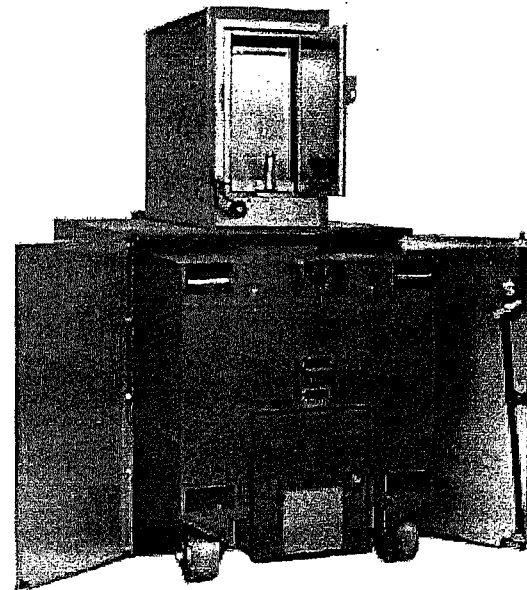
- On-demand real-time printing of transfers/fare receipts from the farebox
- Consistent expiration time
- Fare category printed on ticket (adult, discount)
- Improved Transit Operator security through reduced transfer theft – transfers have no value unless issued by the farebox
- Less transfer waste

Revenue Transfer and Collection System

- The Farebox System allows for the secure transfer of cash revenues from the farebox to SFMTA's Revenue Collection Facility



Cashbox – Stores revenues securely within the farebox and cannot be opened by Revenue Collections staff or others without security credentials



Cashbox Receiver (top) – Cashbox is emptied here
Mobile Bin (bottom) – All revenues are collected in this bin and transferred in a secured vehicle to SFMTA's Revenue Collection Facility

Timeline

Date	Event
July 28, 2016	Board of Supervisors Approval
August 2016	Notice to Proceed Design Review Training
November 2016	Farebox System Installation at a Pilot Operating Division
December 2016- March 2017	Farebox System Installation at remaining Operating Divisions
Spring 2017	Farebox System Acceptance

