

FLORIDA DEPARTMENT OF TRANSPORTATION
CENTRAL FLORIDA FARE COLLECTION SYSTEM EQUIPMENT

ADVERTISEMENT NO: RFP-DOT-11-12-5003-TVM

CONTRACT NO: BDU99

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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
STANDARD WRITTEN AGREEMENT

375-040-D5

Agreement No.: BDU99
 Financial Project I.D.: 412994-4-52-06
 F.E.I.D. No.: F581417067-001
 Appropriation Bill Number(s) for 1st year of contract,
 pursuant to s.216.313, F.S.: SB2000, 1918C
(required for contracts in excess of \$5 million)
 Procurement No.: RFP-DOT-11-12-5003-TVM
 D.M.S. Catalog Class No.: 600-220; 600-280; 600-650; 600-920

BY THIS AGREEMENT, made and entered into this 21 day of September, 2012,
 by and between the STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION, hereinafter called "Department" and ACS
Transport Solutions, Inc. of 12410 Milestone Center Dr. Suite 600, Germantown, MD, 20876 duly authorized to conduct
 business in the State of Florida, hereinafter called "Vendor", hereby agree as follows:

1. SERVICES AND PERFORMANCE

- A. In connection with Central Florida Fare Collection System Equipment the Department does hereby retain the Vendor to furnish certain services, information, and items as described in Exhibits Exhibit "A", Scope of Services, Exhibit "D" Fare Collection System Equipment Specifications, Exhibit "E" CFCRT Business Rules, and Exhibit "F", Required Contract Provisions for Federal Transportation Administration Federal-Aid Contract, attached hereto and made a part hereof.
- B. Before making any additions or deletions to the work described in this Agreement, and before undertaking any changes or revisions to such work, the parties shall negotiate any necessary cost changes and shall enter into a Supplemental Agreement covering such work and compensation. Reference herein to this Agreement shall include any amendment(s).
- C. All tracings, plans, specifications, maps, computer files, and reports prepared or obtained under this Agreement, as well as all data collected, together with summaries and charts derived therefrom, shall be the exclusive property of the Department without restriction or limitation on their use and shall be made available, upon request, to the Department at any time during the performance of such services and/or upon completion or termination of this Agreement. Upon delivery to the Department of said document(s), the Department shall become the custodian thereof in accordance with Chapter 119, Florida Statutes. The Vendor shall not copyright any material and products or patent any invention developed under this Agreement. The Department shall have the right to visit the site for inspection of the work and the products of the Vendor at any time.
- D. All final plans, documents, reports, studies, and other data prepared by the Vendor shall bear the professional's seal/signature, in accordance with the applicable Florida Statute, Administrative Rules promulgated by the Department of Business and Professional Regulation, and guidelines published by the Department, in effect at the time of execution of this Agreement. In the event that changes in the statutes or rules create a conflict with the requirements of published guidelines, requirements of the statutes and rules shall take precedence.
- E. The Vendor agrees to provide project schedule progress reports in a format acceptable to the Department and at intervals established by the Department. The Department shall be entitled at all times to be advised, at its request, as to the status of work being done by the Vendor and of the details thereof. Coordination shall be maintained by the Vendor with representatives of the Department, or of other agencies interested in the project on behalf of the Department. Either party to the Agreement may request and be granted a conference.
- F. All services shall be performed by the Vendor in accordance with the contract. Adjustments of compensation and contract time because of any major changes in the work that may become necessary or desirable as the work progresses shall be subject to mutual agreement of the parties, and amendment(s) shall be entered into by the parties in accordance herewith.

Reference herein to the Director shall mean the District Five Secretary.

2. TERM

- A. The Term of this Agreement shall begin on the date of execution hereof and continue through Final Acceptance of the Optional equipment. Subsequent to the execution of this Agreement by both parties, the services to be rendered by the Vendor shall commence and be completed in accordance with the option selected below. (Select box and indicate date(s) as appropriate). Subsequent to the execution of this Agreement by both parties, the services to be rendered by the Vendor shall commence and be completed in accordance with the option selected below. (Select box and indicate date(s) as appropriate)

☐ Services shall commence _____ and shall be completed by _____ or date of termination, whichever occurs first.

☐ Services shall commence upon written notice from the Department's Contract Manager and shall be completed by _____ or date of termination, whichever occurs first.

☒ Other: See Exhibit "A" Scope of Services

- B. RENEWALS (Select appropriate box):

☒ This Agreement may not be renewed.

☐ This Agreement may be renewed for a period that may not exceed three (3) years or the term of the original agreement, whichever period is longer. Renewals shall be contingent upon satisfactory performance evaluations by the Department and subject to the availability of funds. Any renewal or extension shall be in writing and shall be subject to the same terms and conditions set forth in this Agreement.

- C. EXTENSIONS. In the event that circumstances arise which make performance by the Vendor impracticable or impossible within the time allowed or which prevent a new contract from being executed, the Department, in its discretion, may grant an extension of this Agreement. Extension of this Agreement shall be in writing for a period not to exceed six (6) months and shall be subject to the same terms and conditions set forth in this Agreement; provided the Department may, in its discretion, grant a proportional increase in the total dollar amount based on the method and rate established herein. There shall be only one extension of this Agreement unless the failure to meet the criteria set forth in this Agreement for completion of this Agreement is due to events beyond the control of the Vendor.

It shall be the responsibility of the Vendor to ensure at all times that sufficient time remains in the Project Schedule within which to complete services on the project. In the event there have been delays which would affect the project completion date, the Vendor shall submit a written request to the Department which identifies the reason(s) for the delay and the amount of time related to each reason. The Department shall review the request and make a determination as to granting all or part of the requested extension.

3. COMPENSATION AND PAYMENT

- A. Payment shall be made only after receipt and approval of goods and services unless advance payments are authorized by the Chief Financial Officer of the State of Florida under section 215.422(14), Florida Statutes.
- B. If this Agreement involves units of deliverables, then such units must be received and accepted in writing by the Contract Manager prior to payments.
- C. Bills for fees or other compensation for services or expenses shall be submitted in detail sufficient for a proper preaudit and postaudit thereof.
- D. The bills for any travel expenses, when authorized by terms of this Agreement and by the Department's Project Manager, shall be submitted in accordance with Section 112.061, Florida Statute and Chapter 3 - Travel, Department's Disbursement Operations Manual, 350-030-400.
- E. Vendors providing goods and services to the Department should be aware of the following time frames. Upon receipt, the Department has five (5) working days to inspect and approve the goods and services, unless otherwise specified herein. The Department has twenty (20) days to deliver a request for payment (voucher) to the Department of Financial Services. The twenty (20) days are measured from the latter of the date the invoice is received or the goods or services are received, inspected and approved.
- F. If a payment is not available within forty (40) days, a separate interest penalty as established pursuant to

Section 215.422, Florida Statutes, shall be due and payable, in addition to the invoice amount, to the Vendor.

Interest penalties of less than one (1) dollar shall not be enforced unless the Vendor requests payment. Invoices which have to be returned to a Vendor because of Vendor preparation errors shall result in a delay in the payment. The invoice payment requirements do not start until a properly completed invoice is provided to the Department.

- G. The State of Florida, through the Department of Management Services, has instituted MyFloridaMarketPlace, a statewide eProcurement system. Pursuant to Section 287.057(22), Florida Statutes, all payments shall be assessed a transaction fee of one percent (1%), which the Vendor shall pay to the State. For payments within the State accounting system (FLAIR or its successor), the transaction fee shall, when possible, be automatically deducted from payments to the Vendor. If automatic deduction is not possible, the Vendor shall pay the transaction fee pursuant to Rule 60A-1.031(2), Florida Administrative Code. By submission of these reports and corresponding payments, Vendor certifies their correctness. All such reports and payments shall be subject to audit by the State or its designee. The Vendor shall receive a credit for any transaction fee paid by the Vendor for the purchase of any item(s) if such item(s) are returned to the Vendor through no fault, act, or omission of the Vendor. Notwithstanding the foregoing, a transaction fee is non-refundable when an item is rejected or returned, or declined, due to the Vendor's failure to perform or comply with specifications or requirements of the Agreement. Failure to comply with these requirements shall constitute grounds for declaring the Vendor in default and recovering reprourement costs from the Vendor in addition to all outstanding fees. VENDORS DELINQUENT IN PAYING TRANSACTION FEES MAY BE EXCLUDED FROM CONDUCTING FUTURE BUSINESS WITH THE STATE.
- H. A vendor ombudsman has been established within the Department of Financial Services. The duties of this individual include acting as an advocate for vendors who may be experiencing problems in obtaining timely payment(s) from a state agency. The Vendor Ombudsman may be contacted at (850) 413-5516.
- I. Records of this Agreement shall be maintained and made available upon request to the Department at all times during the period of this Agreement and for three years after final payment for the work pursuant to this Agreement is made. Copies of these documents and records shall be furnished to the Department upon request. Records shall include the Vendor's general accounting records and the project records, together with supporting documents and records of the Vendor and all subvendors performing work on the project, and all other records of the Vendor and subvendors considered necessary by the Department for a proper audit.
- J. The Department, during any fiscal year, shall not expend money, incur any liability, or enter into any contract which, by its terms, involves the expenditure of money in excess of the amounts budgeted as available for expenditure during such fiscal year. Any contract, verbal or written, made in violation of this subsection is null and void, and no money may be paid on such contract. The Department shall require a statement from the comptroller of the Department that funds are available prior to entering into any such contract or other binding commitment of funds. Nothing herein contained shall prevent the making of contracts for periods exceeding one (1) year, but any contract so made shall be executory only for the value of the services to be rendered or agreed to be paid for in succeeding fiscal years. Accordingly, the Department's performance and obligation to pay under this Agreement is contingent upon an annual appropriation by the Legislature.

4. INDEMNITY AND PAYMENT FOR CLAIMS

- A. **INDEMNITY:** To the extent permitted by Florida Law, the Vendor shall indemnify and hold harmless the Department, its officers and employees from liabilities, damages, losses and costs, including, but not limited to, reasonable attorney's fees, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the Vendor and persons employed or utilized by the Vendor in the performance of this Agreement.

It is specifically agreed between the parties executing this Agreement that it is not intended by any of the provisions of any part of the Agreement to create in the public or any member thereof, a third party beneficiary hereunder, or to authorize anyone not a party to this Agreement to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Agreement.

PAYMENT FOR CLAIMS: The Vendor guarantees the payment of all just claims for materials, supplies, tools, or labor and other just claims against the Vendor or any subvendor, in connection with the Agreement. The Department's final acceptance and payment does not release the Vendor's bond until all such claims are paid or released.

- B. **LIABILITY INSURANCE AND WORKER'S COMPENSATION;**

- (1) **Workers' Compensation Insurance:** Vendor shall provide Workers' Compensation Insurance in

accordance with the laws of the State of Florida and in amounts sufficient to secure the benefits of the Florida Workers' Compensation Law for all Vendor employees. If subletting any of the work, ensure that subcontractors carry similar insurance coverage for their employees at subcontractor's expense. Ensure that any equipment rental agreements that include operators who are employees of independent Contractors, sole proprietorships or partners are carry and maintain similar insurance. The Department will accept equivalent approved protection in lieu of insurance.

- (2) **Contractors' Public Liability and Property Damages Liability Insurance:** Vendor shall furnish Certificate of Insurance evidencing to the Department that, with respect to the operations performed, regular Contractors' Public Liability Insurance providing for a limit of not less than \$1,000,000 for all damages arising out of bodily injuries to, or death of, one person and, subject to that limit for each person, a total limit of \$5,000,000 for all damages arising out of bodily injuries to, or death of, two or more persons in any one occurrence; and regular Contractors' Property Damage Liability Insurance providing for a limit of not less than \$50,000 for all damages arising out of injury to, or destruction of, property in any one occurrence and, subject to that limit per occurrence, a total (or aggregate) limit of \$100,000 for all damages arising out of injury to, or destruction of, property during the policy period is carried.

Vendor shall cause the Department, and National Railroad Passenger Corporation (a/k/a "Amtrak"), and Florida Central Railroad Company, Inc., and Central Florida Commuter Rail Commission, and Volusia County, and Seminole County, and Orange County, and Osceola County, and City of Orlando, to be each an additional insured party on the Vendor's Public Liability and Property Damages Liability policies that insure the Vendor for the described work that it performs under the Contract.

- (3) **Contractors' Protective Public Liability and Property Damage Liability Insurance:** Vendor shall furnish evidence to the Department that, with respect to the operations performed by subcontractors, regular Contractors' Protective Public Liability Insurance providing for a limit of not less than \$1,000,000 for all damages arising out of bodily injuries to, or death of, one person and, subject to that limit for each person, a total limit of \$5,000,000 for all damages arising out of bodily injuries to, or death of, two or more persons in any one occurrence; and regular Contractors' Protective Property Damage Liability Insurance providing for a limit of not less than \$50,000 for all damages arising out of injury to, or destruction of, property in any one occurrence and, subject to that limit per occurrence, a total (or aggregate) limit of \$100,000 for all damages arising out of injury to, or destruction of, property during the policy period is carried.

Vendor shall cause the Department, and National Railroad Passenger Corporation (a/k/a "Amtrak"), and Florida Central Railroad Company, Inc., and Central Florida Commuter Rail Commission, and Volusia County, and Seminole County, and Orange County, and Osceola County, and City of Orlando, to be each an additional insured party on the Contractor's Protective Public Liability and Property Damage Liability Insurance policies that insure the Contractor for the described work that it performs under the Contract.

- (4) **Insurance Required for Construction at Railroads:**

(A) **General:** In addition to any other forms of insurance or bonds required under the terms of the Contract, when the Contract includes the construction of a railroad grade crossing, overpass, or underpass structure, or a railroad crossing signal installation, or any other work or operations by the Contractor within the limits of the railroad right-of-way, including any encroachments thereon from work or operations in the vicinity of the railroad right-of-way, Vendor shall provide insurance of the types set forth below and in amounts not less than specified herein.

(B) **Railroads' Protective Public Liability and Property Damage Liability Insurance:** Vendor shall furnish the Department with an original insurance policy that, with respect to the operations performed, will provide, in behalf of the railroad company regular liability insurance providing coverage for bodily injury, death, and property damage limited to a combined single limit of \$2,000,000 per occurrence with an aggregate limit of \$6,000,000 for the term of the policy.

CSX Transportation, Inc. and the Department are to be each a Named Insured on the policy. National Railroad Passenger Corporation (a/k/a "Amtrak"), and Florida Central Railroad Company, Inc., and Central Florida Commuter Rail Commission, and Volusia County, and Seminole County, and Orange County, and Osceola County, and City of Orlando, are to be each an additional insured on the policy.

- (5) **Insurance for Protection of Utility Owners:** When the work under the Contract involves work on or in the vicinity of utility-owned property or facilities, Vendor shall furnish the Department with evidence that, with respect to the operations performed, General Comprehensive Liability Insurance or its equivalent providing for a limit of not less than \$1,000,000 for bodily injury or death to person(s) per occurrence and \$300,000 property damage each occurrence is carried.

The Department and Utility Company are to be Additional Named Insureds, and the policy will be primary to any coverage maintained by the Department or Company. National Railroad Passenger Corporation

(a/k/a "Amtrak"), and Florida Central Railroad Company, Inc., and Central Florida Commuter Rail Commission, and Volusia County, and Seminole County, and Orange County, and Osceola County, and City of Orlando, are each to be additional insured on the policy. Vendor shall not make any material change or cancellation to the policy without providing the Department with ten days prior written notice.

- (6) Insurance by Others: Vendor shall require every subcontractor or other third party who may have a contract with Vendor and who may require access on or to State Property or the Corridor or the Sun Rail Corridor or the FCEN Corridor to obtain and maintain for the duration of such access an insurance policy or policies with coverage that satisfies the conditions stated in this section 4. B. paragraphs (1), (2), (3), (4), and (5), and including causing each of the Named Insureds and the additional insureds stated in those paragraphs to be Named Insureds and additional insureds on such subcontractor or third party policy or policies.

For purposes of this section 4.B. paragraph (6) the following apply: "State Property" has the meaning stated in the "TRANSITION AGREEMENT Between State of Florida Department of Transportation and CSX Transportation, Inc.," Appendix A, at page A-4; and "Corridor" has the meaning stated in the "INTERLOCAL OPERATING AGREEMENT FOR OPERATION OF THE CENTRAL FLORIDA COMMUTER RAIL SYSTEM By and Between FLORIDA DEPARTMENT OF TRANSPORTATION AND CENTRAL FLORIDA COMMUTER RAIL COMMISSION," Appendix A, at page A-3; and Sun Rail "Corridor" has the meaning stated in the "AGREEMENT BETWEEN NATIONAL RAILROAD PASSENGER CORPORATION AND THE FLORIDA DEPARTMENT OF TRANSPORTATION," Definitions, at page 6; and "FCEN Corridor" has the meaning stated in the "OPERATING AGREEMENT Between State of Florida Department of Transportation, an agency of the State of Florida, and Florida Central Railroad Company, Inc., a Florida Corporation," Definitions, at page 6. Those agreement definitions mentioned above, and as heretofore amended, are incorporated by reference and may be accessed at www.sunrail.com. At that website click on "About Sunrail" then "Project Documents" and then click on "Contract Documents" except regarding the Interlocal Operating Agreement click on "Local Agreements."

- (7) Submission and Approval of Certificates of Insurance; Termination: Certificates of insurance for each required policy shall be provided by Vendor at the time of Contract execution.

Vendor shall provide all insurance policies in such form and with insurers that are acceptable to the Department. Keep such insurance in force, in the full amount specified herein, until this contract is ended.

C. PERFORMANCE AND PAYMENT BOND.

☐ No Bond required.

☒ Within ten (10) calendar days of Written Authorization for and at all times during the term thereof, including extensions, the Vendor will supply to the Department and keep in force a Performance and Payment bond in the full amount of the contract provided by a surety authorized to do business in the State of Florida, payable to the Department and conditioned for the prompt, faithful, and efficient performance of this Agreement according to the terms and conditions hereof and within the time periods specified herein, and for the prompt payment of all persons furnishing labor, materials, equipment and supplies therefore. The performance bond may be in the form of an annually renewable bond. No less than ninety (90) calendar days prior to the expiration of the then current bond, Vendor shall provide the Department with a continuation certificate or a replacement bond. In the event the Vendor provides a replacement bond the Department shall immediately surrender the then current bond upon accepting the replacement bond and expressly agrees not to under any circumstances attempt to call on both the prior and the replacement bond.

- D. CERTIFICATION. With respect to any insurance policy required pursuant to this Agreement, all such policies shall be issued by companies licensed to do business in the State of Florida. The Vendor shall provide to the Department certificates showing the required coverage to be in effect and showing the Department to be an additional certificate holder. Such policies shall provide for cancellation notice to the Department as required by law.

5. COMPLIANCE WITH LAWS

- A. The Vendor shall allow public access to all documents, papers, letters, or other material subject to the provisions of Chapter 119, Florida Statutes, and made or received by the Vendor in conjunction with this Agreement unless the records are exempt from s. 24(a) of Art. I of the State Constitution and F. S. 119.07(1). The Department may unilaterally cancel this Agreement if the Vendor fails to comply with this requirement.
- B. The Vendor agrees that it shall make no statements, press releases or publicity releases concerning this

Agreement or its subject matter or otherwise disclose or permit to be disclosed any of the data or other information obtained or furnished in compliance with this Agreement, or any particulars thereof, during the period of the Agreement, without first notifying the Department's Contract Manager and securing prior written consent. The Vendor also agrees that it shall not publish, copyright, or patent any of the data developed under this Agreement, it being understood that such data or information is works made for hire and the property of the Department.

- C. The Vendor shall comply with all federal, state and local laws and ordinances applicable to the work or payment for work thereof, and will not discriminate on the grounds of race, color, religion, sex, national origin, age, or disability in the performance of work under this Agreement.
- D. If the Vendor is licensed by the Department of Business and Professional Regulation to perform the services herein contracted, then section 337.162, Florida Statutes, applies as follows:
 - (1) If the Department has knowledge or reason to believe that any person has violated the provisions of state professional licensing laws or rules, it shall submit a complaint regarding the violations to the Department of Business and Professional Regulation. The complaint shall be confidential.
 - (2) Any person who is employed by the Department and who is licensed by the Department of Business and Professional Regulation and who, through the course of the person's employment, has knowledge to believe that any person has violated the provisions of state professional licensing laws or rules shall submit a complaint regarding the violations to the Department of Business and Professional Regulation. Failure to submit a complaint about the violations may be grounds for disciplinary action pursuant to chapter 455, Florida Statutes, and the state licensing law applicable to that licensee. The complaint shall be confidential.
 - (3) Any complaints submitted to the Department of Business and Professional Regulation are confidential and exempt from Section 119.07(1), Florida Statutes, pursuant to chapter 455, Florida Statutes, and applicable state law.
- E. The Vendor covenants and agrees that it and its employees and agents shall be bound by the standards of conduct provided in applicable law and applicable rules of the Board of Business and Professional Regulation as they relate to work performed under this Agreement. The Vendor further covenants and agrees that when a former state employee is employed by the Vendor, the Vendor shall require that strict adherence by the former state employee to Sections 112.313 and 112.3185, Florida Statutes, is a condition of employment for said former state employee. These statutes will by reference be made a part of this Agreement as though set forth in full. The Vendor agrees to incorporate the provisions of this paragraph in any subcontract into which it might enter with reference to the work performed pursuant to this Agreement.
- F. A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity, may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids, proposals, or replies on leases of real property to a public entity, may not be awarded or perform work as a vendor, supplier, subvendor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of thirty-six (36) months following the date of being placed on the convicted vendor list.
- G. An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity, may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids, proposals, or replies on leases of real property to a public entity, may not be awarded or perform work as a vendor, supplier, subvendor, or consultant under a contract with a public entity, and may not transact business with any public entity.
- H. The Department shall consider the employment by any vendor of unauthorized aliens a violation of Section 274A(e) of the Immigration and Nationality Act. If the vendor knowingly employs unauthorized aliens, such violation shall be cause for unilateral cancellation of this agreement.
- I. Pursuant to Section 216.347, Florida Statutes, the vendor may not expend any State funds for the purpose of lobbying the Legislature, the judicial branch, or a state agency.

6. TERMINATION AND DEFAULT

- (A.) The Department may terminate performance of work under this contract in whole or, from time to time, in part for any of the following reasons:
- (1) If the Department determines that a termination is in the Department's interest (convenience);
 - (2) If any of the following events occur (necessity):
 - (a) Loss of funding not created by the Department, or
 - (b) Any event of force majeure;
 - (3) In the event that Vendor makes an assignment for the benefit of creditors (insolvency).
- (B) The Department shall terminate by delivering to the Vendor a Notice of Termination specifying the reason for the termination, the extent of termination and the effective date. If the Department exercises its right to terminate for necessity, the parties will meet promptly to discuss opportunities to minimize the impacts to both parties resulting therefrom; provided, however, that under no circumstances shall the Department be obligated to expend additional funds to minimize any impacts.
- (1) After receipt of a Notice of Termination, and except as directed by the Department, the Vendor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:
 - (a) Stop work as specified in the notice.
 - (b) Place no further subcontracts or orders for materials, services, or facilities which exist exclusively for this Agreement, except as necessary to complete the continued portion of the contract. As to subcontracts or orders for materials, services, or facilities which do not exist exclusively for this Agreement, place nothing further for the equipment which is the subject matter of this Agreement, except as necessary to complete the continued portion of this Agreement.
 - (c) Complete the delivery, testing and inspection of equipment in transit or ready for transit.
 - (d) Complete performance of the work not terminated in accordance with the terms of this Agreement.
 - (e) Use its commercially reasonable efforts to sell any partially constructed equipment or materials procured exclusively for this Agreement. The proceeds of any such sale shall be applied to reduce any payments to be made by the Department under this Agreement.
 - (2) As a sole remedy, within 6 months of receipt of the Notice of Termination for convenience (but not for termination for necessity or insolvency), Vendor may submit to the Department for payment an invoice for costs related to equipment which has been ordered but will not be delivered as a result of the termination. Other than payment for equipment and services to be delivered, there shall be no payments, remedies or damages for a termination for necessity or insolvency. In determining the costs to be invoiced, the provisions of Part 31.2 of the Federal Acquisition Regulations in effect on the date of this Agreement shall apply. Credit against such costs shall be given for any payments made for equipment not delivered and for any sales proceeds as provided in section (1)(e) above. The invoice shall be accompanied by copies of all documents under which the costs are incurred. The audit provisions and all invoicing provisions of this Agreement apply to any such invoice and invoices not submitted within said 6 month period shall not be paid. Notwithstanding the foregoing, the following limits shall apply to the invoice for such costs:
 - (a) No payment shall be made for any lost profits of Vendor.

- (b) No amounts for indirect overhead will be paid.
 - (c) No amounts will be paid for termination of labor contracts, material contracts, or subcontracts that were not entered into exclusively for producing the equipment which is the subject of this Agreement.
 - (d) No costs will be paid in connection with employees for whom other positions with Vendor are available.
 - (e) No payments will be made in connection with the termination of labor contracts, material contracts, or subcontracts where the payment is not mandatory under the provisions of the applicable terminated contract.
- (C) The payment provide for in subparagraph (B) above may no exceed an amount which is the same percentage of the agreement price as the amount of work satisfactorily completed is a percentage of the total work called for by this Agreement. All work in progress, except as specifically provided above, shall be turned over promptly by the Vendor.
- (D) If the Department determines, in the Department's judgment, that the performance of the Vendor does not meet the requirements of this Agreement, the Department shall proceed as provided in Rule 60A-1.006(3), F.A.C. In the event of termination pursuant to this provision, the Department shall have no obligation to make payments to the Vendor except for equipment and services delivered and accepted and the Department shall have the right to offset any such payments against damage suffered as a result of the unsatisfactory performance, subject to the limitation on damages contained in this Agreement.
- E. If the Agreement is for goods or services of \$1 million or more and was entered into or renewed on or after July 1, 2011 and the Department determines that the Vendor submitted a false certification under Section 287.135(5), Florida Statutes, or if the Vendor has been placed on the Scrutinized Companies with Activities in the Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, the Department shall have the option of (a) terminating the Agreement after it has given the Vendor notice and an opportunity to demonstrate the agency's determination of false certification was in error pursuant to Section 287.135(5)(a), Florida Statutes, or (b) maintaining the Agreement if the conditions of Section 287.135(4), Florida Statutes, are met.
- F. Liquidated Damages. In the event the Vendor fails to have all equipment fully functional for fare collection on March 1, 2014, or within such extra time as the Department may in writing have granted, the Vendor shall pay, not as penalty, but as liquidated damages, the sum of \$10,000.00 per calendar day. The Department has the right to apply, as payment on such damages any money the Department owes the Vendor. The Department does not waive its right to liquidated damages under the contract by allowing the Vendor to continue after the expiration date of March 1, 2014, including written granted time extensions, and to complete the work to have all equipment fully functional for fare collection.

7. ASSIGNMENT AND SUBCONTRACTS

- A. The Vendor shall maintain an adequate and competent staff so as to enable the Vendor to timely perform under this Agreement and may associate with it such subvendors, for the purpose of its services hereunder, without additional cost to the Department, other than those costs within the limits and terms of this Agreement. The Vendor is fully responsible for satisfactory completion of all subcontracted work. The Vendor, however, shall not sublet, assign or transfer any work under this Agreement to other than subvendors specified in the proposal, bid and/or Agreement without the written consent of the Department.

- B. Select the appropriate box:

☒ [X] The following provisions are not applicable to this Agreement.

☐ [] The following provision is hereby incorporated in and made a part of this Agreement:

It is expressly understood and agreed that any articles that are the subject of, or required to carry out this Agreement shall be purchased from a nonprofit agency for the blind or for the severely handicapped that is qualified pursuant to Chapter 413, Florida Statutes, in the same manner and

under the same procedures set forth in Section 413.036(1) and (2), Florida Statutes; and for purposes of this Agreement the person, firm, or other business entity (Vendor) carrying out the provisions of this Agreement shall be deemed to be substituted for the state agency (Department) insofar as dealings

with such qualified nonprofit agency are concerned.

- [] The following provision is hereby incorporated in and made a part of this Agreement:

It is expressly understood and agreed that any articles which are the subject of, or required to carry out this Agreement shall be purchased from the corporation identified under Chapter 946, Florida Statutes, in the same manner and under the procedures set forth in section 946.515(2) and (4), Florida Statutes; and for purposes of this Agreement, the person, firm, or other business entity (Vendor) carrying out the provisions of this Agreement shall be deemed to be substituted for this agency (Department) insofar as dealings with such corporation are concerned.

The "corporation identified" is Prison Rehabilitative Industries and Diversified Enterprises, Inc. (PRIDE). Available pricing, products, and delivery schedules may be obtained by contacting:

PRIDE Enterprises
12425 - 28th Street, North
St. Petersburg, Florida 33716-1826
Telephone: (800) 643-8459

- [X] This Agreement involves the expenditure of federal funds and Section 946.515, Florida Statutes, as noted above, does not apply. However, Exhibit "F" Required Contract Provisions for Federal Transportation Administration Federal-Aid Contract apply to all parties and is hereby made a part of this Agreement.

8. LIMITATION OF LIABILITY

For all claims for damages to the Department for breach of this Agreement, excluding damages payable as liquidated damages, Vendor's liability shall be limited to the dollar amount of this Agreement. Vendor's liability for liquidated damages shall be limited to 20% of the dollar amount of this Agreement. These limits on the damages collectable shall not be deemed to be a limit on the Department's ability to cancel this Agreement for unsatisfactory performance. In addition, these limitations of liability only apply to damages to the Department caused by breach of contract and does not apply to liabilities covered by paragraph 4.A. of this Agreement nor do they apply to any liability for personal injury or property damage of any kind whatsoever, even if the personal injury or property damage arises out of an act which would constitute a breach of contract.


9. MISCELLANEOUS

- A. The Vendor and its employees, agents, representatives, or subvendors are not employees of the Department and are not entitled to the benefits of State of Florida employees. Except to the extent expressly authorized herein, Vendor and its employees, agents, representatives, or subvendors are not agents of the Department or the State for any purpose or authority such as to bind or represent the interests thereof, and shall not represent that it is an agent or that it is acting on the behalf of the Department or the State. The Department shall not be bound by any unauthorized acts or conduct of the Vendor or its employees, agents, representatives, or subvendors. Vendor agrees to include this provision in all its subcontracts under this Agreement.
- B. All words used herein in the singular form shall extend to and include the plural. All words used in the plural form shall extend to and include the singular. All words used in any gender shall extend to and include all genders.
- C. This Agreement embodies the whole agreement of the parties. There are no promises, terms, conditions, or obligations other than those contained herein, and this Agreement shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties hereto. The State of Florida terms and conditions, whether general or specific, shall take precedence over and supersede any inconsistent or conflicting provision in any attached terms and conditions of the Vendor.
- D. It is understood and agreed by the parties hereto that if any part, term or provision of this Agreement is by the courts held to be illegal or in conflict with any law of the State of Florida, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular part, term or provision held to be invalid.
- E. This Agreement shall be governed by and construed in accordance with the laws of the State of Florida.

- F. In any legal action related to this Agreement, instituted by either party, the Vendor hereby waives any and all privileges and rights it may have under Chapter 47 and section 337.19, Florida Statutes, relating to venue, as it now exists or may hereafter be amended, and any and all such privileges and rights it may have under any other statute, rule, or case law, including, but not limited to those grounded on convenience. Any such legal action may be brought in the appropriate Court in the county chosen by the Department and in the event that any such legal action is filed by Vendor, the Vendor hereby consents to the transfer of venue to the county chosen by the Department upon the Department filing a motion requesting the same.
- G. If this Agreement involves the purchase or maintenance of information technology as defined in Section 282.0041, Florida Statutes, the selected provisions of the attached Appendix II are made a part of this Agreement.
- H. Vendor/Vendor:
1. shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Vendor/Vendor during the term of the contract; and
 2. shall expressly require any subvendors performing work or providing services pursuant to the state contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subvendor during the contract term.
- I. Time is of the essence as to each and every obligation under this Agreement.
- J. The following attachments are incorporated and made a part of this agreement:
Exhibit "A", Scope of Services Fare Collection System Equipment; Exhibit "B", Method of Compensation; Exhibit "C", Price Proposal Form (Incorporated into Exhibit "B", Method of Compensation); Exhibit "D" Fare Collection System Equipment Specifications; Exhibit "E" CFCRT Business Rules; Exhibit "F", Required Contract Provisions for Federal Transportation Administration Federal-Aid Contract; Exhibit "G" Software Code Deposit Agreement.
- K. Other Provisions: In case of conflict the contract documents shall have the following order of precedence.
Exhibit "F", Required Contract Provisions for Federal Transportation Administration Federal-Aid Contract
Exhibit "A", Scope of Services Fare Collection System Equipment
Exhibit "D", Fare Collection System Equipment Specifications
Exhibit "E", CFCRT Business Rules
Exhibit "B", Method of Compensation
Standard Written Agreement
Exhibit "G" Software Code Deposit Agreement

IN WITNESS WHEREOF, the parties have executed this Agreement by their duly authorized officers on the day, month and year set forth above.

ACS TRANSPORT SOLUTIONS, INC.
Name of Vendor

By: 
Authorized Signature

Ian Newburg
(Print/Type)

Title: Vice President and Managing Director

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

By: 
Authorized Signature

Noranne B. Downs, P.E.
(Print/Type)

Title: District Five Secretary

FOR DEPARTMENT USE ONLY

APPROVED:

Procurement Office

LEGAL REVIEW:


Exhibit "A"
Scope of Services
Fare Collection System Equipment
Central Florida Commuter Rail Transit

1.0 Introduction

The request for proposal was for a procurement of fare collection system equipment by the State of Florida Department of Transportation (hereinafter referred to as the Department) and by Central Florida Regional Transportation Authority, doing business as LYNX (hereinafter referred to as LYNX), pursuant to an INTERLOCAL AGREEMENT.

This Scope of Services, Exhibit "A", Pertains to Department's contract with the Vendor.

Agreement Term. This Agreement with the Department shall begin on date of execution and shall remain in full force and effect through one year after the Final Acceptance of the Optional Equipment currently estimated to occur April 30, 2016. Subsequent to the execution of this Agreement by the Department, the services to be rendered by the Vendor shall commence upon Written Authorization from the Department and be completed by the date shown in the Written Authorization.

The Department is responsible for the design, construction, operation, and maintenance of commuter rail service (CFCRT) along a 61-mile corridor in Central Florida.

The CFCRT Project uses an existing and active Class IV freight railway right of way (ROW) for rail operations and property adjacent to the ROW for station site parking, park & ride and bus circulation. CFCRT will be implemented in three phases. The first phase is the 31 mile long north corridor and the second phase is the south corridor that when combined are 49 miles long and referred to as the Locally Preferred Alternative (LPA). A twelve mile extension of the LPA further north is planned as phase three and defines the 61 mile long Full Build Alternative (FBA). The first phase is also known as the initial operating segment (IOS) and is proposed to be operational by the spring 2014 and the second phase is to be operational in 2016.



The full build alternative (FBA) extends from the DeLand Amtrak station in Volusia County to the north to Poinciana Industrial Park in Osceola County in the south. A total of seventeen (17) stations are in the FBA. The proposed service plan would provide 30-minute bi-directional service during morning and evening peak periods and 120-minute service in the midday, Monday through Friday, using push-pull diesel locomotives, coaches and cab cars.

The Department's CFCRT Project will be designed to support fully integrated, seamless transfers between LYNX and Votran feeder bus services to/from CFCRT stations. In order to accomplish this goal, the fare collection systems for SunRail, LYNX, and Votran need to be fully integrated so that passengers can readily transfer between the bus and rail services. LYNX and Votran fareboxes onboard buses will need to be able to "read" SunRail fare media, and SunRail Ticket Vending Machines and Station Ticket Validators need to be able to "read" Lynx and Votran fare media.

2.0 Fare Collection System Description

The Vendor shall provide to The Department a fully functional Fare Collection System consisting of the following components:

- Two types of ticket vending machines (TVMs) shall be planned for implementation under this procurement; a cashless TVM (CTVM) that will accept only credit/debit cards but not cash and a full-service TVM (FSTVM) that will accept both cash and credit/debit cards for payment and issue change. The quantities of CTVMs and FSTVMs to be supplied under this procurement are subject to change;
- Station platform ticket validators (SPTV) capable of being installed on the station platforms for fare payment validation;
- Handheld ticket validators (HHTV) for fare payment inspection and validation onboard the trains;
- Point-of-sale machines (POSM) for fare payment and reloading of smart cards at retail outlets;
- Contactless smart cards (standard and limited use disposable); and

A central data collection and information system (CDCIS) application that will handle credit/debit card processing, transaction and maintenance data processing and reporting, as well as TVM, SPTV, HHTV, OSMP and POSM configuration. The fare collection system shall be designed as an Account Based System (ABS), allowing passengers to open accounts linked to contactless smart cards to hold fare products. Account products shall be hosted at the Central Data Collection & Information System (CDCIS) back-office to allow for any type of contactless fare media with a unique chip serial number to be linked to an account (fare media smart cards, contactless credit card, near field communication (NFC) mobile phones etc.). The fare media used for the account based system in the initial stage will be closed loop. Open loop media will be deployed at a future stage and is not part of this procurement. The following table

Scope of Services

depicts the migration and acceptance of various fare media types in the transit sector in U.S. that should be considered.

Forward-Looking Media Type and Technology

	Present to 2 Year	3 to 6 Year	7 to 10 Year
Media Type	Transit Smart Card MagStrip & EMV Contactless Closed-loop (cards, stickers)	MagStrip & EMV Contactless Open-loop (Cards, Stickers) Mobile ticketing (NFC) Transit specific open payment Form factors: (Phone, tablets, FOBs, ID Cards)	MagStrip & EMV Contactless Open-loop (Cards, Stickers) Mobile ticketing (NFC) EMV Contactless on PIV Social Media Type Payments NFC form factors Transit-specific open payments
Contactless Reader	ISO 14443 A&B (NFC) Bar Code	ISO 14443 A&B (NFC) Barcode	ISO 14443 A&B (NFC) Biometric Scanner

The services to be performed under this contract involve the design, production, installation, testing, and warranty of the fare collection system. Equipment and services under the initial procurement will be detailed in a Written Authorization to be issued by the Department as soon as it is reasonable after Contract execution. The design and performance criteria required for the fare collection system to be provided under this procurement are specified in Exhibit D – Fare Collection System Equipment Specifications, with the exception that Section 5.0, On-Board Smart Media Processor, of Exhibit “D”, is not part of this contract with the Department.

In the Department’s CFCRT project, the Vendor will be required to coordinate closely with the Department Design/Build Firm, who is responsible for building the station platforms and the Station Finishes Contractor, regarding schedule, method of delivery and installation for the fare collection equipment. The Department’s Chief Operating Officer (COO) will assist in the coordination.

It is anticipated that the first group of station platforms will be complete and available for the Vendor to begin installation in July of 2013.

In the Department’s CFCRT project, the Vendor will also be required to coordinate with the Department Operations and Maintenance Contractor (OMC), Vehicle Manufacturer and the COO regarding testing and acceptance of all fare collection equipment delivered to the CFCRT Project. Testing and acceptance is specified in Exhibit D- Specified Equipment & Requirements. Testing and acceptance are the responsibility of the Vendor. The Vendor is responsible for providing training for the Department staff including the COO and OMC.

The Department’s CFCRT fare collection system must be fully integrated with the fare collection systems of the Central Florida Regional Transportation Authority (LYNX) and

Scope of Services

Votran, the public transit provider in Volusia County, FL. LYNX and Votran will provide feeder bus services to/from CFCRT stations. The CFCRT, LYNX and Votran fare policies, fare media and fare collection equipment will be fully integrated. LYNX and Votran will be accepting smart card fare payments from riders transferring to and from the CFCRT system. The Vendor will be required to ensure that its fare collection equipment is compatible with LYNX and Votran fare collection equipment (GFI Genfare Odyssey or equivalent).

The Department is currently planning on having the Back of the House operated under its SunRail Operation and Maintenance contractor. In the event that the Department determines that another approach is more appropriate, it may at its sole discretion request the Vendor to provide Operations Services for the Back of the House operation under a Supplemental Agreement to this Agreement.

STANDARD CONTRACT TERMS AND CONDITIONS

The following form PUR 1000 is a standard contract terms form that the Department includes in all procurements, except that paragraphs 5, 11, 19, 20, 22, 23, 25, 26, 27, 29, 31, 35, 40, 41, and 42 do not apply to this Request for Proposal. Deletion of these paragraphs shall not be deemed to be deletion of content contained elsewhere and the substance of these excepted paragraphs may be addressed in other locations in the procurement documents. That substance located elsewhere continues to apply regardless of this exception paragraph.

**State of Florida
PUR 1000
General Contract Conditions
Central Florida Fare Collection System Equipment**

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1. Definitions. The definitions contained in s. 60A-1.001, F.A.C. shall apply to this agreement. The following additional terms are also defined:

- (a) "Contract" means the legally enforceable agreement that results from a successful solicitation. The parties to the Contract will be the Customer and Contractor.
- (b) "Customer" means the State agency or other entity identified in a contract as the party to receive commodities or contractual services pursuant to a contract or that orders commodities or contractual services via purchase order or other contractual instrument from the Contractor under the Contract. The "Customer" may also be the "Buyer" as defined in the PUR 1001 if it meets the definition of both terms.
- (c) "Product" means any deliverable under the Contract, which may include commodities, services, technology or software.
- (d) "Purchase order" means the form or format a Customer uses to make a purchase under the Contract (e.g., a formal written purchase order, electronic purchase order, procurement card, contract or other authorized means).

2. Purchase Orders. In contracts where commodities or services are ordered by the Customer via purchase order, Contractor shall not deliver or furnish products until a Customer transmits a purchase order. All purchase orders shall bear the Contract or solicitation number, shall be placed by the Customer directly with the Contractor, and shall be deemed to incorporate by reference the Contract and solicitation terms and conditions. Any discrepancy between the Contract terms and the terms stated on the Contractor's order form, confirmation, or acknowledgement shall be resolved in favor of terms most favorable to the Customer. A purchase order for services within the ambit of section 287.058(1) of the Florida Statutes shall be deemed to incorporate by reference the requirements of subparagraphs (a) through (f) thereof. Customers shall designate a contract manager and a contract administrator as required by subsections 287.057(14) and (15) of the Florida Statutes.

3. Product Version. Purchase orders shall be deemed to reference a manufacturer's most recently release model or version of the product at the time of the order, unless the Customer specifically requests in writing an earlier model or version and the contractor is willing to provide such model or version.

4. Price Changes Applicable only to Term Contracts. If this is a term contract for commodities or services, the following provisions apply.

- (a) Quantity Discounts. Contractors are urged to offer additional discounts for one time delivery of large single orders. Customers should seek to negotiate additional price concessions on quantity purchases of any products offered under the Contract. State Customers shall document their files accordingly.
- (b) Best Pricing Offer. During the Contract term, if the Customer becomes aware of better pricing offered by the Contractor for substantially the same or a smaller quantity of a product outside the Contract, but upon the same or similar terms of the Contract, then at the discretion of the Customer the price under the Contract shall be immediately reduced to the lower price.
- (c) Sales Promotions. In addition to decreasing prices for the balance of the Contract term due to a change in market conditions, a Contractor may conduct sales promotions involving price reductions for a specified lesser period. A Contractor shall submit to the Contract Specialist

documentation identifying the proposed (1) starting and ending dates of the promotion, (2) products involved, and (3) promotional prices compared to then-authorized prices. Promotional prices shall be available to all Customers. Upon approval, the Contractor shall provide conspicuous notice of the promotion.

(d) Trade-In. Customers may trade-in equipment when making purchases from the Contract. A trade-in shall be negotiated between the Customer and the Contractor. Customers are obligated to actively seek current fair market value when trading equipment, and to keep accurate records of the process. For State agencies, it may be necessary to provide documentation to the Department of Financial Services and to the agency property custodian pursuant to Chapter 273, F.S.

(e) Equitable Adjustment. The Customer may, in its sole discretion, make an equitable adjustment in the Contract terms or pricing if pricing or availability of supply is affected by extreme and unforeseen volatility in the marketplace, that is, by circumstances that satisfy all the following criteria: (1) the volatility is due to causes wholly beyond the Contractor's control, (2) the volatility affects the marketplace or industry, not just the particular Contract source of supply, (3) the effect on pricing or availability of supply is substantial, and (4) the volatility so affects the Contractor that continued performance of the Contract would result in a substantial loss.

~~**5. Additional Quantities.** For a period not exceeding ninety (90) days from the date of solicitation award, the Customer reserves the right to acquire additional quantities up to the amount shown on the solicitation but not to exceed the threshold for Category Two at the prices submitted in the response to the solicitation.~~

6. Packaging. Tangible product shall be securely and properly packed for shipment, storage, and stocking in appropriate, clearly labeled, shipping containers and according to accepted commercial practice, without extra charge for packing materials, cases, or other types of containers. All containers and packaging shall become and remain Customer's property.

7. Inspection at Contractor's Site. The Customer reserves the right to inspect, at any reasonable time with prior notice, the equipment or product or plant or other facilities of a Contractor to assess conformity with Contract requirements and to determine whether they are adequate and suitable for proper and effective Contract performance.

8. Safety Standards. All manufactured items and fabricated assemblies subject to operation under pressure, operation by connection to an electric source, or operation involving connection to a manufactured, natural, or LP gas source shall be constructed and approved in a manner acceptable to the appropriate State inspector. Acceptability customarily requires, at a minimum, identification marking of the appropriate safety standard organization, where such approvals of listings have been established for the type of device offered and furnished, for example: the American Society of Mechanical Engineers for pressure vessels; the Underwriters Laboratories and/or National Electrical Manufacturers' Association for electrically operated assemblies; and the American Gas Association for gas-operated assemblies. In addition, all items furnished shall meet all applicable requirements of the Occupational Safety and Health Act and state and federal requirements relating to clean air and water pollution.

9. Americans with Disabilities Act. Contractors should identify any products that may be used or adapted for use by visually, hearing, or other physically impaired individuals.

10. Literature. Upon request, the Contractor shall furnish literature reasonably related to the product offered, for example, user manuals, price schedules, catalogs, descriptive brochures, etc.

~~**11. Transportation and Delivery.** Prices shall include all charges for packing, handling,~~

~~freight, distribution, and inside delivery. Transportation of goods shall be FOB Destination to any point within thirty (30) days after the Customer places an Order. A Contractor, within five (5) days after receiving a purchase order, shall notify the Customer of any potential delivery delays. Evidence of inability or intentional delays shall be cause for Contract cancellation and Contractor suspension.~~

12. Installation. Where installation is required, Contractor shall be responsible for placing and installing the product in the required locations at no additional charge, unless otherwise designated on the Contract or purchase order. Contractor's authorized product and price list shall clearly and separately identify any additional installation charges. All materials used in the installation shall be of good quality and shall be free of defects that would diminish the appearance of the product or render it structurally or operationally unsound. Installation includes the furnishing of any equipment, rigging, and materials required to install or replace the product in the proper location. Contractor shall protect the site from damage and shall repair damages or injury caused during installation by Contractor or its employees or agents. If any alteration, dismantling, excavation, etc., is required to achieve installation, the Contractor shall promptly restore the structure or site to its original condition. Contractor shall perform installation work so as to cause the least inconvenience and interference with Customers and with proper consideration of others on site. Upon completion of the installation, the location and surrounding area of work shall be left clean and in a neat and unobstructed condition, with everything in satisfactory repair and order.

13. Risk of Loss. Matters of inspection and acceptance are addressed in s. 215.422, F.S. Until acceptance, risk of loss or damage shall remain with the Contractor. The Contractor shall be responsible for filing, processing, and collecting all damage claims. To assist the Contractor with damage claims, the Customer shall: record any evidence of visible damage on all copies of the delivering carrier's Bill of Lading; report damages to the carrier and the Contractor; and provide the Contractor with a copy of the carrier's Bill of Lading and damage inspection report. When a Customer rejects a product, Contractor shall remove it from the premises within ten days after notification or rejection. Upon rejection notification, the risk of loss of rejected or non-conforming product shall remain with the Contractor. Rejected product not removed by the Contractor within ten days shall be deemed abandoned by the Contractor, and the Customer shall have the right to dispose of it as its own property. Contractor shall reimburse the Customer for costs and expenses incurred in storing or effecting removal or disposition of rejected product.

14. Transaction Fee. The State of Florida has instituted MyFloridaMarketPlace, a statewide eProcurement System ("System"). Pursuant to section 287.057(22), Florida Statutes, all payments shall be assessed a Transaction Fee of one percent (1.0%), which the Contractor shall pay to the State, unless exempt pursuant to 60A-1.032, F.A.C.

For payments within the State accounting system (FLAIR or its successor), the Transaction Fee shall, when possible, be automatically deducted from payments to the Contractor. If automatic deduction is not possible, the Contractor shall pay the Transaction Fee pursuant to Rule 60A-1.031(2), F.A.C. By submission of these reports and corresponding payments, Contractor certifies their correctness. All such reports and payments shall be subject to audit by the State or its designee.

Contractor shall receive a credit for any Transaction Fee paid by the Contractor for the purchase of any item(s) if such item(s) are returned to the Contractor through no fault, act, or omission of the Contractor. Notwithstanding the foregoing, a Transaction Fee is non-refundable when an item is rejected or returned, or declined, due to the Contractor's failure to perform or comply with specifications or requirements of the agreement.

Failure to comply with these requirements shall constitute grounds for declaring the Contractor in default and recovering reprocurement costs from the Contractor in addition to all outstanding fees. **CONTRACTORS DELINQUENT IN PAYING TRANSACTION FEES MAY BE SUBJECT TO BEING REMOVED FROM THE DEPARTMENT OF MANAGEMENT SERVICES' VENDOR**

LIST AS PROVIDED IN RULE 60A-1.006, F.A.C.

15. Invoicing and Payment. Invoices shall contain the Contract number, purchase order number if applicable, and the appropriate vendor identification number. The State may require any other information from the Contractor that the State deems necessary to verify any purchase order placed under the Contract.

At the State's option, Contractors may be required to invoice electronically pursuant to guidelines of the Department of Management Services. Current guidelines require that Contractor supply electronic invoices in lieu of paper-based invoices for those transactions processed through the system. Electronic invoices shall be submitted to the Customer through the Ariba Supplier Network (ASN) in one of the following mechanisms – EDI 810, cXML, or web-based invoice entry within the ASN.

Payment shall be made in accordance with sections 215.422 and 287.0585 of the Florida Statutes, which govern time limits for payment of invoices. Invoices that must be returned to a Contractor due to preparation errors will result in a delay in payment. The Customer is responsible for all payments under the Contract. A Customer's failure to pay, or delay in payment, shall not constitute a breach of the Contract and shall not relieve the Contractor of its obligations to the Department or to other Customers. A vendor ombudsman has been established within the Department of Financial Services. The duties of this individual include acting as an advocate for vendors who may be experiencing problems in obtaining timely payment(s) from a state agency. The Vendor Ombudsman may be contacted at (850) 413-5516 or by calling the Division of Consumer Services at 1-877-693-5236.

16. Taxes. The State does not pay Federal excise or sales taxes on direct purchases of tangible personal property. The State will not pay for any personal property taxes levied on the Contractor or for any taxes levied on employees' wages. Any exceptions to this paragraph shall be explicitly noted by the Customer in the special contract conditions section of the solicitation or in the Contract or purchase order.

17. Governmental Restrictions. If the Contractor believes that any governmental restrictions have been imposed that require alteration of the material, quality, workmanship or performance of the products offered under the Contract, the Contractor shall immediately notify the Customer in writing, indicating the specific restriction. The Customer reserves the right and the complete discretion to accept any such alteration or to cancel the Contract at no further expense to the Customer.

18. Lobbying and Integrity. Customers shall ensure compliance with Section 11.062, FS and Section 216.347, FS. The Contractor shall not, in connection with this or any other agreement with the State, directly or indirectly (1) offer, confer, or agree to confer any pecuniary benefit on anyone as consideration for any State officer or employee's decision, opinion, recommendation, vote, other exercise of discretion, or violation of a known legal duty, or (2) offer, give, or agree to give to anyone any gratuity for the benefit of, or at the direction or request of, any State officer or employee. For purposes of clause (2), "gratuity" means any payment of more than nominal monetary value in the form of cash, travel, entertainment, gifts, meals, lodging, loans, subscriptions, advances, deposits of money, services, employment, or contracts of any kind. Upon request of the Customer's Inspector General, or other authorized State official, the Contractor shall provide any type of information the Inspector General deems relevant to the Contractor's integrity or responsibility. Such information may include, but shall not be limited to, the Contractor's business or financial records, documents, or files of any type or form that refer to or relate to the Contract. The Contractor shall retain such records for the longer of (1) three years after the expiration of the Contract or (2) the period required by the General Records Schedules maintained by the Florida Department of State (available at: <http://dlis.dos.state.fl.us/barm/genschedules/gensched.htm>). The Contractor agrees to reimburse the State for the reasonable costs of investigation incurred by the Inspector General or other authorized State official for investigations of the Contractor's compliance with the terms

of this or any other agreement between the Contractor and the State which results in the suspension or debarment of the Contractor. Such costs shall include, but shall not be limited to: salaries of investigators, including overtime; travel and lodging expenses; and expert witness and documentary fees. The Contractor shall not be responsible for any costs of investigations that do not result in the Contractor's suspension or debarment.

19. Indemnification. ~~The Contractor shall be fully liable for the actions of its agents, employees, partners, or subcontractors and shall fully indemnify, defend, and hold harmless the State and Customers, and their officers, agents, and employees, from suits, actions, damages, and costs of every name and description, including attorneys' fees, arising from or relating to personal injury and damage to real or personal tangible property alleged to be caused in whole or in part by Contractor, its agents, employees, partners, or subcontractors, provided, however, that the Contractor shall not indemnify for that portion of any loss or damages proximately caused by the negligent act or omission of the State or a Customer.~~

~~Further, the Contractor shall fully indemnify, defend, and hold harmless the State and Customers from any suits, actions, damages, and costs of every name and description, including attorneys' fees, arising from or relating to violation or infringement of a trademark, copyright, patent, trade secret or intellectual property right, provided, however, that the foregoing obligation shall not apply to a Customer's misuse or modification of Contractor's products or a Customer's operation or use of Contractor's products in a manner not contemplated by the Contract or the purchase order. If any product is the subject of an infringement suit, or in the Contractor's opinion is likely to become the subject of such a suit, the Contractor may at its sole expense procure for the Customer the right to continue using the product or to modify it to become non-infringing. If the Contractor is not reasonably able to modify or otherwise secure the Customer the right to continue using the product, the Contractor shall remove the product and refund the Customer the amounts paid in excess of a reasonable rental for past use. The customer shall not be liable for any royalties.~~

~~The Contractor's obligations under the preceding two paragraphs with respect to any legal action are contingent upon the State or Customer giving the Contractor (1) written notice of any action or threatened action, (2) the opportunity to take over and settle or defend any such action at Contractor's sole expense, and (3) assistance in defending the action at Contractor's sole expense. The Contractor shall not be liable for any cost, expense, or compromise incurred or made by the State or Customer in any legal action without the Contractor's prior written consent, which shall not be unreasonably withheld.~~

20. Limitation of Liability. ~~For all claims against the Contractor under any contract or purchase order, and regardless of the basis on which the claim is made, the Contractor's liability under a contract or purchase order for direct damages shall be limited to the greater of \$100,000, the dollar amount of the contract or purchase order, or two times the charges rendered by the Contractor under the purchase order. This limitation shall not apply to claims arising under the Indemnity paragraph contain in this agreement.~~

~~Unless otherwise specifically enumerated in the Contract or in the purchase order, no party shall be liable to another for special, indirect, punitive, or consequential damages, including lost data or records (unless the contract or purchase order requires the Contractor to back-up data or records), even if the party has been advised that such damages are possible. No party shall be liable for lost profits, lost revenue, or lost institutional operating savings. The State and Customer may, in addition to other remedies available to them at law or equity and upon notice to the Contractor, retain such monies from amounts due Contractor as may be necessary to satisfy any claim for damages, penalties, costs and the like asserted by or against them. The State may set off any liability or other obligation of the Contractor or its affiliates to the State against any payments due the Contractor under any contract with the State.~~

21. Suspension of Work. The Customer may in its sole discretion suspend any or all activities

under the Contract or purchase order, at any time, when in the best interests of the State to do so. The Customer shall provide the Contractor written notice outlining the particulars of suspension. Examples of the reason for suspension include, but are not limited to, budgetary constraints, declaration of emergency, or other such circumstances. After receiving a suspension notice, the Contractor shall comply with the notice and shall not accept any purchase orders. Within ninety days, or any longer period agreed to by the Contractor, the Customer shall either (1) issue a notice authorizing resumption of work, at which time activity shall resume, or (2) terminate the Contract or purchase order. Suspension of work shall not entitle the Contractor to any additional compensation.

22. Termination for Convenience. ~~The Customer, by written notice to the Contractor, may terminate the Contract in whole or in part when the Customer determines in its sole discretion that it is in the State's interest to do so. The Contractor shall not furnish any product after it receives the notice of termination, except as necessary to complete the continued portion of the Contract, if any. The Contractor shall not be entitled to recover any cancellation charges or lost profits.~~

23. Termination for Cause. ~~The Customer may terminate the Contract if the Contractor fails to (1) deliver the product within the time specified in the Contract or any extension, (2) maintain adequate progress, thus endangering performance of the Contract, (3) honor any term of the Contract, or (4) abide by any statutory, regulatory, or licensing requirement. Rule 60A-1.006(3), F.A.C., governs the procedure and consequences of default. The Contractor shall continue work on any work not terminated. Except for defaults of subcontractors at any tier, the Contractor shall not be liable for any excess costs if the failure to perform the Contract arises from events completely beyond the control, and without the fault or negligence, of the Contractor. If the failure to perform is caused by the default of a subcontractor at any tier, and if the cause of the default is completely beyond the control of both the Contractor and the subcontractor, and without the fault or negligence of either, the Contractor shall not be liable for any excess costs for failure to perform, unless the subcontracted products were obtainable from other sources in sufficient time for the Contractor to meet the required delivery schedule. If, after termination, it is determined that the Contractor was not in default, or that the default was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the Customer. The rights and remedies of the Customer in this clause are in addition to any other rights and remedies provided by law or under the Contract.~~

24. Force Majeure, Notice of Delay, and No Damages for Delay. The Contractor shall not be responsible for delay resulting from its failure to perform if neither the fault nor the negligence of the Contractor or its employees or agents contributed to the delay and the delay is due directly to acts of God, wars, acts of public enemies, strikes, fires, floods, or other similar cause wholly beyond the Contractor's control, or for any of the foregoing that affect subcontractors or suppliers if no alternate source of supply is available to the Contractor. In case of any delay the Contractor believes is excusable, the Contractor shall notify the Customer in writing of the delay or potential delay and describe the cause of the delay either (1) within ten (10) days after the cause that creates or will create the delay first arose, if the Contractor could reasonably foresee that a delay could occur as a result, or (2) if delay is not reasonably foreseeable, within five (5) days after the date the Contractor first had reason to believe that a delay could result. **THE FOREGOING SHALL CONSTITUTE THE CONTRACTOR'S SOLE REMEDY OR EXCUSE WITH RESPECT TO DELAY.** Providing notice in strict accordance with this paragraph is a condition precedent to such remedy. No claim for damages, other than for an extension of time, shall be asserted against the Customer. The Contractor shall not be entitled to an increase in the Contract price or payment of any kind from the Customer for direct, indirect, consequential, impact or other costs, expenses or damages, including but not limited to costs of acceleration or inefficiency, arising because of delay, disruption, interference, or hindrance from any cause whatsoever. If performance is suspended or delayed, in whole or in part, due to any of the causes described in this paragraph, after the causes have ceased to exist the Contractor shall

perform at no increased cost, unless the Customer determines, in its sole discretion, that the delay will significantly impair the value of the Contract to the State or to Customers, in which case the Customer may (1) accept allocated performance or deliveries from the Contractor, provided that the Contractor grants preferential treatment to Customers with respect to products subjected to allocation, or (2) purchase from other sources (without recourse to and by the Contractor for the related costs and expenses) to replace all or part of the products that are the subject of the delay, which purchases may be deducted from the Contract quantity, or (3) terminate the Contract in whole or in part.

25. Changes. ~~The Customer may unilaterally require, by written order, changes altering, adding to, or deducting from the Contract specifications, provided that such changes are within the general scope of the Contract. The Customer may make an equitable adjustment in the Contract price or delivery date if the change affects the cost or time of performance. Such equitable adjustments require the written consent of the Contractor, which shall not be unreasonably withheld. If unusual quantity requirements arise, the Customer may solicit separate bids to satisfy them.~~

26. Renewal. ~~Upon mutual agreement, the Customer and the Contractor may renew the Contract, in whole or in part, for a period that may not exceed 3 years or the term of the contract, whichever period is longer. Any renewal shall specify the renewal price, as set forth in the solicitation response. The renewal must be in writing and signed by both parties, and is contingent upon satisfactory performance evaluations and subject to availability of funds.~~

27. Purchase Order Duration. ~~Purchase orders issued pursuant to a state term or agency contract must be received by the Contractor no later than close of business on the last day of the contract's term to be considered timely. The Contractor is obliged to fill those orders in accordance with the contract's terms and conditions. Purchase orders received by the contractor after close of business on the last day of the state term or agency contract's term shall be considered void.~~

~~Purchase orders for a one-time delivery of commodities or performance of contractual services shall be valid through the performance by the Contractor, and all terms and conditions of the state term or agency contract shall apply to the single delivery/performance, and shall survive the termination of the Contract.~~

~~Contractors are required to accept purchase orders specifying delivery schedules exceeding the contracted schedule even when such extended delivery will occur after expiration of the state term or agency contract. For example, if a state term contract calls for delivery 30 days after receipt of order (ARO), and an order specifies delivery will occur both in excess of 30 days ARO and after expiration of the state term contract, the Contractor will accept the order. However, if the Contractor expressly and in writing notifies the ordering office within ten (10) calendar days of receipt of the purchase order that Contractor will not accept the extended delivery terms beyond the expiration of the state term contract, then the purchase order will either be amended in writing by the ordering entity within ten (10) calendar days of receipt of the contractor's notice to reflect the state term contract delivery schedule, or it shall be considered withdrawn.~~

~~The duration of purchase orders for recurring deliveries of commodities or performance of services shall not exceed the expiration of the state term or agency contract by more than twelve months. However, if an extended pricing plan offered in the state term or agency contract is selected by the ordering entity, the contract terms on pricing plans and renewals shall govern the maximum duration of purchase orders reflecting such pricing plans and renewals.~~

~~Timely purchase orders shall be valid through their specified term and performance by the Contractor, and all terms and conditions of the state term or agency contract shall apply to the recurring delivery/performance as provided herein, and shall survive the termination of the~~

Contract.

~~Ordering offices shall not renew a purchase order issued pursuant to a state term or agency contract if the underlying contract expires prior to the effective date of the renewal.~~

28. Advertising. Subject to Chapter 119, Florida Statutes, the Contractor shall not publicly disseminate any information concerning the Contract without prior written approval from the Customer, including, but not limited to mentioning the Contract in a press release or other promotional material, identifying the Customer or the State as a reference, or otherwise linking the Contractor's name and either a description of the Contract or the name of the State or the Customer in any material published, either in print or electronically, to any entity that is not a party to Contract, except potential or actual authorized distributors, dealers, resellers, or service representative.

~~**29. Assignment.** The Contractor shall not sell, assign or transfer any of its rights, duties or obligations under the Contract, or under any purchase order issued pursuant to the Contract, without the prior written consent of the Customer. In the event of any assignment, the Contractor remains secondarily liable for performance of the contract, unless the Customer expressly waives such secondary liability. The Customer may assign the Contract with prior written notice to Contractor of its intent to do so.~~

30. Antitrust Assignment. The Contractor and the State of Florida recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the State of Florida. Therefore, the contractor hereby assigns to the State of Florida any and all claims for such overcharges as to goods, materials or services purchased in connection with the Contract.

~~**31. Dispute Resolution.** Any dispute concerning performance of the Contract shall be decided by the Customer's designated contract manager, who shall reduce the decision to writing and serve a copy on the Contractor. The decision shall be final and conclusive unless within twenty one (21) days from the date of receipt, the Contractor files with the Customer a petition for administrative hearing. The Customer's decision on the petition shall be final, subject to the Contractor's right to review pursuant to Chapter 120 of the Florida Statutes. Exhaustion of administrative remedies is an absolute condition precedent to the Contractor's ability to pursue any other form of dispute resolution; provided, however, that the parties may employ the alternative dispute resolution procedures outlined in Chapter 120.~~

~~Without limiting the foregoing, the exclusive venue of any legal or equitable action that arises out of or relates to the Contract shall be the appropriate state court in Leon County, Florida; in any such action, Florida law shall apply and the parties waive any right to jury trial.~~

32. Employees, Subcontractors, and Agents. All Contractor employees, subcontractors, or agents performing work under the Contract shall be properly trained technicians who meet or exceed any specified training qualifications. Upon request, Contractor shall furnish a copy of technical certification or other proof of qualification. All employees, subcontractors, or agents performing work under the Contract must comply with all security and administrative requirements of the Customer and shall comply with all controlling laws and regulations relevant to the services they are providing under the Contract. The State may conduct, and the Contractor shall cooperate in, a security background check or otherwise assess any employee, subcontractor, or agent furnished by the Contractor. The State may refuse access to, or require replacement of, any personnel for cause, including, but not limited to, technical or training qualifications, quality of work, change in security status, or non-compliance with a Customer's security or other requirements. Such approval shall not relieve the Contractor of its obligation to perform all work in compliance with the Contract. The State may reject and bar from any facility for cause any of the Contractor's employees, subcontractors, or agents.

33. Security and Confidentiality. The Contractor shall comply fully with all security procedures of the United States, State of Florida and Customer in performance of the Contract. The Contractor shall not divulge to third parties any confidential information obtained by the Contractor or its agents, distributors, resellers, subcontractors, officers or employees in the course of performing Contract work, including, but not limited to, security procedures, business operations information, or commercial proprietary information in the possession of the State or Customer. The Contractor shall not be required to keep confidential information or material that is publicly available through no fault of the Contractor, material that the Contractor developed independently without relying on the State's or Customer's confidential information, or material that is otherwise obtainable under State law as a public record. To insure confidentiality, the Contractor shall take appropriate steps as to its personnel, agents, and subcontractors. The warranties of this paragraph shall survive the Contract.

34. Contractor Employees, Subcontractors, and Other Agents. The Customer and the State shall take all actions necessary to ensure that Contractor's employees, subcontractors and other agents are not employees of the State of Florida. Such actions include, but are not limited to, ensuring that Contractor's employees, subcontractors, and other agents receive benefits and necessary insurance (health, workers' compensations, and unemployment) from an employer other than the State of Florida.

~~**35. Insurance Requirements.** During the Contract term, the Contractor at its sole expense shall provide commercial insurance of such a type and with such terms and limits as may be reasonably associated with the Contract. Providing and maintaining adequate insurance coverage is a material obligation of the Contractor. Upon request, the Contractor shall provide certificate of insurance. The limits of coverage under each policy maintained by the Contractor shall not be interpreted as limiting the Contractor's liability and obligations under the Contract. All insurance policies shall be through insurers authorized or eligible to write policies in Florida.~~

36. Warranty of Authority. Each person signing the Contract warrants that he or she is duly authorized to do so and to bind the respective party to the Contract.

37. Warranty of Ability to Perform. The Contractor warrants that, to the best of its knowledge, there is no pending or threatened action, proceeding, or investigation, or any other legal or financial condition, that would in any way prohibit, restrain, or diminish the Contractor's ability to satisfy its Contract obligations. The Contractor warrants that neither it nor any affiliate is currently on the convicted vendor list maintained pursuant to section 287.133 of the Florida Statutes, or on any similar list maintained by any other state or the federal government. The Contractor shall immediately notify the Customer in writing if its ability to perform is compromised in any manner during the term of the Contract.

38. Notices. All notices required under the Contract shall be delivered by certified mail, return receipt requested, by reputable air courier service, or by personal delivery to the agency designee identified in the original solicitation, or as otherwise identified by the Customer. Notices to the Contractor shall be delivered to the person who signs the Contract. Either designated recipient may notify the other, in writing, if someone else is designated to receive notice.

39. Leases and Installment Purchases. Prior approval of the Chief Financial Officer (as defined in Section 17.001, F.S.) is required for State agencies to enter into or to extend any lease or installment-purchase agreement in excess of the Category Two amount established by section 287.017 of the Florida Statutes.

~~**40. Prison Rehabilitative Industries and Diversified Enterprises, Inc. (PRIDE).** Section 946.515(2), F.S. requires the following statement to be included in the solicitation: "It is expressly understood and agreed that any articles which are the subject of, or required to carry out, the Contract shall be purchased from the corporation identified under Chapter 946 of the~~

~~Florida Statutes (PRIDE) in the same manner and under the same procedures set forth in section 946.515(2) and (4) of the Florida Statutes; and for purposes of the Contract the person, firm, or other business entity carrying out the provisions of the Contract shall be deemed to be substituted for the agency insofar as dealings with such corporation are concerned." Additional information about PRIDE and the products it offers is available at <http://www.pridefl.com>.~~

~~**41. Products Available from the Blind or Other Handicapped.** Section 413.036(3), F.S. requires the following statement to be included in the solicitation: "It is expressly understood and agreed that any articles that are the subject of, or required to carry out, this contract shall be purchased from a nonprofit agency for the Blind or for the Severely Handicapped that is qualified pursuant to Chapter 413, Florida Statutes, in the same manner and under the same procedures set forth in section 413.036(1) and (2), Florida Statutes; and for purposes of this contract the person, firm, or other business entity carrying out the provisions of this contract shall be deemed to be substituted for the State agency insofar as dealings with such qualified nonprofit agency are concerned." Additional information about the designated nonprofit agency and the products it offers is available at <http://www.respectofflorida.org>.~~

~~**42. Modification of Terms.** The Contract contains all the terms and conditions agreed upon by the parties, which terms and conditions shall govern all transactions between the Customer and the Contractor. The Contract may only be modified or amended upon mutual written agreement of the Customer and the Contractor. No oral agreements or representations shall be valid or binding upon the Customer or the Contractor. No alteration or modification of the Contract terms, including substitution of product, shall be valid or binding against the Customer. The Contractor may not unilaterally modify the terms of the Contract by affixing additional terms to product upon delivery (e.g., attachment or inclusion of standard preprinted forms, product literature, "shrink wrap" terms accompanying or affixed to a product, whether written or electronic) or by incorporating such terms onto the Contractor's order or fiscal forms or other documents forwarded by the Contractor for payment. The Customer's acceptance of product or processing of documentation on forms furnished by the Contractor for approval or payment shall not constitute acceptance of the proposed modification to terms and conditions.~~

~~**43. Cooperative Purchasing.** Pursuant to their own governing laws, and subject to the agreement of the Contractor, other entities may be permitted to make purchases at the terms and conditions contained herein. Non-Customer purchases are independent of the agreement between Customer and Contractor, and Customer shall not be a party to any transaction between the Contractor and any other purchaser.~~
~~State agencies wishing to make purchases from this agreement are required to follow the provisions of s. 287.042(16)(a), F.S. This statute requires the Department of Management Services to determine that the requestor's use of the contract is cost-effective and in the best interest of the State.~~

~~**44. Waiver.** The delay or failure by the Customer to exercise or enforce any of its rights under this Contract shall not constitute or be deemed a waiver of the Customer's right thereafter to enforce those rights, nor shall any single or partial exercise of any such right preclude any other or further exercise thereof or the exercise of any other right.~~

~~**45. Annual Appropriations.** The State's performance and obligation to pay under this contract are contingent upon an annual appropriation by the Legislature.~~

~~**46. Execution in Counterparts.** The Contract may be executed in counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.~~

~~**47. Severability.** If a court deems any provision of the Contract void or unenforceable, that provision shall be enforced only to the extent that it is not in violation of law or is not otherwise unenforceable and all other provisions shall remain in full force and effect.~~

Exhibit B
Method of Compensation

Central Florida Commuter Rail Transit Fare Collection System Equipment
 Contract BDU99
 Financial Project ID No. 412994-4-52-06

1.0 PURPOSE

This exhibit defines the method and limits of compensation to be made to the Vendor for the services described in Exhibit “A” – Scope of Services Fare Collection System Equipment, Exhibit “D” Fare Collection System Equipment Specifications, and Exhibit “E” CFCRT Business Rules and Exhibit “F” Required Contract Provisions for Federal Transportation Administration Federal Aid Contract,” and the method by which payments will be made.

2.0 COMPENSATION

There is no Budgetary Ceiling. Purchases will be made pursuant to and funds will be authorized for specific “Written Authorizations” that will be issued as the Department makes purchases pursuant to this Agreement. Vendor shall be paid in accordance with each Written Authorization. Separate Written Authorizations will be issued for the procurement of equipment and services as the Department determines is desirable. Execution of this Agreement does not guarantee that the work will be authorized.

The Department shall reimburse the vendor for the actual cost of the Railroad Insurance required by section 4 B. (4) of the Standard Written Agreement for the period within which the Vendor is required to be in the Central Florida Commuter corridor under this contract as specified in the Written Authorization covering that period.

2.1 Summary of Compensation

2.1.1 Fare Collection and Central Data Collection System Equipment Procurement:

The Department intends to issue a Written Authorization for the Procurement of Fare Collection and Central Data Collection Equipment for SunRail Phase I as soon as it is reasonably able after execution of this agreement. Each procurement of equipment will be made at the prices shown in Table 2, I, Fare Collection and Central Data Collection System Equipment Price List. Subsequent to the Phase I Procurement the Department may purchase Fare Collection and Central Data Collection System Equipment at the prices shown in this agreement through June 30, 2015.

The total amount to be paid for each procurement shall not exceed the amount shown in the Written Authorization inclusive of all equipment, installation, delivery, inspections, testing, manuals, training, shipping and handling, bonding, insurance (except Railroad Insurance as otherwise specified herein), software and drawings delivered in compliance with the terms and conditions of the Contract, and accepted by the Department.

2.1.2 Spare Parts,

The Department may purchase Spare Parts for the fare collection system equipment. The Department may purchase Spare Parts, under this provision on a per unit basis. At the Department’s sole discretion a Written Authorization or Purchase Order may be issued for Spare Parts at the rates shown in Table 3, Spare Parts, Special Tools, Maintenance Servicing, Diagnostic Equipment, and Training Price List. The quantity ordered, delivery location and date of delivery of each order shall be at the sole discretion of the Department. Payment for the Spare Parts will be made in accordance with the Written Authorization.

Pricing for Spare Parts, as shown in Table, 3 Spare Parts, Special Tools, Maintenance Servicing, Diagnostic Equipment, and Training Price List of this Exhibit "B" Method of Compensation shall be valid for orders placed through December 31, 2014 for Phase I procurements and for one year after Final Acceptance of any future procurements under this contract Spare Parts Special Tools, Maintenance Servicing, Diagnostic Equipment, and Training may be purchased at the rates charged by ACS to all customers at that time.

2.1.3 Special Tools, Maintenance Servicing and Diagnostic Equipment, and Training:

The Department may purchase Special Tools, Maintenance Servicing, Diagnostic Equipment, and Training under this provision on a per unit basis. At the Department's sole discretion A Written Authorization may be issued for Special Tools, Maintenance Servicing, Diagnostic Equipment, and Training at the rates shown in Table 3, Spare Parts, Special Tools, Maintenance Servicing, Diagnostic Equipment, and Training Price List of this Exhibit "B", Method of Compensation. The quantity ordered, delivery location and date of delivery of each order shall be at the sole discretion of the Department. Payment for the Special Tools and Maintenance Servicing, and Diagnostic Equipment and Training will be made in accordance with the Written Authorization.

Pricing for Special Tools, Maintenance Servicing and Diagnostic Equipment, and Training as shown in Table, 3 Spare Parts, Special Tools, Maintenance Servicing, Diagnostic Equipment, and Training Price List of this Exhibit "B" Method of Compensation shall be valid for orders placed through December 31, 2014 for Phase I procurements, and for one year after Final Acceptance of any future procurements under this contract Spare Parts Special Tools, Maintenance Servicing, Diagnostic Equipment, and Training may be purchased at the rates charged by ACS to all customers at that time.

2.1.4 Maintenance and Warranty Services

The Department may purchase Maintenance and Warranty services. The Department will issue a Written Authorization for the Maintenance and Warranty services. The Vendor will be compensated for these services at the monthly unit rates established in Table 1b, On-Going Support, page B-4

2.1.5 Additional Repair Services

The Department may authorize the Vendor to provide additional repair services for third party acts as specified in the Scope of Services by Written Authorization. The Vendor shall be compensated for these additional repair services as specified in the Written Authorization based on the rates provided in Table 5, Technical Support Hourly rates. The Department will issue a Written Authorization for these additional repair services on an as needed basis.

2.1.6 Railroad Insurance

The vendor shall be compensated for the cost of the Insurance Required for Construction at railroads as required by section 4 B. (4) of the Standard Written Agreement. Payment for this insurance will be made pursuant to the Written Authorization issued during the applicable period. Vendor is required to provide proof that this insurance is in place prior to submitting an invoice. Upon receipt of the proof of coverage the Department will authorize payment for the insurance.

2.2 Details of Compensation

2.2.1 Fare Collection System Equipment

The Vendor will receive progress payments for these commodities based on quantities delivered and accepted by the Department in accordance with the Milestone Payout Schedule in Table 1,

Page B-4, and Exhibit B-1, Milestone Payment Verification and Authorization Pages B-1.1 through B-1.9, the sum of which shall not exceed the Maximum Amount authorized in the Written Authorization. Final payment shall be made at such time as the Department accepts the commodities as being in complete compliance with all terms and conditions of the Written Authorization.

2.2.2 Spare Parts and Special Tools, Maintenance Servicing and Diagnostic Equipment, and Training

The Vendor will receive payment for Spare Parts and Special Tools, Maintenance Servicing and Diagnostic Equipment, and Training based on quantities delivered and accepted by the Department. The Department will specify the date for delivery of the parts to the Vehicle Storage and Maintenance Facility or other location within the corridor in the Written Authorization. Payment for the Spare Parts and Special Tools, Maintenance Servicing and Diagnostic Equipment, and Training, will be made pursuant to an invoice submitted in accordance with the Written Authorization and this Agreement after acceptance by the Department.

2.2.3 Maintenance and Warranty Services,

The Vendor will receive progress payments for these services at the rates shown in Table 1b, On-Going Support of this Exhibit "B" for Maintenance and Warranty Services as approved by the Department.

2.1.5 Additional Repair Services

The Vendor will receive payment for additional repair services in accordance with the Written Authorization therefore pursuant to an invoice submitted in accordance with the requirements of the Written Authorization and this Agreement.

3.0 INVOICING PROCEDURE

The Vendor shall receive final payment for the Fare Collection System Equipment in accordance with the Milestone Payout Schedule, and after final acceptance has been given by the Department

Milestone requirements are detailed in Exhibit "B-1" pages B-1.1 through B-1.9. The Vendor will be eligible for progress payments under this agreement when all elements of each milestone defined in the Milestone Payment Verification and Authorization attached hereto as Exhibit B-1, pages B-1.1 through B-1.9 and by this reference made a part hereof, are completed or reached.

The Vendor shall provide a certificate at the time of each milestone as indicated in the Milestone Payout Schedule certifying the amount of work completed by the Vendor. Payments shall be achieved and become eligible for payment only in the sequential order listed in Milestone Payout Schedule. The Vendor shall certify the cumulative level of effort completed by the Vendor. The Department may at its sole discretion make partial milestone payments out of sequence.

3.1 Fare Collection System Equipment:

Payments shall be achieved and become eligible for payment in accordance with Table 1, Milestone Payout Schedule or as negotiated for subsequent purchases. The Vendor shall certify the cumulative level of effort completed by the Vendor. The Vendor shall submit with each invoice certification that all requirements of each milestone have been completed and approved by the Department.

Documentation must be on file with the Vendor and forwarded to the Department to support the

invoiced costs. The Vendor shall maintain books and records as related to this Agreement in such a manner that supports each invoice.

3.2 Spare Parts, The Vendor shall submit to the Department invoices for the spare parts delivered as specified in the Written Authorization. Payment will be made to the vendor upon acceptance by the Department that all terms and conditions of the Written Authorization have been met and the commodities have been accepted the Department.

3.3 Special Tools, Maintenance Servicing, and Diagnostic Equipment, and Training

The Vendor shall submit to the Department invoices for the Special Tools, Maintenance Servicing, and Diagnostic Equipment, and Training delivered as specified in the Written Authorization. Payment will be made to the vendor upon acceptance by the Department that all terms and conditions of the Written Authorization have been met and the commodities and/or services have been approved by the Department.

3.4 Maintenance Plan, Warranty Plan:

The Vendor shall submit to the Department invoices for the Maintenance Plan, Warranty Plan delivered as specified in the Written Authorization. Monthly payments will be made to the vendor upon acceptance by the Department that all terms and conditions of the Written Authorization have been met and the services have been approved by the Department during the preceding month.

3.5 Additional Repair Services

The Vendor shall submit to the Department invoices for additional repair services. Payment will be made to the vendor upon acceptance by the Department that all terms and conditions of the Written Authorization have been met and the services have been approved by the Department.

3.6 Railroad Insurance:

The Vendor shall provide a copy of the paid invoice for the required railroad insurance to the Department. Upon approval of the invoice by the Department payment will be authorized and the vendor shall be reimbursed for this cost.

4.0 PROJECT CLOSEOUT

If requested, the Vendor will permit the Department to perform, or have performed, an audit of the records of the Vendor and any or all subvendors to support the compensation paid the Vendor. The audit will be performed as soon as practical after completion and acceptance of the contracted services. In the event funds paid to the Vendor under this agreement are subsequently properly disallowed by the Department because of accounting errors or changes not in conformity with this Agreement, the Vendor agrees that such disallowed amounts are due to the Department on demand. Further, the Department will have the right to deduct from any payment due the Vendor under any other contract any amount due the Department.

5.0 PAYMENT SCHEDULES

Table 1, Milestone Payout Schedule, and table 1b On-Going Support

Table 1, Milestone payment requirements are detailed on pages B-1.1 through B-1.9

Table 2, I Fare Collection System Equipment:

Unit Rates for Fare Collection System Equipment are shown below in Table 2, I, Fare Collection System Equipment, of this Exhibit "B".

Table 3 Spare Parts, Special Tools, Maintenance Servicing, Diagnostic Equipment Warranty Spare Parts and Training Price List.

Unit rates for Spare Parts, Special Tools, Maintenance Servicing, Diagnostic Equipment Warranty Spare Parts and Training Price are shown below in Table 3, Spare Parts, Special Tools, Maintenance Servicing, Diagnostic Equipment Warranty Spare Parts and Training Price List of this Exhibit "B".

Table 1b, Maintenance and Warranty Services:

Monthly unit rates for Maintenance Services, Warranty Services and Operations Maintenance and Technical Support services are shown below in Table 1b, On-Going Support of this Exhibit "B".

Table 1
Milestone Payout Schedule
State of Florida Department of Transportation
Central Florida Commuter Rail Transit (CFCRT) Fare Collection System equipment

Table 1 Milestone Description	% Payment*
Milestone #1: Approval of Installation and Interface, testing plans, sheets and reports for the In-Progress, Mid-Point, Preliminary and Final Design Reviews. Delivery and Acceptance of Master Program Schedule.	5%
Milestone #2: Complete Design Qualification Testing, First Article Configuration Inspection (FACI), and First Article Testing (FAT)	5%
Milestone #3: Complete all delivery and installations of CDCIS including DSC, data networking system and workstations, Delivery of Signed Software Code Deposit Agreement.	20%
Milestone #4: Complete delivery of all equipment including TVMs, SPTVs, HHTVs and POSMs including Software Escrow and Source Codes.	20%
Milestone #5: Complete Network Integration Inspection and Related Testing.	5%
Milestone #6: Approval of Acceptance Testing Plan.	5%
Milestone #7: Complete installation, integration and conditional acceptance testing of all TVM, SPTV, HHTV, POSM equipment.	15%
Milestone #8: Final Acceptance of all delivery, installation and delivery of equipment and products.	20%
Milestone #9: Delivery of all Fare Media.	5%
Total	100%
*Percentage of Total Maximum Amount	
On-Going Support Table 1b,	Monthly
	Amount
Maintenance and Warranty Services	\$98,277.08

Table 2
Fare Collection System Equipment
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
Central Florida Fare Collection System Equipment

Table 2, I. Fare Collection System and Central Data Collection Equipment Price List		
Prices valid for orders placed no later than June 30, 2015		
<u>Description of Item</u>	<u>Model No. and Part No.</u>	<u>Unit Price</u>
Full Service Ticket Vending Machines (FSTVM)	Expert 9100 FFTVM	\$59,719.00
Cashless Ticket Vending Machines (CTVM)	Expert 9100 CTVM	\$44,338.00
Station Platform Ticket Validator Units	CAB420	\$7,722.00
Hand Held Ticket Validator Units	Nexus S	\$3,082.00
Point-of Sale Machines	VX520	\$2,299.00
Fare Media/Smart Cards (Per 2,500 card unit) (Standard)	Mifare Plus	\$5,663.00
Limited Use Smart Cards (Paper), (2,500 per unit)	Mifare Ultra Lite	\$1,348.00
2, I Continued,		
Central Data Collection System Price List		
Part Description/Name	Manufacturer	Cost per unit
2821 Security Bundle, Adv Security, 64F/256D	Adv Security	\$5,666.71
ASA 5500 4-Port Gigabit Ethernet SSM (RJ-45+SFP)	ASA	\$6,102.77
ASA 5520 Appliance with SW, HA, 4GE+1FE, 3DES/AES	ASA	\$9,448.59
Dual input to single output PDU for single power supply units (ATS PDU)	ATS PDU	\$499.22
BayTech PDU26A-30 UC591 Power Strip 30a 49 Inch L6-30 Plug to 48xC13R no switch	BayTech	\$731.52
Cabling multi homed servers	Cable	\$254.71
Cabling other data	Cable	\$397.34
Chatsworth Megaframe Server Cabinet, CPI M1043232, 19"w X 39"d X 84"h, vented plexi front door perforated metal rear door with dual fan kit, cabinet cable management (4 corners), fixed shelves	Chatsworth	\$5,562.79
Catalyst 2960 24 10/100 + 2 1000BT LAN Base Image	Cisco	\$1,528.24
Cisco CSS 11503 Content Services Switch - Load balancing device	Cisco	\$22,414.16
Cisco Switch Model 3750-48 10/100/1000	Cisco	\$12,987.99
Cisco Switch Model 3750-48 w/POE 10/100/1000	Cisco	\$27,760.96
Crystal Reports Designer	Crystal Reports	\$1,212.40
Crystal Reports Server X1 R2 20 CALs	Crystal Reports	\$37,085.25
ESX Enterprise	ESX Enterprise	\$4,101.79
Vcenter Console - management console license	ESX Enterprise	\$5,088.01
HP - Hard drive - 1 TB - internal - 35" - 7200 rpm (AW555A)	HP	\$1,789.06
HP 5m Multi-mode OM2 LC/LC FC Cable	HP	\$193.58
HP 8/8 (8)-ports Enabled SAN Switch	HP	\$8,963.63
HP 8Gb Shortwave B-series FC SFP+ 1 Pack	HP	\$609.26
HP Dual Port Enterprise - hard drive - 300 GB SAS-2	HP	\$1,128.86
HP Installation Service LowEnd SAN/Edge Switch/HAFM Installation	HP	\$1,018.83

StorageWorks Modular Smart Array P2000 G3 FC Dual Controller LFF Array - hard drive	HP	\$18,768.80
146GB 15K 6GBPS-SAS 25 SFF SLIM-HS HD (42D0677)	IBM	\$790.61
4GB PC3-10600 CL9 DDR3-RDIMM DUAL RANK C (44T1483)	IBM	\$385.12
IBM 4GBPS FC DUAL-PORT PCIE HBA	IBM	\$2,604.12
IBM Websphere - base; 100 PVUs (50 PVUs/core)	IBM	\$8,405.31
IBM Websphere - ND; 100 PVUs (50 PVUs/core)	IBM	\$16,810.62
Media Server	IBM	\$12,225.91
SYSTEM X3650 M2 XEON E5530 24GSYS8MB 1 (794752U)	IBM	\$4,389.10
System x3950 X5	IBM	\$46,918.95
IL LAB CONFIG / INSTALL SERVICE PACK	IL LAB	\$44.83
LTO 4 Tape Library	LTO	\$40,753.02
McAfee M-1250 Sensor Appliance Hardware	McAfee	\$11,201.99
McAfee NTWK SEC 1250 SENSOR FAIL OVER HW 1U+	McAfee	\$8,145.51
NetBackup License Cross Platform	NetBackup	\$815.06
NetBackup Application & Database Pack	NetBackup	\$2,420.73
NetBackup Wintel License Virtual	NetBackup	\$352.51
Four port 10/100 Ethernet switch interface card	Network Switches	\$503.30
Updated 1-Port T1/Fractional T1 DSU/CSU WAN Interface Card	Network Switches	\$1,181.84
Oracle 11g - Standard	Oracle	\$9,780.73
Oracle 11g - Times 10	Oracle	\$14,263.56
Oracle Advance Security	Oracle	\$6,112.95
Oracle Database (CPU license) 11g Enterprise	Oracle	\$26,081.93
Oracle Options - Oracle Partitioning	Oracle	\$6,112.95
Oracle Options - Oracle RAC	Oracle	\$12,225.91
PGP Command Line - 2 CPUs, 1 Key, Send & Receive - with Bronze Maintenance - Perpetual	PGP	\$5,083.94
Relay Rack 84"H X 19"W CPI 57001-703 & CPI 57002-703, Horizontal 1U cable management CPI 30139-719 (6)	Relay Rack	\$951.58
SERVERAID M5015 SAS/SATA-CTRL (46M0829)	SERVERAID	\$921.02
Siebel Licensing Cost	Siebel	\$407,530.22
DB Agent License (data warehouse DB)	TripWire Software	\$1,212.40
File Server Agent License (batch(1), auth(6), web sphere(2), web server(1))	TripWire Software	\$1,212.40
12 Foot 4m CAT 5e Cables 8 Pack	Undetermined	\$101.88
8 Port KVM	Undetermined	\$1,426.36
Monitor Keyboard & Mouse	Undetermined	\$1,018.83
T shelf	Undetermined	\$158.94
VERITAS NetBackup Enterprise Server	VERITAS	\$6,112.95
Windows Enterprise 2008	Windows	\$5,603.54
Windows Web Edition	Windows	\$815.06
CDC System - Pre Warranty Maint.	Xerox	\$268,360.83
CDC System - Design & Testing	Xerox	\$1,358,156.05
Wireless Hardware	Cisco / HP	\$20,318.05

**Table 3,
Spare Parts, Special Tools, Maintenance Servicing, Diagnostic Equipment and Training Price List**

Prices valid for orders placed in accordance with section 2 above.

TVM Cashless - Spare Parts

Item Description	Manufacturer, Model & Part Number	Unit Cost
Info-panel A3	ACS-CH	\$109.30
Illumination	ACS-CH	\$130.55
Set for internal illumination	ACS-CH	\$130.55
600 cd/m215" TFT Screen	Various	\$2,276.88
Service Display inside	ACS-CH	\$473.59
Audio Amplifier 10W	Various	\$53.13
Full-range speaker 8 Ohm / 20W IP65	Various	\$6.92
Pinpad Schale	VeriFone VX700	\$56.92
Cable	ACS-CH	\$45.53
Printerchassis AP5000 assembled	ACS-CH	\$440.19
AP5000 MC & CL	ACS-CH	\$2,242.26
AP4200 Module assembled	ACS-CH	\$531.27
CSC Antenna switch	ACS-CH	\$156.65
CSC - Reader Control Module -	NXP	\$400.73
CSC Reader Control	Abdeckung zu	\$7.59
CSC Antenna on Printer	NXP	\$78.33
CTU assembled 0,76 CSC neutral	ACS-CH	\$1,038.26
Card magazine ass. CSC 0,76	ACS-CH	\$443.53
Support assembled CHM	ACS-CH	\$320.28
Ticket tray assembly	ACS-CH	\$103.22
Ticket channel ass. with flap	ACS-CH	\$311.17
Mounting material	ACS-CH	\$265.64
MCU 4.0 - HD 2GB für Expert9200	ACS-CH	\$1,252.28
USB Hub	ACS-CH	\$57.69
X-Bus Device	ACS-CH	\$77.87
Compact Flash 512MB	WT PQI	\$34.15
License Windows XP Embedded	Microsoft	\$118.39
Router NB1600 Wireline Ethernet	ACS-CH	\$500.91
Ethernet switch	ACS-CH	\$113.84
RJ45 modular coupler 8p	ACS-CH	\$19.73
Viper assembled	ACS-CH	\$273.22
Siren assembled (Piezo)	ACS-CH	\$22.77
Relais bank	ACS-CH	\$21.56
Peltier air conditioner 24V / 200W	ACS-CH	\$1,368.79
Cabinet cooling device	ACS-CH	\$121.44
Gasket cooling device	ACS-CH	\$15.17
Water drain	ACS-CH	\$15.17
Filter pad	ACS-CH	\$3.64
Sealing stripe	ACS-CH	\$30.36
Cooling duct	ACS-CH	\$37.95
Power Manager	ACS-CH	\$478.14
AC/DC-Converter 24V 240W	ACS-CH	\$96.08
Accumulator 12V / 2.2Ah	ACS-CH	\$18.22
Cover power supply assembled	ACS-CH	\$159.38
EMC Filter 20A	ACS-CH	\$47.97
Terminal block varistors,+ L/N/PE	ACS-CH	\$57.69
Cabling FVD full	ACS-CH	\$0.00

Cabling FVD Cashless	ACS-CH	\$607.16
Microswitch Cherry E19-00M	ACS-CH	\$9.11
Power LED illumination	ACS-CH	\$37.53
TVM Full Function - Spare Parts		
Item Description	Manufacturer, Model & Part Number	Unit Cost
Info-panel A3	ACS-CH	\$81.46
Illumination	ACS-CH	\$194.60
Set for internal illumination	ACS-CH	\$194.60
600 cd/m2	ACS-CH	\$2,545.64
Service Display inside	ACS-CH	\$705.99
Audio Amplifier 10W	ACS-CH	\$59.40
Full-range speaker 8 Ohm / 20W IP65	ACS-CH	\$10.32
Costs ACS Coin verifier	ACS-CH	\$135.77
Coinverifier 7er	ACS-CH	\$2,325.02
Coindrum Block 7er	ACS-CH	\$848.55
Coininlet	ACS-CH	\$560.04
RS2x CPU incl. SW	ACS-CH	\$233.35
BUCO Interface	ACS-CH	\$152.74
BUCO Typ x	ACS-CH	\$619.44
Coin vault 4.5 litres	ACS-CH	\$247.78
Mounting set Bill to Bill	ACS-CH	\$84.86
Pinpad Schale	VeriFone VX700	\$42.42
Cable	ACS-CH	\$33.94
Printerchassis AP5000 assembled	ACS-CH	\$328.10
AP5000 MC & CL	ACS-CH	\$2,506.94
AP4200 Module assembled	ACS-CH	\$593.98
CSC Antenna switch	ACS-CH	\$175.14
CSC - Reader Control Modul -	NXP	\$448.03
Abdeckung zu CSC Reader Control	Abdeckung zu	\$8.48
CSC Antenna on Printer	NXP	\$87.57
CTU assembled 0,76 CSC neutral	ACS-CH	\$1,547.75
Card magazine ass. CSC 0,76	ACS-CH	\$550.99
Support assembled CHM	ACS-CH	\$238.73
Ticket tray assembly	ACS-CH	\$76.94
Ticket channel ass. with flap	ACS-CH	\$231.94
Mounting material	ACS-CH	\$198.00
MCU 4.0 - HD 2GB für Expert9200	ACS-CH	\$1,400.10
USB Hub	ACS-CH	\$64.49
X-Bus Device	ACS-CH	\$87.06
Compact Flash 512MB WT PQI	ACS-CH	\$38.19
License Windows XP Embedded	Microsoft	\$132.37
Router NB1600 Wireline Ethernet	ACS-CH	\$560.04
Ethernet switch	ACS-CH	\$169.71
RJ45 modular coupler 8p	ACS-CH	\$29.42
Viper assembled	ACS-CH	\$407.31
Siren assembled (Piezo)	ACS-CH	\$33.94
Relais bank	ACS-CH	\$32.13
Peltier air conditioner 24V / 200W	ACS-CH	\$2,040.47
Cabinet cooling device	ACS-CH	\$181.02
Gasket cooling device	ACS-CH	\$22.63
Water drain	ACS-CH	\$22.63
Filter pad	ACS-CH	\$5.43

Sealing stripe	ACS-CH	\$45.26
Cooling duct	ACS-CH	\$56.57
Power Manager	ACS-CH	\$534.58
AC/DC-Converter 24V 240W	ACS-CH	\$107.42
Accumulator 12V / 2.2Ah	ACS-CH	\$27.15
Cover power supply assembled	ACS-CH	\$178.19
EMC Filter 20A	ACS-CH	\$53.63
Terminal block varistors,+ L/N/PE	ACS-CH	\$64.49
Cabling FVD full	ACS-CH	\$763.69
Cabling FVD Cashless	ACS-CH	\$0.00
Microswitch Cherry E19-00M	ACS-CH	\$11.88
Power LED illumination	ACS-CH	\$56.02
Station Platform Validator Spare parts		
Item Description	Manufacturer, Model & Part Number	Unit Cost
TFT LCD Screen	ACS-FR	\$ 270.82
CPU Board	ACS-FR	\$ 257.55
CPU Connection board	ACS-FR	\$ 49.05
Loudspeaker with cable	ACS-FR	\$ 32.92
Antenna	ACS-FR	\$ 8.02
Fuse	ACS-FR	\$ 0.38
Backlight	ACS-FR	\$ 22.62
Miscellaneous	ACS-FR	\$ 44.85
CAB420 connection board	ACS-FR	\$ 71.76
Front hood	ACS-FR	\$ 18.61
Front glass	ACS-FR	\$ 16.70
Special Tools, Maintenance Servicing and Diagnostic Equipment		
Item Description	Manufacturer, Model & Part Number	Unit Cost
RSX 28.5 Coin Mechanism Tools (ACS proprietary)	ACS-CH	\$23,907.32
Tools / Parts for BUCO (ACS proprietary)	ACS-CH	\$497.59
Tools for Coin Vault (ACS proprietary)	ACS-CH	\$128.41
Test Unit Coin Drum (ACS proprietary)	ACS-CH	\$7,223.14
Battery Charge Unit (ACS proprietary)	ACS-CH	\$321.03
Door switch and locking device test unit (ACS proprietary)	ACS-CH	\$642.06
Power Manager Test Unit	ACS-CH	\$1,605.14
CTU Test Unit with Software	ACS-CH	\$3,210.29
Printer tools & test software	ACS-CH	\$22,054.67
Memory Sticks for TVM Installation	ACS-CH	\$299.75
Door function Simulator COMO	ACS-CH	\$1,444.63
Detail contents of these Tool Kits is shown in Table 4, Fare Collection System tool Kit Detail,		

Table 3, Recommended Training Plan Course Cost Breakdown	
Course	Cost per Student
Revenue Servicing	\$4,388.00
Field Maintenance and Servicing	\$4,388.00
Shop Repair	\$4,388.00
Revenue Maintenance Workstation Operations	\$4,388.00
Administrative Workstation Operations	\$4,388.00
Security Workstation Operations	\$4,388.00
TVM Accounting and Registration Information	\$4,388.00

Table 4, Fare Collection System Tool Kit Detail,		
Test Units and Special Equipment	Part –No.:	Quantity
RSX Tools (ACS proprietary)	840.0800/xx	1
Test carriage complete for RS2x	ACS-CH	1
- without coin drum block		
- without coin verifier		
- without Bucos		
- incl. Trafobox 844.2102/01		
- incl. DC/DC Converter 932.0359/01		
- incl. Cables power supply		
Test software for above test chariot (ACS proprietary)	ACS-CH	1
Options included:		1
Coin Cash Box	ACS-CH	1
Coin Drum block	ACS-CH	1
Coin verifier RS 20	ACS-CH	1
1. BUCO coin	ACS-CH	1
e	ACS-CH	1
Coins and calibration set:	ACS-USA	1
- 3 mec. Reference coins		1
- 1 Streetmoney per denomination		1
- Floppy disc (Testparameter)		1
Tension gauge 0 - 3 g	ACS-CH	1
Calibration gauge	ACS-CH	1
Calibration disc	ACS-CH	1
Tension gauge	ACS-CH	1
Clips	ACS-CH	5
Gauge for Print plate	ACS-CH	1
Cleaning set for coin verifier	560.2036	3
Cleaning fluid	ACS-CH	3
Manual for maintenance RS 2x.7	ACS-CH	1
Tools / Parts for BUCO (ACS proprietary)	ACS-CH	1
Gauge for BUCO Type B,BB, E	ACS-CH	1
Gauge for BUCO Type A,AA	ACS-CH	1
Gauge for BUCO Type C	ACS-CH	1
Gauge for BUCO Type D	ACS-CH	1
Seal	ACS-CH	100
Tools for Coin Vault (ACS proprietary)	ACS-CH	1
Hand-rivet pliers T T55A	ACS-CH	1
Test Unit Coin Drum (ACS proprietary)	560.2118	1
Test Unit consisting of:		1
Drum and BUCO tester including: (ACS proprietary)	ACS-CH	1
- Base unit		1
- Cable		1
- Coin drum adapter		1
- Sensor adapter		1

- Power supply		1
- Wooden case		1
- Manual		1
Test equipment and programming tool for <i>coin drum block</i> incl. Software Art No. 560.2118		1
Battery Charge Unit (ACS proprietary)	ACS-CH 40.620/02	1
Battery Charge Unit incl. Documentation		1
Door switch and locking device test unit (ACS proprietary)	ACS-CH	1
Test cable with switches		1
Power Manager Test Unit	ACS-CH	1
Power Manager test SW and Cables/Interface		1
CTU Test Unit with Software	845.2763/**	1
Printer tools & test software	701.1148/**	
Test assembly 2901 KGB	701.1148/V1	3
SW License		3
Mifare Coupler CCS 2880	701.1148/9000	3
CCS Handrad 701.1148/V2	701.1148/V2	45
Memory Sticks for TVM Installation		4
Door function Simulator COMO	845.9553/03	2

Table 5		
Technical Support Services		
Job Class	Unit	Rate
Technician		
Regular time	Hour	\$90.00
-		
Systems Engineer		
Regular time	Hour	\$130.00
Software Engineer		
Regular time	Hour	\$130.00

Central Florida Fare Collection System Equipment		
Milestone Payment Verification and Authorization		
MILESTONE #1 DETAIL	Vendor Approval	FDOT Approval
Milestone #1: Approval of Installation and Interface, testing plans, sheets and reports for the In-Progress, Mid-Point, Preliminary and Final Design Reviews		
1. Submission and Approval of preliminary shop, station installation, and installation and interface by location at In-Progress design review		
2. Submission and Approval of detailed TVM, TVU station platform validator pedestal bolt patterns and all other mounting requirements at In-Progress design review		
3. Submission and Approval of Wiring and Installation Plan at In-Progress design review		
4. Submission and Approval of preliminary shop, station installation, and installation and interface by location at Mid-Point design review		
5. Submission and Approval of detailed TVM, TVU station platform validator pedestal bolt patterns and all other mounting requirements at Mid-Point design review		
6. Submission and Approval of Wiring and Installation Plan at Mid-Point design review		
7. Submission and Approval of preliminary shop, station installation, and installation and interface by location at PDR		
8. Submission and Approval of detailed TVM and SPTV bolt patterns and all other mounting requirements at PDR		
9. Submission and Approval of Wiring and Installation Plan at PDR		
10. Submission and Approval of Initial Installation and Interface Plan at PDR		
11. Submission and Approval of Draft and Final Testing Plans at PDR		
12. Submission and Approval of Final List of Spare Parts at PDR		
13. Submission and Approval of Training Curricula at PDR		
14. Submission and Approval of Final Warranty Plan at PDR		
15. Submission and Approval of Final Installation and Interface Plan at FDR		
16. Submission and Approval of preliminary shop, station installation, and installation and interface by location at FDR		
17. Submission and approval of detailed TVM, TVU station platform validator pedestal bolt patterns and all other mounting requirements at FDR		
18. Submission and Approval of Wiring and Installation Plan at FDR		
19. Submission and Approval of Installation and Removal Procedures at FDR		
20. Submission and Approval of Storage Plan and Operations Plan at FDR		
21. Submission and Approval of Location Specific Installation Drawings		
22. Submission and Approval of Installation Readiness Certification		
23. Submission and Approval of Detailed Testing Sheets		
24. Submission and Approval of the Master Program Schedule		
Pay Item Approved By:		
Date:		
Florida Department of Transportation: Printed Name		
Pay Item Approved By:		
Vendor: Printed name:		
Date:		

Central Florida Fare Collection System Equipment		
Milestone Payment Verification and Authorization		
MILESTONE #2 DETAIL	Vendor Approval	FDOT Approval
Milestone #2: Complete Design Qualification Testing, First Article Configuration Inspection (FACI), and First Article Testing (FAT)		
1. Submission and Approval of Draft and Final Testing Plans		
2. Submission and Approval of Design Qualification Testing Sheets		
3. Conduct Design Qualification Testing at PDR		
4. Submission and Approval of Design Qualification Testing Reports		
5. Submission and Approval of FACI Testing Sheets		
6. Conduct FACI of first production TVM, TVU, HHTV, POSM and CDCIS equipment		
7. Submission and Approval of FAT Procedures and Reports		
8. Submission and Approval of FAT Sheets		
9. Conduct FAT of final production TVM, TVU, HHTV, POSM and CDCIS equipment		
10. Submission and Approval of FAT Sheets and Reports		
Pay Item Approved By:		
Date:		
Florida Department of Transportation: Printed Name		
Pay Item Approved By:		
Vendor: Printed name:		
Date:		

Central Florida Fare Collection System Equipment		
Milestone Payment Verification and Authorization		
MILESTONE #3 DETAIL	Vendor Approval	FDOT Approval
Milestone #3: Complete all delivery and installations of CDCIS including DSC, data networking system and workstations		
1. DSC Delivered in accordance with Written Authorization		
2. DSC Quantities Correct		
3. DSC as specified		
4. DSC condition accepted		
5. Data Networking Equipment Delivered in accordance with the Written Authorization		
6. Data Networking Equipement Quantities Correct		
7. Data Networking Equipment as specified		
8. Data Networking Equipment condition accepted		
9. Workstations Delivered in accordance with The Written Authorization		
10. Workstations Quantities Correct		
11. Workstations as specified		
12. Workstations condition accepted		
13. Application Software Delivered in accordand with Written Authorization		
14. Application Software as specified		
15. Application Software Quantities Correct		
16. Application Software as specified		
17. Application Software condition accepted		
18. Report Generation Software as specified		
19. Report Generation Software Quantities Correct		
20. Report Generation Software as specified		
21. Report Generation Software condition accepted		
22. CDCIS equipment and networking installation accepted.		
23. Deliver Software Code Deposit Agreement signed by Vendor		
Pay Item Approved By:		
Date:		
Florida Department of Transportation: Printed Name		
Pay Item Approved By:		
Vendor: Printed name:		
Date:		

Central Florida Fare Collection System Equipment		
Milestone Payment Verification and Authorization		
MILESTONE #4 DETAIL	Vendor Approval	FDOT Approval
Milestone #4: Complete delivery of all equipment including TVMs, TVUs, HHTVs and POSMs including Software Escrow and Source Codes		
1. TVMs Delivered in accordance with the contract		
2. TVMs Quantities Correct		
3. TVMs as specified		
4. TVMs condition accepted		
5. Deposit TVM Source Code		
5. SPTVs Delivered in accordance with the contract		
6. SPTVs Quantities Correct		
7. SPTVs as specified		
8. SPTVs condition accepted		
9. HHTVs Delivered in accordance with the contract		
10. HHTVs Quantities Correct		
11. HHTVs as specified		
12. HHTVs condition accepted		
13. POSMs Delivered in accordance with the contract		
14. POSMs Quantities Correct		
15. POSMs as specified		
16. POSMs condition accepted		
Source Code deposited and approved by the Department as per the Software Code Deposit Agreement		
1.		
2 Deposit TVU Source Code		
3. Deposit HHTV Source Code		
4. Deposit POSM Source Code		
5. Deposit Contactless Smart Cards Source Code		
6. Deposit CDCIS Workstations Source Code		
7. Deposit DSC Source Code		
8. Electronic printed circuit boards, artwork, board layouts, bill of materials and schematics, data files, data file structure, data file mapping and cross-referencing, and data dictionary (availability of deposit materials listed for Item No. 8 is dependent upon supplier cooperation).		
Pay Item Approved By:		
Date:		
Florida Department of Transportation: Printed Name		
Pay Item Approved By:		
Vendor: Printed name:		
Date:		

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Central Florida Fare Collection System Equipment		
Milestone Payment Verification and Authorization		
MILESTONE #7 DETAIL	Vendor Approval	FDOT Approval
Milestone #7: Complete installation, integration and conditional acceptance testing of all TVM, TVU, HHTV, POSM equipment		
Major subsystems requiring inspection and approval for conditonal acceptance		
TVM		
1. Display Screen, tested and fully functional		
2. Push Button Controls, tested and fully functional		
3. Coin Handling System (FSTVM only), tested and fully functional		
4. Bill Handling System (FSTVM only), tested and fully functional		
5. Credit and Debit Card Subsystem, tested and fully functional		
6. Smart Card Subsystem, tested and fully functional		
7. Ticket Issuing System, tested and fully functional		
8. TVM Control System, tested and fully functional		
9. Functional Requirements, tested and fully functional		
10. Auxiliary Power System, tested and fully functional		
11. Servicing and Maintenance Access, tested and fully functional		
12. Light Fixture, tested and fully functional		
13. Circuit Breakers, tested and fully functional		
14. TVM Cabinet, tested and fully functional		
15. Air Circulation Units, tested and fully functional		
16. Drainage, tested and fully functional		
17. TVM Data, tested and fully functional		
18. Alarm Transmission, tested and fully functional		
19. Audit Ticket Data, tested and fully functional		
TVU		
20. Smart Card Validation tested and fully functional		
21. Customer User Interface, tested and fully functional		
22. Validator Control, tested and fully functional		
23. Data Transfer System, tested and fully functional		
HHTV		
24. Smart Card Subsystem tested and fully functional		
25. Card Reader, tested and fully functional		
26. Receipt Printing, tested and fully functional		
27. Transaction Processing, tested and fully functional		
28. Conductor Interface, tested and fully functional		
29. Validator Control, tested and fully functional		
30. Data Transfer System, tested and fully functional		
POSMs		
31. Smart Card Subsystem tested and fully functional		
32. Card Reader, tested and fully functional		
33. Receipt Printing, tested and fully functional		
34. Transaction Processing, tested and fully functional		
35. User Interface, tested and fully functional		
36. Data Transfer System, tested and fully functional		
37. Installation, integration and conditional testing of all equipment accepted.		
Pay Item Approved By:		
Date:		
Florida Department of Transportation: Printed Name		
Pay Item Approved By:		
Vendor: Printed name:		
Date:		

Central Florida Fare Collection System Equipment		
Milestone Payment Verification and Authorization		
MILESTONE #8 DETAIL	Vendor Approval	FDOT Approval
Milestone #8: Final Acceptance of all delivery, installation and delivery of equipment and products		
Major subsystems requiring inspection and approval for final acceptance		
TVM		
1. Display Screen, tested and fully functional		
2. Push Button Controls, tested and fully functional		
3. Coin Handling System (FSTVM only), tested and fully functional		
4. Bill Handling System (FSTVM only), tested and fully functional		
5. Credit and Debit Card Subsystem, tested and fully functional		
6. Smart Card Subsystem, tested and fully functional		
7. Ticket Issuing System, tested and fully functional		
8. TVM Control System, tested and fully functional		
9. Functional Requirements, tested and fully functional		
10. Auxiliary Power System, tested and fully functional		
11. Servicing and Maintenance Access, tested and fully functional		
12. Light Fixture, tested and fully functional		
13. Circuit Breakers, tested and fully functional		
14. TVM Cabinet, tested and fully functional		
15. Air Circulation Units, tested and fully functional		
16. Drainage, tested and fully functional		
17. TVM Data, tested and fully functional		
18. Alarm Transmission, tested and fully functional		
19. Audit Ticket Data, tested and fully functional		
TVU		
20. Smart Card Validation tested and fully functional		
21. Customer User Interface, tested and fully functional		
22. Validator Control, tested and fully functional		
23. Data Transfer System, tested and fully functional		
HHTV		
24. Smart Card Subsystem tested and fully functional		
25. Card Reader, tested and fully functional		
26. Receipt Printing, tested and fully functional		
27. Transaction Processing, tested and fully functional		
28. Conductor Interface, tested and fully functional		
29. Validator Control, tested and fully functional		
30. Data Transfer System, tested and fully functional		
POSMs		
31. Smart Card Subsystem tested and fully functional		
32. Card Reader, tested and fully functional		
33. Receipt Printing, tested and fully functional		
34. Transaction Processing, tested and fully functional		
35. User Interface, tested and fully functional		
36. Data Transfer System, tested and fully functional		
37. Installation, integration and final testing of all equipment accepted.		
Pay Item Approved By:		
Date:		
Florida Department of Transportation: Printed Name		
Pay Item Approved By:		
Vendor: Printed name:		
Date:		

Exhibit “C”, Price Proposal

The information included in Exhibit “C”, Price Proposal from the Request for Proposal document has been included in Exhibit “B” Method of Compensation, as per the Request for proposal.

Exhibit “D”

Fare Collection System Equipment Specifications

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Abbreviations and Acronyms

• ABS	Account Based System
• ADA	American with Disabilities Act
• ADAAG	Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities
• AES	Advanced Encryption Standard
• APDU	Application Protocol Data Unit
• API	Application Programming Interface
• CDCIS	Central Data Collection & Information System
• CFCRT	Central Florida Commuter Rail Transit
• CAA	Customer Administration Application
• CDRL	Contract Deliverables Requirements List
• COO	Chief Operating Officer
• COS	Card Operating System
• CTS	Communications Transmission Subsystem
• CTVM	Cashless Ticket Vending Machine
• DSC	Data Storage Computer
• DMS	Device Management System
• DTE	Diagnostic and Test Equipment
• EMI	Electromagnetic Compatibility
• EMV	Europay, MasterCard and Visa
• FACI	First Article Configuration Inspection
• FAT	First Article Testing
• FDR	Final Design Review
• FSTVM	Full Service Ticket Vending Machine
• GUI	Graphical User Interfaces
• HHTV	Handheld Ticket Validator
• IEC	International Electrotechnical Commission
• ISO	International Organization for Standardization
• LAN	Local Area Network

Abbreviations and Acronyms

- **MIL-HDBK** **Military Handbook**
- **MTTR** **Mean Time to Repair**
- **MDT** **Mobile Data Terminal**
- **NFC** **Near Field Communication**
- **NIC** **Network Interface Card**
- **OCC** **Operations Control Center**
- **OCD** **Operator Control and Display**
- **OMC** **Operations and Maintenance Vendor**
- **OSMP** **On Board Smart Media Processor**
- **OTA** **Online Ticketing Application**
- **PAD** **Patron Antenna and Display**
- **PCI DSS** **Payment Card Industry Data Security Standard**
- **PDR** **Preliminary Design Review**
- **PIV** **Personal Identity Verification**
- **POSM** **Point-of-Sale Machine**
- **QA/QC** **Quality Assurance/Quality Control**
- **RCA** **Regional Clearinghouse Application**
- **RF** **Radio Frequency**
- **SCSU** **Supplemental Change Storage Units**
- **SMT** **Smart Media Technology**
- **SPTV** **Station Platform Ticket Validator**
- **SSSMA** **System Status and Security Monitoring Application**
- **SQL** **Structured Query Language**
- **TVM** **Ticket Vending Machine**
- **UL** **Underwriter Laboratories**
- **UPS** **Uninterruptible Power Supply**

1.0 System Requirements

1.1 General

1.1.1 Description

The Fare Collection System shall consist of Ticket Vending Machines (TVMs), a Central Data Collection & Information System (CDCIS), Station Platform Ticket Validators (SPTVs), Handheld Ticket Validators (HHTVs), On-Board Smart Media Processors (OSMPs), Point-of-Sale Machines (POSMS), spare parts, special tools, test equipment, documentation, training, technical assistance and warranty as part of the system. The TVMs shall be designed for outdoor installation in a covered but open environment which includes precipitation, sun glare, heat and solar loading. The SPTVs and any equipment supplied and/or installed that is not housed in an environmentally controlled enclosure shall be rated to operate in the environmental conditions of the Central Florida area.

It is required that the TVMs, SPTVs, HHTVs, OSMPs and POSMS (Fare Collection Equipment) shall be service proven for revenue service. The system shall be of materials that are new and free of defects and which conform to the requirements of the technical specification.

The TVMs shall be a standard modular production model which shall have a certifiable record of reliable, low maintenance operation on one or more existing transit systems under service conditions similar to those indicated herein for a period not less than the past two (2) years. The TVM shall have a certifiable record of satisfactory performance reliability on similar types of installations. In the Technical Proposal, the Vendor described similar installations including reliability rates for the system implementation. For the purposes of reliability rates as defined below, failures shall mean any reason that the TVM is inoperable.

Reliability rates of similar installations shall be defined and calculated using the following:

- Failure Rate - defined as the number of failures in a 3-month period divided by the number of TVMs in the group.
- Tickets Vended Failure Rate - defined as the number of tickets vended failures in a 3-month period multiplied by 10,000 and then divided by the total number of tickets vended by all TVMs in the group.
- Mean Cycles Between Failures – defined as the sum of the total transactions for each piece of equipment divided by the number of failures for the same equipment.
- Mean Time to Repair (MTTR) – defined as the time to restore the equipment back to revenue service and shall be calculated from the moment the TVM failure has been reported to the moment the equipment has been tested and

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verified as fully functional and has been restored to revenue service. The time to restore to revenue service shall be measured as the total elapsed time including troubleshooting and replacement or repair, using the diagnostics, special tools, and procedures provided by the Vendor.

Fare payment media (standard and limited use contactless smart cards) shall be provided by the Vendor with:

- a Card Operating System (COS) that allows for the creation of a file structure;
- supports the minimum required application protocol data unit (APDU) command set;
- is compliant to ISO 14443 (Type A and Type B) and identified components of ISO 7816;
- supports encoding with FDOT, LYNX and Votran specific keys; and
- is commercially available in the U.S. for transit fare payment.

Customers shall buy tickets and passes or use transfer upgrade tickets for passage on the CFCRT system. The ticket, pass, or transfer upgrade ticket, in each case, evidences payment of fare and enables barrier-free fare control throughout the CFCRT system. No cash fares shall be collected aboard CFCRT trains. Self-service ticket vending machines (TVMs) located on CFCRT station platforms shall make change (FSTVMs only) and vend single ride tickets, round trip tickets, transfer upgrade tickets, day passes, weekly and monthly passes, and stored value cards.

1.1.2 Code Requirements

The fare collection system shall be designed and installed to comply with all applicable local, state and national design codes, ordinances, and standards, including Payment Card Industry Data Security Standards (PCI DSS), American Public Transportation Association's Contactless Fare Media System (APTA--CMFS) Standard, FTA National ITS Architecture Policy on Transit Projects and federal rules and regulations existing at the time of procurement and the contract execution date. The Vendor shall be responsible for identifying all local, state, and national design codes, ordinances, statutes, standards, and federal rules and regulations applicable to the fare-collection system at the time of contract award.

The following is a list of standards to be complied with in the execution of these technical specifications. The list is not intended to be all-inclusive. The latest revision in effect for each standard at the time of Written Authorization shall be used in conjunction with this technical specification.

Listed below are the principal (not all inclusive) applicable codes:

- American Welding Society B2.2
- American Welding Society C1.1
- American Welding Society D1.1

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- American Welding Society D1.2
- American Welding Society D1.3
- Federal Communication Commission emission limits
- Military Handbook MIL-HDBK-132
- National Electric Safety code, American National Standard C2, latest edition.
- National Electric Code, National Fire Protection Association ANSI/NFPA 70 and 130, latest edition.
- Underwriters Laboratories UL-751, "Vending Machines," latest edition.
- International Electrotechnical Commission standard 529 (IEC529).
- International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) 14443 (Type A and Type B) and identified components of ISO 7816
- Europay, MasterCard and VISA (EMV) standards.
- Americans with Disabilities Act (ADA) of 1990, 49 CFR Parts 27, 37, and 30.
- Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG).

1.1.3 Project Participants

The Vendor shall be responsible for coordination of the work of its contract with the Department and the Department's Contractors constructing the CFCRT Station Platforms, and providing commuter operations and maintenance services.

a. Design/Build (D/B) Contractor

The station platforms will be cast-in-place concrete pads constructed by the Design/Build Firm who is responsible for including in its construction all embeds (structural, electrical and mechanical) needed for station amenities and furnishings.

b. Station Finishes Contractors

There will be two separate Station Finishes Contractors that will complete the station platforms, one contractor for each phase of the project. The Station Finishes Contractors will be responsible for completing all electrical, communications, mechanical, structural, and architectural features on the station platforms with the exception of the TVMs and SPTVs.

d. Construction Engineering and Inspection Contractor

The Department will contract the construction engineering and inspection (CEI) work under a professional service contract that will be responsible for oversight of the station contractors including the TVM and SPTV delivery and installation.

e. Operations and Maintenance Contractor (OMC)

In preparation for the new commuter rail service, the Department will be mobilizing an Operations and Maintenance Contractor prior to the completion of the stations. The Operations and Maintenance Contractor will be responsible for operating and maintaining the CFCRT system. Optional operation and maintenance support for the fare collection system equipment may be required by the Vendor at the Department's option with coordination and oversight by the OMC and Chief Operating Officer.

f. Chief Operating Officer (COO)

The Department has filled the position of COO with a Consultant to the Department. The COO shall report to the CEO of the Department, which is the District Five Secretary. The responsibilities of the COO shall include, but are not be limited to:

- Having daily oversight of CFCRT commuter rail operations, service, and maintenance to ensure compliance with service standards and budgets, including oversight of all contracted services.
- Providing timely coordination with the appropriate staff of the individual Signatory Parties, LYNX, Votran, and CSXT in the event of an emergency (such as the need for bus bridges, public service announcements, security, or railroad property issues).
- Providing timely and comprehensive operational input to and coordination with the individual Signatory Parties and the third party Vendor in order to enable the Department to effectively respond to the needs and requirements of the individual Signatory Member Agencies and to enhance existing CFCRT service and future expansions.

g. Public Involvement/Marketing Services Contractor

The Department has contracted with a Third Party Services Provider under a separate contract that will be responsible for marketing, branding, public and media relations for CFCRT. The third party vendor will be responsible for developing and maintaining the CFCRT website. The Vendor shall coordinate with the Third Party Services Provider regarding interfaces with the registration, payment and reloading of smart cards and wrapping of fare collection equipment and smart cards. The Third Party Services Provider will also be responsible for provision of wireless services onboard CFCRT vehicles.

h. Other Third Party Service Providers

Other Third Party Service Providers may be contracted by the Department, to be responsible for the Operation and Maintenance of CFCRT clearinghouse and other required services to be determined.

1.2 Products

1.2.1 Design Criteria

a. Design Life

The Fare Collection Equipment design life shall be a minimum of 15 years of full-time revenue service in the Central Florida area. The fare collection equipment is expected to operate 24 hours per day and 7 days per week and 52 weeks per year.

b. Physical Characteristics

Equipment shall be designed and constructed to prevent theft and unauthorized access, minimize the effects of vandalism, prevent unauthorized removal of the equipment from its installed location, facilitate access by authorized personnel, and operate in the environmental conditions described in the section entitled "Operating Environmental Requirements."

c. Ease of Use/Safety

Fare collection equipment shall be designed to facilitate ease of use and safety for customers, maintainers, servicers, and other Department and LYNX personnel.

d. Accessibility for Customers with Disabilities

The TVM and SPTV shall comply with the requirements of 49 CFR Parts 27, 37, and 30 of the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG). All operating controls and identification shall be labeled with Braille. The TVM shall be equipped with a voice module to allow visually impaired customers to perform any transaction by following interactive voice instructions, both following displayed messages and providing supplemental messages as needed.

e. Lingual Requirements

The TVM shall present (not simultaneously) all messages on the display screen(s) in both English and Spanish. The TVM shall have the capability to add up to 5 additional languages on the display screen and audio functions. The default language for the initial display screen messages for all transaction shall be English. The audio capabilities shall correspond with the same language selected at the point when the audio button was depressed.

f. Electrical Requirements

Each unit of fare collection equipment shall operate from a single-phase power source of 120V, 60 Hz, and 30 amps maximum. All fare collection equipment shall be designed to operate with a plus or minus 10 percent fluctuation in line voltage without any equipment damage, decrease in performance, or service interruption. Primary power will be made available at the base of each piece of equipment.

g. Stand Alone Capabilities

System Requirements

The Fare Collection Equipment shall be able to operate on a stand alone basis (Up to 24 hours the machine will hold credit card data, before it goes into an Out of Service mode). For the TVMs, if one or more TVM goes offline, is powered down, is out of sync with the Central Data Collection & Information System (CDCIS), or otherwise not connected to the Local Area Network (LAN) or Data Storage Computer (DSC), this condition shall not negatively affect any other TVM or other component of the Fare Collection Equipment. For the CDCIS, if one or more of the servers goes offline or are unavailable, for any reason, the TVMs and all other Fare Collection Equipment shall continue to operate without loss of any data.

h. Smart Cards Interoperability with LYNX and Votran Fare Media and Equipment

LYNX and Votran will be accepting smart card fare payments from riders transferring to and from the CFCRT system. The Vendor shall provide smart cards that are compatible with GFI Genfare Odyssey. The CFCRT TVMs shall accept and read magnetic stripe cards from LYNX and Votran bus systems, based on the following card dimensions and specifications:

Definitions	ANSI/ISO Standard 7813-1987
Width	2.125" +/- .005"
Length	3.375" +/- .010"
Thickness	.010" +/- .001 inches .007" +/- .010" (transfers)
Material	Polyester Stock Paper Stock (transfers/day passes)

Vendors shall coordinate with the Department, LYNX and Votran to obtain the GFI GENFARE Technical Specifications for Magnetic Stripe Tickets and GFI Odyssey fareboxes or equivalent.

i. CFCRT Branding & Marketing

The Vendor shall design fare collection equipment to accommodate space for CFCRT branding and marketing for wrapping equipment. The Department shall provide the Vendor with design elements, graphics and color schemes to wrap fare collection equipment and print on contactless smart cards. Vendor shall print up to five design options on contactless smart cards provided by the Department.

1.2.2 CFCRT Operating Environmental Requirements

The TVMs shall be designed to be installed in an open environment with canopies provided above the equipment and SPTVs in an open environment without canopies provided above the equipment. The equipment will be exposed to elements including direct sunlight, wind-driven rain, and lightning. The TVMs and SPTVs shall be capable of operating over an ambient temperature range of 20°F to 110°F. In the summer, direct

System Requirements

sunlight conditions will cause cabinet temperature to rise considerably above ambient, in excess of 155°F. All equipment shall be capable of operating in relative humidity up to 95% over the ambient temperature range given above. This shall include periods of condensation and wind-driven rain, freezing rain and snow flurries.

1.2.3 Reliability

The reliability rate for all fare collection equipment shall at minimum 99% during normal operations, with the exception when the fare collection equipment is in degraded mode and when fare collection equipment is receiving downloads such as fare changes and system updates from the Central Data Collection & Information System (CDCIS).

1.2.4 Maintainability

Maximum consideration to maintenance, troubleshooting, component removal, repair and replacement and inspection shall be given in the design of all fare collection equipment. The objective of the maintainability program shall be to minimize maintenance labor, materials, costs, and fare collection downtime.

No more than one maintenance person or repairperson shall be required to restore a TVM back into revenue service at the station. Vendor shall submit, as part of the Technical and Price Proposals, the suggested preventative maintenance plan for the fare collection system. The plan shall account for all fare collection equipment including a combination of FSTVMs and CTVMs, with the quantity of each machine type to be supplied is subject to change.

2.0 Ticket Vending Machines

2.1 General

2.1.1 Submittals

As part of the Technical Proposal, the Vendor submitted technical specifications for Ticket Vending Machine equipment and installation including reliability rates for the system implementation and schedule for the design, manufacturing, implementation, testing and acceptance of the equipment, and process for replenishing fare media. That submittal is hereby incorporated herein this contract by reference.

2.2 Products

2.2.1 Functional Requirements

Two types of ticket vending machines (TVMs) shall be planned for implementation; a cashless TVM (CTVM) that will accept only credit/debit cards but not cash and a full-service TVM (FSTVM) that will accept both cash and credit/debit cards for payment and issue change. CTVMs and FSTVMs shall be designed to issue tickets (standard and limited use contactless smart cards) and add value to smart cards for CFCRT customers by accepting coins, bills or credit/debit cards transactions. The CTVMs shall be capable of the same functions as the FSTVMs, except for accepting cash and providing change. The quantity of each CTVMs and FSTVMs to be supplied is subject to change. The design of the TVMs shall be based on simple, clear and reliable construction, and modular components to make them easy to use and maintain.

Each FSTVM shall be equipped to:

- Accept all U.S. coins (including \$1 coins), except pennies and half dollars (50 cent) coins; \$1, \$2, \$5, \$10, \$20, \$50 and \$100 U.S. bills
- Provide change in the fewest number of coins as required
- Return monies deposited if a transaction is canceled or aborted
- Be configurable to determine which coins or bills are allowable for acceptance

Each TVM (FSTVM and CTVM) shall be equipped to:

- Accept credit and debit cards
- Read and add trips, passes, and stored values
- Respond to customer's choice of action
- Accept magnetic stripe cards from LYNX and Votran bus systems
- Issue standard and limited use contactless smart cards
- Register the number of media of each type and price range issued and total value of fare media sold

- Must be ADA compliant
- Provide audio output of messages and instructions
- Include a security and alarm system
- Indicate malfunctions of the unit
- Poll the CDCIS at different intervals throughout the day to download and upload hotlists, positive lists, threshold autoloads and directed autoloads.
- Include complete on-line TVM network capability with remote TVM status monitoring, automatic polling for sales information, a complete audit and accounting system, ability to remotely command TVMs to reset and self-diagnose, ability to remotely modify operating parameters, and process all credit/debit card authorizations

2.2.2 Customer User Interface

a. Display Screen

The display screen shall be a color, trans-reflective back lighted, 15" minimum Liquid Crystal Display (LCD), easily distinguishable in sunlight. The display screen shall display instructions, information, and user interface and be capable of displaying both text and graphics. The display screen shall adjust automatically to ambient light conditions so screen information can be read under all lighting conditions including direct sunlight and from an angle of up to 15 degrees in any direction and without need for additional light. TVMs shall be installed in an orientation parallel to the tracks as shown on the station platform drawings. The display screen shall be protected by shatter resistant plexiglass or polycarbonate covers and a glare reduction screen. Cathode ray tube (CRT) displays will not be allowed. Direct sunlight and/or high internal cabinet temperature shall not cause deterioration of the display. The LCD shall be industrial grade and required to tolerate extreme internal cabinet temperatures. (A cooling kit should be used to maintain the operating temperature range if required). The display screen shall remain functional when wet with precipitation, and must not suffer from "fogging" due to condensation shall occur. It shall have a minimum life of 135,000 hours during which no fading or other degradation shall occur.

The Display Screen together with the ADA-compliant interface, shall be the primary means of interface between the TVM and patrons. Therefore both shall be user friendly and located close enough to each other to enable eye movement between the two without the necessity to also move one's head. Braille shall be used to comply with ADA guidelines.

The display shall indicate amount due upon selection of ticket type and the remaining amount due, continuously updated by the amount accepted. The current time (synchronized with the TVM processor and updated every minute) shall be displayed on the idle screen.

Ticket Vending Machines

Information on the pushbutton configuration, patron display unit, and messages will be submitted to the Department for acceptance.

All text messages and information displayed shall be capable of being easily modified by the Department.. All such messages shall be configured on the back house equipment and shall be downloaded to the TVMs via both the network and a removable storage media in the event the network is out of order. All messages shall be in English and Spanish with English being the default language.

b. Push Buttons

The TVMs shall have soft key buttons to allow the customers to make their selections. The buttons shall not be removable from the outside of the TVM, and shall be vandal resistant. All buttons shall be sealed to prevent the intrusion of water.

c. Customer Instructions and Feedback

The display screen message shall respond to the depression of push buttons and shall provide feedback (visual and audio) throughout the ticket-purchasing process, including step-by-step instructions for purchasing a ticket and error messages responding to improper customer selections. In addition to the display screen, the TVM shall also provide audio beeps and tones to provide feedback to the customer.

d. Fare Payment Type/Instructions

All payment types accepted including credit cards, U.S. coins and U.S. bill denominations (FSTVMs only) shall be displayed on the exterior of TVMs. General information directing the customer user to the coin and bill slot (FSTVMs only), credit card reader, smart card reader, request receipts shall be displayed on the exterior of TVMs.

e. Indication of Special Operating Condition

All of the following indications shall be presented on the display screen during applicable special operating conditions:

- Exact Fare Only
- No Bills Accepted
- No Coins Accepted
- Ticket Type Not Available
- No Credit, ATM, or Debit Cards Accepted (even if not initially activated)
- Credit, ATM, and Debit Card Only (even if not initially activated)
- Receipt not available (even if not initially activated)
- Time-out transaction cancellation warning
- Out of service

2.2.3 Coin Handling System

a. General Requirements

Coins shall be verified, counted, and, if valid, transferred into escrow. Unacceptable coins shall be rejected individually and sent to the return tray. Upon completion of a transaction and issuance of valid fare payment, escrowed coins shall be deposited into the coin recirculation system or into the coin vault if the recirculation system is full. If the FSTVM switches to "Out-of-Service", the FSTVM times-out before the amount due is inserted, or the customer cancels the transaction before the transaction is completed, the same denomination of coins shall be returned to the customer via the return tray. FSTVMs shall dispense change in coin denominations, such that the fewest number of coins are dispensed.

b. Coin Slot

A single vertically oriented coin slot shall be provided permitting coins to pass without restriction directly into the coin acceptor assembly by the force of gravity. The coin insertion mechanism shall be designed so that liquids entering through the slot flow out of the TVM to avoid damage to the TVM and its components. A mechanical shutter, visible to the patron, shall be used to close the slot between transactions. The coin acceptor slot shutter shall remain closed until a 'due amount' is displayed on the patron display screen. The shutter shall automatically open once a transaction has been selected and the fare has been displayed. The coin slot shall be designed to accept coins readily without a frequent occurrence of dropping once the coin leaves the patron's grasp.

The shutter shall close automatically whenever one of the following situations occurs:

- Fare amount due has been inserted into the TVM.
- Cancel button has been pressed or the transaction is automatically canceled.
- Coin vault is full. Coin is jammed.
- TVM or coin processing unit switches to an out-of-service condition.

The coin slot shall be closed normally except when vending is enabled. All U.S. coins (including \$1 coins) shall be accepted, except pennies and half dollars (50 cent) coins.

The FSTVM shall reject coins, slugs or other objects other than the accepted coins and shall be returned to the customer via the return tray. Design of the coin slot shall minimize the possible entry of foreign objects including liquids and dirt. Where such objects are inserted in the coin slot, the coin tracks and coin acceptor shall have the maximum possible self-clearing ability.

c. Coin Acceptor

The coin acceptor shall be of an electronic type. There shall be both minimal mechanical mechanisms and coins rolling on rails. The coin acceptor shall have proven record of use in fare collection system in a public transit environment. The coin acceptor shall check

each coin to ensure that it meets U.S. Department of Treasury standards with regard to diameter, thickness, metal alloy, and mass. The coin acceptor shall reject counterfeit and foreign coins, tokens, and invalid items such as slugs and washers. Coins detected as invalid, such as bent coins, tokens, slugs, washers, counterfeit coins, and foreign coins shall be diverted directly to the coin return tray.

d. Coin Escrow

All coins shall be held in escrow until the ticket transaction has been completed. If the programmed or physical capacity is exceeded, all coins inserted shall be returned and the transaction automatically cancelled. Sensors shall be used to detect a jam in the escrow and to report such an incident.

f. Coin Recirculation

The FSTVM shall be provided with a coin recirculation system to minimize frequency of machine servicing for coin replenishment. The Vendor shall propose a design solution for the coin recirculation that best meets the following requirements.

- Receive all U.S. coins(including \$1 coins), except pennies and half dollars (50 cent) coins from the escrow, if used, or directly from the coin acceptor, and direct the coins to appropriate self replenishing coin magazines. Dispense all U.S. coins(including \$1 coins), except pennies and half dollars (50 cent) coins from the coin magazines..
- Employ a locking scheme that requires the Treasury Key and adherence to a "menu" procedure and proper personnel identification before removal of a coin-recirculation magazine. Access to coins inside the magazines shall require a Revenue Key.
- Dump all coins into the coin vault upon an authorized command provided that adequate space exists in the coin vault.
- Communicate with the Microprocessor Assembly to report specified events and data.

The FSTVM control electronics shall monitor the contents of each recirculating unit and shall record any transfer of coins from the coin recirculating units to the coin vault. The data recorded shall include:

- Date of the action
- Time of the action
- Denominations and number of coins for each denomination transferred from the coin recirculating units
- Denominations and number of coins for each denomination received by the vault
- Coin Vault Identification receiving the coins

g. Coin Vault

The coin vault shall provide security for the accepted coins prior to removal to the counting room. The coin vault shall be inserted into the TVM in a unique position. A concealed sensor built into the coin vault compartment shall detect when the coin vault is fully inserted and aligned properly with the coin channel that directs coins into the coin vault. Upon proper insertion into the TVM, the coin vault shall be locked into position, with no room for movement. The vault may only be removed using controlled keys retained by authorized Revenue Service personnel. The total amount of money deposited into the coin vault shall be monitored from the time the coin vault is inserted into the TVM until it is removed.

h. Non-replenishing Supplemental Change Storage Units

Supplemental change storage units (SCSU) shall serve as backup to any of the denominations supplied from the recirculation system. The SCSUs shall release coins as change only if coins are not available from the coin recirculation system.

2.2.4 Bill Handling System

a. General Requirements

The FSTVM bill handling system shall conform to the following requirements:

- Designed with the capability to accept \$1, \$2, \$5, \$10, \$20, \$50 and \$100 U.S. Accept any new bills issued by the U.S. Treasury for the 15-year life of the TVMs installed at the Department, while retaining the ability to accept those currently in circulation. The bill validator shall be configurable on-site to accept those other new bills by means of a software adjustment, a simple hardware adjustment, or both.
- Include a control system that shall monitor, control, and count all accepted bills by denomination.
- Include a shutter that shall protect the bill slot against the entry of fluids, when not in use.
- Be configurable to determine which bills are allowable for acceptance (i.e. only accept \$1, \$5, \$10 and \$20 bills).

b. Bill Validator

The FSTVM bill validator shall conform to the following requirements:

- Designed with the capability to accept \$1, \$2, \$5, \$10, \$20, \$50 and \$100 U.S. bills in any combination, or any one singly. The bill validator shall have the capability to accept any new bills issued by the U.S. Treasury for the 15-year life of the TVMs. Perform checks to verify bill authenticity.
- Reject counterfeit, foreign, and copied bills. Return rejected bills and hold until forcibly retrieved.

- Prevent "milking" by physically blocking the forceful retrieval of a bill already accepted or by preventing the manipulation of two bills or any other fraudulent scheme that would result in a ticket value greater than the actual money received or change being given without capturing the correct bills.
- Be designed based on technology that has a minimum of two years of proven and satisfactory performance record in a public transit environment.
- Use software controlled techniques to activate motors to clear a jam using more than one attempt if necessary. This requirement shall apply to the total path of the bill from the bill validator to the bill box.
- Minimize motor run time. The motor shall be triggered by an inserted bill and the bill automatically drawn in for authenticity checks.
- Accept input orientation of bills face up with either end first, or bills face down with either end first (4-way).
- Not initiate fare payment transaction complete or dispensing of ticket until all money appears in escrow.
- Accept at least 95 percent of "street condition" bills in each denomination on the first attempt, and at least 97 percent combined first and second attempt. Street condition bills are bills found in everyday customer use that are not torn, creased, crumbled, folded, or worn beyond what is normally found in street condition bills. Acceptance percentage shall be assured by the use of self-adjusting system that accounts for differences between bills in circulation caused by production variances and unique aging changes.

c. Bill Escrow

Valid bills accepted by the bill validator shall be transported to the bill escrow unit. The escrow shall hold the bills inserted until the selected ticket is dispensed or fare payment added to smart card. If the transaction is completed then the bills in escrow shall be transferred into the bill vault. Upon cancellation, all escrowed bills shall be returned at one time, to a separate bill return slot. The bill escrow shall return up to 15 escrowed bills if transaction is canceled.

d. Bill Vault

After the ticket has been dispensed, bills shall be transferred to and stacked in the bill vault. The bill vault shall neatly stack up to 1,000 bills. Each bill vault shall be fitted with an electronic device that is encoded with a unique serial number. Each bill vault shall be marked with the serial number and a corresponding bar code on the outside of the container. A device shall be used by the FSTVM to automatically read and identify the bill vault serial number and track the removal and insertion of a bill vault through the FSTVM software and memory. The bill vault shall be inserted into the FSTVM in one unique position only. A concealed sensor built into the bill vault compartment shall detect when the bill vault is fully inserted and aligned properly with the bill acceptor and bill escrow unit. Upon proper insertion into the FSTVM, the vault shall be locked into

position, with no room for movement. The total amount of money and number of bills, by denomination, deposited into the bill vault shall be monitored from the time the vault is inserted in the FSTVM until it is removed.

2.2.5 Credit and Debit Card Subsystem

a. General Requirements

The subsystem for the TVM to accommodate credit and debit cards, including the personal identification number (PIN) key pad, shall be supplied, tested and supported. All software and components of the TVM, aside from a PIN keypad, shall support the use of credit and debit cards for fare payment.

b. Card Reader

The TVM (FSTVM and CTVM) shall include a card reader that shall be able to read magnetically encoded and smart card credit /debit cards and magnetic stripe tickets. The card reader shall have all of the following capabilities:

- Read and verify information on credit and debit cards encoded in accordance with current applicable International Organization of Standardization (ISO) and EMV standards
- Read, verify and accept LYNX and Votran magnetic stripe fare media for transfers
- Be of the "insert and remove" type. The reading of the magnetic stripe tracks shall be accomplished by a manual movement of the card passing through fixed heads
- To detect use of the card to initiate transactions and close the bill and coin shutters
- To read identification and security data from and to remove and load value onto a secured card

c. Receipt Printing

- A printed receipt shall be provided on credit/debit card transactions, as well as cash transactions. The receipt shall contain all the information required to comply with the "Electronic Fund Transfer Act" as promulgated in the latest revision of Federal Reserve Board, Regulation E. FS Requirements 501.0118.
- Printed receipts shall have the last 8 digits of the smart card number, date and time of transaction, and TVM number.

d. Transaction Processing

A connection shall be established between the DSC and a clearinghouse providing all associated DSC software and hardware for purposes of determining validity and approving (or rejecting) bank card transactions initiated at the TVM. The card reader shall transmit card information to DSC, which sends it to the financial institution and/or clearinghouse and requests authorization. The PCI DSS (Payment Card Industry Data Security Standard) shall be required for credit card transactions. Compliance with all

relevant PCI security standards and specific card requirements are required and must be demonstrated with proof of current and on-going certification throughout the contract period. The provisions of S. 215.322, F.S., must be complied with including the utilization of the standardized contract between the financial institution or other appropriate intermediaries and the transaction processor.

2.2.6 Smart Card Subsystem

The smart card subsystem shall contain a contactless smart card reader to communicate, read and load values onto contactless smart cards. The contactless smart card reader shall read and verify information no more than 300 milliseconds and in accordance to ISO/IEC standard 14443 series (Type A and Type B). The Credit/Debit card readers and PIN Keypads shall be PCI DSS compliant. The TVM contactless smart card reader shall have sufficient memory to store:

- 100,000 transaction records
- 2,000 route/run records (including time segment records)
- 2,000 event/alarm records
- Hotlist containing no less than 100,000 Smart Media serial numbers
- Positive List containing no less than 100,000 smart media serial numbers.

2.2.7 Ticket Issuing System (Standard and Limited Use Disposable Smart Cards)

a. General Requirements

The TVM shall be capable of issuing standard smart cards from magazines/cassettes and limited use disposable smart card tickets from fan-fold stacks, rolls or cassettes of cut stock. The TVM shall store a minimum of 500 standard smart cards and 1000 limited use disposable smart card tickets.

b. Ticket Stock Description

TVMs and other elements of the fare system shall accommodate smart fare media that is ISO/IEC 14443 Type A/B compliant. The closed loop smart card and limited use tickets shall be similar in size as a credit card (dimensions specified by ISO/IEC-7810). In addition, TVMs and other elements of the fare system shall have capabilities to use any other forms of media that is ISO/IEC 14443 Type A/B compliant (i.e. watches, key fobs, stickers with smart chip etc). For deployment in future phases, the fare system should be provisioned to accept open loop fare media (Credit/Debit cards), Near Field Communication (NFC) devices, and third party smart cards (i.e. government PIV/CAC cards).

Closed Loop - Smart Card

The smart card is intended for recurring use. The expected lifecycle of the smart card shall be a minimum of four (4) years. The smart card shall be fabricated of plastic-coated layers and central layer shall be composed of polyester (PET) plastic. The smart card shall comply with ISO 10373 and ANSI INCITS 322 for durability.

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The smart card shall be ISO 14443 compliant Type A/B. The smart card shall have at a minimum, a pre-encoded unique 20-digit permanent serial number on the embedded chip. The unique card number is for establishing a customer's account within the CDCIS. The unique card number shall be printed on the smart card and shall be permanent.

The smart card shall be memory card or a microprocessor-based card. The smart card shall incorporate a broad range of security protocols to ensure that the card cannot be replicated or decrypted by an unauthorized individual using third party smart card readers and or any other unlawful method. The smart card shall employ sophisticated dynamic encryption such as triple Digital Encryption Standard (3DES) or Advanced Encryption Standard (AES) algorithms.

Closed Loop - Limited Use Ticket

The limited use ticket is intended for short-term usage. The limited use ticket will be fabricated of durable materials. The limited use ticket shall support account based processing. The limited use ticket shall comply with ISO 10373 and ANSI INCITS 410 (LU).

The limited use ticket shall be ISO 14443 compliant Type A/B. The limited use ticket shall have at a minimum, a pre-encoded unique 20-digit permanent serial number on the embedded chip. The unique limited use ticket number is for establishing a customer's account within the CDCIS. The unique number shall be printed on the limited use ticket and shall be permanent.

The limited use ticket shall incorporate a broad range of security protocols to ensure that the ticket cannot be replicated or decrypted by an unauthorized individual using third party smart card readers and/or any other unlawful method.

The limited use ticket shall employ sophisticated dynamic encryption such as triple Digital Encryption Standard (3DES) or Advanced Encryption Standard (AES) algorithms.

Future Acceptance of Open Loop Smart Media and NFC Devices

Open Loop Smart Media (contactless credit/debit cards, prepaid cards and various near field communications devices) will be deployed utilizing the same CDCIS and the equipment offered by the vendor. Contactless credit cards and debit cards, examples being MasterCard PayPass, Visa payWave, AMEX ExpressPay, Discover Zip, issued by financial institutions shall be accepted for the payment of fares in the future.

To ensure the acceptance of open loop smart media, the card reader shall have the following but not limited to:

- ISO 14443 Compliancy
- Provisioning of card readers to be certified and compliant with Europay/MasterCard/Visa (EMV) Level 1 and Level 2
- Necessary firmware to encrypt and de-encrypt data

A programmable sensor shall be provided to detect the level of remaining ticket stock. The level shall be programmable through the CDCIS. A warning alarm shall be sent to the DSC when any supply reaches the programmed level.

c. Ticket Jams

If a standard smart card jam is detected, the extended use feeder, if inoperable, shall not allow patron to select the extended use card purchase option in the TVM menu. Patrons can only select disposable smart card ticket.

If a ticket jam is detected, the ticket feeder, if inoperable, shall not allow patron to select the disposable smart card ticket purchase option in the TVM menu. Patrons can only select standard smart card for purchase.

If both standard smart card and disposable ticket feeders are inoperable. The TVM will shall switch to the "Out-of-Service" condition.

Appropriate alarms will be sent to the DSC for above conditions. Maintenance personnel shall be able to remove any jams without the use of tools, or disassembling the printer or any other subsystem.

2.2.8 TVM Control System

A microprocessor-based electronic control system shall coordinate ticket selection, fare selection, screen messages, money or card acceptance, ticket and change issue, and receipt printing (when required) in response to a customer's input. This system shall also collect and store audit data, perform fault-reporting functions, control access security functions, and communicate with the DSC.

2.2.9 Functional Requirements

a. General Requirements

In addition to regular ticket issuing, money handling, statistical, and fault-monitoring functions, the control system shall provide the operations described below.

b. Cancel Operation

The TVM shall include a cancel button for canceling the fare selection prior to insertion of the total amount due. The TVM shall return all money (and cards, if held) deposited during the transaction. Pressing the cancel button prior to the insertion of the total fare due shall cancel the last selection.

c. Time-Out Operation

A time-out function shall be provided to limit the time between successive steps after initiating a ticket selection.

d. On-Off Control

An easily accessible on-off switch shall be provided within the enclosure that shall turn the TVM (power) on or off. The DSC shall monitor use of this switch.

e. Audit Registers

To provide in-the-field performance statistics for maintenance staff, the TVM shall maintain internal counts of essential TVM data to allow for full recovery from loss of transactional and fault data. The status of the following conditions shall be possible to determine at all times:

- Amount of money, by denominations, in each of the currency units including vaults, hoppers and recirculation
- Number of transactions since last data download, by ticket/fare type and total
- Number of TVM failures since last data downloads
- TVM events since last data download
- Total money received, change issued, and overpayment accepted since last data download
- Amount of money inserted through coin slot to fill recirculation units

f. Overpayment

When the TVM is unable to provide change, it shall accept payment over the amount due and issue a ticket with the change or add the change to the patrons extended use smart card in the form of stored value.

g. Velocity Control

To prevent fraud, the TVM shall be designed and programmed for the number of times a patron can use their credit to purchase fare media and the maximum value of payment as define by the Department.

h. TVM Diagnostics

The control system shall provide detailed TVM functional and operational status when requested by authorized Department personnel via the internal maintenance keypad and internal maintenance screen or via the DSC.

i. Clock

Each microprocessor control system shall contain its own quartz crystal-controlled electronic clock, which shall be used to generate time signals to maintain an accurate record of the year, month, day of the month, and time of day (hour and minutes). The clock shall contain calendar data to determine the year, month, and day, including leap year, without manual intervention for at least 15 years, and shall provide accommodations for automatic correction for daylight savings time over the same period.

j. Data Storage and Transfer

The TVM shall collect and store data in the TVMs' computer hard drive. The TVM shall transmit the data to the DSC. All event and transaction data shall be transferred to the DSC via the fare collection LAN and CTS.

k. Error logs

The TVM shall generate error logs accessible by the administrator for diagnostics and troubleshooting. The error logs shall provide:

1. Error number
2. Date
3. Time
4. Severity code
5. Error description

2.2.10 Auxiliary Power System

A rechargeable dry or sealed gel cell battery source shall provide auxiliary power to the control system in the event of power interruptions. This uninterruptible power supply (UPS) shall provide the capability for the TVM to do all of the following:

- Issue a ticket if the ticket issue cycle is in process at the time of the power interruption
- Cancel the current transaction and return inserted money if the power failure occurs prior to the ticket issue cycle
- Perform an orderly shutdown
- Provide power, for at least one hour, to the TVM systems required to detect a TVM intrusion, activate and power the local alarm, and transmit a continuous intrusion alarm to the Operations Control Center (OCC)

After power has been restored to the TVM, regardless of the duration of power interruption, a charger within the TVM shall automatically recharge the UPS.

2.2.11 Servicing and Maintenance Access

a. General Requirements

Access to the TVM interior for servicing shall be by the front door. The TVM shall have security and access restrictions on the front door.

b. Revenue Servicing

Revenue servicing personnel shall have access to the TVM for the following:

- Replace the coin vault, bill vault, and supplemental change storage units
- Replenish recirculating units and ticket stock
- Require access to remove each of the money containers

c. Maintenance Access

Maintenance personnel shall have access to all components of the TVM except the money containers.

d. Security

The design and manufacture of the TVM, including all removable sealed money containers (coin vaults, bill vaults, coin recirculation units, and non-replenishing supplemental change storage units) shall ensure the highest degree of security. Cabinet design shall provide protection against vandalism, burglary, and/or removal of the TVM from the pad installation site. The design of the TVM shall also prevent access to the locking mechanisms and ticket stock through any of the cabinet openings.

e. TVM Access Method

Opening the front door of the TVM shall require engagement of the locking mechanism with the proper keying device. When the front door of the TVM is closed, no gaps shall exist between the door panel and the cabinet, to prevent the door from being pried open.

f. Local Alarm

The local alarm shall be a siren-type alarm and shall sound for a time period adjustable from zero seconds up to the entire time the front door is open. The adjustable duration shall be programmable from the DSC and set initially to the entire time the front door is opened without valid access codes. The TVM shall recognize the door as being open for all times when the door panel is 1/4 inch from its closed and locked position, along the side opposite the hinges. The local alarm shall activate after the allowable access authorization time expires.

g. Locks and Keys

All lock cylinders used in the Fare Collection Equipment shall be of a high-security, pick resistant design with angled key cuts, rotating tumblers, a keyway side biting and a slider mechanism or equivalent.

2.2.12 Light Fixture

The TVM shall be provided with a lighting fixture to illuminate the entire front side of the TVM. The lighting fixture shall be constructed out of the same material as the cabinet in a manner to keep out dirt, moisture, and insects. The fixture shall be controlled by a photocell that shall automatically switch the light on when the ambient light conditions outside the TVM fall below 20 foot-candles and switch it off when the light conditions rise above 20 foot-candles. A by-pass switch shall be provided on the interior of the TVM to permit the lighting fixture to be manually turned on and off. The light fixture shall contain a complete fluorescent lamp circuit and shall be constructed to allow easy replacement of the fluorescent lamps.

2.2.13 Circuit Breakers

Each TVM equipment enclosure shall contain a master circuit breaker to remove power from the entire unit. Additionally, each modular component, shall have a protective device as required by equipment design, and each protective device shall be clearly labeled as to its use.

2.2.14 Cabinet

The TVMs shall be designed to operate in covered but open locations. The equipment enclosure for the TVMs shall be of stainless steel. The top of the TVM shall slant to the rear of the TVM to prevent any accumulation of rain. The interior of the equipment shall be designed to allow easy and safe access to service equipment and sub-assemblies.

2.2.15 Air Circulation Units

The ventilation, cooling and/or heating shall be designed to ensure that all TVM equipment operates within the manufacturer's specified operating conditions when installed and subject to the site environmental conditions as defined in System Requirements, Section 1.2.2 Operating Environment Requirements. Any slots or openings for air circulation and ventilation shall incorporate standard commercially available filters into the openings.

2.2.16 Drainage

Adequate drainage shall be provided to prevent moisture or water accumulation inside the TVM cabinet. Additional drains shall be provided in return trays that drain to the exterior of the TVM.

2.2.17 TVM Data

The TVM shall monitor and record transaction and events data. All data, monitored and recorded, shall initially be stored in the TVM. All event and transaction data shall subsequently be transferred to the DSC.

2.2.18 Alarm Transmission

The TVM shall include all required hardware and software to indicate a problem (alarm condition) requiring attention. The software program shall provide continual remote monitoring. For each alarm event, the TVM shall transmit, in real time, a status report containing detailed information regarding the nature of the alarm event. The transmission of alarm events shall be organized according to the following priority levels:

- Intrusion/security violation
- Out-of-Service
- Revenue service
- Maintenance

2.2.19 Audit Ticket Data

At a minimum, all of the following types of audit tickets shall be available from each TVM and shall be printed on journal ticket stock:

- Revenue Audit Ticket
- Sales Audit Ticket
- Recovered Money Audit Ticket

Ticket Vending Machines

- Collection Audit Ticket
- Status Audit Ticket
- Diagnostics Audit Ticket
- Service Audit Ticket
- Replenish Money Audit Ticket

All audit tickets shall present the following information:

- Title or type of audit ticket
- TVM number
- Employee I.D
- Date and time audit ticket was printed

DELIVERABLES

- Customer User Interface design
- Color sketch and color diagram of the front layout of the TVM
- Display screen type and design
- Means of illumination to direct customer
- Display messages
- Updated instructions to change display message
- Instructions for changing display messages including audio
- Sequence of steps
- Graphics and text in compliance with ADA
- Type, size and location of fixation and structural composition of the serial number identification
- Procedure and equipment to modify coins accepted
- Updated procedure to modify coins
- Procedure for re-configuring the non-replenishing Supplemental Change Storage Units (SCSUs)
- Updated procedure for SCSU
- Hardware adjustments for the Bill Acceptor
- Personal Access Card graphics
- Methodology to prevent unauthorized software changes
- Document to implement smart card electronic payment functions
- Description of all smart card electronic payment provisions included
- Technical details of smart card (including minimum stored value capabilities)
- Security and safeguards of card operation system
- Keypad commands, internal displays and audible tones
- Step by step instructions, audio beep/tones and error messages
- List of functional and operational status
- Out of service indication

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- Proposed methodology for transferring data from a non-volatile memory storage device to the CDCIS
- Detailed shutdown and start-up procedures
- Complete list of events to be transmitted to the DSC
- Final list of events to be transmitted to the DSC
- List of error codes and their definitions
- Format of statistical data storage
- Security arrangements designed and manufactured into the TVM
- List of Service Codes
- Alarm design and method of deactivation
- Alarm hardware and software program
- Alarm - limits for interface characteristics
- Security lock and design
- Number of keys to be kept by the Vendor through Warranty period

3.0 Station Platform Ticket Validator

3.1 General

This section describes the requirements for the Station Platform Ticket Validators (SPTVs) to be installed on station platforms.

3.1.1 Submittals

As part of the Technical Proposal, the Vendor submitted technical specifications for Station Platform Ticket Validator equipment and installation including reliability rates for the system implementation and schedule for the design, manufacturing, implementation, testing and acceptance of the equipment. That submittal is hereby incorporated herein this contract by reference.

3.2 Products

3.2.1 Design Features

The Vendor shall supply the SPTV as an independent component to be installed on station platform. The design features are identical for each independent SPTV supplied under this contract.

The SPTVs shall include all of the design features listed below:

- Small, compact units that can be easily installed on station platforms
- Designed and installed to operate in the environmental conditions of the Central Florida area
- Simple passenger interfaces that allow for rapid boarding and alighting. Smart card “target” shall be designed in a prominent and accessible style
- All ADA standards including those for the hearing and visually impaired and installed at a max height between 48 inches and 54 inches from the platform floor

3.2.2 Functional Requirements

a. General Requirements

The SPTVs shall operate on power from a source on each station platform. A rechargeable dry or sealed gel cell battery source shall provide auxiliary power to the control system in the event of power interruptions.

b. Smart Card Validation

Each SPTV shall allow for contactless validation of both smart card and ticket media. The SPTV units shall have the capability to deduct the appropriate fare from the smart card based on passenger boarding and alighting zone. The SPTV contactless smart card reader shall have sufficient memory to store:

- 100,000 transaction records
- 2,000 event/alarm records
- Hotlist containing no less than 100,000 Smart Media serial numbers
- Positive List containing no less than 100,000 smart media serial numbers

c. Customer User Interface

Each SPTV shall have a visual display screen that has the capability to display text messages.

- Customer Instructions and Feedback
 - Each SPTV shall give instantaneous notification of card acceptance or rejection via a distinct audible tone and visible notification.
 - The SPTV's visual display shall indicate card read errors by error type and display a short message instructing the customer as to the appropriate action required to remedy the error.
- Out of Service Indication
 - The SPTV's visual display shall indicate to customers that the SPTV is out of service in the event that the SPTV is inoperative.

d. Validator Control and Data Transfer System

The SPTVs shall provide data transfer to the central data collection and information system via the fare collection LAN and CTS. The SPTVs shall poll the CDCIS at different intervals throughout the day to download and upload hotlists, positive lists, threshold autoloads and directed autoloads. The SPTVs shall have the ability to be monitored remotely for maintenance and system status.

e. Error logs

The SPTV shall generate error logs accessible by the administrator for diagnostics and troubleshooting. The error logs shall provide:

1. Error number
2. Date
3. Time
4. Severity code
5. Error description

3.3 Execution

3.3.1 Performance Requirements

The SPTVs module shall instantaneously process RF-equipped smart cards and deduct the appropriate fare upon validation no more than 300 milliseconds.

- Scaled color sketch of front panel
- All graphics, including text, to be displayed on the TVM to direct customers to the validator

Station Platform Ticket Validator

- Installation and wiring plan for the SPTVs to interface with station platform validator pedestal and TVMs on station platforms
- Data transfer plan that details data transfer to the central data collection and information system via the fare collection LAN and CTS.
- All software, hardware, and networking specifications

4.0 Handheld Ticket Validator

4.1 General

This section describes the requirements for the Handheld Ticket Validators (HHTVs) to be installed as an independent component on-board passenger coaches.

4.1.1 Submittals

As part of the Technical Proposal, the Vendor submitted technical specifications for Handheld Ticket Validator equipment including reliability rates for the system implementation and schedule for the design, manufacturing, implementation, testing and acceptance of the equipment. That submittal is hereby incorporated herein this contract by reference.

4.2 Products

4.2.1 Design Features

The Vendor shall supply the HHTV as an independent component to be used by Conductors and other fare enforcement personnel to use on passenger coaches and cab cars to inspect smart cards to ensure valid payment of fares. The design features are identical for each HHTV supplied under this contract.

4.2.2 Functional Requirements

a. General Requirements

The subsystem for the HHTV to accommodate credit and debit cards, including the personal identification number (PIN) key pad, shall be supplied, tested and supported. All software and components of the HHTV, aside from a PIN keypad, shall support the use of credit and debit cards for fare payment. The HHTVs shall operate on a rechargeable battery power source.

b. Smart Card Validation

Each HHTV shall allow for contactless reading of both smart card and ticket media via remote radio frequency (RF) interface. The HHTV units shall have the capability to detect the appropriate fare from the smart card based on passenger boarding and alighting zone.

c. Card Reader

The HHTVs shall include a card reader that shall be able to read magnetically encoded and smart card credit /debit cards and magnetic stripe tickets. The card reader shall have all of the following capabilities:

- Read and verify information on credit and debit cards encoded in accordance with current applicable International Organization of Standardization (ISO) 14443 (Type A and B) and EMV standards

- To read identification and security data from and to remove and load value onto a secured card

d. Receipt Printing

A printed receipt shall be provided on credit/debit card transactions. The receipt shall contain all the information required to comply with the "Electronic Fund Transfer Act" as promulgated in the latest revision of Federal Reserve Board, Regulation E. FS Requirements 501.0118. Printed receipts shall have the last 8 digits of the smart card number, date and time of transaction, and HHTV number.

e. Transaction Processing

A connection shall be established between the CDCIS and a clearinghouse and providing all associated CDCIS software and hardware for purposes of determining validity and approving (or rejecting) bank card transactions initiated at the HHTV. The card reader shall transmit card information to CDCIS, which sends it to the financial institution and/or clearinghouse and requests authorization. The PCI DSS (Payment Card Industry Data Security Standard) shall be required for credit card transactions. Compliance with all relevant PCI security standards and specific card requirements are required and must be demonstrated with proof of current and on-going certification throughout the contract period. The provisions of S. 215.322, F.S., must be complied with including the utilization of the standardized contract between the financial institution or other appropriate intermediaries and the transaction processor.

f. Smart Card Subsystem

The smart card subsystem shall contain a contactless smart card reader to communicate, read and load values onto contactless smart cards. The HHTV contactless smart card reader shall have sufficient memory to store:

- 100,000 transaction records
- 2,000 event/alarm records
- Hotlist containing no less than 100,000 Smart Media serial numbers
- Positive List containing no less than 100,000 smart media serial numbers

g. Conductor Interface

Each HHTV shall have a visual display screen that has the capability to display text messages.

- Conductor Instructions and Feedback
 - Each HHTV shall give instantaneous notification of card acceptance or rejection via a distinct audible tone and visible notification.
 - The HHTV's visual display shall indicate card read errors by error type and display a short message instructing the Conductor as to the appropriate action required to remedy the error.
- Out of Service Indication

- The HHTV's visual display shall indicate to the Conductor that the HHTV is out of service in the event that the HHTV is inoperative.

h. Validator Control and Data Transfer System

The HHTVs shall be equipped with wireless technology (i.e. Wi-Fi) that allows for remote data transfer to the central data collection and information system via wireless access points on coach cars or at stations and at maintenance facilities. The HHTVs shall poll the CDCIS at different intervals throughout the day to download and upload hotlists, positive lists, threshold autoloads and directed autoloads. The HHTVs shall have the ability to be monitored remotely for maintenance and system status.

i. Error logs

The HHTV shall generate error logs accessible by the administrator for diagnostics and troubleshooting. The error logs shall provide:

1. Error number
2. Date
3. Time
4. Severity code
5. Error description

4.3 Execution

4.3.1 Performance Requirements

The HHTVs module shall instantaneously process RF-equipped smart cards and deduct the appropriate fare upon validation no more than 300 milliseconds.

- Scaled color sketch of front panel
- Data transfer plan that details wireless technology that allows for remote data transfer to the central data collection and information system via wireless access points on coach cars or at stations and at maintenance facilities.
- All software, hardware, and networking specifications

5.0 On-Board Smart Media Processor

5.1 General

The Department's CFCRT Project will be designed to support fully integrated, seamless transfers between LYNX and Votran feeder bus services to/from CFCRT stations. In order to accomplish this goal, the fare collection systems for SunRail, LYNX, and Votran need to be fully integrated so that passengers can readily transfer between the bus and rail services. LYNX and Votran fareboxes onboard buses will need to be able to "read" SunRail fare media, and SunRail Ticket Vending Machines need to be able to "read" Lynx and Votran fare media.

6.0 Point-of-Sale Machine

6.1 General

This section describes the requirements for the Point-of-Sale Machines (POSMs) to be installed as an independent component at retail outlets.

6.1.1 Submittals

As part of the Technical Proposal, the Vendor submitted technical specifications for Point-of-Sale Machine equipment and installation including reliability rates for the system implementation and schedule for the design, manufacturing, implementation, testing and acceptance of the equipment. That submittal is hereby incorporated herein this contract by reference.

6.2 Products

6.2.1 Design Features

The Vendor shall supply the POSM as an independent component to be used at retail outlets for payment of fares, reloading value on smart cards, and selling smart cards. The design features are identical for each POSMs supplied under this contract.

6.2.2 Functional Requirements

a. General Requirements

The subsystem for the POSMs to accommodate credit and debit cards, including the personal identification number (PIN) key pad, shall be supplied, tested and supported. All software and components of the POSM, aside from a PIN keypad, shall support the use of credit and debit cards for fare payment. The POSMs shall operate from a power source supplied by the retail outlet and shall operate in temperatures from 32 degrees to 104 degrees Fahrenheit under 5% to 90% relative humidity. Each POSM shall allow personalization for the POSM location.

b. Card Reader

The POSMs shall include a card reader that shall be able to read magnetically encoded and smart card credit /debit cards and magnetic stripe tickets. The card reader shall have all of the following capabilities:

- Read and verify information on credit and debit cards encoded in accordance with current applicable International Organization of Standardization (ISO) 14443 (Type A and B) and EMV standards
- To read identification and security data from and to remove and load value onto a secured card

c. Receipt Printing

A printed receipt shall be provided on credit/debit card transactions, as well as cash transactions. The receipt shall contain all the information required to comply with the "Electronic Fund Transfer Act" as promulgated in the latest revision of Federal Reserve Board, Regulation E. FS Requirements 501.0118. Printed receipts shall have the last 8 digits of the smart card number, date and time of transaction, and POSM number.

d. Report Printing

Various reports shall be made available through the POSM user interface to allow the administrator and clerk to print data collected, number of daily and monthly cash sales, credit sales and debit sales.

e. Transaction Processing

A connection shall be established between the CDCIS and a clearinghouse and providing all associated CDCIS software and hardware for purposes of determining validity and approving (or rejecting) bank card transactions initiated at the POSM. The card reader shall transmit card information to CDCIS, which sends it to the financial institution and/or clearinghouse and requests authorization. The PCI DSS (Payment Card Industry Data Security Standard) shall be required for credit card transactions. Compliance with all relevant PCI security standards and specific card requirements are required and must be demonstrated with proof of current and on-going certification throughout the contract period. The provisions of S. 215.322, F.S., must be complied with including the utilization of the standardized contract between the financial institution or other appropriate intermediaries and the transaction processor.

f. Velocity Control

To prevent fraud, the TVM shall be designed and programmed for the number of times a patron can use their credit to purchase fare media and the maximum value of payment as define by the Department.

g. Smart Card Subsystem

The smart card subsystem shall contain a contactless smart card reader to communicate, read and load values onto contactless smart cards. The subsystem shall allow the user to undo the last transaction. The POSM contactless smart card reader shall have sufficient memory to store:

- 100,000 transaction records
- 2,000 event/alarm records
- Hotlist containing no less than 100,000 Smart Media serial numbers
- Positive List containing no less than 100,000 smart media serial numbers

h. User Interface

Each POSMs shall have a visual display screen that has the capability to display text messages.

- User Instructions and Feedback

- Each POSMs shall give instantaneous notification of card acceptance or rejection via a distinct audible tone and visible notification.
- The POSM's visual display shall indicate card read errors by error type and display a short message instructing the user as to the appropriate action required to remedy the error.
- Out of Service Indication
 - The POSM's visual display shall indicate to the user that the POSMs is out of service in the event that the POSMs is inoperative.

i. User Access

The POSMs shall offer administrative level user access and clerk level user access. Each user shall be provided an ID and password to logon to the POSM.

1. Clerk Access – The clerk shall be able to:
 - a. Read smart card
 - b. Add value and products to the card
 - c. Undo the last transaction
 - d. Reprint receipts
 - e. Run Daily, Monthly and Transaction detail reports
2. Administrator Access - The administrator shall be able to perform all clerk activities as well as:
 - a. Add user ID and assign the user ID to either administrator access or clerk access;
 - b. Delete users
 - c. Change passwords
 - d. Issue a data upload
 - e. Run diagnostics for troubleshooting

j. Data Transfer System

The POSMs shall be equipped with an Ethernet connection that allows for remote data transfer to the central data collection and information system. The POSMs shall have the ability to be monitored remotely for maintenance and system status. The POSMs shall poll the CDCIS at different intervals throughout the day to download and upload hotlists, positive lists, threshold autoloads and directed autoloads. The POSMs shall generate event data and transaction data where the event data indicates operational status and the transaction data is inclusive of all transactions since the last poll.

k. Software Upgrades

The POSMs shall have the ability to accept software upgrades via a remote connection to a CDCIS where the software publishes will be orchestrated and issued by a system administrator. The automatic remote software download from the CDCIS to the POSM shall achieve a 95% success rate when the software downloads are sent to the devices used in actual revenue operation over the production communications network used in actual operation. This functionality must be demonstrated by concurrently upgrading

the software via a software publish from CDCIS to a minimum of 5 devices using the production communications configuration.

k. Error logs

The POSM shall generate error logs accessible by the administrator for diagnostics and troubleshooting. The error logs shall provide:

1. Error number
2. Date
3. Time
4. Severity code
5. Error description

6.3 Execution

6.3.1 Performance Requirements

The POSMs module shall instantaneously process RF-equipped smart cards and deduct the appropriate fare upon validation no more than 300 milliseconds.

DELIVERABLES

- Scaled color sketch of front panel
- All software, hardware, and networking specifications

7.0 Central Data Collection & Information System

7.1 General

7.1.1 Description

This section specifies the requirements for the Central Data Collection & Information System (CDCIS) to be furnished under the Contract. All fare collection and validation equipment shall communicate with the CDCIS (i.e. “back office”) for transfer of all stored data and transfer of equipment parameters. The CDCIS will be an “ACCOUNT BASED SYSTEM” and all fare product and customer information will reside on the account level and not on the smart card itself.

In the account-based system, the data stored on the issued smart media will only be used as a means to identify the smart card uniquely and be linked to an account within the CDCIS. Fare products purchased or reloaded (stored value, trips, passes, transfers) will be associated to the account within the CDCIS. The accounts will be accessed and verified each time the smart media is presented (tapped) to a contactless reader. Fare processing will apply the transfer rules, fare policy rules, and fare calculation will occur in the CDCIS.

Designing and implementing an account based system will be the key for future proofing of payment infrastructure to accept contactless credit/ debit cards, pre-paid cards, near-field devices, and other contactless media in the future stages.

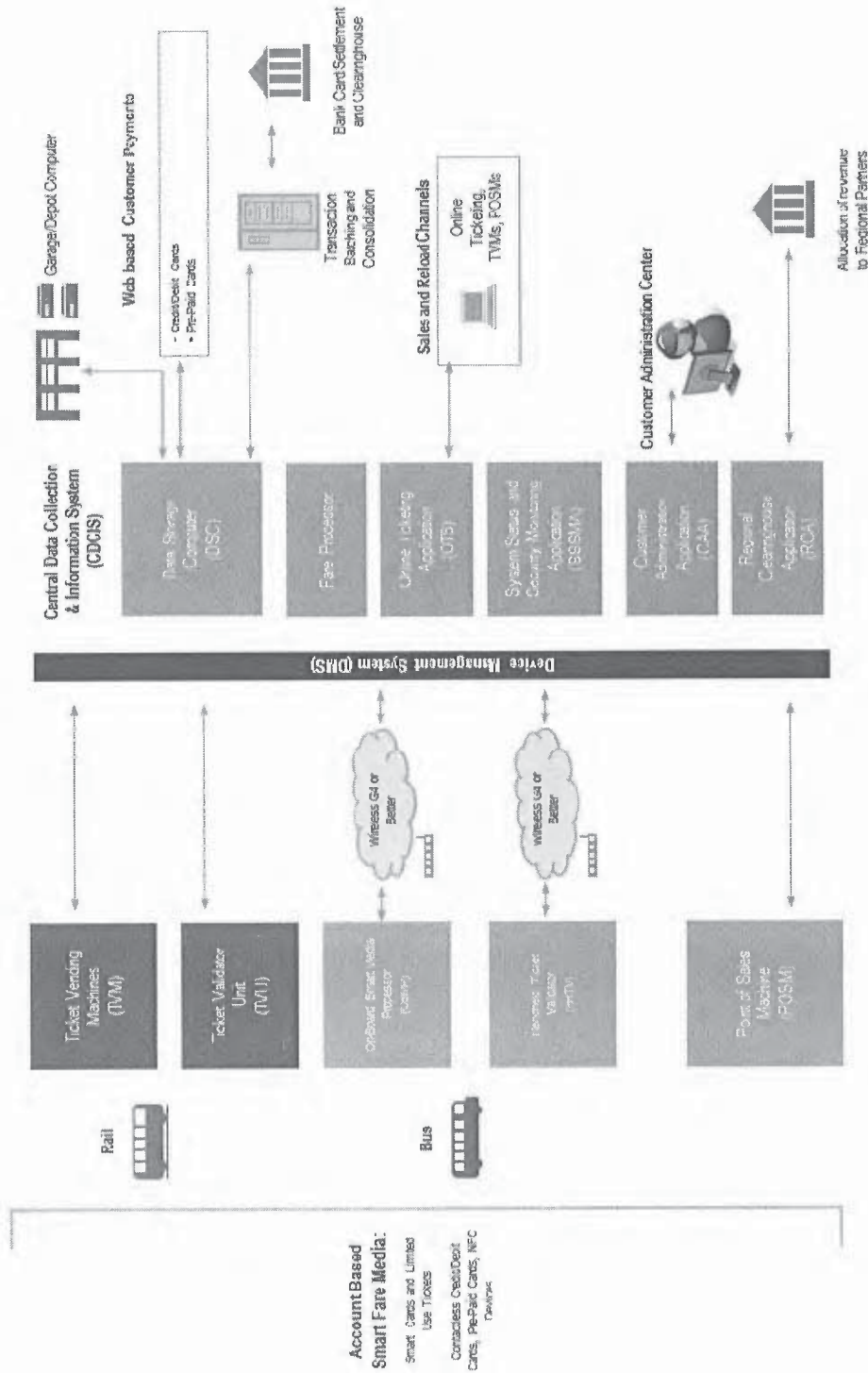
The account-based solution offered should be such that it allows the regional partners (Department, LYNX and Votran) to seamlessly transition to the future stages media mentioned above.

The CDCIS offered shall be a single integrated CDCIS that is capable of serving the regional partners (Department, LYNX and Votran) and shall allow for regional clearing and settlement activities among regional partners based upon flexible configuration rules.

For the initial deployment, the regional partners expect to utilize limited-use (short-term) disposable paper and standard (long-term) plastic smart card media. In the future, the regional partners expect to migrate to open payment solutions media based on contactless credit/ debit cards, prepaid cards and various near field communications (NFC) that may be deployed utilizing the same CDCIS and the equipment offered by the Vendor.

An architecture diagram depicting the solution envisioned is presented on the following page.

Account Based "Back Office" System



7.1.2 Submittals

As part of the Technical Proposal, the Vendor submitted technical specifications for Central Data Collection & Information Systems equipment, software and installations including reliability rates for the system implementation and schedule for the design, manufacturing, implementation, testing and acceptance of the equipment. That submittal is hereby incorporated herein this contract by reference.

7.2 Products

7.2.1 Central Data Collection & Information System (CDCIS)

The CDCIS and subsystems shall be designed as a set of scalable systems. The use of scaling techniques and technologies to size and configure the system to address both present and future needs must be included in the overall system architecture approach.

The CDCIS shall provide automatic monitoring and control of all devices connected to the network.

The CDCIS shall accommodate up to 100 TVMs, 100 SPTVs, 50 HHTVs, 400 POSMs and 600 OSMP devices.

The CDCIS shall communicate and provide a seamless interface with the CFCRT website including, but not limited to, on-line ticket purchases, reloading of smart cards and smart card registration.

The CDCIS shall function as a single, fully cohesive system, with a unified architecture to data formatting, report generation, fare table and device parameter download data. All operating systems, provided by the Vendor, shall support open-systems technology architecture. Access to the system database(s) and Application Programming Interfaces (APIs) shall be provided by the vendor along with documentation that describes tables and data structure needed to develop any third party applications. All CDCIS equipment shall be provided by Vendor with an uninterruptible power supply (UPS) to provide power to the control system in the event of power interruptions.

7.2.2 Subsystems and Application

The CDCIS shall be comprised of the following subsystems and applications to support an account based back office:

- Data Storage Computer (DSC)
- Fare Processor
- Device Management System (DMS)
- Regional Clearinghouse Application (RCA)
- Online Ticketing Application (OTA)
- Customer Administration Application (CAA)
- System Status and Security Monitoring Application (SSSMA)

- Servers
- Work Stations
- Any Additional Equipment required for the safe and reliable operation of the CDCIS system. Additional equipment would be purchased as optional equipment.

7.2.2.1 Data Storage Computer (DSC)

The Data Storage Computer (DSC) will be the data warehouse and repository for the CDCIS. The user interface for the entire DSC, as well as all DSC applications, shall be web-based. Authorized user will be granted rights to access the CDCIS through graphical user interfaces (GUI) from any workstation installed on the network.

All application software used by the DSC shall be designed to be flexible, user friendly, and permit users to access all functions and features through a Graphical User Interface (GUI) based on user identification authentication and password settings.

The DSC shall also allow users utilizing web applications to gain access for report generation purposes. The DSC shall have Graphical User Interfaces for reporting ridership statics and trends, revenue reconcilements, sales, regional partner clearing and settlement reports etc.

At the initial deployment phase, Smartcard media consisting of disposable and plastic cards shall be supplied by the selected vendor.. At a follow-on phase, credit, debit and prepaid cards issued by financial institutions will be used to purchase fare media and fare products. The transactions shall be authorized, processed, settled, and accounted for in the DSC. The vendor shall be responsible for designing, testing, and certifying PCI compliance of any interfaces that connect between the DSC, payment hub, and the clearing house of the financial institution. The vendor shall provide all hardware and software for encrypting and transmitting credit/debit card data. This will be required for verification of credit/debit card legitimacy and customer fund availability. In addition, velocity controls will be set in place to protect the regional partners and customers from fraudulent activities.

The DSC shall be configured to operate on a stand-alone basis. If one or more of the devices go offline, are powered down, or are out of synch with the CDCIS, or are otherwise not connected to the LAN or DSC; this condition shall not negatively affect any other device or other components of the fare collection system. If one or more of the DSC's servers goes offline or are unavailable for any reason, all fare collection equipment shall continue to operate normally without any loss of data and shall synchronize to the DSC upon re-connectivity.

DSC software and hardware shall be designed to meet industry standards for high reliability, availability, and accuracy. All elements of the DSC system will have availability of no less than 99% during normal operations; this is exclusive of routine maintenance.

The DSC shall be automated for on-demand backup and archiving.

The DSC will be located at the Operations Control Center (OCC).

7.2.2.2 Fare Processor

The CDCIS shall have a fare processor in which the fare tables will reside. The fare tables will define the fare policies and fare prices for each of the regional partners (Department, LYNX, Votran). The fare tables shall include all necessary information to properly define the fare policy rules. The CDCIS shall consist of a series of database tables representing fare structures and fare products data. All fare policies shall be part of the fare tables and the tables shall be configurable for future changes. The vendor shall provide all hardware and software required to edit and publish fare tables from the CDCIS to all fare collection system devices. Each regional partner will have their own set of fare tables within the CDCIS.

7.2.2.3 Device Management System (DMS)

The vendor shall provide a Device Management System (DMS). The DMS shall consist of hardware and software required for communications between the CDCIS and all devices (TVM, SPTV, HHTV, OSMP and POSM.) The DMS shall transmit data and commands from CDCIS to the device and vice versa. The primary functions of the DMS shall be to receive data from the CDCIS (i.e. positive lists, hotlists, auto-loads, threshold auto-loads, fare-tables commands etc) and transmit to the fare collection devices. The DMS shall transmit data from the fare collection system devices to the CDCIS.

In addition the DMS shall have the following capabilities:

- No interruption of normal functions at TVM, POSM, SPTV, HHTV and OSMP shall occur when receiving or transmitting data between CDCIS and the devices.
- Constantly check fare collection device for proper functionality and report any error conditions.

7.2.2.4 Regional Clearinghouse Application (RCA)

The CDCIS shall have a Regional Clearinghouse Application (RCA). The primary function of the Regional Clearinghouse application will be to calculate and allocate fare product revenue collected throughout the system to the appropriate regional partner. The Regional Clearinghouse application should be flexible to accommodate the selected fare policy of each regional partner to include but not limited to fixed zone, time based, floating zone, distance based, district based, service based etc.

The Regional Clearinghouse Application shall be web based, designed to be flexible, user friendly, and permit access to all functions and features through a Graphical User Interface (GUI) based on user identification and password settings.

7.2.2.5 Online Ticketing Application (OTA)

The vendor shall provide an Internet site for online ticketing; this will include all necessary APIs, hardware and software to interface with the departmental and regional

partner websites. The site shall be a web-based application used to purchase smart fare media and fare products with credit/debit cards.

In addition the online ticketing application shall have the following capabilities and functions:

- Allow customer to register their smart fare media for balance protection.
- Add trips, passes and stored value to their account.
- Allow customer to purchase multiple products within a single transaction.
- Allow customer to edit (add or delete fare products) before transaction is sent for authorization to the payment hub and financial institution.
- Provide capability for password reset and email confirmation
- Auto-replenish feature – The auto-replenish feature shall allow customers to auto load trips, passes and/or stored value to their account when a fare product falls below the set threshold.
- Linking and Unlinking credit/debit card – The customer will be allowed to link or unlink their credit/debit card to their account and/or accounts within the CDCIS.
- Velocity Controls- The online ticketing site will have velocity controls, such as zip code verification, Card Identification Number (CID) verification in place to prevent fraudulent activities.

The online-ticketing site and any API's used to interface with financial institutions or any third party systems shall be PCI compliant. Standard API's to access data or write to the DSC shall be provided by the vendor.

7.2.2.6 Customer Administration Application (CAA)

The Customer Administration Application shall be web based, designed to be flexible, user friendly, and permit access to all functions and features through a Graphical User Interface (GUI) based on user identification authentication and password settings. The CAA will be only available for use by regional partner employees.

The primary function of the CAA will be to allow employees to address customer concerns and issues related to their smart fare media account. Below are the minimum capabilities that the CAA shall include but not be limited to:

- Allow employees to access customer's smart fare media account
- Register customer's account for balance protection
- Configure password and login information
- Modify customer information on account
- Research account history (purchase of fare products, usage of fare product etc.)
- Correct any erroneous charges

- Configure and execute auto-replenish features for customer
- Hotlist Customer Account
- Remove customer account from hotlist

7.2.2.7 System Status and Security Monitoring Application (SSSMA)

The System Status and Security Monitoring Application (SSSMA) shall be web based, designed to be flexible, user friendly, and permit access to all functions and features through a Graphical User Interface (GUI) based on user identification authentication and password settings.

The System Status and Security Monitoring Application (SSSMA) shall monitor the status of the CDCIS and subsystems, including Device Management System (DMS), TVM, SPTV, POSM, HHTV, OSMP data transmissions and networks.

Alarm information, such as intrusion alarms, out of service conditions and other high priority events shall be displayed in real-time graphical representation for each device location, and without delay, regardless of other activities in progress.

The SSSMA shall provide for full remote management access to all devices at any location within the system.

The SSSMA shall include menu options to aid monitoring of device status, CDCIS and subsystem security, network status and polling status.

The SSSMA shall also periodically poll all stations for status in order to insure that all station network interfaces with fare collection equipment are functioning properly.

The SSSMA shall maintain a current understanding of the complete system status and permit authorized workstation operators to view the status of all equipment by station and by individual component.

Appropriate security measures, including password protection, shall be included to prevent unauthorized access or modification to the CDCIS hardware and software.

The SSSMA, in conjunction with CDCIS security architecture, shall also have adequate measures in place that are continuously active to prevent unauthorized intrusion to the operating system, applications, and other software modules.

The SSSMA shall also monitor the status of data connections to the clearinghouses for credit/debit card authorizations should such an option be exercised. In the event that all communication with the financial clearinghouse(s) is lost, the CDCIS shall inform the TVMs and POSMs that credit card transactions are temporarily unavailable, and the TVMs and POSMs shall act accordingly. Upon restoration of communication with the financial clearinghouse(s), the CDCIS shall so inform the TVMs and POSMs.

7.2.2.8 Servers

The servers are to be up to date computers, suitable for functions, with sized memory, data storage and adequate processing power based on expected usage and needs.

Every server shall be automated for on-demand backup and archiving.

The servers shall have adequate space to retain data until copies have been made and verified.

7.2.2.9 Workstations

Any specialized workstations or equipment needed for the daily operations, monitoring and reporting for the fare collection devices and CDCIS and subsystems required for use by employees of the contracting party shall be provided by the Vendor.

Regular workstations that are used in the daily course of business by regional partner employees that may also be used to access all of the Fare Collection System Applications will be provided by the regional partners and regular workstations should not be included as part of the Technical and Price Proposal submitted.

7.3 Data Networking

Data communications shall be provided in a hierarchical network, with Data Storage Computer at the top level, an Ethernet switch at the middle level, and the TVMs, HHTVs, SPTVs and POSMs at the lowest level.

All TVMs, HHTVs, SPTVs POSMs and OSMPs shall be networked back to the DSC.

All infrastructure required data communications and switching equipment, routers and data cabling will be installed by the Department's station finish contractor to a termination point in an area/data cabinet near the end of each station platform. Maximum distance from the area/data cabinet to the TVM on the platform should not exceed 250 ft at each station location. LAN connection and AC power will be provided at the CDCIS by the Regional Partners at the Operations Control Center (OCC),. Data cabling, power cabling, connectors and any other equipment needed to operationalize the complete Fare Collection System between the termination point and the Fare Collection equipment shall be provided and installed by the Vendor. This includes, but is not limited to, equipment necessary to communicate between the TVMs, SPTVs, POSMs, HHTVs, OSMP, and the DSC.

The station platform electrical and data wiring plan will be provided as requested on CD/DVD.

All outdoor cabling shall be suitable for outdoor/wet installations.

Wireless LAN data access points will be provided by Operations and Maintenance Contractor for data transfer between HHTVs used in coach cars and the DSC.

7.4 Data Transmission

All devices shall be capable of being polled at various intervals throughout the day. Data shall be transmitted including status, positive lists, negative list, sales transactions, credit/ debit transactions, and error messages to/from each device as applicable. The data transmission parameters shall be user configurable and definable on a need by

need bases for each equipment type. Data shall be automatically processed and populated into all applicable databases.

The Data Storage Computer (DSC) shall record the date and time data was received from each device and store applicable information for devices where communication was not recognized. Retained data shall be stored in a PCI compliant manor and certified to that effect.

All TVMs and SPTVs shall communicate over a fiber optic back bone from the station platform to the back office. The fiber optic line will be installed by the Department's station finish contractor. To support real time transaction between the HHTV, OSMP devices and the CDCIS (back office), the vendor shall utilize wireless broadband communication systems for the transmission of transaction data to DSC for authorization and settlement. This will be achieved by 4G or better current technology for real-time data communications. 4G will consist of WiMAX or LTE depending on design requirements and latency issues. Latency across the wireless portion of network for buses over LTE will be no more than 40 milliseconds on 4G signals. The vendor shall provide an alternative capability for data communications with CDCIS from the vehicle by means of 802.11 standards for communications as the vehicle pulls into garage/depot at the end of daily shift. The purpose of this alternative configuration will be to allow for redundancy as well as an option to on-board real time validation. Your technical response should address if 4G or similar communication is not available on the vehicle, how you will overcome this situation. The Department will be responsible for monthly data charges related to communications between the HHTVs onboard Department vehicles and back-office. LYNX will be responsible for monthly data charges related to communications between the OSMPs onboard LYNX vehicles and back-office. The POSM shall communicate over fiber optic line, T1 line or broadband Wireless Network Wi-Fi. The fare collection equipment shall report status, events, alarms, and other information when necessary. All fare collection equipment shall also be able to receive information from the CDCIS to update fare structures, ticket print layouts, customer display information, operating parameters, and to be remotely commanded to perform certain diagnostic exercises. Remote workstations shall provide users access to the data for queries, report generation and status information.

7.5 Report Generation

The CDCIS shall generate reports that shall enable the Department to analyze the fare collection system, revenues, trends, maintenance activities, passenger activities, security status, equipment failures, alarms, and so on. All reports shall be available on demand, spanning any range of data stored (such as by date, station, TVM, ticket type, event type, etc.). Based on user selection, the computer system shall also generate reports automatically at programmed intervals (such as daily, weekly, monthly and quarterly). This is to include past records.

The CDCIS shall have the ability of query the DMS to retrieve data to produce consolidated reports.

The CDCIS shall be configured to prevent queries and reporting from impacting and reducing the performance of the system.

The CDCIS shall have the ability to use any data items within the DSC database to create ad-hoc reports as needed.

In addition to those reports to be provided with the system, the computer system shall enable the Department to customize existing reports and create new reports using Structured Query Language (SQL) commands available from the relational database manager.

All reports shall be available locally on the computer screen, printed to any available printer, or on any other workstation networked to the CDCIS.

The system shall also provide line graphs, bar charts, pie charts and other common data presentation methods to represent summarized data.

7.6 Application Software

Application software shall permit the DSC to simultaneously communicate with several stations, two or more users (on remote computers), and up to two financial clearinghouses for credit/debit card authorizations should such an option be exercised. Application software shall utilize menu or icon-driven user interfaces. All access to application software shall be under strict password authentication control.

Commercially available, existing software developed and tested for a similar application is preferred. Application software for the CDCIS and DSC shall be fully functional through software upgrades for at least a 10-year period.

7.7 System Application Programming Interfaces

System APIs shall be developed to ensure proper operation of all systems and devices. APIs included in the CDCIS shall include all information, data structures, protocols, libraries, to ensure proper interface of all vendor equipment and third party systems.

7.8 Graphical User Interfaces

The CDCIS shall include a series of Graphical User Interfaces (GUIs). These GUIs shall allow authorized users to interface between the CDCIS and other sub-systems/applications.

In general, a set of GUIs shall be provided for each of the following and not limited to:

- Configuration of CDCIS
- Device Management System
- Configuration of Fare Processor and fare tables
- Reporting System
- Regional Clearinghouse Application (RCA)

- Customer Administration Application (CAA)
- System Status and Security Monitoring Application (SSSMA)

7.9 Configuration Management

All configuration parameters of the TVMs, SPTVs HHTV, OSMP and POSM shall be alterable remotely from the CDCIS, including date and time, fare tables, security access codes, ticket printing formats, passenger display messages, in-service/out-of-service times, accepted types of credit/debit cards, etc.

DELIVERABLES

- CDCIS network architecture diagram
- Shop drawings, catalog cuts, and technical literature describing all LAN components
- Data analysis and report formats and capabilities
- Hardware and software specifications and technical information
- Data Storage Computer (DSC)
- Fare Processor
- Device Management System (DMS)
- Regional Clearinghouse Application (RCA)
- Online Ticketing Application (OTA)
- Customer Administration Application (CAA)
- System Status and Security Monitoring Application (SSSMA)
- Data Networking System (cabling and connectors)
- Workstations
- Application Software
- Report Generation Software

8.0 Installation and Interfaces

8.1 General

8.1.1 Description

The Vendor shall be responsible for installation of the fare collection and validation equipment as described in these specifications.

The Vendor shall inspect each installation during installation work in accordance with the requirements of these specifications and drawings.

All installation work shall be subject to the Department's review, inspection, and approval.

The Vendor shall be responsible for installing all of the Specified equipment, hardware, software, and related items as required to establish a fully functional system that is fully integrated with the Vendor provided Central Data Collection & Information System (CDCIS).

The Vendor shall perform all work in accordance with the Department's safety protocol requirements.

The Vendor shall store equipment delivered to the project area. The Vendor shall be responsible for protecting the equipment from all forms of transportation, handling, theft, and environmental damage related to storage operations. The Vendor shall remain responsible for the equipment until final acceptance by the Department. The Vendor's proposed storage facility shall provide the adequate environmental, security, and handling protection. The Vendor's storage plan and operations plan shall be reviewed and approved by the Department at the Final Design Review.

8.1.2 Reference Standards

The Design/Build Firm's Safety Program.

8.1.3 Submittals

As part of the Technical Proposal, the Vendor submitted a detailed description of the following installation and interface elements:

- Preliminary Installation and Interface Plan

That submittal is hereby incorporated herein this contract by reference.

8.1.4 Quality Assurance

The Vendor shall comply with Codes and regulations of the jurisdictional authorities. The Vendor shall provide a Quality Assurance Plan that addresses all aspects of quality control to include responsibility for reviewing and assessing quality and performance of work; acceptance, rejection, documentation, and resolution of deficiencies; corrective action; identify and prevent recurrence defective services; enforce corrective actions to

poor performance of working staff; identify key quality control and inspection personnel; interface with Department staff; identifying control procedures for protection of Department property, facilities, and equipment. The Quality Assurance Plan shall detail the methodology and procedures for the following phases:

- Project planning
- Project execution and control
- Project review and evaluation
- Project closure

8.2 Execution

8.2.1 Installation and Interface

a. Equipment Site Inspection

The Vendor shall inspect each installation site before performing equipment installation using an inspection checklist reviewed and accepted by the Department.

The Vendor's site inspection shall verify that all civil, mechanical, electrical, and general conditions required to install the equipment in accordance with these specifications have been satisfied.

The Vendor shall identify any equipment installation deficiencies during the inspection and report all deficiencies to the Department no later than three days following the inspection.

The Vendor shall submit a written installation readiness certification of the site to the Department for review a minimum of 30 days prior to equipment installation at each location.

b. TVM, SPTV and POSM Installation Requirements

TVM and SPTV installations shall be designed to be freestanding.

TVMs and SPTVs shall be fully operational with or without protection from the environment.

The Station Finishes Contractors will provide power and communications connections through power distribution panels and communications junction boxes at each station. Conduits will be provided in the station platform from the power distribution panels and the communications junction boxes to the TVM and SPTV locations on the platform. Vendor shall be responsible for connecting the power and communications to the equipment by providing cable from the power and communications boxes to the TVM and SPTV locations. The CAT-5 cable can connect to the Phoenix Contact Ethernet Switch which supports VLAN to be used for the TVM and SPTV systems.

The Station Finishes Contractors have been directed to provide a separate VLAN dedicated to TVM and SPTV use. The Vendor shall work with the Station Finishes

Contractor and the Design/Build Firm to coordinate provisioning and physical installation throughout the system.

The Vendor shall provide a separate firewall and outside interface for the TVM system at the Operations Control Center.

Power and communications connections will be provided at retail outlets and ride stores for the POSMs. Ethernet switches for the POSMs will be provided by the Operations and Maintenance Contractor. Vendor shall be responsible for connecting the power and communications to the POSM equipment by providing cable from the power and Ethernet switches to the POSM locations.

d. Mounting Requirements

The Vendor shall submit to the Department detailed TVM and SPTV bolt patterns and all other detailed mounting requirements at each design review for the Department's review and acceptance.

The bolts or other attachment devices shall not be exposed to the public after the equipment is installed. All mounting bolts shall be accessible only after opening the TVM door.

The Vendor shall fabricate drilling and bolt insertion templates for the TVM and SPTV mounting bolts.

Templates shall be fabricated prior to commencing the installations and, at the end of all installations, shall become the Department's property.

The Vendor shall provide all mounting hardware, including mounting or pedestal base for each TVM and SPTV, including the spare units.

e. Wiring and Installation Plan

The Vendor shall submit to the Department detailed wiring requirements to interface at stations, retail outlets and ride stores for SPTVs, TVMs and POSMs at each design review for the Department's review and acceptance.

Wires shall not be exposed to the public after the equipment is installed.

f. TVM Intrusion Alarm Installation

The Vendor shall install an internal TVM Intrusion Alarm system for each TVM installed at all stations.

g. Installation and Interface Plan

The Vendor shall submit an initial Installation and Interface Plan for the Department's review and acceptance at the Preliminary Design Review (PDR).

The Vendor shall submit a final Installation and Interface Plan for the Department's review and acceptance at the Final Design Review (FDR).

Installation and Interfaces

The Installation and Interface Plan shall outline details related to the personnel needed for installation work, equipment required and the installation schedule. The Installation and Interface Plan shall also detail all preparatory actions required for installation.

h. Installation and Interface Drawings

Basic Installation Drawings:

- The Vendor shall submit for the Department review and acceptance, preliminary drawings with station equipment installation details
- Each drawing shall identify all interface connections by color or number code
- Drawings shall be submitted at the PDR and FDR

Installation Drawings:

i. Installation and Interface Procedures

The Vendor shall submit installation and removal procedures for all fare collection equipment and associated cables provided.

The installation and removal procedures shall be submitted to the Department for review and approval at FDR.

The subject procedures shall be sufficiently detailed to enable the Department's maintenance personnel to remove and subsequently install the equipment.

The subject procedures, once reviewed and approved by the Department, shall be submitted to the Department in digital form and on laminated sheets or in other formats resistant to wear and tear.

The installation procedures shall also be included in the appropriate manual.

DELIVERABLES

- Quality Assurance Plan
- Storage Plan
- Operations Plan
- Installation and Interface Plan:
 - Initial
 - Final
- Drawings:
 - Shop
 - Preliminary station installation drawings
 - Installation and interface, by location
- Installation and Removal Procedures
- Detailed TVM and SPTV bolt patterns and all other mounting requirements

Installation and Interfaces

- Inspection Checklist
- Sealing Material Sample
- Certification:
 - Tests certified by an approved testing laboratory
 - Installation readiness
 - Manufacturer's certification
 - Installation Readiness Certificate
- Wiring and Installation Plan
- Written Installation Readiness Certification

9.0 Design Review and Testing

9.1 General

9.1.1 Description

The Vendor shall plan for, perform, monitor, and document all tests required to prove the design and acceptability of the Fare Collection System, including all elements, subsystems, and the system as a whole, furnished under this Contract. The Vendor shall furnish Fare Collection Equipment that meets the criteria specified for all tests. Testing shall not commence until all designs affecting the respective equipment and all related testing procedures have been approved. The design reviews shall take place during the development process and acceptance of the design reviews is a prerequisite for the Vendor to proceed to the next phase.

The Department may perform additional testing beyond that specified herein of any equipment, material, hardware and software function to determine acceptability. The Department shall perform this additional acceptance testing in accordance with the contract documents and reserves the right to perform additional testing at any time to determine conformance with the contract document requirements. Additional testing by the Department shall not be considered as a replacement for any testing conducted by the Vendor or a manufacturer producing materials for the contract.

Testing shall be completed in a Department approved test environment which requires the installation of all hardware, to include a fully functional TVM and software that will replicate what the production environment will be at the commencement of revenue service.

9.1.2 Submittals

As part of the Technical Proposal, the Vendor provided a detailed description of its testing program including, but not limited to, the following:

- Project Master Schedule
- Acceptance and Testing Plan

That submittal is hereby incorporated herein this contract by reference.

9.2 Execution

9.2.1 Project Master Schedule

The Vendor shall submit to the Department for approval a Project Master Schedule within 30 days of Written Authorization. The Project Master Schedule shall detail when each activity under each milestone will take place. This schedule is to be guided by the Milestone Payout Schedule.

9.2.2 Testing

Testing shall be conducted at three levels:

- Equipment Operations – Fare Collection Equipment and CDCIS
- Network Integration – Data transmission and interface
- System Installation and Operations – Installation and acceptance

9.2.3 Testing Plans, Procedures, Facilities and Reports

Testing plans, testing sheets and testing reports shall be developed and presented for each level of testing. Once the testing plans and testing sheets have been accepted by the Department, the Vendor shall conduct the necessary testing at each level and a testing report shall be presented to the Department within seven calendar days of the completion of the testing. The Department will review and accept the testing reports within fifteen calendar days of the submittal by the Vendor.

- Draft and Final Testing Plans shall be presented to the Department for approval during the Preliminary Design Review phase. The testing plans shall be used as the controlling document for all inspections and tests exclusive of any QA/QC procedures and shall include a detailed schedule indicating the sequence of each test and where and when each test will take place.
- Detailed Testing Sheets shall be provided to the Department with detailed check-off sheets to be used during the testing process. The testing sheets shall be submitted by the Vendor to the Department for review and approval a minimum of 30 days prior to the testing.
- Test Reports shall be submitted to the Department for each test, including copies of all test documentation and data. The test reports shall include all historical data, such as tests performed, failures, modifications and repairs pertaining to the item or system tested. Test reports will be reviewed and approved by the Department.

9.2.4 Equipment Operations Testing

a. Equipment Operations Testing includes the following tests:

- Design Qualification Testing
- First Article Configuration Inspection (FACI)
- First Article Testing (FAT)
- Production Inspection and Testing

b. Design Qualification Testing

Design Qualification Testing shall take place at the Preliminary Design Review and the Vendor shall demonstrate that each component or subsystem of the Fare Collection Equipment to be supplied meets or exceeds the requirements of the Department. The

test plan will be submitted to the Department prior to the testing and shall be approved by the Department. The results of the testing will be reviewed and approved by the Department.

c. First Article Configuration Inspection (FACI)

The FACI shall take place at the point of assembly after completion of the first production TVM. The quality of workmanship for the production of subsequent TVMs shall be established at the FACI. The Department shall be notified 21 days before the FACI date. The FACI shall verify that the production hardware complies with the design configuration and drawings as approved by the Department.

d. First Article Testing (FAT)

The fare collection equipment to be tested in the FAT shall be the first production unit. FAT shall be conducted upon successful completion of the FACI. The Vendor shall prepare and submit FAT procedures to the Department for approval within 21 days of completion of the FACI.

The Vendor shall conduct the FAT as the Vendor's facility. All FAT reports shall be subject to the Department approval. The Department reserves the right to be present at the Vendor's facility for the FAT.

At this level of testing, the Fare Collection Equipment shall be representative of the final production item. The purpose of this test shall be to demonstrate that for all items of equipment, to be furnished under this contract, the requirements have been met.

9.2.5 Network Integration Inspection and Related Testing

Upon completion of the first installation, the Vendor shall perform the Network Integration Inspection and Testing. The purpose is to demonstrate the proper data transmission from the TVMs to the DSC and workstations, control and data monitoring and reporting functions as specified in these specifications with full integration of the CDCIS subsystem, the Department's network and communication transmission system. The DSC shall be connected to the Department's network and software shall be installed on two workstations. Two of the first production TVMs and a station local area network shall be assembled at two stations and communications provisions to integrate the TVMs with the CDCIS shall be provided by the Vendor.

9.2.6 Installation and Acceptance Inspection and Testing

a. Installation Inspection and Testing

The installation and inspection testing must be completed and approved by the Department prior to the installation of the remaining equipment at the Department's facilities. The detailed test sheets and test procedures shall be approved by the Department prior to testing.

b. Acceptance Testing

The Vendor shall conduct Acceptance Testing and the results shall be subject to review and approval by the Department. The Vendor shall submit an Acceptance Testing Plan to the Department for approval. The plan shall describe the management, monitoring, recording and reporting procedures. The Acceptance Testing Plan shall be submitted to the Department for review and approval a minimum of 60 days prior to the scheduled start of the system acceptance test period. The Department reserves the right to make changes to the acceptance testing plan prior to the start of Acceptance Testing.

9.2.7 Design Reviews

The In-Progress Design Review shall be scheduled by the Vendor and held within a reasonable time, as defined by the Department, of Written Authorization. The purpose of the In-Progress Design Review is for the Vendor and the Department project manager to coordinate activities, for the Vendor to present its intended design and to identify interface requirements. Approval of all In-Progress submittals by the Department is a prerequisite to proceeding to the Mid-Point Design Review.

Upon reaching agreement with the design concepts as presented in the In-Progress Design Review, the Vendor shall prepare preliminary design drawings, documentation and data for review and approval by the Department. The Mid-Point Design Review shall then be scheduled by the Vendor and convened within a reasonable time, as defined by the Department, of Written Authorization. Mid-Point design review shall include preliminary design drawings, documentation and data for approval by the Department. Approval of all Mid-Point Design Review submittals by the Department is a prerequisite to proceeding to the Preliminary Design Review.

The Preliminary Design Review (PDR) shall take place when the design is essentially complete. The PDR shall provide the opportunity to review, revise and agree on the details of the proposed final design prior to release of the designs for manufacture. PDR submittals shall include finalized submittals for all required drawings, documents and data. The PDR shall be scheduled by the Vendor within a reasonable time, as defined by the Department, and shall be held at the Department offices or at the offices of the Vendor in the United States, as determined by the Department.

The Final Design Review (FDR) shall take place when the revisions to the PDR are completed. FDR submittals shall include the final required drawings, documents and data. The FDR shall be scheduled by the Vendor within a reasonable time, as defined by the Department, of the PDR.

DELIVERABLES

- Project Master Schedule
- Draft and Final Testing Plans
- Detailed Testing Sheets
- Test Reports
- First Article Configuration Inspection (FACI) Reports, Procedures and Sheets

Design Review and Testing

- First Article Testing (FAT) Reports, Procedures and Sheets

10.0 Product Support

10.1 General

10.1.1 Description

A preliminary training plan, identifying all courses to be taught, location for each, estimated training hours, class sizes, presumed student prerequisite skills, the development and delivery schedule for each and the resumes of the proposed instructors for each, shall be provided in the proposal.

The Vendor shall submit for the Department's review and approval training curricula as part of the Preliminary Design Review. The curricula shall meet all training requirements and indicate course content, training time requirements, and who should attend.

10.1.2 Submittals

As part of the Technical Proposal, the Vendor submitted a detailed description of the following product support elements:

- Recent examples of manuals from other similar projects
- List of approved and recommended special tools
- List of recommended spare parts
- Draft warranty plan
- Operations and Maintenance Support Proposal

That submittal is hereby incorporated herein this contract by reference.

10.2 Products

10.2.1 Training Courses

The following training courses shall be provided but not limited to:

- Revenue Servicing – All revenue service personnel that will be responsible for serving TVMs shall be given training to teach the routine service functions of accessing the TVM, collecting monies, replenishing ticket stock and change, clearing basic jams, printing and retrieving audit tickets, and securing the TVM.
- Field Maintenance and Servicing – All maintenance personnel who may be required to perform schedule maintenance and support activities shall attend a training course. The course shall provide all knowledge necessary for operation, troubleshooting, maintenance, repair, component change out, and scheduled maintenance of fare collection equipment.
- Shop Repair – A selection of mechanics and electricians who will perform the periodic overhaul, remedial repair, and adjustment of the fare collection

equipment shall be given a comprehensive instruction course in the operation, troubleshooting, maintenance, repair (including printed circuit boards) and overhaul of the equipment.

- Revenue and Maintenance Workstation Operations – Personnel who will operate the Revenue and Maintenance Workstations shall be trained in the use of all application programs and functions provided by the workstations. Included in this training will be the administration of TVM operating parameters, configuration files, ticket and display text, fare tables, and voice messages. Procedures to download data to TVMs, manually induce data polling, remotely control TVMs, monitor equipment status, and generate queries and reports shall be covered.
- Administrative Workstation Operations – Personnel who will administer the CDCIS shall be trained in all aspects of CDCIS network administration. This course shall provide the fundamentals of administration of the CDCIS operating system, application software, and relational database manager. All other functions supported by the Administrative Workstation shall also be covered, as shall the administrative tasks required to maintain communications to the Fare Collection Equipment and the workstations.
- Security Workstation Operations – Personnel who will be responsible for monitoring the Security Workstation shall be trained in operations and procedures associated with the workstation.
- TVM Accounting and Registration Information – Those management personnel who will generate and use reports from the CDCIS shall be trained to be familiar with report contents and uses. Using sample data created from testing interval, reports shall be generated from the CDCIS and used to explain the resulting data output.

10.2.2 Technical Support

The Vendor shall describe their customer support services organization and provide information about the capabilities they shall maintain through the life of the contract.

On-site technical support personnel, from the Vendor, shall be available from the time the first unit of fare collection equipment is delivered to the Department through the end of final acceptance of all fare collection equipment. The Vendor shall be responsible for all TVM, SPTVs, HHTVs, POSMs and CDCIS maintenance through acceptance.

During the warranty period, the Vendor's personnel shall assist the Department when the Department is unable to diagnose or make a repair, provide replacement parts, and respond to any warranty claims, including initiation and follow-up of remedial actions.

10.2.3 Manuals

The Vendor shall provide all standard current manuals for the fare collection equipment proposed at the time the first unit of fare collection equipment is delivered. The manuals shall be complete, accurate and up to date.

The Vendor shall submit all manuals and parts catalogs, including drawings in electronic media types, electronically on CD or DVD.

Manuals shall be organized and shall include, as a minimum, but not limited to, the information as follows:

- Fare Collection Operating Instruction Manual – shall contain all information needed for safe, proper, and efficient operation to the Fare Collection Equipment. Manuals shall include but not be limited to general orientation and familiarization with all features of the Fare Collection Equipment. Detailed information shall be provided regarding location, function and operation of all controls, indicators, switches, hardware and reset buttons, and trouble diagnosis. All normal operation sequences shall be described in detail.
- Fare Collection Equipment Preventative Maintenance Manual – shall contain all information needed to enable maintainers to perform all periodic inspection and preventative maintenance tasks including all routine lubrication, inspection and replacement of consumable items. The manual shall contain recommended preventative maintenance schedules, grouped, as much as possible, into compatible and convenient intervals of time, or operating hours.
- Fare Collection Equipment Corrective Maintenance Manual – shall contain all information needed to enable maintainers to diagnose problems, and to make adjustments and repairs to all Fare Collection Equipment components and sub-assemblies. Repairs include adjustments, reports or replacements prescribed to restore the Fare Collection Equipment components and subassemblies to a normal operational condition in an efficient and timely manner.
- Fare Collection Equipment Shop Repair and Overhaul Manual – shall contain a detailed description of each assembly and subassembly to enable maintainers to service, maintain, repair, replace, rebuild and overhaul the Fare Collection Equipment.
- Fare Collection Equipment Parts Manual – shall enumerate and describe every Fare Collection Equipment component with its related parts, including the supplier's number and the Vendor's number. Cut-away and exploded drawings shall be used to permit identification of all parts not readily identified by description. Parts common to different components, such as screws, shall bear the same Vendor's number with reference to the other components where they are found. Each part or component shall be identified as being part of the next assembly. Commercially available items such as standard fasteners, fuses, lamps, fittings, switches, solenoids, and motors shall be identified by standard hardware nomenclature in addition to the Vendor's number.

- Fare Collection Equipment Software and Programming Manual - shall describe how to operate and maintain the Fare Collection Equipment software. Procedures for updating Fare Collection Equipment application software shall be provided. The manual shall also include a high level description of the Fare Collection Equipment application software design and the function of all executable modules.
- Fare Collection Equipment Software Source Code Manual – One or more manuals shall also be provided that fully documents the Fare Collection Equipment applications software source code, including data files, data file structure and data file mapping and cross-referencing.
- CDCIS Original Equipment Manufacturer (OEM) Manual – shall be provided unaltered. All manufacturers' hardware and software documentation for the CDCIS, workstations, and any associated networking hardware and software shall be supplied in their entirety. Where appropriate, these manuals may be bound with the Vendor's documentation.
- CDCIS Administrator's Manual – shall supply all necessary procedures to administer the CDCIS and the associated networking hardware and software. Administrative requirements of the CDCIS operating system software shall be described in detail or specific references to the manufacturer's operating system documentation shall be supplied. All administrative procedures, including managing user accounts, data archiving, and backup creation and restoration (full and incremental) shall be provided in this manual. All functions performed on the CDCIS Administrative Workstation shall also be documented in this manual.
- CDCIS Workstation User's Manual – shall provide complete documentation on the use of the Revenue and Maintenance Workstations. All functions supported by these workstations shall be fully explained, including logging onto the system, querying the database, generating reports, altering fare tables and other operating parameters, downloading data, polling Fare Collection Equipment for data, managing the voice messaging system, and proper responses to all input requests. Extensive use of sample screens shall be employed throughout the manual.
- CDCIS Security Workstation User's Manual – shall provide the necessary information to document use of the Security Workstation and its specialized application software. In addition to a complete description, a quick reference page or card shall also be provided that summarizes the functionality of the workstation and the proper responses to alarm events.
- CDCIS Report Formatting Manual – shall provide instructions on how to create new queries and reports and to modify existing reports, instructions on how to add reports to the list of prepared reports, to schedule reports of automated generation at predetermined times and to delete unused reports shall also be

provided. If necessary, specific references to manufacturer's documentation shall also be provided to clarify instructions.

- CDCIS Design and Database Structure Manual – shall describe the design of the CDCIS network architecture and the communication protocols used between the CDCIS, Fare Collection Equipment, CDCIS workstations and any other required networking hardware. The manual shall provide a complete description of the database structure, including definitions, parameters, and relations for all database fields, records and tables.
- CDCIS Software Source Code Manual – One or more manuals shall also be provided that fully documents the CDCIS application software source code, including data file, data file structure, data file mapping and cross-referencing, and a data dictionary.
- In accordance with Exhibit B-1, Milestone Payout Schedule, Vendor shall provide all of the manuals identified above at a minimum.

10.2.4 Software Escrow

The Vendor shall supply the software source code, compilers and documentation, electronically on CD/DVD, for all software developed by the Vendor for the fare collection system purchased under this contract in escrow as the equipment is delivered in accordance with Exhibit B-1, Milestone Payout Schedule as modified by this addendum. Escrowed software source code, compilers and documentation will be updated by Vendor for every software update and/or change at no additional cost to FDOT.

10.2.5 Diagnostic and Test Equipment (DTE)

The design of the fare collection equipment may require the use of custom DTE. The Vendor shall supply any such equipment. Any cabling and/or test harnesses used during system and integration testing shall become the property of the Department.

A DTE list shall be provided on the appropriate cost sheets in Exhibit C. The list shall include all custom equipment as well as all standard, off-the-shelf equipment recommended by the Vendor.

10.2.6 Special Tools

The Vendor shall furnish all special tools required to maintain each subsystem to the Department.

Special tools are defined as those tools that are not commercially available in the United States.

10.2.7 Spare Parts

Spare parts shall be interchangeable with their corresponding part and shall be re-configured to the latest revision during the warranty period.

The Vendor shall have available at least two U.S. sources for spare parts that are exchanged regularly during preventative maintenance.

All spare parts shall be delivered prior to the start of the warranty period for any equipment.

10.2.8 Spare Parts Recommendation

The Vendor submitted, as part of the Technical Proposal, a Warranty Spare parts plan, and as part of the Price Proposal, a list of recommended spare parts and the cost associated with each item. All parts will be purchased by the Department on an "Or Approved Equivalent" Basis. Per FTA guidelines the Salient characteristics for each part listed should be provided in an Appendix to the Price Proposal.

The final list of spare parts will be approved during the Preliminary Design review by the Department.

10.2.9 Warranty

Manufacturers and Sellers Warranties

Whenever allowed by the terms of the warranty, Vendor hereby assigns to the Department any and all manufacturers' or other sellers' warranties that come with any products, material or supplies what are incorporated into or are consumed in this Agreement in any way. To the extent that any such warranties contain a limitation on assignment, Vendor agrees that Vendor purchased the products, materials and supplies on behalf of the Department with the intent that the Department be the intended recipient of any warranties. All documents associated with or describing any such warranties shall be delivered to the Department along with the other contract final acceptance documents and shall be deemed to be a part of the required final acceptance documentation. Vendor shall not take any action or fail to act in any way which voids any such warranties. All subcontracts shall contain a similar provision which requires subcontractors to assign any such warranties to the Department.

Vendor Warranty of Merchantability

In addition to any warranties implied by law, any manufacturer' or distributors' warranties assigned to the Department, and Vendor's Warranty of Fitness for Particular Purpose, the Vendor hereby warrants that all fare collection equipment shall conform to all samples and shop drawings provided and shall be free from defects in materials and workmanship for a 1 year period beginning on the date of system acceptance.

Vendor's Warranty of Fitness for a Particular Purpose

In addition to any warranties implied by law, any manufacturers' or distributors' warranties assigned to the Department, and Vendor's Warranty of Merchantability as

provided above, the Vendor hereby warrants that all fare collection equipment shall be fit for the purposes for which they are intended and shall properly perform their intended functions for a 1 year period beginning on the date of system acceptance.

Warranty Procedures

The Warranty of Merchantability and the Warranty of Fitness for a Particular Purpose shall apply to each component of any assembly and to any assembly as a whole. Without limiting the generality of the foregoing, the components and assemblies include, but are not limited to Ticket Vending Machines, Point of Sale machines (including work at retailer locations), Station Platform Validators, Handheld Validators, the Central Data Collection and Information System and all other equipment, hardware and software related to the fare system. In the event a defect, malfunction, or other failure not caused by misuse or third party acts not contemplated occurs during the warranty period, Vendor shall repair the warranted item if repair can be made on site within a reasonable time from receipt of notice of the occurrence. If repair cannot be made within a reasonable time from receipt of notice of the occurrence, Vendor shall replace the warranted item on site within a reasonable time from receipt of notice of the occurrence. In determining a reasonable time for repair or replacement, matters unique to the Vendor, such as office location or availability of personnel, shall not be considered. Vendor's obligation to respond and take action within a reasonable time shall, at a minimum, include compliance with the Service Levels as set forth below. In the event that the Department determines that public health, safety, or welfare requires temporary measures to continue safe functioning of the facility of which the warranted item is a part, Vendor shall provide temporary items or take other temporary measures as the Department deems necessary. All repairs, replacements, and temporary measures shall be at the sole cost and expense of the Vendor, without any charge to the Department. If the Vendor fails to comply with Vendor obligations under the warranties, Vendor shall be liable to the Department for all damages associated with the Vendor's breach hereof and damages associated with the initial occurrence from the date of the occurrence. Damages shall include, but shall not necessarily be limited to, costs incurred in repairing or replacing warranted items, as well as incidental and consequential damages suffered by the Department; provided, however, that notwithstanding anything to the contrary Vendor shall not be liable for the loss of fares collected while the equipment is in need of repair or is in the process of being repaired. The warranties shall apply to all occurrences taking place during the warranty period, regardless of whether notice thereof is provided to Vendor during the warranty period.

Maintenance Services

In addition to meeting its obligations under the warranties as provided above, the Vendor shall provide maintenance necessitated by ordinary wear and tear, and shall provide preventative and corrective maintenance to assure constant operation for a 1 year period beginning on the date of system acceptance. Maintenance services shall be

provided for all equipment items including; Ticket Vending Machines, Point of Sale machines (including work at retailer locations), Station Platform Validators, Handheld Validators, the Central Data Collection and Information System and all other equipment, hardware and software related to the fare system. Maintenance services shall include staffing, support and diagnostic equipment, vehicles, and supplies required to provide these services. Maintenance services shall be performed, at a minimum, in accordance with the Service Levels as set forth below.

As part of the maintenance services, the Vendor shall provide remote monitoring of the system 16 hours per day, 365 days, seven days per week, and field service of the system for a minimum of 16.5 hours per day, Monday through Friday. The fare collection system shall be prepared for service each revenue day, with any exceptions noted in a work order or written notification to Department or designee. The service shall include the following categories of service:

- Field and bench level preventative maintenance including:
 - Monthly Preventative Maintenance to inspect for wear and tear and general equipment performance, as well as, cleaning and field adjustments.
 - Quarterly Preventative Maintenance including comprehensive testing of components and replacement of major modules for bench overhaul.
- Field and bench level Corrective Maintenance including:
 - Response to unscheduled work orders to include troubleshooting, field repair, removal and replacement of parts, and returning equipment to service.
- Emergency response 24 hours, seven days per week in the event of critical equipment alarms.

Warranty and Maintenance Service Levels

Vendor shall be subject to the following minimum service levels in performing warranty or maintenance work:

- The Mean Time to Respond shall be 60 minutes between notification of an incident from either the Department or designee, the remote monitoring center, and response by the Vendor. Response shall include the generation of a work order and an estimate of arrival at site or actual repair.
- The Mean Time to Repair shall be 48 business hours. The Vendor shall make reasonable efforts to accelerate the Mean Time to Repair for customer facing outages and mission critical equipment items.
- The Vendor shall provide sufficient field technician staff to the Department during the period of 5:30 a.m. to 10:00 p.m. on all business days and shall have a local (Orlando Metropolitan Area) point of contact at all times.

Product Support

Vendor shall perform remote support and monitoring of the fare system equipment. Software support and upgrades of the Central Data Collection and Information will be provided remotely, as well as other software and hardware items. Any repair or maintenance needs discovered via system monitoring will be reported to Department staff or designee in a timely manner so that field staff may be dispatched.

Exclusions

Vendors warranty and maintenance obligations hereunder shall not extend to damages and failures caused by third parties; however, that minor incidents, such as clearing jams, shall be covered for the 16.5 business day service time described heretofore. Regardless, the Department may elect to have Vendor repair major damages and failures caused by third parties. If the Department elects to have such major damages or failures caused by third parties repaired by Vendor, the Department will issue a work order for the repairs based upon an agreed repair cost. The agreed repair costs shall be based on the hourly rates set forth in Exhibit "B".

Spare Parts

Prior to the beginning of Revenue Service, the Department will issue a work order for the purchase of a spare parts inventory. The inventory shall be kept by the Department at a location of the Department's choice. The inventory and such other spare parts as the Department may elect to otherwise purchase may be purchased for a 1 year period beginning on the date of system acceptance at the prices set forth in Exhibit "B". Vendor may draw from the spare parts inventory as necessary to perform warranty and maintenance work, provided that Vendor shall replace the parts used for warranty work at Vendor's expense prior to the end of the 1 year period. Vendor shall comply with the procedures established by the Department for drawing parts from the parts inventory.

10.2.10 Operations and Maintenance Support

The Vendor submitted, as part of the Technical Proposal, an Optional Operations and Maintenance proposal to provide technical operations, and maintenance support to the Department for all fare collection equipment, fare media and all required CDCIS (i.e. "back of house") equipment and subsystems, and a disaster recovery plan incorporating the use of the Vendor's staff to operate and maintain the fare collection system equipment for a period of up to ten (10) years. The Operations and Maintenance proposal included, but was not limited to, the number of staff and the skill sets of the staff that would be used to provide these services, the frequency of maintenance and the hours that Vendor staff would work. That submittal is hereby incorporated herein this contract by reference.

In preparation for the new commuter rail service, the Department will be mobilizing an Operations and Maintenance Contractor prior to the completion of the stations. The

Product Support

Operations and Maintenance Contractor will be responsible for operating and maintaining the CFCRT system. Optional operation and maintenance support for the fare collection system equipment may be required by the Vendor at the Department's option with coordination and oversight by the OMC and Chief Operating Officer. Services shall include all parts and labor necessary to keep the system operational at all times. Services will include:

- Perform maintenance and inspections consistent with the manufacturers' guidelines; and Monitor and operate fare collection equipment remotely to ensure optimal performance.
- Repair readers using OEM parts. Replenish paper for receipt printing in TVMs, HHTVs and POSMs;
- Replenish standard and limited use smart card stock in TVMs;
- Replenish supplemental change storage units, re-circulating units, coin vaults, and bill vault (FSTVMs only)
- Perform maintenance and inspections on all fare collection equipment consistent with the manufacturers' guidelines and manuals.
- Perform all periodic inspection and preventative maintenance tasks including all routine lubrication, inspection and replacement of consumable items based on recommended preventative maintenance schedules; Repair machines using OEM parts.
- Perform repairs including adjustments, reports or replacements prescribed to restore the Fare Collection Equipment components and subassemblies to a normal operational condition in an efficient and timely manner.
- Service, maintain, repair, replace, re-build and overhaul the Fare Collection Equipment Replenish card stock."
- The vendor shall provide all necessary OEM replacement parts not covered by the manufacturer's warranty.
- The Vendor shall provide on-site support within one (1) hour of the Department placing a service call.

Vendor shall understand that the quantity of each CTVMs and FSTVMs to be supplied is subject to change. Below provides the CFCRT service levels for each phase:

- Phase 1 (beginning Spring 2014)
 - 31 miles, 12 stations
- Phase 2 (beginning 2016)
 - An additional 30 miles, 5 stations (61 miles, 17 stations total)
- Span of service is 16.5 hours, Monday through Friday, no weekend service;

Product Support

- Peak service every 30 minutes – 05:30 to 08:30 and 15:30 to 18:30 on weekdays;
- Off-peak service every two hours – 8:30 to 15:30 and 18:30 to 22:00; and
- Exclusive operating windows designated for commuter rail service.

The FBA extends from the DeLand Amtrak station in Volusia County to the north to Poinciana Industrial Park in Osceola County to the south. A total of seventeen (17) stations are in the FBA. The proposed service plan would provide 30-minute bi-directional service during morning and evening peak periods and 120-minute service in the midday, Monday through Friday, using push-pull diesel locomotives, coaches and cab cars.

DELIVERABLES

- Preliminary training plan
- DTE list of all equipment recommended
- Training Curricula
- Training Courses
- Technical Support
- Manuals
- Software Escrow
- Diagnostic and Test Equipment (DTE)
- Special Tools
- Spare Parts
- Warranty Plan
- Operations and Maintenance Support Proposal

Exhibit “D”

Fare Collection System Equipment Specifications

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Abbreviations and Acronyms

• ABS	Account Based System
• ADA	American with Disabilities Act
• ADAAG	Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities
• AES	Advanced Encryption Standard
• APDU	Application Protocol Data Unit
• API	Application Programming Interface
• CDCIS	Central Data Collection & Information System
• CFCRT	Central Florida Commuter Rail Transit
• CAA	Customer Administration Application
• CDRL	Contract Deliverables Requirements List
• COO	Chief Operating Officer
• COS	Card Operating System
• CTS	Communications Transmission Subsystem
• CTVM	Cashless Ticket Vending Machine
• DSC	Data Storage Computer
• DMS	Device Management System
• DTE	Diagnostic and Test Equipment
• EMI	Electromagnetic Compatibility
• EMV	Europay, MasterCard and Visa
• FACI	First Article Configuration Inspection
• FAT	First Article Testing
• FDR	Final Design Review
• FSTVM	Full Service Ticket Vending Machine
• GUI	Graphical User Interfaces
• HHTV	Handheld Ticket Validator
• IEC	International Electrotechnical Commission
• ISO	International Organization for Standardization
• LAN	Local Area Network

Abbreviations and Acronyms

- **MIL-HDBK** **Military Handbook**
- **MTTR** **Mean Time to Repair**
- **MDT** **Mobile Data Terminal**
- **NFC** **Near Field Communication**
- **NIC** **Network Interface Card**
- **OCC** **Operations Control Center**
- **OCD** **Operator Control and Display**
- **OMC** **Operations and Maintenance Vendor**
- **OSMP** **On Board Smart Media Processor**
- **OTA** **Online Ticketing Application**
- **PAD** **Patron Antenna and Display**
- **PCI DSS** **Payment Card Industry Data Security Standard**
- **PDR** **Preliminary Design Review**
- **PIV** **Personal Identity Verification**
- **POSM** **Point-of-Sale Machine**
- **QA/QC** **Quality Assurance/Quality Control**
- **RCA** **Regional Clearinghouse Application**
- **RF** **Radio Frequency**
- **SCSU** **Supplemental Change Storage Units**
- **SMT** **Smart Media Technology**
- **SPTV** **Station Platform Ticket Validator**
- **SSSMA** **System Status and Security Monitoring Application**
- **SQL** **Structured Query Language**
- **TVM** **Ticket Vending Machine**
- **UL** **Underwriter Laboratories**
- **UPS** **Uninterruptible Power Supply**

1.0 System Requirements

1.1 General

1.1.1 Description

The Fare Collection System shall consist of Ticket Vending Machines (TVMs), a Central Data Collection & Information System (CDCIS), Station Platform Ticket Validators (SPTVs), Handheld Ticket Validators (HHTVs), On-Board Smart Media Processors (OSMPs), Point-of-Sale Machines (POSMS), spare parts, special tools, test equipment, documentation, training, technical assistance and warranty as part of the system. The TVMs shall be designed for outdoor installation in a covered but open environment which includes precipitation, sun glare, heat and solar loading. The SPTVs and any equipment supplied and/or installed that is not housed in an environmentally controlled enclosure shall be rated to operate in the environmental conditions of the Central Florida area.

It is required that the TVMs, SPTVs, HHTVs, OSMPs and POSMS (Fare Collection Equipment) shall be service proven for revenue service. The system shall be of materials that are new and free of defects and which conform to the requirements of the technical specification.

The TVMs shall be a standard modular production model which shall have a certifiable record of reliable, low maintenance operation on one or more existing transit systems under service conditions similar to those indicated herein for a period not less than the past two (2) years. The TVM shall have a certifiable record of satisfactory performance reliability on similar types of installations. In the Technical Proposal, the Vendor described similar installations including reliability rates for the system implementation. For the purposes of reliability rates as defined below, failures shall mean any reason that the TVM is inoperable.

Reliability rates of similar installations shall be defined and calculated using the following:

- Failure Rate - defined as the number of failures in a 3-month period divided by the number of TVMs in the group.
- Tickets Vended Failure Rate - defined as the number of tickets vended failures in a 3-month period multiplied by 10,000 and then divided by the total number of tickets vended by all TVMs in the group.
- Mean Cycles Between Failures – defined as the sum of the total transactions for each piece of equipment divided by the number of failures for the same equipment.
- Mean Time to Repair (MTTR) – defined as the time to restore the equipment back to revenue service and shall be calculated from the moment the TVM failure has been reported to the moment the equipment has been tested and

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verified as fully functional and has been restored to revenue service. The time to restore to revenue service shall be measured as the total elapsed time including troubleshooting and replacement or repair, using the diagnostics, special tools, and procedures provided by the Vendor.

Fare payment media (standard and limited use contactless smart cards) shall be provided by the Vendor with:

- a Card Operating System (COS) that allows for the creation of a file structure;
- supports the minimum required application protocol data unit (APDU) command set;
- is compliant to ISO 14443 (Type A and Type B) and identified components of ISO 7816;
- supports encoding with FDOT, LYNX and Votran specific keys; and
- is commercially available in the U.S. for transit fare payment.

Customers shall buy tickets and passes or use transfer upgrade tickets for passage on the CFCRT system. The ticket, pass, or transfer upgrade ticket, in each case, evidences payment of fare and enables barrier-free fare control throughout the CFCRT system. No cash fares shall be collected aboard CFCRT trains. Self-service ticket vending machines (TVMs) located on CFCRT station platforms shall make change (FSTVMs only) and vend single ride tickets, round trip tickets, transfer upgrade tickets, day passes, weekly and monthly passes, and stored value cards.

1.1.2 Code Requirements

The fare collection system shall be designed and installed to comply with all applicable local, state and national design codes, ordinances, and standards, including Payment Card Industry Data Security Standards (PCI DSS), American Public Transportation Association's Contactless Fare Media System (APTA--CMFS) Standard, FTA National ITS Architecture Policy on Transit Projects and federal rules and regulations existing at the time of procurement and the contract execution date. The Vendor shall be responsible for identifying all local, state, and national design codes, ordinances, statutes, standards, and federal rules and regulations applicable to the fare-collection system at the time of contract award.

The following is a list of standards to be complied with in the execution of these technical specifications. The list is not intended to be all-inclusive. The latest revision in effect for each standard at the time of Written Authorization shall be used in conjunction with this technical specification.

Listed below are the principal (not all inclusive) applicable codes:

- American Welding Society B2.2
- American Welding Society C1.1
- American Welding Society D1.1

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- American Welding Society D1.2
- American Welding Society D1.3
- Federal Communication Commission emission limits
- Military Handbook MIL-HDBK-132
- National Electric Safety code, American National Standard C2, latest edition.
- National Electric Code, National Fire Protection Association ANSI/NFPA 70 and 130, latest edition.
- Underwriters Laboratories UL-751, "Vending Machines," latest edition.
- International Electrotechnical Commission standard 529 (IEC529).
- International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) 14443 (Type A and Type B) and identified components of ISO 7816
- Europay, MasterCard and VISA (EMV) standards.
- Americans with Disabilities Act (ADA) of 1990, 49 CFR Parts 27, 37, and 30.
- Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG).

1.1.3 Project Participants

The Vendor shall be responsible for coordination of the work of its contract with the Department and the Department's Contractors constructing the CFCRT Station Platforms, and providing commuter operations and maintenance services.

a. Design/Build (D/B) Contractor

The station platforms will be cast-in-place concrete pads constructed by the Design/Build Firm who is responsible for including in its construction all embeds (structural, electrical and mechanical) needed for station amenities and furnishings.

b. Station Finishes Contractors

There will be two separate Station Finishes Contractors that will complete the station platforms, one contractor for each phase of the project. The Station Finishes Contractors will be responsible for completing all electrical, communications, mechanical, structural, and architectural features on the station platforms with the exception of the TVMs and SPTVs.

d. Construction Engineering and Inspection Contractor

The Department will contract the construction engineering and inspection (CEI) work under a professional service contract that will be responsible for oversight of the station contractors including the TVM and SPTV delivery and installation.

e. Operations and Maintenance Contractor (OMC)

In preparation for the new commuter rail service, the Department will be mobilizing an Operations and Maintenance Contractor prior to the completion of the stations. The Operations and Maintenance Contractor will be responsible for operating and maintaining the CFCRT system. Optional operation and maintenance support for the fare collection system equipment may be required by the Vendor at the Department's option with coordination and oversight by the OMC and Chief Operating Officer.

f. Chief Operating Officer (COO)

The Department has filled the position of COO with a Consultant to the Department. The COO shall report to the CEO of the Department, which is the District Five Secretary. The responsibilities of the COO shall include, but are not be limited to:

- Having daily oversight of CFCRT commuter rail operations, service, and maintenance to ensure compliance with service standards and budgets, including oversight of all contracted services.
- Providing timely coordination with the appropriate staff of the individual Signatory Parties, LYNX, Votran, and CSXT in the event of an emergency (such as the need for bus bridges, public service announcements, security, or railroad property issues).
- Providing timely and comprehensive operational input to and coordination with the individual Signatory Parties and the third party Vendor in order to enable the Department to effectively respond to the needs and requirements of the individual Signatory Member Agencies and to enhance existing CFCRT service and future expansions.

g. Public Involvement/Marketing Services Contractor

The Department has contracted with a Third Party Services Provider under a separate contract that will be responsible for marketing, branding, public and media relations for CFCRT. The third party vendor will be responsible for developing and maintaining the CFCRT website. The Vendor shall coordinate with the Third Party Services Provider regarding interfaces with the registration, payment and reloading of smart cards and wrapping of fare collection equipment and smart cards. The Third Party Services Provider will also be responsible for provision of wireless services onboard CFCRT vehicles.

h. Other Third Party Service Providers

Other Third Party Service Providers may be contracted by the Department, to be responsible for the Operation and Maintenance of CFCRT clearinghouse and other required services to be determined.

1.2 Products

1.2.1 Design Criteria

a. Design Life

The Fare Collection Equipment design life shall be a minimum of 15 years of full-time revenue service in the Central Florida area. The fare collection equipment is expected to operate 24 hours per day and 7 days per week and 52 weeks per year.

b. Physical Characteristics

Equipment shall be designed and constructed to prevent theft and unauthorized access, minimize the effects of vandalism, prevent unauthorized removal of the equipment from its installed location, facilitate access by authorized personnel, and operate in the environmental conditions described in the section entitled "Operating Environmental Requirements."

c. Ease of Use/Safety

Fare collection equipment shall be designed to facilitate ease of use and safety for customers, maintainers, servicers, and other Department and LYNX personnel.

d. Accessibility for Customers with Disabilities

The TVM and SPTV shall comply with the requirements of 49 CFR Parts 27, 37, and 30 of the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG). All operating controls and identification shall be labeled with Braille. The TVM shall be equipped with a voice module to allow visually impaired customers to perform any transaction by following interactive voice instructions, both following displayed messages and providing supplemental messages as needed.

e. Lingual Requirements

The TVM shall present (not simultaneously) all messages on the display screen(s) in both English and Spanish. The TVM shall have the capability to add up to 5 additional languages on the display screen and audio functions. The default language for the initial display screen messages for all transaction shall be English. The audio capabilities shall correspond with the same language selected at the point when the audio button was depressed.

f. Electrical Requirements

Each unit of fare collection equipment shall operate from a single-phase power source of 120V, 60 Hz, and 30 amps maximum. All fare collection equipment shall be designed to operate with a plus or minus 10 percent fluctuation in line voltage without any equipment damage, decrease in performance, or service interruption. Primary power will be made available at the base of each piece of equipment.

g. Stand Alone Capabilities

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The Fare Collection Equipment shall be able to operate on a stand alone basis (Up to 24 hours the machine will hold credit card data, before it goes into an Out of Service mode). For the TVMs, if one or more TVM goes offline, is powered down, is out of sync with the Central Data Collection & Information System (CDCIS), or otherwise not connected to the Local Area Network (LAN) or Data Storage Computer (DSC), this condition shall not negatively affect any other TVM or other component of the Fare Collection Equipment. For the CDCIS, if one or more of the servers goes offline or are unavailable, for any reason, the TVMs and all other Fare Collection Equipment shall continue to operate without loss of any data.

h. Smart Cards Interoperability with LYNX and Votran Fare Media and Equipment

LYNX and Votran will be accepting smart card fare payments from riders transferring to and from the CFCRT system. The Vendor shall provide smart cards that are compatible with GFI Genfare Odyssey. The CFCRT TVMs shall accept and read magnetic stripe cards from LYNX and Votran bus systems, based on the following card dimensions and specifications:

Definitions	ANSI/ISO Standard 7813-1987
Width	2.125" +/- .005"
Length	3.375" +/- .010"
Thickness	.010" +/- .001 inches .007" +/- .010" (transfers)
Material	Polyester Stock Paper Stock (transfers/day passes)

Vendors shall coordinate with the Department, LYNX and Votran to obtain the GFI GENFARE Technical Specifications for Magnetic Stripe Tickets and GFI Odyssey fareboxes or equivalent.

i. CFCRT Branding & Marketing

The Vendor shall design fare collection equipment to accommodate space for CFCRT branding and marketing for wrapping equipment. The Department shall provide the Vendor with design elements, graphics and color schemes to wrap fare collection equipment and print on contactless smart cards. Vendor shall print up to five design options on contactless smart cards provided by the Department.

1.2.2 CFCRT Operating Environmental Requirements

The TVMs shall be designed to be installed in an open environment with canopies provided above the equipment and SPTVs in an open environment without canopies provided above the equipment. The equipment will be exposed to elements including direct sunlight, wind-driven rain, and lightning. The TVMs and SPTVs shall be capable of operating over an ambient temperature range of 20°F to 110°F. In the summer, direct

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sunlight conditions will cause cabinet temperature to rise considerably above ambient, in excess of 155°F. All equipment shall be capable of operating in relative humidity up to 95% over the ambient temperature range given above. This shall include periods of condensation and wind-driven rain, freezing rain and snow flurries.

1.2.3 Reliability

The reliability rate for all fare collection equipment shall at minimum 99% during normal operations, with the exception when the fare collection equipment is in degraded mode and when fare collection equipment is receiving downloads such as fare changes and system updates from the Central Data Collection & Information System (CDCIS).

1.2.4 Maintainability

Maximum consideration to maintenance, troubleshooting, component removal, repair and replacement and inspection shall be given in the design of all fare collection equipment. The objective of the maintainability program shall be to minimize maintenance labor, materials, costs, and fare collection downtime.

No more than one maintenance person or repairperson shall be required to restore a TVM back into revenue service at the station. Vendor shall submit, as part of the Technical and Price Proposals, the suggested preventative maintenance plan for the fare collection system. The plan shall account for all fare collection equipment including a combination of FSTVMs and CTVMs, with the quantity of each machine type to be supplied is subject to change.

2.0 Ticket Vending Machines

2.1 General

2.1.1 Submittals

As part of the Technical Proposal, the Vendor submitted technical specifications for Ticket Vending Machine equipment and installation including reliability rates for the system implementation and schedule for the design, manufacturing, implementation, testing and acceptance of the equipment, and process for replenishing fare media. That submittal is hereby incorporated herein this contract by reference.

2.2 Products

2.2.1 Functional Requirements

Two types of ticket vending machines (TVMs) shall be planned for implementation; a cashless TVM (CTVM) that will accept only credit/debit cards but not cash and a full-service TVM (FSTVM) that will accept both cash and credit/debit cards for payment and issue change. CTVMs and FSTVMs shall be designed to issue tickets (standard and limited use contactless smart cards) and add value to smart cards for CFCRT customers by accepting coins, bills or credit/debit cards transactions. The CTVMs shall be capable of the same functions as the FSTVMs, except for accepting cash and providing change. The quantity of each CTVMs and FSTVMs to be supplied is subject to change. The design of the TVMs shall be based on simple, clear and reliable construction, and modular components to make them easy to use and maintain.

Each FSTVM shall be equipped to:

- Accept all U.S. coins (including \$1 coins), except pennies and half dollars (50 cent) coins; \$1, \$2, \$5, \$10, \$20, \$50 and \$100 U.S. bills
- Provide change in the fewest number of coins as required
- Return monies deposited if a transaction is canceled or aborted
- Be configurable to determine which coins or bills are allowable for acceptance

Each TVM (FSTVM and CTVM) shall be equipped to:

- Accept credit and debit cards
- Read and add trips, passes, and stored values
- Respond to customer's choice of action
- Accept magnetic stripe cards from LYNX and Votran bus systems
- Issue standard and limited use contactless smart cards
- Register the number of media of each type and price range issued and total value of fare media sold

- Must be ADA compliant
- Provide audio output of messages and instructions
- Include a security and alarm system
- Indicate malfunctions of the unit
- Poll the CDCIS at different intervals throughout the day to download and upload hotlists, positive lists, threshold autoloads and directed autoloads.
- Include complete on-line TVM network capability with remote TVM status monitoring, automatic polling for sales information, a complete audit and accounting system, ability to remotely command TVMs to reset and self-diagnose, ability to remotely modify operating parameters, and process all credit/debit card authorizations

2.2.2 Customer User Interface

a. Display Screen

The display screen shall be a color, trans-reflective back lighted, 15" minimum Liquid Crystal Display (LCD), easily distinguishable in sunlight. The display screen shall display instructions, information, and user interface and be capable of displaying both text and graphics. The display screen shall adjust automatically to ambient light conditions so screen information can be read under all lighting conditions including direct sunlight and from an angle of up to 15 degrees in any direction and without need for additional light. TVMs shall be installed in an orientation parallel to the tracks as shown on the station platform drawings. The display screen shall be protected by shatter resistant plexiglass or polycarbonate covers and a glare reduction screen. Cathode ray tube (CRT) displays will not be allowed. Direct sunlight and/or high internal cabinet temperature shall not cause deterioration of the display. The LCD shall be industrial grade and required to tolerate extreme internal cabinet temperatures. (A cooling kit should be used to maintain the operating temperature range if required). The display screen shall remain functional when wet with precipitation, and must not suffer from "fogging" due to condensation shall occur. It shall have a minimum life of 135,000 hours during which no fading or other degradation shall occur.

The Display Screen together with the ADA-compliant interface, shall be the primary means of interface between the TVM and patrons. Therefore both shall be user friendly and located close enough to each other to enable eye movement between the two without the necessity to also move one's head. Braille shall be used to comply with ADA guidelines.

The display shall indicate amount due upon selection of ticket type and the remaining amount due, continuously updated by the amount accepted. The current time (synchronized with the TVM processor and updated every minute) shall be displayed on the idle screen.

Ticket Vending Machines

Information on the pushbutton configuration, patron display unit, and messages will be submitted to the Department for acceptance.

All text messages and information displayed shall be capable of being easily modified by the Department.. All such messages shall be configured on the back house equipment and shall be downloaded to the TVMs via both the network and a removable storage media in the event the network is out of order. All messages shall be in English and Spanish with English being the default language.

b. Push Buttons

The TVMs shall have soft key buttons to allow the customers to make their selections. The buttons shall not be removable from the outside of the TVM, and shall be vandal resistant. All buttons shall be sealed to prevent the intrusion of water.

c. Customer Instructions and Feedback

The display screen message shall respond to the depression of push buttons and shall provide feedback (visual and audio) throughout the ticket-purchasing process, including step-by-step instructions for purchasing a ticket and error messages responding to improper customer selections. In addition to the display screen, the TVM shall also provide audio beeps and tones to provide feedback to the customer.

d. Fare Payment Type/Instructions

All payment types accepted including credit cards, U.S. coins and U.S. bill denominations (FSTVMs only) shall be displayed on the exterior of TVMs. General information directing the customer user to the coin and bill slot (FSTVMs only), credit card reader, smart card reader, request receipts shall be displayed on the exterior of TVMs.

e. Indication of Special Operating Condition

All of the following indications shall be presented on the display screen during applicable special operating conditions:

- Exact Fare Only
- No Bills Accepted
- No Coins Accepted
- Ticket Type Not Available
- No Credit, ATM, or Debit Cards Accepted (even if not initially activated)
- Credit, ATM, and Debit Card Only (even if not initially activated)
- Receipt not available (even if not initially activated)
- Time-out transaction cancellation warning
- Out of service

2.2.3 Coin Handling System

a. General Requirements

Coins shall be verified, counted, and, if valid, transferred into escrow. Unacceptable coins shall be rejected individually and sent to the return tray. Upon completion of a transaction and issuance of valid fare payment, escrowed coins shall be deposited into the coin recirculation system or into the coin vault if the recirculation system is full. If the FSTVM switches to "Out-of-Service", the FSTVM times-out before the amount due is inserted, or the customer cancels the transaction before the transaction is completed, the same denomination of coins shall be returned to the customer via the return tray. FSTVMs shall dispense change in coin denominations, such that the fewest number of coins are dispensed.

b. Coin Slot

A single vertically oriented coin slot shall be provided permitting coins to pass without restriction directly into the coin acceptor assembly by the force of gravity. The coin insertion mechanism shall be designed so that liquids entering through the slot flow out of the TVM to avoid damage to the TVM and its components. A mechanical shutter, visible to the patron, shall be used to close the slot between transactions. The coin acceptor slot shutter shall remain closed until a 'due amount' is displayed on the patron display screen. The shutter shall automatically open once a transaction has been selected and the fare has been displayed. The coin slot shall be designed to accept coins readily without a frequent occurrence of dropping once the coin leaves the patron's grasp.

The shutter shall close automatically whenever one of the following situations occurs:

- Fare amount due has been inserted into the TVM.
- Cancel button has been pressed or the transaction is automatically canceled.
- Coin vault is full. Coin is jammed.
- TVM or coin processing unit switches to an out-of-service condition.

The coin slot shall be closed normally except when vending is enabled. All U.S. coins (including \$1 coins) shall be accepted, except pennies and half dollars (50 cent) coins.

The FSTVM shall reject coins, slugs or other objects other than the accepted coins and shall be returned to the customer via the return tray. Design of the coin slot shall minimize the possible entry of foreign objects including liquids and dirt. Where such objects are inserted in the coin slot, the coin tracks and coin acceptor shall have the maximum possible self-clearing ability.

c. Coin Acceptor

The coin acceptor shall be of an electronic type. There shall be both minimal mechanical mechanisms and coins rolling on rails. The coin acceptor shall have proven record of use in fare collection system in a public transit environment. The coin acceptor shall check

each coin to ensure that it meets U.S. Department of Treasury standards with regard to diameter, thickness, metal alloy, and mass. The coin acceptor shall reject counterfeit and foreign coins, tokens, and invalid items such as slugs and washers. Coins detected as invalid, such as bent coins, tokens, slugs, washers, counterfeit coins, and foreign coins shall be diverted directly to the coin return tray.

d. Coin Escrow

All coins shall be held in escrow until the ticket transaction has been completed. If the programmed or physical capacity is exceeded, all coins inserted shall be returned and the transaction automatically cancelled. Sensors shall be used to detect a jam in the escrow and to report such an incident.

f. Coin Recirculation

The FSTVM shall be provided with a coin recirculation system to minimize frequency of machine servicing for coin replenishment. The Vendor shall propose a design solution for the coin recirculation that best meets the following requirements.

- Receive all U.S. coins(including \$1 coins), except pennies and half dollars (50 cent) coins from the escrow, if used, or directly from the coin acceptor, and direct the coins to appropriate self replenishing coin magazines. Dispense all U.S. coins(including \$1 coins), except pennies and half dollars (50 cent) coins from the coin magazines..
- Employ a locking scheme that requires the Treasury Key and adherence to a "menu" procedure and proper personnel identification before removal of a coin-recirculation magazine. Access to coins inside the magazines shall require a Revenue Key.
- Dump all coins into the coin vault upon an authorized command provided that adequate space exists in the coin vault.
- Communicate with the Microprocessor Assembly to report specified events and data.

The FSTVM control electronics shall monitor the contents of each recirculating unit and shall record any transfer of coins from the coin recirculating units to the coin vault. The data recorded shall include:

- Date of the action
- Time of the action
- Denominations and number of coins for each denomination transferred from the coin recirculating units
- Denominations and number of coins for each denomination received by the vault
- Coin Vault Identification receiving the coins

g. Coin Vault

The coin vault shall provide security for the accepted coins prior to removal to the counting room. The coin vault shall be inserted into the TVM in a unique position. A concealed sensor built into the coin vault compartment shall detect when the coin vault is fully inserted and aligned properly with the coin channel that directs coins into the coin vault. Upon proper insertion into the TVM, the coin vault shall be locked into position, with no room for movement. The vault may only be removed using controlled keys retained by authorized Revenue Service personnel. The total amount of money deposited into the coin vault shall be monitored from the time the coin vault is inserted into the TVM until it is removed.

h. Non-replenishing Supplemental Change Storage Units

Supplemental change storage units (SCSU) shall serve as backup to any of the denominations supplied from the recirculation system. The SCSUs shall release coins as change only if coins are not available from the coin recirculation system.

2.2.4 Bill Handling System

a. General Requirements

The FSTVM bill handling system shall conform to the following requirements:

- Designed with the capability to accept \$1, \$2, \$5, \$10, \$20, \$50 and \$100 U.S. Accept any new bills issued by the U.S. Treasury for the 15-year life of the TVMs installed at the Department, while retaining the ability to accept those currently in circulation. The bill validator shall be configurable on-site to accept those other new bills by means of a software adjustment, a simple hardware adjustment, or both.
- Include a control system that shall monitor, control, and count all accepted bills by denomination.
- Include a shutter that shall protect the bill slot against the entry of fluids, when not in use.
- Be configurable to determine which bills are allowable for acceptance (i.e. only accept \$1, \$5, \$10 and \$20 bills).

b. Bill Validator

The FSTVM bill validator shall conform to the following requirements:

- Designed with the capability to accept \$1, \$2, \$5, \$10, \$20, \$50 and \$100 U.S. bills in any combination, or any one singly. The bill validator shall have the capability to accept any new bills issued by the U.S. Treasury for the 15-year life of the TVMs. Perform checks to verify bill authenticity.
- Reject counterfeit, foreign, and copied bills. Return rejected bills and hold until forcibly retrieved.

- Prevent "milking" by physically blocking the forceful retrieval of a bill already accepted or by preventing the manipulation of two bills or any other fraudulent scheme that would result in a ticket value greater than the actual money received or change being given without capturing the correct bills.
- Be designed based on technology that has a minimum of two years of proven and satisfactory performance record in a public transit environment.
- Use software controlled techniques to activate motors to clear a jam using more than one attempt if necessary. This requirement shall apply to the total path of the bill from the bill validator to the bill box.
- Minimize motor run time. The motor shall be triggered by an inserted bill and the bill automatically drawn in for authenticity checks.
- Accept input orientation of bills face up with either end first, or bills face down with either end first (4-way).
- Not initiate fare payment transaction complete or dispensing of ticket until all money appears in escrow.
- Accept at least 95 percent of "street condition" bills in each denomination on the first attempt, and at least 97 percent combined first and second attempt. Street condition bills are bills found in everyday customer use that are not torn, creased, crumbled, folded, or worn beyond what is normally found in street condition bills. Acceptance percentage shall be assured by the use of self-adjusting system that accounts for differences between bills in circulation caused by production variances and unique aging changes.

c. Bill Escrow

Valid bills accepted by the bill validator shall be transported to the bill escrow unit. The escrow shall hold the bills inserted until the selected ticket is dispensed or fare payment added to smart card. If the transaction is completed then the bills in escrow shall be transferred into the bill vault. Upon cancellation, all escrowed bills shall be returned at one time, to a separate bill return slot. The bill escrow shall return up to 15 escrowed bills if transaction is canceled.

d. Bill Vault

After the ticket has been dispensed, bills shall be transferred to and stacked in the bill vault. The bill vault shall neatly stack up to 1,000 bills. Each bill vault shall be fitted with an electronic device that is encoded with a unique serial number. Each bill vault shall be marked with the serial number and a corresponding bar code on the outside of the container. A device shall be used by the FSTVM to automatically read and identify the bill vault serial number and track the removal and insertion of a bill vault through the FSTVM software and memory. The bill vault shall be inserted into the FSTVM in one unique position only. A concealed sensor built into the bill vault compartment shall detect when the bill vault is fully inserted and aligned properly with the bill acceptor and bill escrow unit. Upon proper insertion into the FSTVM, the vault shall be locked into

position, with no room for movement. The total amount of money and number of bills, by denomination, deposited into the bill vault shall be monitored from the time the vault is inserted in the FSTVM until it is removed.

2.2.5 Credit and Debit Card Subsystem

a. General Requirements

The subsystem for the TVM to accommodate credit and debit cards, including the personal identification number (PIN) key pad, shall be supplied, tested and supported. All software and components of the TVM, aside from a PIN keypad, shall support the use of credit and debit cards for fare payment.

b. Card Reader

The TVM (FSTVM and CTVM) shall include a card reader that shall be able to read magnetically encoded and smart card credit /debit cards and magnetic stripe tickets. The card reader shall have all of the following capabilities:

- Read and verify information on credit and debit cards encoded in accordance with current applicable International Organization of Standardization (ISO) and EMV standards
- Read, verify and accept LYNX and Votran magnetic stripe fare media for transfers
- Be of the "insert and remove" type. The reading of the magnetic stripe tracks shall be accomplished by a manual movement of the card passing through fixed heads
- To detect use of the card to initiate transactions and close the bill and coin shutters
- To read identification and security data from and to remove and load value onto a secured card

c. Receipt Printing

- A printed receipt shall be provided on credit/debit card transactions, as well as cash transactions. The receipt shall contain all the information required to comply with the "Electronic Fund Transfer Act" as promulgated in the latest revision of Federal Reserve Board, Regulation E. FS Requirements 501.0118.
- Printed receipts shall have the last 8 digits of the smart card number, date and time of transaction, and TVM number.

d. Transaction Processing

A connection shall be established between the DSC and a clearinghouse providing all associated DSC software and hardware for purposes of determining validity and approving (or rejecting) bank card transactions initiated at the TVM. The card reader shall transmit card information to DSC, which sends it to the financial institution and/or clearinghouse and requests authorization. The PCI DSS (Payment Card Industry Data Security Standard) shall be required for credit card transactions. Compliance with all

relevant PCI security standards and specific card requirements are required and must be demonstrated with proof of current and on-going certification throughout the contract period. The provisions of S. 215.322, F.S., must be complied with including the utilization of the standardized contract between the financial institution or other appropriate intermediaries and the transaction processor.

2.2.6 Smart Card Subsystem

The smart card subsystem shall contain a contactless smart card reader to communicate, read and load values onto contactless smart cards. The contactless smart card reader shall read and verify information no more than 300 milliseconds and in accordance to ISO/IEC standard 14443 series (Type A and Type B). The Credit/Debit card readers and PIN Keypads shall be PCI DSS compliant. The TVM contactless smart card reader shall have sufficient memory to store:

- 100,000 transaction records
- 2,000 route/run records (including time segment records)
- 2,000 event/alarm records
- Hotlist containing no less than 100,000 Smart Media serial numbers
- Positive List containing no less than 100,000 smart media serial numbers.

2.2.7 Ticket Issuing System (Standard and Limited Use Disposable Smart Cards)

a. General Requirements

The TVM shall be capable of issuing standard smart cards from magazines/cassettes and limited use disposable smart card tickets from fan-fold stacks, rolls or cassettes of cut stock. The TVM shall store a minimum of 500 standard smart cards and 1000 limited use disposable smart card tickets.

b. Ticket Stock Description

TVMs and other elements of the fare system shall accommodate smart fare media that is ISO/IEC 14443 Type A/B compliant. The closed loop smart card and limited use tickets shall be similar in size as a credit card (dimensions specified by ISO/IEC-7810). In addition, TVMs and other elements of the fare system shall have capabilities to use any other forms of media that is ISO/IEC 14443 Type A/B compliant (i.e. watches, key fobs, stickers with smart chip etc). For deployment in future phases, the fare system should be provisioned to accept open loop fare media (Credit/Debit cards), Near Field Communication (NFC) devices, and third party smart cards (i.e. government PIV/CAC cards).

Closed Loop - Smart Card

The smart card is intended for recurring use. The expected lifecycle of the smart card shall be a minimum of four (4) years. The smart card shall be fabricated of plastic-coated layers and central layer shall be composed of polyester (PET) plastic. The smart card shall comply with ISO 10373 and ANSI INCITS 322 for durability.

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The smart card shall be ISO 14443 compliant Type A/B. The smart card shall have at a minimum, a pre-encoded unique 20-digit permanent serial number on the embedded chip. The unique card number is for establishing a customer's account within the CDCIS. The unique card number shall be printed on the smart card and shall be permanent.

The smart card shall be memory card or a microprocessor-based card. The smart card shall incorporate a broad range of security protocols to ensure that the card cannot be replicated or decrypted by an unauthorized individual using third party smart card readers and or any other unlawful method. The smart card shall employ sophisticated dynamic encryption such as triple Digital Encryption Standard (3DES) or Advanced Encryption Standard (AES) algorithms.

Closed Loop - Limited Use Ticket

The limited use ticket is intended for short-term usage. The limited use ticket will be fabricated of durable materials. The limited use ticket shall support account based processing. The limited use ticket shall comply with ISO 10373 and ANSI INCITS 410 (LU).

The limited use ticket shall be ISO 14443 compliant Type A/B. The limited use ticket shall have at a minimum, a pre-encoded unique 20-digit permanent serial number on the embedded chip. The unique limited use ticket number is for establishing a customer's account within the CDCIS. The unique number shall be printed on the limited use ticket and shall be permanent.

The limited use ticket shall incorporate a broad range of security protocols to ensure that the ticket cannot be replicated or decrypted by an unauthorized individual using third party smart card readers and/or any other unlawful method.

The limited use ticket shall employ sophisticated dynamic encryption such as triple Digital Encryption Standard (3DES) or Advanced Encryption Standard (AES) algorithms.

Future Acceptance of Open Loop Smart Media and NFC Devices

Open Loop Smart Media (contactless credit/debit cards, prepaid cards and various near field communications devices) will be deployed utilizing the same CDCIS and the equipment offered by the vendor. Contactless credit cards and debit cards, examples being MasterCard PayPass, Visa payWave, AMEX ExpressPay, Discover Zip, issued by financial institutions shall be accepted for the payment of fares in the future.

To ensure the acceptance of open loop smart media, the card reader shall have the following but not limited to:

- ISO 14443 Compliancy
- Provisioning of card readers to be certified and compliant with Europay/MasterCard/Visa (EMV) Level 1 and Level 2
- Necessary firmware to encrypt and de-encrypt data

A programmable sensor shall be provided to detect the level of remaining ticket stock. The level shall be programmable through the CDCIS. A warning alarm shall be sent to the DSC when any supply reaches the programmed level.

c. Ticket Jams

If a standard smart card jam is detected, the extended use feeder, if inoperable, shall not allow patron to select the extended use card purchase option in the TVM menu. Patrons can only select disposable smart card ticket.

If a ticket jam is detected, the ticket feeder, if inoperable, shall not allow patron to select the disposable smart card ticket purchase option in the TVM menu. Patrons can only select standard smart card for purchase.

If both standard smart card and disposable ticket feeders are inoperable. The TVM will shall switch to the "Out-of-Service" condition.

Appropriate alarms will be sent to the DSC for above conditions. Maintenance personnel shall be able to remove any jams without the use of tools, or disassembling the printer or any other subsystem.

2.2.8 TVM Control System

A microprocessor-based electronic control system shall coordinate ticket selection, fare selection, screen messages, money or card acceptance, ticket and change issue, and receipt printing (when required) in response to a customer's input. This system shall also collect and store audit data, perform fault-reporting functions, control access security functions, and communicate with the DSC.

2.2.9 Functional Requirements

a. General Requirements

In addition to regular ticket issuing, money handling, statistical, and fault-monitoring functions, the control system shall provide the operations described below.

b. Cancel Operation

The TVM shall include a cancel button for canceling the fare selection prior to insertion of the total amount due. The TVM shall return all money (and cards, if held) deposited during the transaction. Pressing the cancel button prior to the insertion of the total fare due shall cancel the last selection.

c. Time-Out Operation

A time-out function shall be provided to limit the time between successive steps after initiating a ticket selection.

d. On-Off Control

An easily accessible on-off switch shall be provided within the enclosure that shall turn the TVM (power) on or off. The DSC shall monitor use of this switch.

e. Audit Registers

To provide in-the-field performance statistics for maintenance staff, the TVM shall maintain internal counts of essential TVM data to allow for full recovery from loss of transactional and fault data. The status of the following conditions shall be possible to determine at all times:

- Amount of money, by denominations, in each of the currency units including vaults, hoppers and recirculation
- Number of transactions since last data download, by ticket/fare type and total
- Number of TVM failures since last data downloads
- TVM events since last data download
- Total money received, change issued, and overpayment accepted since last data download
- Amount of money inserted through coin slot to fill recirculation units

f. Overpayment

When the TVM is unable to provide change, it shall accept payment over the amount due and issue a ticket with the change or add the change to the patrons extended use smart card in the form of stored value.

g. Velocity Control

To prevent fraud, the TVM shall be designed and programmed for the number of times a patron can use their credit to purchase fare media and the maximum value of payment as define by the Department.

h. TVM Diagnostics

The control system shall provide detailed TVM functional and operational status when requested by authorized Department personnel via the internal maintenance keypad and internal maintenance screen or via the DSC.

i. Clock

Each microprocessor control system shall contain its own quartz crystal-controlled electronic clock, which shall be used to generate time signals to maintain an accurate record of the year, month, day of the month, and time of day (hour and minutes). The clock shall contain calendar data to determine the year, month, and day, including leap year, without manual intervention for at least 15 years, and shall provide accommodations for automatic correction for daylight savings time over the same period.

j. Data Storage and Transfer

The TVM shall collect and store data in the TVMs' computer hard drive. The TVM shall transmit the data to the DSC. All event and transaction data shall be transferred to the DSC via the fare collection LAN and CTS.

k. Error logs

The TVM shall generate error logs accessible by the administrator for diagnostics and troubleshooting. The error logs shall provide:

1. Error number
2. Date
3. Time
4. Severity code
5. Error description

2.2.10 Auxiliary Power System

A rechargeable dry or sealed gel cell battery source shall provide auxiliary power to the control system in the event of power interruptions. This uninterruptible power supply (UPS) shall provide the capability for the TVM to do all of the following:

- Issue a ticket if the ticket issue cycle is in process at the time of the power interruption
- Cancel the current transaction and return inserted money if the power failure occurs prior to the ticket issue cycle
- Perform an orderly shutdown
- Provide power, for at least one hour, to the TVM systems required to detect a TVM intrusion, activate and power the local alarm, and transmit a continuous intrusion alarm to the Operations Control Center (OCC)

After power has been restored to the TVM, regardless of the duration of power interruption, a charger within the TVM shall automatically recharge the UPS.

2.2.11 Servicing and Maintenance Access

a. General Requirements

Access to the TVM interior for servicing shall be by the front door. The TVM shall have security and access restrictions on the front door.

b. Revenue Servicing

Revenue servicing personnel shall have access to the TVM for the following:

- Replace the coin vault, bill vault, and supplemental change storage units
- Replenish recirculating units and ticket stock
- Require access to remove each of the money containers

c. Maintenance Access

Maintenance personnel shall have access to all components of the TVM except the money containers.

d. Security

The design and manufacture of the TVM, including all removable sealed money containers (coin vaults, bill vaults, coin recirculation units, and non-replenishing supplemental change storage units) shall ensure the highest degree of security. Cabinet design shall provide protection against vandalism, burglary, and/or removal of the TVM from the pad installation site. The design of the TVM shall also prevent access to the locking mechanisms and ticket stock through any of the cabinet openings.

e. TVM Access Method

Opening the front door of the TVM shall require engagement of the locking mechanism with the proper keying device. When the front door of the TVM is closed, no gaps shall exist between the door panel and the cabinet, to prevent the door from being pried open.

f. Local Alarm

The local alarm shall be a siren-type alarm and shall sound for a time period adjustable from zero seconds up to the entire time the front door is open. The adjustable duration shall be programmable from the DSC and set initially to the entire time the front door is opened without valid access codes. The TVM shall recognize the door as being open for all times when the door panel is 1/4 inch from its closed and locked position, along the side opposite the hinges. The local alarm shall activate after the allowable access authorization time expires.

g. Locks and Keys

All lock cylinders used in the Fare Collection Equipment shall be of a high-security, pick resistant design with angled key cuts, rotating tumblers, a keyway side biting and a slider mechanism or equivalent.

2.2.12 Light Fixture

The TVM shall be provided with a lighting fixture to illuminate the entire front side of the TVM. The lighting fixture shall be constructed out of the same material as the cabinet in a manner to keep out dirt, moisture, and insects. The fixture shall be controlled by a photocell that shall automatically switch the light on when the ambient light conditions outside the TVM fall below 20 foot-candles and switch it off when the light conditions rise above 20 foot-candles. A by-pass switch shall be provided on the interior of the TVM to permit the lighting fixture to be manually turned on and off. The light fixture shall contain a complete fluorescent lamp circuit and shall be constructed to allow easy replacement of the fluorescent lamps.

2.2.13 Circuit Breakers

Each TVM equipment enclosure shall contain a master circuit breaker to remove power from the entire unit. Additionally, each modular component, shall have a protective device as required by equipment design, and each protective device shall be clearly labeled as to its use.

2.2.14 Cabinet

The TVMs shall be designed to operate in covered but open locations. The equipment enclosure for the TVMs shall be of stainless steel. The top of the TVM shall slant to the rear of the TVM to prevent any accumulation of rain. The interior of the equipment shall be designed to allow easy and safe access to service equipment and sub-assemblies.

2.2.15 Air Circulation Units

The ventilation, cooling and/or heating shall be designed to ensure that all TVM equipment operates within the manufacturer's specified operating conditions when installed and subject to the site environmental conditions as defined in System Requirements, Section 1.2.2 Operating Environment Requirements. Any slots or openings for air circulation and ventilation shall incorporate standard commercially available filters into the openings.

2.2.16 Drainage

Adequate drainage shall be provided to prevent moisture or water accumulation inside the TVM cabinet. Additional drains shall be provided in return trays that drain to the exterior of the TVM.

2.2.17 TVM Data

The TVM shall monitor and record transaction and events data. All data, monitored and recorded, shall initially be stored in the TVM. All event and transaction data shall subsequently be transferred to the DSC.

2.2.18 Alarm Transmission

The TVM shall include all required hardware and software to indicate a problem (alarm condition) requiring attention. The software program shall provide continual remote monitoring. For each alarm event, the TVM shall transmit, in real time, a status report containing detailed information regarding the nature of the alarm event. The transmission of alarm events shall be organized according to the following priority levels:

- Intrusion/security violation
- Out-of-Service
- Revenue service
- Maintenance

2.2.19 Audit Ticket Data

At a minimum, all of the following types of audit tickets shall be available from each TVM and shall be printed on journal ticket stock:

- Revenue Audit Ticket
- Sales Audit Ticket
- Recovered Money Audit Ticket

Ticket Vending Machines

- Collection Audit Ticket
- Status Audit Ticket
- Diagnostics Audit Ticket
- Service Audit Ticket
- Replenish Money Audit Ticket

All audit tickets shall present the following information:

- Title or type of audit ticket
- TVM number
- Employee I.D
- Date and time audit ticket was printed

DELIVERABLES

- Customer User Interface design
- Color sketch and color diagram of the front layout of the TVM
- Display screen type and design
- Means of illumination to direct customer
- Display messages
- Updated instructions to change display message
- Instructions for changing display messages including audio
- Sequence of steps
- Graphics and text in compliance with ADA
- Type, size and location of fixation and structural composition of the serial number identification
- Procedure and equipment to modify coins accepted
- Updated procedure to modify coins
- Procedure for re-configuring the non-replenishing Supplemental Change Storage Units (SCSUs)
- Updated procedure for SCSU
- Hardware adjustments for the Bill Acceptor
- Personal Access Card graphics
- Methodology to prevent unauthorized software changes
- Document to implement smart card electronic payment functions
- Description of all smart card electronic payment provisions included
- Technical details of smart card (including minimum stored value capabilities)
- Security and safeguards of card operation system
- Keypad commands, internal displays and audible tones
- Step by step instructions, audio beep/tones and error messages
- List of functional and operational status
- Out of service indication

Ticket Vending Machines

- Proposed methodology for transferring data from a non-volatile memory storage device to the CDCIS
- Detailed shutdown and start-up procedures
- Complete list of events to be transmitted to the DSC
- Final list of events to be transmitted to the DSC
- List of error codes and their definitions
- Format of statistical data storage
- Security arrangements designed and manufactured into the TVM
- List of Service Codes
- Alarm design and method of deactivation
- Alarm hardware and software program
- Alarm - limits for interface characteristics
- Security lock and design
- Number of keys to be kept by the Vendor through Warranty period

3.0 Station Platform Ticket Validator

3.1 General

This section describes the requirements for the Station Platform Ticket Validators (SPTVs) to be installed on station platforms.

3.1.1 Submittals

As part of the Technical Proposal, the Vendor submitted technical specifications for Station Platform Ticket Validator equipment and installation including reliability rates for the system implementation and schedule for the design, manufacturing, implementation, testing and acceptance of the equipment. That submittal is hereby incorporated herein this contract by reference.

3.2 Products

3.2.1 Design Features

The Vendor shall supply the SPTV as an independent component to be installed on station platform. The design features are identical for each independent SPTV supplied under this contract.

The SPTVs shall include all of the design features listed below:

- Small, compact units that can be easily installed on station platforms
- Designed and installed to operate in the environmental conditions of the Central Florida area
- Simple passenger interfaces that allow for rapid boarding and alighting. Smart card “target” shall be designed in a prominent and accessible style
- All ADA standards including those for the hearing and visually impaired and installed at a max height between 48 inches and 54 inches from the platform floor

3.2.2 Functional Requirements

a. General Requirements

The SPTVs shall operate on power from a source on each station platform. A rechargeable dry or sealed gel cell battery source shall provide auxiliary power to the control system in the event of power interruptions.

b. Smart Card Validation

Each SPTV shall allow for contactless validation of both smart card and ticket media. The SPTV units shall have the capability to deduct the appropriate fare from the smart card based on passenger boarding and alighting zone. The SPTV contactless smart card reader shall have sufficient memory to store:

- 100,000 transaction records
- 2,000 event/alarm records
- Hotlist containing no less than 100,000 Smart Media serial numbers
- Positive List containing no less than 100,000 smart media serial numbers

c. Customer User Interface

Each SPTV shall have a visual display screen that has the capability to display text messages.

- Customer Instructions and Feedback
 - Each SPTV shall give instantaneous notification of card acceptance or rejection via a distinct audible tone and visible notification.
 - The SPTV's visual display shall indicate card read errors by error type and display a short message instructing the customer as to the appropriate action required to remedy the error.
- Out of Service Indication
 - The SPTV's visual display shall indicate to customers that the SPTV is out of service in the event that the SPTV is inoperative.

d. Validator Control and Data Transfer System

The SPTVs shall provide data transfer to the central data collection and information system via the fare collection LAN and CTS. The SPTVs shall poll the CDCIS at different intervals throughout the day to download and upload hotlists, positive lists, threshold autoloads and directed autoloads. The SPTVs shall have the ability to be monitored remotely for maintenance and system status.

e. Error logs

The SPTV shall generate error logs accessible by the administrator for diagnostics and troubleshooting. The error logs shall provide:

1. Error number
2. Date
3. Time
4. Severity code
5. Error description

3.3 Execution

3.3.1 Performance Requirements

The SPTVs module shall instantaneously process RF-equipped smart cards and deduct the appropriate fare upon validation no more than 300 milliseconds.

- Scaled color sketch of front panel
- All graphics, including text, to be displayed on the TVM to direct customers to the validator

Station Platform Ticket Validator

- Installation and wiring plan for the SPTVs to interface with station platform validator pedestal and TVMs on station platforms
- Data transfer plan that details data transfer to the central data collection and information system via the fare collection LAN and CTS.
- All software, hardware, and networking specifications

4.0 Handheld Ticket Validator

4.1 General

This section describes the requirements for the Handheld Ticket Validators (HHTVs) to be installed as an independent component on-board passenger coaches.

4.1.1 Submittals

As part of the Technical Proposal, the Vendor submitted technical specifications for Handheld Ticket Validator equipment including reliability rates for the system implementation and schedule for the design, manufacturing, implementation, testing and acceptance of the equipment. That submittal is hereby incorporated herein this contract by reference.

4.2 Products

4.2.1 Design Features

The Vendor shall supply the HHTV as an independent component to be used by Conductors and other fare enforcement personnel to use on passenger coaches and cab cars to inspect smart cards to ensure valid payment of fares. The design features are identical for each HHTV supplied under this contract.

4.2.2 Functional Requirements

a. General Requirements

The subsystem for the HHTV to accommodate credit and debit cards, including the personal identification number (PIN) key pad, shall be supplied, tested and supported. All software and components of the HHTV, aside from a PIN keypad, shall support the use of credit and debit cards for fare payment. The HHTVs shall operate on a rechargeable battery power source.

b. Smart Card Validation

Each HHTV shall allow for contactless reading of both smart card and ticket media via remote radio frequency (RF) interface. The HHTV units shall have the capability to detect the appropriate fare from the smart card based on passenger boarding and alighting zone.

c. Card Reader

The HHTVs shall include a card reader that shall be able to read magnetically encoded and smart card credit /debit cards and magnetic stripe tickets. The card reader shall have all of the following capabilities:

- Read and verify information on credit and debit cards encoded in accordance with current applicable International Organization of Standardization (ISO) 14443 (Type A and B) and EMV standards

- To read identification and security data from and to remove and load value onto a secured card

d. Receipt Printing

A printed receipt shall be provided on credit/debit card transactions. The receipt shall contain all the information required to comply with the "Electronic Fund Transfer Act" as promulgated in the latest revision of Federal Reserve Board, Regulation E. FS Requirements 501.0118. Printed receipts shall have the last 8 digits of the smart card number, date and time of transaction, and HHTV number.

e. Transaction Processing

A connection shall be established between the CDCIS and a clearinghouse and providing all associated CDCIS software and hardware for purposes of determining validity and approving (or rejecting) bank card transactions initiated at the HHTV. The card reader shall transmit card information to CDCIS, which sends it to the financial institution and/or clearinghouse and requests authorization. The PCI DSS (Payment Card Industry Data Security Standard) shall be required for credit card transactions. Compliance with all relevant PCI security standards and specific card requirements are required and must be demonstrated with proof of current and on-going certification throughout the contract period. The provisions of S. 215.322, F.S., must be complied with including the utilization of the standardized contract between the financial institution or other appropriate intermediaries and the transaction processor.

f. Smart Card Subsystem

The smart card subsystem shall contain a contactless smart card reader to communicate, read and load values onto contactless smart cards. The HHTV contactless smart card reader shall have sufficient memory to store:

- 100,000 transaction records
- 2,000 event/alarm records
- Hotlist containing no less than 100,000 Smart Media serial numbers
- Positive List containing no less than 100,000 smart media serial numbers

g. Conductor Interface

Each HHTV shall have a visual display screen that has the capability to display text messages.

- Conductor Instructions and Feedback
 - Each HHTV shall give instantaneous notification of card acceptance or rejection via a distinct audible tone and visible notification.
 - The HHTV's visual display shall indicate card read errors by error type and display a short message instructing the Conductor as to the appropriate action required to remedy the error.
- Out of Service Indication

- The HHTV's visual display shall indicate to the Conductor that the HHTV is out of service in the event that the HHTV is inoperative.

h. Validator Control and Data Transfer System

The HHTVs shall be equipped with wireless technology (i.e. Wi-Fi) that allows for remote data transfer to the central data collection and information system via wireless access points on coach cars or at stations and at maintenance facilities. The HHTVs shall poll the CDCIS at different intervals throughout the day to download and upload hotlists, positive lists, threshold autoloads and directed autoloads. The HHTVs shall have the ability to be monitored remotely for maintenance and system status.

i. Error logs

The HHTV shall generate error logs accessible by the administrator for diagnostics and troubleshooting. The error logs shall provide:

1. Error number
2. Date
3. Time
4. Severity code
5. Error description

4.3 Execution

4.3.1 Performance Requirements

The HHTVs module shall instantaneously process RF-equipped smart cards and deduct the appropriate fare upon validation no more than 300 milliseconds.

- Scaled color sketch of front panel
- Data transfer plan that details wireless technology that allows for remote data transfer to the central data collection and information system via wireless access points on coach cars or at stations and at maintenance facilities.
- All software, hardware, and networking specifications

7.0 Central Data Collection & Information System

7.1 General

7.1.1 Description

This section specifies the requirements for the Central Data Collection & Information System (CDCIS) to be furnished under the Contract. All fare collection and validation equipment shall communicate with the CDCIS (i.e. “back office”) for transfer of all stored data and transfer of equipment parameters. The CDCIS will be an “ACCOUNT BASED SYSTEM” and all fare product and customer information will reside on the account level and not on the smart card itself.

In the account-based system, the data stored on the issued smart media will only be used as a means to identify the smart card uniquely and be linked to an account within the CDCIS. Fare products purchased or reloaded (stored value, trips, passes, transfers) will be associated to the account within the CDCIS. The accounts will be accessed and verified each time the smart media is presented (tapped) to a contactless reader. Fare processing will apply the transfer rules, fare policy rules, and fare calculation will occur in the CDCIS.

Designing and implementing an account based system will be the key for future proofing of payment infrastructure to accept contactless credit/ debit cards, pre-paid cards, near-field devices, and other contactless media in the future stages.

The account-based solution offered should be such that it allows the regional partners (Department, LYNX and Votran) to seamlessly transition to the future stages media mentioned above.

The CDCIS offered shall be a single integrated CDCIS that is capable of serving the regional partners (Department, LYNX and Votran) and shall allow for regional clearing and settlement activities among regional partners based upon flexible configuration rules.

For the initial deployment, the regional partners expect to utilize limited-use (short-term) disposable paper and standard (long-term) plastic smart card media. In the future, the regional partners expect to migrate to open payment solutions media based on contactless credit/ debit cards, prepaid cards and various near field communications (NFC) that may be deployed utilizing the same CDCIS and the equipment offered by the Vendor.

An architecture diagram depicting the solution envisioned is presented on the following page.

7.1.2 Submittals

As part of the Technical Proposal, the Vendor submitted technical specifications for Central Data Collection & Information Systems equipment, software and installations including reliability rates for the system implementation and schedule for the design, manufacturing, implementation, testing and acceptance of the equipment. That submittal is hereby incorporated herein this contract by reference.

7.2 Products

7.2.1 Central Data Collection & Information System (CDCIS)

The CDCIS and subsystems shall be designed as a set of scalable systems. The use of scaling techniques and technologies to size and configure the system to address both present and future needs must be included in the overall system architecture approach.

The CDCIS shall provide automatic monitoring and control of all devices connected to the network.

The CDCIS shall accommodate up to 100 TVMs, 100 SPTVs, 50 HHTVs, 400 POSMs and 600 OSMP devices.

The CDCIS shall communicate and provide a seamless interface with the CFCRT website including, but not limited to, on-line ticket purchases, reloading of smart cards and smart card registration.

The CDCIS shall function as a single, fully cohesive system, with a unified architecture to data formatting, report generation, fare table and device parameter download data. All operating systems, provided by the Vendor, shall support open-systems technology architecture. Access to the system database(s) and Application Programming Interfaces (APIs) shall be provided by the vendor along with documentation that describes tables and data structure needed to develop any third party applications. All CDCIS equipment shall be provided by Vendor with an uninterruptible power supply (UPS) to provide power to the control system in the event of power interruptions.

7.2.2 Subsystems and Application

The CDCIS shall be comprised of the following subsystems and applications to support an account based back office:

- Data Storage Computer (DSC)
- Fare Processor
- Device Management System (DMS)
- Regional Clearinghouse Application (RCA)
- Online Ticketing Application (OTA)
- Customer Administration Application (CAA)
- System Status and Security Monitoring Application (SSSMA)

- Servers
- Work Stations
- Any Additional Equipment required for the safe and reliable operation of the CDCIS system. Additional equipment would be purchased as optional equipment.

7.2.2.1 Data Storage Computer (DSC)

The Data Storage Computer (DSC) will be the data warehouse and repository for the CDCIS. The user interface for the entire DSC, as well as all DSC applications, shall be web-based. Authorized user will be granted rights to access the CDCIS through graphical user interfaces (GUI) from any workstation installed on the network.

All application software used by the DSC shall be designed to be flexible, user friendly, and permit users to access all functions and features through a Graphical User Interface (GUI) based on user identification authentication and password settings.

The DSC shall also allow users utilizing web applications to gain access for report generation purposes. The DSC shall have Graphical User Interfaces for reporting ridership statics and trends, revenue reconcilements, sales, regional partner clearing and settlement reports etc.

At the initial deployment phase, Smartcard media consisting of disposable and plastic cards shall be supplied by the selected vendor.. At a follow-on phase, credit, debit and prepaid cards issued by financial institutions will be used to purchase fare media and fare products. The transactions shall be authorized, processed, settled, and accounted for in the DSC. The vendor shall be responsible for designing, testing, and certifying PCI compliance of any interfaces that connect between the DSC, payment hub, and the clearing house of the financial institution. The vendor shall provide all hardware and software for encrypting and transmitting credit/debit card data. This will be required for verification of credit/debit card legitimacy and customer fund availability. In addition, velocity controls will be set in place to protect the regional partners and customers from fraudulent activities.

The DSC shall be configured to operate on a stand-alone basis. If one or more of the devices go offline, are powered down, or are out of synch with the CDCIS, or are otherwise not connected to the LAN or DSC; this condition shall not negatively affect any other device or other components of the fare collection system. If one or more of the DSC's servers goes offline or are unavailable for any reason, all fare collection equipment shall continue to operate normally without any loss of data and shall synchronize to the DSC upon re-connectivity.

DSC software and hardware shall be designed to meet industry standards for high reliability, availability, and accuracy. All elements of the DSC system will have availability of no less than 99% during normal operations; this is exclusive of routine maintenance.

The DSC shall be automated for on-demand backup and archiving.

The DSC will be located at the Operations Control Center (OCC).

7.2.2.2 Fare Processor

The CDCIS shall have a fare processor in which the fare tables will reside. The fare tables will define the fare policies and fare prices for each of the regional partners (Department, LYNX, Votran). The fare tables shall include all necessary information to properly define the fare policy rules. The CDCIS shall consist of a series of database tables representing fare structures and fare products data. All fare policies shall be part of the fare tables and the tables shall be configurable for future changes. The vendor shall provide all hardware and software required to edit and publish fare tables from the CDCIS to all fare collection system devices. Each regional partner will have their own set of fare tables within the CDCIS.

7.2.2.3 Device Management System (DMS)

The vendor shall provide a Device Management System (DMS). The DMS shall consist of hardware and software required for communications between the CDCIS and all devices (TVM, SPTV, HHTV, OSMP and POSM.) The DMS shall transmit data and commands from CDCIS to the device and vice versa. The primary functions of the DMS shall be to receive data from the CDCIS (i.e. positive lists, hotlists, auto-loads, threshold auto-loads, fare-tables commands etc) and transmit to the fare collection devices. The DMS shall transmit data from the fare collection system devices to the CDCIS.

In addition the DMS shall have the following capabilities:

- No interruption of normal functions at TVM, POSM, SPTV, HHTV and OSMP shall occur when receiving or transmitting data between CDCIS and the devices.
- Constantly check fare collection device for proper functionality and report any error conditions.

7.2.2.4 Regional Clearinghouse Application (RCA)

The CDCIS shall have a Regional Clearinghouse Application (RCA). The primary function of the Regional Clearinghouse application will be to calculate and allocate fare product revenue collected throughout the system to the appropriate regional partner. The Regional Clearinghouse application should be flexible to accommodate the selected fare policy of each regional partner to include but not limited to fixed zone, time based, floating zone, distance based, district based, service based etc.

The Regional Clearinghouse Application shall be web based, designed to be flexible, user friendly, and permit access to all functions and features through a Graphical User Interface (GUI) based on user identification and password settings.

7.2.2.5 Online Ticketing Application (OTA)

The vendor shall provide an Internet site for online ticketing; this will include all necessary APIs, hardware and software to interface with the departmental and regional

partner websites. The site shall be a web-based application used to purchase smart fare media and fare products with credit/debit cards.

In addition the online ticketing application shall have the following capabilities and functions:

- Allow customer to register their smart fare media for balance protection.
- Add trips, passes and stored value to their account.
- Allow customer to purchase multiple products within a single transaction.
- Allow customer to edit (add or delete fare products) before transaction is sent for authorization to the payment hub and financial institution.
- Provide capability for password reset and email confirmation
- Auto-replenish feature – The auto-replenish feature shall allow customers to auto load trips, passes and/or stored value to their account when a fare product falls below the set threshold.
- Linking and Unlinking credit/debit card – The customer will be allowed to link or unlink their credit/debit card to their account and/or accounts within the CDCIS.
- Velocity Controls- The online ticketing site will have velocity controls, such as zip code verification, Card Identification Number (CID) verification in place to prevent fraudulent activities.

The online-ticketing site and any API's used to interface with financial institutions or any third party systems shall be PCI compliant. Standard API's to access data or write to the DSC shall be provided by the vendor.

7.2.2.6 Customer Administration Application (CAA)

The Customer Administration Application shall be web based, designed to be flexible, user friendly, and permit access to all functions and features through a Graphical User Interface (GUI) based on user identification authentication and password settings. The CAA will be only available for use by regional partner employees.

The primary function of the CAA will be to allow employees to address customer concerns and issues related to their smart fare media account. Below are the minimum capabilities that the CAA shall include but not be limited to:

- Allow employees to access customer's smart fare media account
- Register customer's account for balance protection
- Configure password and login information
- Modify customer information on account
- Research account history (purchase of fare products, usage of fare product etc.)
- Correct any erroneous charges

- Configure and execute auto-replenish features for customer
- Hotlist Customer Account
- Remove customer account from hotlist

7.2.2.7 System Status and Security Monitoring Application (SSSMA)

The System Status and Security Monitoring Application (SSSMA) shall be web based, designed to be flexible, user friendly, and permit access to all functions and features through a Graphical User Interface (GUI) based on user identification authentication and password settings.

The System Status and Security Monitoring Application (SSSMA) shall monitor the status of the CDCIS and subsystems, including Device Management System (DMS), TVM, SPTV, POSM, HHTV, OSMP data transmissions and networks.

Alarm information, such as intrusion alarms, out of service conditions and other high priority events shall be displayed in real-time graphical representation for each device location, and without delay, regardless of other activities in progress.

The SSSMA shall provide for full remote management access to all devices at any location within the system.

The SSSMA shall include menu options to aid monitoring of device status, CDCIS and subsystem security, network status and polling status.

The SSSMA shall also periodically poll all stations for status in order to insure that all station network interfaces with fare collection equipment are functioning properly.

The SSSMA shall maintain a current understanding of the complete system status and permit authorized workstation operators to view the status of all equipment by station and by individual component.

Appropriate security measures, including password protection, shall be included to prevent unauthorized access or modification to the CDCIS hardware and software.

The SSSMA, in conjunction with CDCIS security architecture, shall also have adequate measures in place that are continuously active to prevent unauthorized intrusion to the operating system, applications, and other software modules.

The SSSMA shall also monitor the status of data connections to the clearinghouses for credit/debit card authorizations should such an option be exercised. In the event that all communication with the financial clearinghouse(s) is lost, the CDCIS shall inform the TVMs and POSMs that credit card transactions are temporarily unavailable, and the TVMs and POSMs shall act accordingly. Upon restoration of communication with the financial clearinghouse(s), the CDCIS shall so inform the TVMs and POSMs.

7.2.2.8 Servers

The servers are to be up to date computers, suitable for functions, with sized memory, data storage and adequate processing power based on expected usage and needs.

Every server shall be automated for on-demand backup and archiving.

The servers shall have adequate space to retain data until copies have been made and verified.

7.2.2.9 Workstations

Any specialized workstations or equipment needed for the daily operations, monitoring and reporting for the fare collection devices and CDCIS and subsystems required for use by employees of the contracting party shall be provided by the Vendor.

Regular workstations that are used in the daily course of business by regional partner employees that may also be used to access all of the Fare Collection System Applications will be provided by the regional partners and regular workstations should not be included as part of the Technical and Price Proposal submitted.

7.3 Data Networking

Data communications shall be provided in a hierarchical network, with Data Storage Computer at the top level, an Ethernet switch at the middle level, and the TVMs, HHTVs, SPTVs and POSMs at the lowest level.

All TVMs, HHTVs, SPTVs POSMs and OSMPs shall be networked back to the DSC.

All infrastructure required data communications and switching equipment, routers and data cabling will be installed by the Department's station finish contractor to a termination point in an area/data cabinet near the end of each station platform. Maximum distance from the area/data cabinet to the TVM on the platform should not exceed 250 ft at each station location. LAN connection and AC power will be provided at the CDCIS by the Regional Partners at the Operations Control Center (OCC). Data cabling, power cabling, connectors and any other equipment needed to operationalize the complete Fare Collection System between the termination point and the Fare Collection equipment shall be provided and installed by the Vendor. This includes, but is not limited to, equipment necessary to communicate between the TVMs, SPTVs, POSMs, HHTVs, OSMP, and the DSC.

The station platform electrical and data wiring plan will be provided as requested on CD/DVD.

All outdoor cabling shall be suitable for outdoor/wet installations.

Wireless LAN data access points will be provided by Operations and Maintenance Contractor for data transfer between HHTVs used in coach cars and the DSC.

7.4 Data Transmission

All devices shall be capable of being polled at various intervals throughout the day. Data shall be transmitted including status, positive lists, negative list, sales transactions, credit/ debit transactions, and error messages to/from each device as applicable. The data transmission parameters shall be user configurable and definable on a need by

need bases for each equipment type. Data shall be automatically processed and populated into all applicable databases.

The Data Storage Computer (DSC) shall record the date and time data was received from each device and store applicable information for devices where communication was not recognized. Retained data shall be stored in a PCI compliant manor and certified to that effect.

All TVMs and SPTVs shall communicate over a fiber optic back bone from the station platform to the back office. The fiber optic line will be installed by the Department's station finish contractor. To support real time transaction between the HHTV, OSMP devices and the CDCIS (back office), the vendor shall utilize wireless broadband communication systems for the transmission of transaction data to DSC for authorization and settlement. This will be achieved by 4G or better current technology for real-time data communications. 4G will consist of WiMAX or LTE depending on design requirements and latency issues. Latency across the wireless portion of network for buses over LTE will be no more than 40 milliseconds on 4G signals. The vendor shall provide an alternative capability for data communications with CDCIS from the vehicle by means of 802.11 standards for communications as the vehicle pulls into garage/depot at the end of daily shift. The purpose of this alternative configuration will be to allow for redundancy as well as an option to on-board real time validation. Your technical response should address if 4G or similar communication is not available on the vehicle, how you will overcome this situation. The Department will be responsible for monthly data charges related to communications between the HHTVs onboard Department vehicles and back-office. LYNX will be responsible for monthly data charges related to communications between the OSMPs onboard LYNX vehicles and back-office. The POSM shall communicate over fiber optic line, T1 line or broadband Wireless Network Wi-Fi. The fare collection equipment shall report status, events, alarms, and other information when necessary. All fare collection equipment shall also be able to receive information from the CDCIS to update fare structures, ticket print layouts, customer display information, operating parameters, and to be remotely commanded to perform certain diagnostic exercises. Remote workstations shall provide users access to the data for queries, report generation and status information.

7.5 Report Generation

The CDCIS shall generate reports that shall enable the Department to analyze the fare collection system, revenues, trends, maintenance activities, passenger activities, security status, equipment failures, alarms, and so on. All reports shall be available on demand, spanning any range of data stored (such as by date, station, TVM, ticket type, event type, etc.). Based on user selection, the computer system shall also generate reports automatically at programmed intervals (such as daily, weekly, monthly and quarterly). This is to include past records.

The CDCIS shall have the ability of query the DMS to retrieve data to produce consolidated reports.

The CDCIS shall be configured to prevent queries and reporting from impacting and reducing the performance of the system.

The CDCIS shall have the ability to use any data items within the DSC database to create ad-hoc reports as needed.

In addition to those reports to be provided with the system, the computer system shall enable the Department to customize existing reports and create new reports using Structured Query Language (SQL) commands available from the relational database manager.

All reports shall be available locally on the computer screen, printed to any available printer, or on any other workstation networked to the CDCIS.

The system shall also provide line graphs, bar charts, pie charts and other common data presentation methods to represent summarized data.

7.6 Application Software

Application software shall permit the DSC to simultaneously communicate with several stations, two or more users (on remote computers), and up to two financial clearinghouses for credit/debit card authorizations should such an option be exercised. Application software shall utilize menu or icon-driven user interfaces. All access to application software shall be under strict password authentication control.

Commercially available, existing software developed and tested for a similar application is preferred. Application software for the CDCIS and DSC shall be fully functional through software upgrades for at least a 10-year period.

7.7 System Application Programming Interfaces

System APIs shall be developed to ensure proper operation of all systems and devices. APIs included in the CDCIS shall include all information, data structures, protocols, libraries, to ensure proper interface of all vendor equipment and third party systems.

7.8 Graphical User Interfaces

The CDCIS shall include a series of Graphical User Interfaces (GUIs). These GUIs shall allow authorized users to interface between the CDCIS and other sub-systems/applications.

In general, a set of GUIs shall be provided for each of the following and not limited to:

- Configuration of CDCIS
- Device Management System
- Configuration of Fare Processor and fare tables
- Reporting System
- Regional Clearinghouse Application (RCA)

- Customer Administration Application (CAA)
- System Status and Security Monitoring Application (SSSMA)

7.9 Configuration Management

All configuration parameters of the TVMs, SPTVs HHTV, OSMP and POSM shall be alterable remotely from the CDCIS, including date and time, fare tables, security access codes, ticket printing formats, passenger display messages, in-service/out-of-service times, accepted types of credit/debit cards, etc.

DELIVERABLES

- CDCIS network architecture diagram
- Shop drawings, catalog cuts, and technical literature describing all LAN components
- Data analysis and report formats and capabilities
- Hardware and software specifications and technical information
- Data Storage Computer (DSC)
- Fare Processor
- Device Management System (DMS)
- Regional Clearinghouse Application (RCA)
- Online Ticketing Application (OTA)
- Customer Administration Application (CAA)
- System Status and Security Monitoring Application (SSSMA)
- Data Networking System (cabling and connectors)
- Workstations
- Application Software
- Report Generation Software

8.0 Installation and Interfaces

8.1 General

8.1.1 Description

The Vendor shall be responsible for installation of the fare collection and validation equipment as described in these specifications.

The Vendor shall inspect each installation during installation work in accordance with the requirements of these specifications and drawings.

All installation work shall be subject to the Department's review, inspection, and approval.

The Vendor shall be responsible for installing all of the Specified equipment, hardware, software, and related items as required to establish a fully functional system that is fully integrated with the Vendor provided Central Data Collection & Information System (CDCIS).

The Vendor shall perform all work in accordance with the Department's safety protocol requirements.

The Vendor shall store equipment delivered to the project area. The Vendor shall be responsible for protecting the equipment from all forms of transportation, handling, theft, and environmental damage related to storage operations. The Vendor shall remain responsible for the equipment until final acceptance by the Department. The Vendor's proposed storage facility shall provide the adequate environmental, security, and handling protection. The Vendor's storage plan and operations plan shall be reviewed and approved by the Department at the Final Design Review.

8.1.2 Reference Standards

The Design/Build Firm's Safety Program.

8.1.3 Submittals

As part of the Technical Proposal, the Vendor submitted a detailed description of the following installation and interface elements:

- Preliminary Installation and Interface Plan

That submittal is hereby incorporated herein this contract by reference.

8.1.4 Quality Assurance

The Vendor shall comply with Codes and regulations of the jurisdictional authorities. The Vendor shall provide a Quality Assurance Plan that addresses all aspects of quality control to include responsibility for reviewing and assessing quality and performance of work; acceptance, rejection, documentation, and resolution of deficiencies; corrective action; identify and prevent recurrence defective services; enforce corrective actions to

poor performance of working staff; identify key quality control and inspection personnel; interface with Department staff; identifying control procedures for protection of Department property, facilities, and equipment. The Quality Assurance Plan shall detail the methodology and procedures for the following phases:

- Project planning
- Project execution and control
- Project review and evaluation
- Project closure

8.2 Execution

8.2.1 Installation and Interface

a. Equipment Site Inspection

The Vendor shall inspect each installation site before performing equipment installation using an inspection checklist reviewed and accepted by the Department.

The Vendor's site inspection shall verify that all civil, mechanical, electrical, and general conditions required to install the equipment in accordance with these specifications have been satisfied.

The Vendor shall identify any equipment installation deficiencies during the inspection and report all deficiencies to the Department no later than three days following the inspection.

The Vendor shall submit a written installation readiness certification of the site to the Department for review a minimum of 30 days prior to equipment installation at each location.

b. TVM, SPTV and POSM Installation Requirements

TVM and SPTV installations shall be designed to be freestanding.

TVMs and SPTVs shall be fully operational with or without protection from the environment.

The Station Finishes Contractors will provide power and communications connections through power distribution panels and communications junction boxes at each station. Conduits will be provided in the station platform from the power distribution panels and the communications junction boxes to the TVM and SPTV locations on the platform. Vendor shall be responsible for connecting the power and communications to the equipment by providing cable from the power and communications boxes to the TVM and SPTV locations. The CAT-5 cable can connect to the Phoenix Contact Ethernet Switch which supports VLAN to be used for the TVM and SPTV systems.

The Station Finishes Contractors have been directed to provide a separate VLAN dedicated to TVM and SPTV use. The Vendor shall work with the Station Finishes

Contractor and the Design/Build Firm to coordinate provisioning and physical installation throughout the system.

The Vendor shall provide a separate firewall and outside interface for the TVM system at the Operations Control Center.

Power and communications connections will be provided at retail outlets and ride stores for the POSMs. Ethernet switches for the POSMs will be provided by the Operations and Maintenance Contractor. Vendor shall be responsible for connecting the power and communications to the POSM equipment by providing cable from the power and Ethernet switches to the POSM locations.

d. Mounting Requirements

The Vendor shall submit to the Department detailed TVM and SPTV bolt patterns and all other detailed mounting requirements at each design review for the Department's review and acceptance.

The bolts or other attachment devices shall not be exposed to the public after the equipment is installed. All mounting bolts shall be accessible only after opening the TVM door.

The Vendor shall fabricate drilling and bolt insertion templates for the TVM and SPTV mounting bolts.

Templates shall be fabricated prior to commencing the installations and, at the end of all installations, shall become the Department's property.

The Vendor shall provide all mounting hardware, including mounting or pedestal base for each TVM and SPTV, including the spare units.

e. Wiring and Installation Plan

The Vendor shall submit to the Department detailed wiring requirements to interface at stations, retail outlets and ride stores for SPTVs, TVMs and POSMs at each design review for the Department's review and acceptance.

Wires shall not be exposed to the public after the equipment is installed.

f. TVM Intrusion Alarm Installation

The Vendor shall install an internal TVM Intrusion Alarm system for each TVM installed at all stations.

g. Installation and Interface Plan

The Vendor shall submit an initial Installation and Interface Plan for the Department's review and acceptance at the Preliminary Design Review (PDR).

The Vendor shall submit a final Installation and Interface Plan for the Department's review and acceptance at the Final Design Review (FDR).

Installation and Interfaces

The Installation and Interface Plan shall outline details related to the personnel needed for installation work, equipment required and the installation schedule. The Installation and Interface Plan shall also detail all preparatory actions required for installation.

h. Installation and Interface Drawings

Basic Installation Drawings:

- The Vendor shall submit for the Department review and acceptance, preliminary drawings with station equipment installation details
- Each drawing shall identify all interface connections by color or number code
- Drawings shall be submitted at the PDR and FDR

Installation Drawings:

i. Installation and Interface Procedures

The Vendor shall submit installation and removal procedures for all fare collection equipment and associated cables provided.

The installation and removal procedures shall be submitted to the Department for review and approval at FDR.

The subject procedures shall be sufficiently detailed to enable the Department's maintenance personnel to remove and subsequently install the equipment.

The subject procedures, once reviewed and approved by the Department, shall be submitted to the Department in digital form and on laminated sheets or in other formats resistant to wear and tear.

The installation procedures shall also be included in the appropriate manual.

DELIVERABLES

- Quality Assurance Plan
- Storage Plan
- Operations Plan
- Installation and Interface Plan:
 - Initial
 - Final
- Drawings:
 - Shop
 - Preliminary station installation drawings
 - Installation and interface, by location
- Installation and Removal Procedures
- Detailed TVM and SPTV bolt patterns and all other mounting requirements

Installation and Interfaces

- Inspection Checklist
- Sealing Material Sample
- Certification:
 - Tests certified by an approved testing laboratory
 - Installation readiness
 - Manufacturer's certification
 - Installation Readiness Certificate
- Wiring and Installation Plan
- Written Installation Readiness Certification

9.0 Design Review and Testing

9.1 General

9.1.1 Description

The Vendor shall plan for, perform, monitor, and document all tests required to prove the design and acceptability of the Fare Collection System, including all elements, subsystems, and the system as a whole, furnished under this Contract. The Vendor shall furnish Fare Collection Equipment that meets the criteria specified for all tests. Testing shall not commence until all designs affecting the respective equipment and all related testing procedures have been approved. The design reviews shall take place during the development process and acceptance of the design reviews is a prerequisite for the Vendor to proceed to the next phase.

The Department may perform additional testing beyond that specified herein of any equipment, material, hardware and software function to determine acceptability. The Department shall perform this additional acceptance testing in accordance with the contract documents and reserves the right to perform additional testing at any time to determine conformance with the contract document requirements. Additional testing by the Department shall not be considered as a replacement for any testing conducted by the Vendor or a manufacturer producing materials for the contract.

Testing shall be completed in a Department approved test environment which requires the installation of all hardware, to include a fully functional TVM and software that will replicate what the production environment will be at the commencement of revenue service.

9.1.2 Submittals

As part of the Technical Proposal, the Vendor provided a detailed description of its testing program including, but not limited to, the following:

- Project Master Schedule
- Acceptance and Testing Plan

That submittal is hereby incorporated herein this contract by reference.

9.2 Execution

9.2.1 Project Master Schedule

The Vendor shall submit to the Department for approval a Project Master Schedule within 30 days of Written Authorization. The Project Master Schedule shall detail when each activity under each milestone will take place. This schedule is to be guided by the Milestone Payout Schedule.

9.2.2 Testing

Testing shall be conducted at three levels:

- Equipment Operations – Fare Collection Equipment and CDCIS
- Network Integration – Data transmission and interface
- System Installation and Operations – Installation and acceptance

9.2.3 Testing Plans, Procedures, Facilities and Reports

Testing plans, testing sheets and testing reports shall be developed and presented for each level of testing. Once the testing plans and testing sheets have been accepted by the Department, the Vendor shall conduct the necessary testing at each level and a testing report shall be presented to the Department within seven calendar days of the completion of the testing. The Department will review and accept the testing reports within fifteen calendar days of the submittal by the Vendor.

- Draft and Final Testing Plans shall be presented to the Department for approval during the Preliminary Design Review phase. The testing plans shall be used as the controlling document for all inspections and tests exclusive of any QA/QC procedures and shall include a detailed schedule indicating the sequence of each test and where and when each test will take place.
- Detailed Testing Sheets shall be provided to the Department with detailed check-off sheets to be used during the testing process. The testing sheets shall be submitted by the Vendor to the Department for review and approval a minimum of 30 days prior to the testing.
- Test Reports shall be submitted to the Department for each test, including copies of all test documentation and data. The test reports shall include all historical data, such as tests performed, failures, modifications and repairs pertaining to the item or system tested. Test reports will be reviewed and approved by the Department.

9.2.4 Equipment Operations Testing

a. Equipment Operations Testing includes the following tests:

- Design Qualification Testing
- First Article Configuration Inspection (FACI)
- First Article Testing (FAT)
- Production Inspection and Testing

b. Design Qualification Testing

Design Qualification Testing shall take place at the Preliminary Design Review and the Vendor shall demonstrate that each component or subsystem of the Fare Collection Equipment to be supplied meets or exceeds the requirements of the Department. The

test plan will be submitted to the Department prior to the testing and shall be approved by the Department. The results of the testing will be reviewed and approved by the Department.

c. First Article Configuration Inspection (FACI)

The FACI shall take place at the point of assembly after completion of the first production TVM. The quality of workmanship for the production of subsequent TVMs shall be established at the FACI. The Department shall be notified 21 days before the FACI date. The FACI shall verify that the production hardware complies with the design configuration and drawings as approved by the Department.

d. First Article Testing (FAT)

The fare collection equipment to be tested in the FAT shall be the first production unit. FAT shall be conducted upon successful completion of the FACI. The Vendor shall prepare and submit FAT procedures to the Department for approval within 21 days of completion of the FACI.

The Vendor shall conduct the FAT as the Vendor's facility. All FAT reports shall be subject to the Department approval. The Department reserves the right to be present at the Vendor's facility for the FAT.

At this level of testing, the Fare Collection Equipment shall be representative of the final production item. The purpose of this test shall be to demonstrate that for all items of equipment, to be furnished under this contract, the requirements have been met.

9.2.5 Network Integration Inspection and Related Testing

Upon completion of the first installation, the Vendor shall perform the Network Integration Inspection and Testing. The purpose is to demonstrate the proper data transmission from the TVMs to the DSC and workstations, control and data monitoring and reporting functions as specified in these specifications with full integration of the CDCIS subsystem, the Department's network and communication transmission system. The DSC shall be connected to the Department's network and software shall be installed on two workstations. Two of the first production TVMs and a station local area network shall be assembled at two stations and communications provisions to integrate the TVMs with the CDCIS shall be provided by the Vendor.

9.2.6 Installation and Acceptance Inspection and Testing

a. Installation Inspection and Testing

The installation and inspection testing must be completed and approved by the Department prior to the installation of the remaining equipment at the Department's facilities. The detailed test sheets and test procedures shall be approved by the Department prior to testing.

b. Acceptance Testing

The Vendor shall conduct Acceptance Testing and the results shall be subject to review and approval by the Department. The Vendor shall submit an Acceptance Testing Plan to the Department for approval. The plan shall describe the management, monitoring, recording and reporting procedures. The Acceptance Testing Plan shall be submitted to the Department for review and approval a minimum of 60 days prior to the scheduled start of the system acceptance test period. The Department reserves the right to make changes to the acceptance testing plan prior to the start of Acceptance Testing.

9.2.7 Design Reviews

The In-Progress Design Review shall be scheduled by the Vendor and held within a reasonable time, as defined by the Department, of Written Authorization. The purpose of the In-Progress Design Review is for the Vendor and the Department project manager to coordinate activities, for the Vendor to present its intended design and to identify interface requirements. Approval of all In-Progress submittals by the Department is a prerequisite to proceeding to the Mid-Point Design Review.

Upon reaching agreement with the design concepts as presented in the In-Progress Design Review, the Vendor shall prepare preliminary design drawings, documentation and data for review and approval by the Department. The Mid-Point Design Review shall then be scheduled by the Vendor and convened within a reasonable time, as defined by the Department, of Written Authorization. Mid-Point design review shall include preliminary design drawings, documentation and data for approval by the Department. Approval of all Mid-Point Design Review submittals by the Department is a prerequisite to proceeding to the Preliminary Design Review.

The Preliminary Design Review (PDR) shall take place when the design is essentially complete. The PDR shall provide the opportunity to review, revise and agree on the details of the proposed final design prior to release of the designs for manufacture. PDR submittals shall include finalized submittals for all required drawings, documents and data. The PDR shall be scheduled by the Vendor within a reasonable time, as defined by the Department, and shall be held at the Department offices or at the offices of the Vendor in the United States, as determined by the Department.

The Final Design Review (FDR) shall take place when the revisions to the PDR are completed. FDR submittals shall include the final required drawings, documents and data. The FDR shall be scheduled by the Vendor within a reasonable time, as defined by the Department, of the PDR.

DELIVERABLES

- Project Master Schedule
- Draft and Final Testing Plans
- Detailed Testing Sheets
- Test Reports
- First Article Configuration Inspection (FACI) Reports, Procedures and Sheets

- First Article Testing (FAT) Reports, Procedures and Sheets

10.0 Product Support

10.1 General

10.1.1 Description

A preliminary training plan, identifying all courses to be taught, location for each, estimated training hours, class sizes, presumed student prerequisite skills, the development and delivery schedule for each and the resumes of the proposed instructors for each, shall be provided in the proposal.

The Vendor shall submit for the Department's review and approval training curricula as part of the Preliminary Design Review. The curricula shall meet all training requirements and indicate course content, training time requirements, and who should attend.

10.1.2 Submittals

As part of the Technical Proposal, the Vendor submitted a detailed description of the following product support elements:

- Recent examples of manuals from other similar projects
- List of approved and recommended special tools
- List of recommended spare parts
- Draft warranty plan
- Operations and Maintenance Support Proposal

That submittal is hereby incorporated herein this contract by reference.

10.2 Products

10.2.1 Training Courses

The following training courses shall be provided but not limited to:

- Revenue Servicing – All revenue service personnel that will be responsible for serving TVMs shall be given training to teach the routine service functions of accessing the TVM, collecting monies, replenishing ticket stock and change, clearing basic jams, printing and retrieving audit tickets, and securing the TVM.
- Field Maintenance and Servicing – All maintenance personnel who may be required to perform schedule maintenance and support activities shall attend a training course. The course shall provide all knowledge necessary for operation, troubleshooting, maintenance, repair, component change out, and scheduled maintenance of fare collection equipment.
- Shop Repair – A selection of mechanics and electricians who will perform the periodic overhaul, remedial repair, and adjustment of the fare collection

equipment shall be given a comprehensive instruction course in the operation, troubleshooting, maintenance, repair (including printed circuit boards) and overhaul of the equipment.

- Revenue and Maintenance Workstation Operations – Personnel who will operate the Revenue and Maintenance Workstations shall be trained in the use of all application programs and functions provided by the workstations. Included in this training will be the administration of TVM operating parameters, configuration files, ticket and display text, fare tables, and voice messages. Procedures to download data to TVMs, manually induce data polling, remotely control TVMs, monitor equipment status, and generate queries and reports shall be covered.
- Administrative Workstation Operations – Personnel who will administer the CDCIS shall be trained in all aspects of CDCIS network administration. This course shall provide the fundamentals of administration of the CDCIS operating system, application software, and relational database manager. All other functions supported by the Administrative Workstation shall also be covered, as shall the administrative tasks required to maintain communications to the Fare Collection Equipment and the workstations.
- Security Workstation Operations – Personnel who will be responsible for monitoring the Security Workstation shall be trained in operations and procedures associated with the workstation.
- TVM Accounting and Registration Information – Those management personnel who will generate and use reports from the CDCIS shall be trained to be familiar with report contents and uses. Using sample data created from testing interval, reports shall be generated from the CDCIS and used to explain the resulting data output.

10.2.2 Technical Support

The Vendor shall describe their customer support services organization and provide information about the capabilities they shall maintain through the life of the contract.

On-site technical support personnel, from the Vendor, shall be available from the time the first unit of fare collection equipment is delivered to the Department through the end of final acceptance of all fare collection equipment. The Vendor shall be responsible for all TVM, SPTVs, HHTVs, POSMs and CDCIS maintenance through acceptance.

During the warranty period, the Vendor's personnel shall assist the Department when the Department is unable to diagnose or make a repair, provide replacement parts, and respond to any warranty claims, including initiation and follow-up of remedial actions.

10.2.3 Manuals

The Vendor shall provide all standard current manuals for the fare collection equipment proposed at the time the first unit of fare collection equipment is delivered. The manuals shall be complete, accurate and up to date.

The Vendor shall submit all manuals and parts catalogs, including drawings in electronic media types, electronically on CD or DVD.

Manuals shall be organized and shall include, as a minimum, but not limited to, the information as follows:

- Fare Collection Operating Instruction Manual – shall contain all information needed for safe, proper, and efficient operation to the Fare Collection Equipment. Manuals shall include but not be limited to general orientation and familiarization with all features of the Fare Collection Equipment. Detailed information shall be provided regarding location, function and operation of all controls, indicators, switches, hardware and reset buttons, and trouble diagnosis. All normal operation sequences shall be described in detail.
- Fare Collection Equipment Preventative Maintenance Manual – shall contain all information needed to enable maintainers to perform all periodic inspection and preventative maintenance tasks including all routine lubrication, inspection and replacement of consumable items. The manual shall contain recommended preventative maintenance schedules, grouped, as much as possible, into compatible and convenient intervals of time, or operating hours.
- Fare Collection Equipment Corrective Maintenance Manual – shall contain all information needed to enable maintainers to diagnose problems, and to make adjustments and repairs to all Fare Collection Equipment components and sub-assemblies. Repairs include adjustments, reports or replacements prescribed to restore the Fare Collection Equipment components and subassemblies to a normal operational condition in an efficient and timely manner.
- Fare Collection Equipment Shop Repair and Overhaul Manual – shall contain a detailed description of each assembly and subassembly to enable maintainers to service, maintain, repair, replace, rebuild and overhaul the Fare Collection Equipment.
- Fare Collection Equipment Parts Manual – shall enumerate and describe every Fare Collection Equipment component with its related parts, including the supplier's number and the Vendor's number. Cut-away and exploded drawings shall be used to permit identification of all parts not readily identified by description. Parts common to different components, such as screws, shall bear the same Vendor's number with reference to the other components where they are found. Each part or component shall be identified as being part of the next assembly. Commercially available items such as standard fasteners, fuses, lamps, fittings, switches, solenoids, and motors shall be identified by standard hardware nomenclature in addition to the Vendor's number.

- Fare Collection Equipment Software and Programming Manual - shall describe how to operate and maintain the Fare Collection Equipment software. Procedures for updating Fare Collection Equipment application software shall be provided. The manual shall also include a high level description of the Fare Collection Equipment application software design and the function of all executable modules.
- Fare Collection Equipment Software Source Code Manual – One or more manuals shall also be provided that fully documents the Fare Collection Equipment applications software source code, including data files, data file structure and data file mapping and cross-referencing.
- CDCIS Original Equipment Manufacturer (OEM) Manual – shall be provided unaltered. All manufacturers' hardware and software documentation for the CDCIS, workstations, and any associated networking hardware and software shall be supplied in their entirety. Where appropriate, these manuals may be bound with the Vendor's documentation.
- CDCIS Administrator's Manual – shall supply all necessary procedures to administer the CDCIS and the associated networking hardware and software. Administrative requirements of the CDCIS operating system software shall be described in detail or specific references to the manufacturer's operating system documentation shall be supplied. All administrative procedures, including managing user accounts, data archiving, and backup creation and restoration (full and incremental) shall be provided in this manual. All functions performed on the CDCIS Administrative Workstation shall also be documented in this manual.
- CDCIS Workstation User's Manual – shall provide complete documentation on the use of the Revenue and Maintenance Workstations. All functions supported by these workstations shall be fully explained, including logging onto the system, querying the database, generating reports, altering fare tables and other operating parameters, downloading data, polling Fare Collection Equipment for data, managing the voice messaging system, and proper responses to all input requests. Extensive use of sample screens shall be employed throughout the manual.
- CDCIS Security Workstation User's Manual – shall provide the necessary information to document use of the Security Workstation and its specialized application software. In addition to a complete description, a quick reference page or card shall also be provided that summarizes the functionality of the workstation and the proper responses to alarm events.
- CDCIS Report Formatting Manual – shall provide instructions on how to create new queries and reports and to modify existing reports, instructions on how to add reports to the list of prepared reports, to schedule reports of automated generation at predetermined times and to delete unused reports shall also be

provided. If necessary, specific references to manufacturer's documentation shall also be provided to clarify instructions.

- CDCIS Design and Database Structure Manual – shall describe the design of the CDCIS network architecture and the communication protocols used between the CDCIS, Fare Collection Equipment, CDCIS workstations and any other required networking hardware. The manual shall provide a complete description of the database structure, including definitions, parameters, and relations for all database fields, records and tables.
- CDCIS Software Source Code Manual – One or more manuals shall also be provided that fully documents the CDCIS application software source code, including data file, data file structure, data file mapping and cross-referencing, and a data dictionary.
- In accordance with Exhibit B-1, Milestone Payout Schedule, Vendor shall provide all of the manuals identified above at a minimum.

10.2.4 Software Escrow

The Vendor shall supply the software source code, compilers and documentation, electronically on CD/DVD, for all software developed by the Vendor for the fare collection system purchased under this contract in escrow as the equipment is delivered in accordance with Exhibit B-1, Milestone Payout Schedule as modified by this addendum. Escrowed software source code, compilers and documentation will be updated by Vendor for every software update and/or change at no additional cost to FDOT.

10.2.5 Diagnostic and Test Equipment (DTE)

The design of the fare collection equipment may require the use of custom DTE. The Vendor shall supply any such equipment. Any cabling and/or test harnesses used during system and integration testing shall become the property of the Department.

A DTE list shall be provided on the appropriate cost sheets in Exhibit C. The list shall include all custom equipment as well as all standard, off-the-shelf equipment recommended by the Vendor.

10.2.6 Special Tools

The Vendor shall furnish all special tools required to maintain each subsystem to the Department.

Special tools are defined as those tools that are not commercially available in the United States.

10.2.7 Spare Parts

Spare parts shall be interchangeable with their corresponding part and shall be re-configured to the latest revision during the warranty period.

The Vendor shall have available at least two U.S. sources for spare parts that are exchanged regularly during preventative maintenance.

All spare parts shall be delivered prior to the start of the warranty period for any equipment.

10.2.8 Spare Parts Recommendation

The Vendor submitted, as part of the Technical Proposal, a Warranty Spare parts plan, and as part of the Price Proposal, a list of recommended spare parts and the cost associated with each item. All parts will be purchased by the Department on an "Or Approved Equivalent" Basis. Per FTA guidelines the Salient characteristics for each part listed should be provided in an Appendix to the Price Proposal.

The final list of spare parts will be approved during the Preliminary Design review by the Department.

10.2.9 Warranty

Manufacturers and Sellers Warranties

Whenever allowed by the terms of the warranty, Vendor hereby assigns to the Department any and all manufacturers' or other sellers' warranties that come with any products, material or supplies what are incorporated into or are consumed in this Agreement in any way. To the extent that any such warranties contain a limitation on assignment, Vendor agrees that Vendor purchased the products, materials and supplies on behalf of the Department with the intent that the Department be the intended recipient of any warranties. All documents associated with or describing any such warranties shall be delivered to the Department along with the other contract final acceptance documents and shall be deemed to be a part of the required final acceptance documentation. Vendor shall not take any action or fail to act in any way which voids any such warranties. All subcontracts shall contain a similar provision which requires subcontractors to assign any such warranties to the Department.

Vendor Warranty of Merchantability

In addition to any warranties implied by law, any manufacturer' or distributors' warranties assigned to the Department, and Vendor's Warranty of Fitness for Particular Purpose, the Vendor hereby warrants that all fare collection equipment shall conform to all samples and shop drawings provided and shall be free from defects in materials and workmanship for a 1 year period beginning on the date of system acceptance.

Vendor's Warranty of Fitness for a Particular Purpose

In addition to any warranties implied by law, any manufacturers' or distributors' warranties assigned to the Department, and Vendor's Warranty of Merchantability as

provided above, the Vendor hereby warrants that all fare collection equipment shall be fit for the purposes for which they are intended and shall properly perform their intended functions for a 1 year period beginning on the date of system acceptance.

Warranty Procedures

The Warranty of Merchantability and the Warranty of Fitness for a Particular Purpose shall apply to each component of any assembly and to any assembly as a whole. Without limiting the generality of the foregoing, the components and assemblies include, but are not limited to Ticket Vending Machines, Point of Sale machines (including work at retailer locations), Station Platform Validators, Handheld Validators, the Central Data Collection and Information System and all other equipment, hardware and software related to the fare system. In the event a defect, malfunction, or other failure not caused by misuse or third party acts not contemplated occurs during the warranty period, Vendor shall repair the warranted item if repair can be made on site within a reasonable time from receipt of notice of the occurrence. If repair cannot be made within a reasonable time from receipt of notice of the occurrence, Vendor shall replace the warranted item on site within a reasonable time from receipt of notice of the occurrence. In determining a reasonable time for repair or replacement, matters unique to the Vendor, such as office location or availability of personnel, shall not be considered. Vendor's obligation to respond and take action within a reasonable time shall, at a minimum, include compliance with the Service Levels as set forth below. In the event that the Department determines that public health, safety, or welfare requires temporary measures to continue safe functioning of the facility of which the warranted item is a part, Vendor shall provide temporary items or take other temporary measures as the Department deems necessary. All repairs, replacements, and temporary measures shall be at the sole cost and expense of the Vendor, without any charge to the Department. If the Vendor fails to comply with Vendor obligations under the warranties, Vendor shall be liable to the Department for all damages associated with the Vendor's breach hereof and damages associated with the initial occurrence from the date of the occurrence. Damages shall include, but shall not necessarily be limited to, costs incurred in repairing or replacing warranted items, as well as incidental and consequential damages suffered by the Department; provided, however, that notwithstanding anything to the contrary Vendor shall not be liable for the loss of fares collected while the equipment is in need of repair or is in the process of being repaired. The warranties shall apply to all occurrences taking place during the warranty period, regardless of whether notice thereof is provided to Vendor during the warranty period.

Maintenance Services

In addition to meeting its obligations under the warranties as provided above, the Vendor shall provide maintenance necessitated by ordinary wear and tear, and shall provide preventative and corrective maintenance to assure constant operation for a 1 year period beginning on the date of system acceptance. Maintenance services shall be

provided for all equipment items including; Ticket Vending Machines, Point of Sale machines (including work at retailer locations), Station Platform Validators, Handheld Validators, the Central Data Collection and Information System and all other equipment, hardware and software related to the fare system. Maintenance services shall include staffing, support and diagnostic equipment, vehicles, and supplies required to provide these services. Maintenance services shall be performed, at a minimum, in accordance with the Service Levels as set forth below.

As part of the maintenance services, the Vendor shall provide remote monitoring of the system 16 hours per day, 365 days, seven days per week, and field service of the system for a minimum of 16.5 hours per day, Monday through Friday. The fare collection system shall be prepared for service each revenue day, with any exceptions noted in a work order or written notification to Department or designee. The service shall include the following categories of service:

- Field and bench level preventative maintenance including:
 - Monthly Preventative Maintenance to inspect for wear and tear and general equipment performance, as well as, cleaning and field adjustments.
 - Quarterly Preventative Maintenance including comprehensive testing of components and replacement of major modules for bench overhaul.
- Field and bench level Corrective Maintenance including:
 - Response to unscheduled work orders to include troubleshooting, field repair, removal and replacement of parts, and returning equipment to service.
- Emergency response 24 hours, seven days per week in the event of critical equipment alarms.

Warranty and Maintenance Service Levels

Vendor shall be subject to the following minimum service levels in performing warranty or maintenance work:

- The Mean Time to Respond shall be 60 minutes between notification of an incident from either the Department or designee, the remote monitoring center, and response by the Vendor. Response shall include the generation of a work order and an estimate of arrival at site or actual repair.
- The Mean Time to Repair shall be 48 business hours. The Vendor shall make reasonable efforts to accelerate the Mean Time to Repair for customer facing outages and mission critical equipment items.
- The Vendor shall provide sufficient field technician staff to the Department during the period of 5:30 a.m. to 10:00 p.m. on all business days and shall have a local (Orlando Metropolitan Area) point of contact at all times.

Product Support

Vendor shall perform remote support and monitoring of the fare system equipment. Software support and upgrades of the Central Data Collection and Information will be provided remotely, as well as other software and hardware items. Any repair or maintenance needs discovered via system monitoring will be reported to Department staff or designee in a timely manner so that field staff may be dispatched.

Exclusions

Vendors warranty and maintenance obligations hereunder shall not extend to damages and failures caused by third parties; however, that minor incidents, such as clearing jams, shall be covered for the 16.5 business day service time described heretofore. Regardless, the Department may elect to have Vendor repair major damages and failures caused by third parties. If the Department elects to have such major damages or failures caused by third parties repaired by Vendor, the Department will issue a work order for the repairs based upon an agreed repair cost. The agreed repair costs shall be based on the hourly rates set forth in Exhibit "B".

Spare Parts

Prior to the beginning of Revenue Service, the Department will issue a work order for the purchase of a spare parts inventory. The inventory shall be kept by the Department at a location of the Department's choice. The inventory and such other spare parts as the Department may elect to otherwise purchase may be purchased for a 1 year period beginning on the date of system acceptance at the prices set forth in Exhibit "B". Vendor may draw from the spare parts inventory as necessary to perform warranty and maintenance work, provided that Vendor shall replace the parts used for warranty work at Vendor's expense prior to the end of the 1 year period. Vendor shall comply with the procedures established by the Department for drawing parts from the parts inventory.

10.2.10 Operations and Maintenance Support

The Vendor submitted, as part of the Technical Proposal, an Optional Operations and Maintenance proposal to provide technical operations, and maintenance support to the Department for all fare collection equipment, fare media and all required CDCIS (i.e. "back of house") equipment and subsystems, and a disaster recovery plan incorporating the use of the Vendor's staff to operate and maintain the fare collection system equipment for a period of up to ten (10) years. The Operations and Maintenance proposal included, but was not limited to, the number of staff and the skill sets of the staff that would be used to provide these services, the frequency of maintenance and the hours that Vendor staff would work. That submittal is hereby incorporated herein this contract by reference.

In preparation for the new commuter rail service, the Department will be mobilizing an Operations and Maintenance Contractor prior to the completion of the stations. The

Product Support

Operations and Maintenance Contractor will be responsible for operating and maintaining the CFCRT system. Optional operation and maintenance support for the fare collection system equipment may be required by the Vendor at the Department's option with coordination and oversight by the OMC and Chief Operating Officer. Services shall include all parts and labor necessary to keep the system operational at all times. Services will include:

- Perform maintenance and inspections consistent with the manufacturers' guidelines; and Monitor and operate fare collection equipment remotely to ensure optimal performance.
- Repair readers using OEM parts. Replenish paper for receipt printing in TVMs, HHTVs and POSMs;
- Replenish standard and limited use smart card stock in TVMs;
- Replenish supplemental change storage units, re-circulating units, coin vaults, and bill vault (FSTVMs only)
- Perform maintenance and inspections on all fare collection equipment consistent with the manufacturers' guidelines and manuals.
- Perform all periodic inspection and preventative maintenance tasks including all routine lubrication, inspection and replacement of consumable items based on recommended preventative maintenance schedules; Repair machines using OEM parts.
- Perform repairs including adjustments, reports or replacements prescribed to restore the Fare Collection Equipment components and subassemblies to a normal operational condition in an efficient and timely manner.
- Service, maintain, repair, replace, re-build and overhaul the Fare Collection Equipment Replenish card stock."
- The vendor shall provide all necessary OEM replacement parts not covered by the manufacturer's warranty.
- The Vendor shall provide on-site support within one (1) hour of the Department placing a service call.

Vendor shall understand that the quantity of each CTVMs and FSTVMs to be supplied is subject to change. Below provides the CFCRT service levels for each phase:

- Phase 1 (beginning Spring 2014)
 - 31 miles, 12 stations
- Phase 2 (beginning 2016)
 - An additional 30 miles, 5 stations (61 miles, 17 stations total)
- Span of service is 16.5 hours, Monday through Friday, no weekend service;

Product Support

- Peak service every 30 minutes – 05:30 to 08:30 and 15:30 to 18:30 on weekdays;
- Off-peak service every two hours – 8:30 to 15:30 and 18:30 to 22:00; and
- Exclusive operating windows designated for commuter rail service.

The FBA extends from the DeLand Amtrak station in Volusia County to the north to Poinciana Industrial Park in Osceola County to the south. A total of seventeen (17) stations are in the FBA. The proposed service plan would provide 30-minute bi-directional service during morning and evening peak periods and 120-minute service in the midday, Monday through Friday, using push-pull diesel locomotives, coaches and cab cars.

DELIVERABLES

- Preliminary training plan
- DTE list of all equipment recommended
- Training Curricula
- Training Courses
- Technical Support
- Manuals
- Software Escrow
- Diagnostic and Test Equipment (DTE)
- Special Tools
- Spare Parts
- Warranty Plan
- Operations and Maintenance Support Proposal

Exhibit “E”

CFCRT Business Rules

I. Fare Pricing

The CFCRT system will be divided into four zones based on county boundaries: Volusia, Seminole, Orange, and Osceola Counties. Passengers traveling within a zone (or County) will pay the standard base fare, while those passengers travelling through more than one zone will pay a higher fare. The proposed fare structure would include:

- **Base Fares** – A base fare would be defined by a one-way trip on CFCRT made by an adult (not reduced fare) rider. The base fare will be tied to the prevailing adult cash fare levied by LYNX for a one-way trip on its local bus system. At this time, the base fare is expected to be \$2.00 for a single-zone trip plus \$1.00 for each additional zone travelled. For example, the base fare for travel within a single zone is \$2.00; the base fare for a 2-zone trip is \$3.00, etc. The maximum one-way base fare would be \$5.00.
- **Reduced Fares** – The following rider categories (compatible with LYNX) would be entitled to ride CFCRT at the established reduced fare at a 50% discount:
 - Senior Citizens, 65 years and older
 - Persons with Disabilities (Physical or Mental Disability)
 - Medicare Cardholder
 - High School Students
 - Children (ages 5-18)
- **Prepaid Fares** – Prepaid fares would be priced to provide a discount from base fares and allow unlimited travel on CFCRT and transfers to and from LYNX and Votran buses.
 - *Round-Trip Pass* – would be valid for travel only on the date issued.
 - *Weekly Pass* – would be valid starting on the date activated for unlimited rides for 5 consecutive days.
 - *Monthly Pass* – would be valid starting on the date activated for unlimited rides for 31 consecutive days.

CFCRT Business Rules

- *Annual Pass* – would be valid with a photo ID card issued by FDOT or by a participating firm or business organization for unlimited rides for 365 consecutive days.
- *Stored Value* – would provide savings when adding increments of value to the card and deduct fares based on use.
- **Transfer Upgrades** – Transferring passengers from LYNX and Votran will need to pay a \$1.00 upgrade charge to for each additional zone traveled.

e Pricing Structure

Transfer Upgrade		Round-Trip			Weekly Pass			Monthly Pass			Annual Pass		
Standard	Reduced	Standard	Reduced	Savings	Standard	Reduced	Savings	Standard	Reduced	Savings	Standard	Reduced	Savings
\$1.00	\$0.50	\$3.750	\$1.75	6%	\$17.00	\$8.50	15%	\$56.00	\$28.00	30%	\$560.00	\$280.00	45%
\$2.00	\$1.00	\$5.50	\$2.75	8%	\$25.00	\$12.50	17%	\$84.00	\$42.00	30%	\$840.00	\$420.00	45%
\$3.00	\$1.50	\$7.50	\$3.75	6%	\$34.00	\$17.00	15%	\$112.00	\$56.00	30%	\$1,120.00	\$560.00	45%
\$4.00	\$2.00	\$9.50	\$4.75	5%	\$42.50	\$21.25	15%	\$140.00	\$70.00	30%	\$1,400.00	\$700.00	45%

ystem (DeBary to Sand Lake) will include three (3) zones.
based on 2 one-way trips within the same zone(s).
ints based on 10 rides per week (5 weekdays).
nt based on 41 rides per month (20.5 weekdays).
l on 510 rides per year (2 x 255) weekdays per year).

II. Definition of Paid/Unpaid Areas

- The CFCRT system will be operated and designed with “open stations”, containing no fare gates that will allow passengers to enter the stations without a valid smart card. Below is a description of the “paid area” and “unpaid area”, as defined to denote the parts where passengers will need to be in possession of a valid smart card:
- ***Paid Area*** – will be defined as the area on a station platform and on-board a CFCRT train. Passengers will be required to have the valid smart card with the appropriate amount of fare, based on trip type prior to boarding a CFCRT train.
- ***Unpaid Area*** – will be defined as the area in a station parking lot, and any other adjacent locations, other than on a station platform and on-board CFCRT.

III. Ticket Media

- **Contactless Smart Card (Standard)** – to load, reload, validation of base, reduced, prepaid fares for daily commuters on CFCRT and daily commuters transferring to CFCRT from LYNX and Votran bus systems.
- **Contactless Smart Card (Limited Use Paper Stock)** – for preset loaded values for base and reduced fares for the occasional rider on CFCRT. Also, dispensed for transfer upgrade for occasional riders transferring from LYNX and Votran bus systems.

IV. Issuance of Fare Media

- **Ticket Vending Machines (TVM)** – purchase and issue standard and limited use smart cards at all TVMs. TVMs will also provide balance on smart cards to customers. Customers will be able to load, reload values to standard smart cards. TVMs will also accept magnetic stripe fare tickets from LYNX and Votran for purchase of limited use smart cards for transfer upgrade to CFCRT.
- **Point of Sale Machines (POSM)** – purchase and issue standard smart cards at participating retail outlets and ride stores. Clerks at these outlets will assist CFCRT customers buy selling and loading values to new smart cards, selling new smart cards with prepaid values and reloading values on existing smart cards.
- **Online/Mailings** – purchase smart cards online and issued by mailing to customers. Customers can also register their smart card, sign up for balance protection and auto reload.

V. Validation of Fare Media

- **Station platform Ticket Validators (SPTV)** – “tap on, tap off” process. Passengers will validate their smart card prior to boarding CFCRT and largest one-way fare of \$5.00 will be deducted from their card. Passengers will tap their card again after exiting train on station platform and will be refunded difference in fare based on alighting zone.
- **Handheld Ticket Validators (HHTV)** – Conductors will validate and inspect passengers’ smart cards for valid fare. A passenger has the option to purchase a one-way fare from the conductor using a credit/debit card. The passenger will be charged \$5.00 for the fare, plus a penalty (i.e. \$5) for each occurrence.

VI. Enforcement of Fare Violations

- Conductors will have the authority to issue citations for fare evasions.
- Police powers from local authorities may be required to meet the CFCRT train at the closest station to remove and/or potential arrest unruly passengers.

VII. Cash vs. Cashless Ticket Vending Machines (TVMs)

FDOT is intending to implement a system with both cashless TVMs and Full Service TVM’s at all stations.

- Interagency fare policy agreements between FDOT, LYNX and Voltran will establish that the agency that collects the initial fare on a transit trip will retain the revenues. FDOT will retain the transfer upgrade revenues.

VIII. Smart Card Registration

- Implementing a smart card registration for customers through the CFCRT website to provide an opportunity to reload value and use balance protection for lost, damaged or stolen cards. Registration is encouraged but not required.
- Balance Protection – will preserve the value of card in the event that it is lost or stolen and transfers the remaining balance to a new card at the time of notification. The lost or stolen card will be deactivated. A fee will be charged (i.e. \$5) will be charged for the replacement smartcard.
- Privacy Laws – will ensure that personal information is protected from public record and not accessed for other uses. A privacy plan will be established to govern the collection, use and handling of personal information.

-

IX. Credit Card Protection and Security

- Credit/debit transactions for purchasing CFCRT fares will include consumer credit card protection - Payment Card Industry Data Security Standard (PCI DSS).

X. Branding & Marketing

- FDOT will brand the equipment (trains, TVMs, stations, etc) and advertisement materials for CFCRT. FDOT will be working with a marketing consultant to establish the name and design of the fare card that incorporates the CFCRT logo and color scheme. Some business may be able to include their logo on the fare media for partnership programs.

Florida Department of Transportation
District 5

EXHIBIT “F”

**REQUIRED CONTRACT PROVISIONS FOR
FEDERAL TRANSIT ADMINISTRATION FEDERAL-
AID CONTRACT**

For

Central Florida Commuter Rail Transit (CFCRT)
Fare Collection System Equipment

Financial Projects Number(s): 412994-4-52-06
Federal Aid Project Number(s): N/A

REQUIRED CONTRACT PROVISIONS FOR
FEDERAL TRANSIT ADMINISTRATION FEDERAL-AID
CONTRACT

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FLY AMERICA REQUIREMENTS

The Vendor 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 Vendor 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 Vendor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

CARGO PREFERENCE REQUIREMENTS

Cargo Preference - Use of United States-Flag Vessels - The Vendor agrees: a. to use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels; b. to furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in the preceding paragraph to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the FTA recipient (through the contractor in the case of a subcontractor's bill-of-lading.) c. to include these requirements in all subcontracts issued pursuant to this contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

ENERGY CONSERVATION

The Vendor 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.

CLEAN WATER

(1) The Vendor 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. The Vendor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

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

LOBBYING

Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65 [to be codified at 2 U.S.C. § 1601, et seq.] - Vendors who apply or bid for an award of \$100,000 or more shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

APPENDIX A, 49 CFR PART 20--CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

(To be submitted with each bid or offer exceeding \$100,000)

The undersigned [Vendor] certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, et seq.)]

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall

certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The Vendor, ACS TRANSPORT SOLUTIONS, INC., certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq.*, apply to this certification and disclosure, if any.

Ian Newberg Signature of Vendor's Authorized Official

Ian Newberg, Vice President Name and Title of Vendor's Authorized Official

September 14, 2012 Date

ACCESS TO RECORDS

The following access to records requirements apply to this Contract:

1. Where the Purchaser is not a State but a local government and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C.F.R. 18.36(i), the Vendor agrees to provide the Purchaser, 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 Vendor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions. Vendor also agrees, pursuant to 49 C.F.R. 633.17 to provide the FTA Administrator or his authorized representatives including any PMO Contractor access to Vendor's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311.
2. Where the Purchaser is a State and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C.F.R. 633.15, Vendor agrees to provide the Purchaser, the FTA Administrator or his authorized representatives, including any PMO Contractor, access to the Vendor's records and construction sites pertaining to a major capital project, defined

at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311. By definition, a major capital project excludes contracts of less than the simplified acquisition threshold currently set at \$100,000.

3. Where the Vendor enters into a negotiated contract for other than a small purchase or under the simplified acquisition threshold and is an institution of higher education, a hospital or other non-profit organization and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C.F.R. 19.48, Vendor agrees to provide the Purchaser, FTA Administrator, the Comptroller General of the United States or any of their duly authorized representatives with access to any books, documents, papers and record of the Vendor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions.

4. Where any Purchaser which is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 U.S.C. 5325(a) enters into a contract for a capital project or improvement (defined at 49 U.S.C. 5302(a)1) through other than competitive bidding, the Vendor shall make available records related to the contract to the Purchaser, the Secretary of Transportation and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection.

5. The Vendor shall provide to the U.S. Secretary of Transportation and the Comptroller General of the United States, or their duly authorized representatives, access to all third party records as required by 49 U.S.C. section 5325 (g). The Vendor shall further provide sufficient access to third party procurement records as needed for compliance with Federal laws and regulations or to assure Project management as determined by FTA.

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

7. The Vendor agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case Vendor agrees to maintain same until the Purchaser, 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. Reference 49 CFR 18.39(i)(11).

8. Vendor shall also include in its subcontracts the requirement that the subcontractors shall provide to the U.S. Secretary of Transportation and the Comptroller General of the United States or their duly authorized representatives access to all third party contract records as required by 49 U.S.C. section 5325 (g), and shall further provide sufficient access to third party procurement records as needed for compliance with Federal laws and regulations or to assure Project management as determined by FTA.

FEDERAL CHANGES

Vendor shall at all times comply with all applicable Federal laws, regulations, and directives, including without limitation those listed directly or by reference in the Master Agreement between the Florida Department of Transportation and FTA, as they may be amended or promulgated from time to time during the term of this contract, except to the extent that FTA determines otherwise in writing, which Master Agreement is hereby incorporated herein by this reference. All standards or limits in the Grant Agreement or Cooperative Agreement for the Project, and in the Master Agreement, are minimum requirements, unless modified by FTA.

Vendor's failure to so comply shall constitute a material breach of this contract.

CLEAN AIR

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

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

RECYCLED PRODUCTS

Recovered Materials - The Vendor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

CONTRACT WORK HOURS AND SAFETY STANDARDS

The Vendor is required to comply with employee protection requirements for nonconstruction employees of the Contract Work hours and Safety Standards Act, as amended, 40 U.S.C. section 3701 et. seq., in particular section 102 of that Act at 40 U.S.C. 3702, and the implementing regulations 29 C.F.R Part 5, in particular at 5.5 (b) as follows:

(1) **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.

(2) Violation; liability for unpaid wages; liquidated damages - In the event of any violation of the clause set forth in paragraph (1) 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 (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) 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 (1) 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 (1) of this section.

3) Withholding for unpaid wages and liquidated damages - The Department 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.

(4) Subcontracts - The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

NO OBLIGATION BY THE FEDERAL GOVERNMENT

(1) The Vendor acknowledges and agrees 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 Vendor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

(2) The Vendor 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.

PROGRAM FRAUD AND FALSE OR FRAULENT STATEMENTS OR RELATED ACTS

(1) The Vendor 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 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Vendor 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 Vendor 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 Vendor to the extent the Federal Government deems appropriate.

(2) The Vendor 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 Vendor, to the extent the Federal Government deems appropriate.

(3) The Vendor 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.

GOVERNMENT-WIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)

The Vendor is required to comply with 2 CFR 1200 and 2 CFR 180, Subpart 3, and must include the requirement to comply with 2 CFR 180, Subpart 3, as supplemented by 2 CFR 1200, in any lower tier covered transaction it enters into. By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by the Department. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to the Department, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 2 CFR 1200 and 2 CFR 180, Subpart C, while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

PRIVACY ACT

Contracts Involving Federal Privacy Act Requirements - The following requirements apply to the Vendor and its employees that administer any system of records on behalf of the Federal Government under any contract:

(1) The Vendor agrees to comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974,

5 U.S.C. § 552a. Among other things, the Vendor 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 Federal Government. The Vendor understands that the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of the underlying contract.

(2) The Vendor 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.

CIVIL RIGHTS REQUIREMENTS

Civil Rights - The following requirements apply to the underlying contract:

(1) 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, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Vendor 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 Vendor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

(2) Equal Employment Opportunity - The following equal employment opportunity requirements apply to the underlying contract:

(a) 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. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. 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 Vendor 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 Vendor agrees to comply with any implementing requirements FTA may issue.

(b) 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 Vendor agrees to comply with any implementing requirements FTA may issue.

(c) 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 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(3) Access for Individuals with Disabilities. Vendor agrees to comply with all applicable provisions of 49 U.S.C. section 5301 (d), all applicable provisions of section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. section 794, and all applicable provisions of the Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. sections 12010 et. seq, and all applicable provisions of the Architectural Barriers Act of 1968, as amended, 42 U.S. C. section 4151 et seq,. Vendor also agrees to comply with applicable implementing Federal regulations, and any later amendments thereto, and agrees to follow applicable Federal implementing directives, except to the extent FTA approves otherwise in writing. Among those regulations implementing Section 505 and the ADA are DOT regulations, "Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance, 49 CFR Part 27, and "Transportation Services for individuals with Disabilities (ADA)," 49 CFR Part 37, and Joint ATBCB/DOT regulations, "Americans with Disabilities (ADA) Accessibility Specifications for Transportation Vehicles," 36 CFR Part 1192 and 49 CFR Part 38.

(4) The Vendor 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.

BUY AMERICA REQUIREMENTS

The Vendor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. Part 661, and any amendments thereto, which provide that Federal funds may not be obligated unless all steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver, or except as provided in 49 C.F.R. 661.11. General waivers are listed in 49 C.F.R. 661.7 Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11.

A bidder or offeror must submit to the FTA recipient the appropriate Buy America certification (below).

If steel, iron, or manufactured products (as defined in 43 CFR 661.3 and 661.5) are being procured, the appropriate certificate as set forth below shall be completed and submitted by each bidder or offeror in accordance with the requirement contained in 43 CFR 661.13(b).

Certificate of Compliance with Buy America Requirements

The bidder or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 C.F.R. Part 661.

Date September 14, 2012

Signature 

Company ACS Transport Solutions, Inc.

Name Ian Newberg

Title Vice President

Certificate of Non-Compliance with Buy American Requirements

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 C.F.R. 661.7.

Date _____

Signature _____

Company _____

Name _____

Title _____

If buses or other rolling stock (including train control, communication, and traction power equipment) are being procured, the appropriate certificate as set forth below shall be completed and submitted by each bidder in accordance with the requirement contained in 49 CFR 661.13 (b).

Certificate of Compliance with Buy America Rolling Stock Requirements

The bidder or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j) and the applicable regulations at 49 CFR 661.11.

Date _____

Signature _____

Company _____

Name _____

Title _____

Certificate of Non-Compliance with 49 U.S.C. 5323(j)(2)(C) Buy American Rolling Stock Requirements

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but may qualify for an exception to the requirement consistent with 49 U.S.C. 5323(j)(2)(C) and the applicable regulations in 49 CFR 661.7.

Date _____

Signature _____

Company _____

Name _____

Title _____

SENSITIVE SECURITY INFORMATION

Vendor must protect, and take measures to ensure that its subcontractors protect, “sensitive security information” made available during the administration of the contract or subcontract to ensure compliance with 49 U.S.C. Section 40119 (b) and implementing DOT regulations, “Protection of Sensitive Security Information,” 49 CFR Part 15, and with 49 U.S.C. Section 114 (r) and implementing Department of Homeland Security regulations, “Protection of Sensitive Security Information,” 49 CFR 1520.

USE OF \$1 COINS

Vendor will comply with Section 104 of the Presidential \$1 Coin Act of 2005, 31 U.S.C. 5112(p), which requires that FTA assisted property that (requires) the use of coins or currency in public transportation services or supporting service must be fully capable of accepting and dispensing \$1 coins.

INTELLIGENT TRANSPORTATION SYSTEMS

Intelligent transportation system (ITS) property and services provided by Vendor must comply with the National ITS Architecture and Standards to the extent required by Section 5307(c) of SAFETEA-LU, FTA Notice, “FTA

National ITS Architecture Policy on Transit Projects,” 66 FR 1455 *et. seq.*, January 8, 2001, and later published policies or implementing directives FTA may issue.

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 Vendor shall not perform any act, fail to perform any act, or refuse to comply with any Florida Department of Transportation requests which would cause Florida Department of Transportation to be in violation of the FTA terms and conditions.

PARTICIPATION BY DISADVANTAGED BUSINESSES ENTERPRISES

The Vendor shall agree to abide by the following statement from 49 CFR 26.13 (b). This statement shall be included in all subsequent agreements between the Vendor and any sub-vendor or contractor:

The contractor, sub-recipient 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 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor 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 the recipient deems appropriate.

Also, it is required, pursuant to 49 CFR 26.29 (a), that Vendor shall pay its subcontractors performing work related to this contract for satisfactory performance of that work no later than 30 days after the contractor's receipt of payment for that work from the Department.

CENTRAL FLORIDA COMMUTER RAIL TRANSIT
EXHIBIT "G"
SOFTWARE CODE AND DESIGN MATERIAL ESCROW AGREEMENT

This Agreement made this ____ day of _____, 20__ between the State of Florida, Department of Transportation, with a principal office at 719 South Woodland Boulevard, DeLand FL 32720 (the "Department"), ACS Transport Solutions, Inc. of with its principal office at 12410 Milestone Center Drive, Suite 600, Germantown, MD 20876 ("Vendor"), the Florida Department of Financial Services ("Escrow Agent") and by the subcontractors additionally executing this Agreement either on the original or in separate counterparts ("Subcontractors");

WITNESSETH:

WHEREAS, Vendor and Department have entered into a Standard Written Agreement ("Sales Contract") whereby Vendor will license to Department certain software code and documentation; and

WHEREAS, the Sales Contract requires Vendor to deposit in escrow with Escrow Agent certain source code and other materials (the "Deposit Materials"); and

WHEREAS, the Deposit Materials are owned by Vendor;

WHEREAS, the availability of the Deposit Materials is critical to Department in the conduct of its business and, therefore, Department needs access to the Deposit under certain limited circumstances; and

WHEREAS, Vendor and Subcontractors desire to have availability of the Deposit Materials limited to occurring only under certain circumstances; and

WHEREAS, Vendor, Subcontractors and Department desire to establish an arrangement to provide for the retention, administration and controlled access of the Deposit Materials; and

WHEREAS, Escrow Agent has agreed to accept, hold and release the Deposit Materials under the terms and conditions of this Agreement;

NOW, THEREFORE, in consideration of the premises, promises, representations, understandings and the mutual covenants contained herein, the Department, the Vendor, Subcontractors and the Escrow Agent hereby agree as follows:

ARTICLE 1 -- DEPOSITS

- 1.1. Obligation of the Vendor. The Vendor has the responsibility to ensure all Subcontractors from which Deposit Materials are required according to the Sales

Contract (Schedule of Payment Values, Milestone 12) will execute this Agreement prior to the Notice to Proceed. Upon completion of such execution by all required Subcontractors, the Vendor will provide the Department with the Agreement's signature pages executed by all required Subcontractors.

- 1.2. Obligation to Make Deposit. Vendor and/or Subcontractors shall deliver the Deposit Materials to Escrow Agent at the times stated in the Sales Contract. The Deposit Materials shall include, but not be limited to, a copy of the documented source code, libraries, other source components, compilers, and linkers so that, when compiled, linked and otherwise manipulated to create the runtime/executable image for the delivered software, creates a complete and fully operational run-time/executable version of the delivered software. Vendor and/or Subcontractors shall notify the Department in writing of the time and place of the delivery of the Deposit Materials no less than one week in advance. Notwithstanding anything to the contrary, the Deposit Materials shall only include Vendor's proprietary software and intellectual property.
- 1.3. Identification of Tangible Media. Prior to the delivery of the Deposit Materials to Escrow Agent, Vendor or Subcontractor shall conspicuously label for identification each document, magnetic tape, disk, or other tangible media upon which the Deposit Materials are written or stored. Additionally, Vendor or Subcontractor shall complete Appendix "A" to this Agreement by listing each such tangible media by the item label description, the type of media and the quantity. Appendix "A" shall be signed by Vendor or Subcontractor and delivered to Escrow Agent with the Deposit Materials. A copy of Appendix "A" is attached hereto and incorporated herein.
- 1.4. Deposit Inspection. When Escrow Agent receives the Deposit Materials and the Appendix "A", it will conduct a deposit inspection by visually matching the labeling of the tangible media containing the Deposit Materials to the item descriptions and quantity listed on the Appendix "A". In addition, Department may elect to cause a verification of the Deposit Materials at the time of delivery in accordance with Section 1.6 below at Department's expense. Vendor or Subcontractor shall have the right to be present at the verification.
- 1.5. Acceptance of Deposit. At completion of the deposit inspection and a verification, if elected, if Escrow Agent determines that the labeling of the tangible media matches the item descriptions and quantity on Appendix "A", Escrow Agent will date and sign Appendix "A" in triplicate, with Vendor or Subcontractor, Department, and Escrow Agent each retaining an original. If Escrow Agent determines that the labeling does not match the item descriptions or quantity on Appendix "A" or the verification elected by the Department is not satisfactory, Escrow Agent will (a) note the discrepancies in writing on Appendix "A"; (b) date and sign Appendix "A" in triplicate with the exceptions noted; and (c) reject the delivery of the Deposit Materials. Vendor and/or Subcontractor shall be obligated to promptly correct the discrepancies and redeliver the Deposit

Materials in accordance with the delivery procedures contained in this Agreement; provided that this provision shall not relieve the Vendor from the consequences of failing to properly deliver the Deposit Materials in accordance with the requirements of the Sales Contract.

1.6. Vendor's and Subcontractor's Representations. Vendor and Subcontractor represents as follows, with relation to their respective Deposit Materials:

- (a.) They lawfully possesses and will possess full right, title and interest to all of the Deposit Materials deposited with Escrow Agent;
- (b.) With respect to all of the Deposit Materials, they have the right and authority to grant to Department the rights as provided in this Agreement;
- (c.) The Deposit Materials are not and will not be subject to any lien or other encumbrance;
- (d.) The Deposit Materials consist of the proprietary technology and other materials identified in the Sales Contract; and
- (e.) The Deposit Materials are readable and useable in their current form or, if any portion of the Deposit Materials is encrypted, the decryption tools and decryption keys have also been deposited.

1.7. Verification. In a verification, Department may evaluate the deposit to verify the deposit of: (a) Deposit Materials required and fully complying with the Sales Contract; and (b)(i) the hardware and software configurations reasonably necessary to maintain the Deposit Materials; (ii) the hardware and software configurations reasonably needed to compile the Deposit Materials; and (iii) the compilation instructions.

1.8. Deposit Updates. Vendor and Subcontractor shall update the Deposit Materials within ten business (10) days of each release of a new version, patch, upgrade or alteration of the product/system integrated in the equipment which is subject to the Sales Contract. It is understood that "Updates" will be limited only to updates necessary to keep the vehicle operational in manner intended at the end of the warranty period. Such updates will be added to the existing deposit. All deposit updates shall be listed on a new Appendix "A". The processing of all deposit updates shall be in accordance with Sections 1.3 through 1.7 above. All references in this Agreement to the Deposit Materials shall include the initial Deposit Materials and any such new versions, patches, updates or alterations.

1.9. Removal of Deposit Materials. The Deposit Materials may be removed and/or exchanged only as provided in this Agreement.

ARTICLE 2 -- CONFIDENTIALITY AND RECORD KEEPING

- 2.1. Confidentiality. Escrow Agent shall maintain the Deposit Materials in a secure, locked facility which is accessible only to authorized representatives of Escrow Agent. Escrow Agent shall have the obligation to use the same standard the Escrow Agent uses to protect its own confidential information, but in no event, less than a reasonable standard of care, to protect the confidentiality of the Deposit Materials. Except as provided in this Agreement, Escrow Agent shall not disclose, transfer, make available, or use or access the Deposit Materials. Escrow Agent will not be required to fail to comply with Chapter 119, Florida Statutes, or disobey any order from a court or other judicial tribunal.

ARTICLE 3 -- GRANT OF RIGHTS TO DEPARTMENT

- 3.1. Title to Media. Effective upon the occurrence of a Release Condition, Vendor and Subcontractor hereby transfer to Department the title to the media upon which the proprietary technology and materials are written or stored. However, this transfer does not include the ownership of the proprietary technology and materials contained on the media such as any copyright, trade secret, patent or other intellectual property rights.
- 3.2. Right to Deposit Materials. Upon the occurrence of a Release Condition the Department shall be entitled to use the Deposit Materials to continue the operations of the SunRail system in accordance with the original intent of the Sales Contract. .

ARTICLE 4 -- RELEASE OF DEPOSIT

- 4.1. Release Conditions. As used in this Agreement, "Release Conditions" shall mean the existence of any one or more of the following circumstances, uncorrected for more than ten (10) days:
- (a.) If a Vendor or Subcontractor is no longer in business, or no longer supports the product and has not transferred the rights to the design to another entity that does support the product;
- 4.2. Filing for Release. If Department believes in good faith that a Release Condition has occurred, Department shall provide to Vendor and Subcontractor written notice of the occurrence of the Release Condition. Vendor and/or Subcontractor shall have fifteen (15) business days from its receipt of such notice to notify the Department of its agreement to the release or file an action for a Declaratory Judgment to have a court determine whether a Release Condition has occurred.
- 4.3. Release of Deposit. Upon the Vendor's or Subcontractor's agreement, or the entry of a Declaratory or other form of Judgment ruling that a Release Condition

has occurred, Escrow Agent shall release the Deposit Materials to the Department. The Department shall provide Escrow Agent with a copy of Vendor's or Subcontractor's agreement or any Judgment authorizing release of the Deposit Materials along with instructions as to how the release shall occur.

- 4.4. Right to Use Following Release. Upon release of the Deposit Materials in accordance with this Article 4, Department shall have the right to use the Deposit Materials for the sole purpose of continuing the benefits afforded to Department by the Sales Contract. Department shall be obligated to maintain the confidentiality of the released Deposit Materials subject to Section 2.1 of this Agreement and the right to make the Deposit Materials available to the Department's vendors for the sole and exclusive purpose of continuing the benefits provided under the Sales Contract.

ARTICLE 5 -- TERM AND TERMINATION

- 5.1. Term of Agreement. This Agreement shall be effective during the period that the equipment for which Deposit Materials have been provided remains in use. The Department shall notify Vendor and/or Subcontractor and Escrow Agent at such time that the equipment for which Deposit Materials have been provided no longer remains in use.
- 5.2. Disposition of Deposit Materials Upon Termination. Subject to the provisions concerning release of the Deposit Materials, upon expiration of this Agreement, Escrow Agent shall deliver the Deposit Materials in accordance with instructions of Vendor or Subcontractor. If there are no instructions, Escrow Agent may return the Deposit Materials to Vendor or Subcontractor who has made the deposit in a manner chosen by Escrow Agent. Escrow Agent shall have no obligation to return the Deposit Materials if the Deposit Materials have been released to the Department in accordance with Article 4.
- 5.3. Survival of Terms Following Termination. Upon termination of this Agreement, the following provisions of this Agreement shall survive:
- (a.) Vendor's and Subcontractor's Representations (Section 1.6);
 - (b.) The obligations of confidentiality with respect to the Deposit Materials including the provisions of Section 2.1;
 - (c.) The rights granted in the sections entitled Right to Deposit Materials(Section 3.2) and Right to Use Following Release (Section 4.4), if a release of the Deposit Materials has occurred prior to termination;
 - (d.) The provisions of Article 6; and
 - (e.) Any provisions in this Agreement which specifically state they survive the

termination of this Agreement.

ARTICLE 6 -- GENERAL PROVISIONS

- 6.1. Dispute Resolution. Escrow Agent shall act in accordance with any agreement between Vendor and/or Subcontractor and Department or any court judgment and may, in addition, pursue and rights and remedies that Escrow Agent has under the law. The Department shall notify Escrow Agent of any agreement between Vendor and/or Subcontractors and Department or of any judgment.
- 6.2. Entire Agreement. This Agreement, which includes exhibits described and incorporated herein, embodies the entire understanding among the parties with respect to its subject matter and supersedes all previous communications, representations or understandings, either oral or written. Department's only obligations to Vendor or Subcontractors are as set forth in this Agreement. No amendment or modification of this Agreement shall be valid or binding unless signed by the parties hereto.
- 6.3. Notices. All notices, invoices, payments, deposits and other documents and communications shall be given to the parties at the addresses specified below. It shall be the responsibility of the parties to notify each other as provided in this Section in the event of a change of address. The parties shall have the right to rely on the last known address of the other parties. Unless otherwise provided in this Agreement, all documents and communications may be delivered by First Class mail.

Vendor:

Department: Florida Department of Transportation,
District Five
Attn: SunRail Project Manager
719 South Woodland Boulevard
DeLand, FL 32720

Escrow Agent: Florida Department of Financial Services
Bureau of Collateral Management
Division of Treasury
200 East Gaines Street
Tallahassee, FL 32399-0300

Subcontractor: At the address provided in the signature block.

- 6.4. Severability. In the event any provision of this Agreement is found to be invalid, voidable or unenforceable, the parties agree that unless it materially affects the entire intent and purpose of this Agreement, such invalidity, voidability or unenforceability shall affect neither the validity of this Agreement nor the remaining provisions herein, and the provision in question shall be deemed to be replaced with a valid and enforceable provision most closely reflecting the intent and purpose of the original provision.
- 6.5. Successors and Assignment. This Agreement shall be binding upon and shall inure to the benefit of the successors and assigns of the parties. The Department may assign this Agreement with prior written consent of the Vendor; provided, however, that no consent is required in order for the Department to assign this Agreement to the Central Florida Commuter Rail Commission or such other governmental entity established to take over SunRail after expiration of the Department's period of operation.
- 6.6. Controlling Law. This Agreement is to be governed and construed in accordance with the laws of Florida, without regard to its conflict of law provisions. The parties consent to the jurisdiction of the appropriate state court.

6.7. Time is of the essence in the performance under this Agreement.

IN WITNESS WHEREOF, the Parties have executed this Agreement the day and year first above written.

State of Florida
Department of Transportation

ACS Transport Solutions, Inc.

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

Department

Vendor

Legal Review

State of Florida
Department of Financial Services

District Chief Counsel

By: _____

Name: _____

Title: _____

Date: _____

Escrow Agent

(Name of Subcontractor)

By: _____

Name: _____

Title: _____

Address:

Date: _____

Subcontractor

(Name of Subcontractor)

By: _____

Name: _____

Title: _____

Address:

Date: _____

Subcontractor

(Name of Subcontractor)

By: _____

Name: _____

Title: _____

Address:

Date: _____

Subcontractor

(Name of Subcontractor)

By: _____

Name: _____

Title: _____

Address:

Date: _____

Subcontractor

APPENDIX A

DESCRIPTION OF DEPOSIT MATERIALS

Company Name: _____.

Company Address: _____

Contract Number: ITN-DOT-08-09-5003-CCC

Product Name: _____ Version: _____

DEPOSIT MATERIAL DESCRIPTION:

Quantity Media Type & Size Label Description of Each Separate Item

_____ Disk 3.5" or _____
_____ DAT tape _____ mm
_____ CD-ROM
_____ Data cartridge tape _____
_____ TK 70 or _____ tape
_____ Magnetic tape _____
_____ Documentation
_____ Other _____

PRODUCT DESCRIPTION:

Environment: _____

DEPOSIT MATERIAL INFORMATION:

Is the media or are any of the files encrypted? Yes / No If yes, please include any passwords and the decryption tools.

Encryption tool name _____ Version: _____

Hardware _____ required:

Software required: _____

Other required information: _____

I certify for Vendor that the above described Deposit Materials have been transmitted to Department:

Signature: _____

Print Name: _____

Date: _____